

ISA² WORK PROGRAMME

2017

DETAILED ACTION DESCRIPTIONS – PART 1

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FOREWORD

The structure of the ISA² work programme used in this document is designed to help identify links between similar initiatives by grouping them together in "packages".

This document gives a detailed description of each action in the work programme along with detailed budgetary information.

The actions are based on proposals from the Commission and/or the Member States.

Actions under the ISA² programme are continuously coordinated and aligned with ongoing work under other EU initiatives. Similarly, the ISA⁵ programme supports these and similar initiatives whenever they contribute to interoperability between EU public administrations.

1. KEY AND GENERIC INTEROPERABILITY ENABLERS

1.1 ACCESS TO BASE REGISTRIES (2016.28)

1.1.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common frameworks
Service in charge	DG DIGIT.B6
Associated Services	

1.1.2 EXECUTIVE SUMMARY

The Communication on the Digital Single Market Strategy states that public services in Europe have embraced new technologies to varying degrees. However more can be done in order to modernise public administrations, achieve cross-border interoperability and facilitate easy interactions with citizens.

One way to achieve efficiency and increase user-friendliness is the once-only principle, meaning that instead of asking the citizen for information that they have already provided, public administrations will reuse the information they already have. The DSM states that only in 48% of cases do public administrations reuse information about citizens and businesses that they already possess.

This Action will contribute towards achieving the goals stated in the DSM Strategy and Action Plan. Base registries are authentic sources of data for public administrations. As such, they are one of the basic building blocks of public services and the key to making the once-only principle a reality.

The situation on access and interconnection of base registries is varied. Most Member States have realized the importance of interconnecting their base registries and are implementing interconnection infrastructures in order to achieve this.

On the European level, some important initiatives are in the process of being developed. The Directive on the Interconnection of Business Registries (**Directive 2012/17/EU**) mandates the interconnection of the business registries of all the Member States and also has a provision on the construction of an interconnecting infrastructure. Initial steps are being taken in order to build this interconnecting. The eJustice Portal also serves as an important point for the interconnection of different types of registries. An interconnection of the Insolvency Registries with the eJustice Portal has already been achieved and currently plans for the interconnection of other types of registries are proceeding. INSPIRE compliant catalogues are available (i.e. in the marine, atmosphere, climate, emergency and land data domains), that could contribute to the cataloguing of European public services at large.

Three main problems that hinder the work on the interconnection of base registries and the once-only principle have been identified.

1) There is a lack of an overview of solutions that have already been developed and could be reused in order to facilitate the interconnection and access to base registries. Reusing solutions could make the development of base registries and interconnecting infrastructures much faster and more cost-efficient.

2) The exchange and promotion of best practices among Member States could also help in speeding up development and overcome certain problems that are being faced by developers. Currently there is a lack of such guidelines.

3) There is no overview and detailed analysis of the current state of affairs on base registry interconnection and the once-only principle in the individual Member States. This overview is a pressing priority, as it is needed in order to develop the right policies on the European level and also to identify missing solutions.

The base registries Action will address these three challenges. The first two challenges have begun to be tackled under ISA and will continue to be tackled under ISA2. The third challenge will be the main priority for the beginning of the first phase of the Action under ISA2. This more detailed analysis of the state of affairs will serve as input for the tackling of the first two challenges, but also as input to the formulation of European Commission policies on the once only principle. Any policies that the EC enacts need to keep in mind the particular situations of the Member States and the subsidiarity principle. The ways to achieve the objective of interconnection and access to base registers and the information they contain, may differ depending on the particular institutional context of each Member State.

1.1.3 OBJECTIVES

- Create a Cartography of Reusable Solutions for Base Registry Interconnection
- Create Guidelines for Successful Base Registry Interconnection
- Map out the state of play for base registries in all 28 EU Member States, plus non-MS ISA countries and some relevant accession countries
- Continuously update the three previous objectives in order to keep them up to date and relevant

1.1.4 SCOPE

The current phases of Action will aim at the improvement and promotion of three important elements which have been delivered in the last phase and which will be further expanded in future phases:

- 1) Cartography of Reusable Solutions for Base Registry Interconnection
- 2) Guidelines for Successful Base Registry Interconnection
- 3) State of Play of Base Registry Interconnection in the EU and MS

These three deliverables will be displayed in a user-friendly way in order for interested parties to be able to get the information they seek as soon as possible without having to search for a long time.

1.1.5 ACTION PRIORITY

1.1.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i>	According to the EIF, base registries are one of the key building blocks of public services.
<i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i>	Base registries fulfil an interoperability role that cannot be carried out by any alternative solution. They contain the authentic and authoritative data needed to carry them out.

1.1.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i>	The data contained in base registries can be reused for any type of public service and it is very important for the once-only principle. In terms of the Action results, the Cartography of Reusable Solutions will map out different reusable solutions for base registries, which will allow the developers of base registries to reuse already existing solutions, instead of building new ones.
<i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i>	Solutions developed under the Action on Base Registries are used in the Business Register Interconnection System.

1.1.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	The results of the Action on Base Registries can be reused by any Member State or public administration.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	Some reusable elements delivered in past phases of the action, such as the search engine or the e-payment mechanism are in the process of being put into use by BRIS and are being considered for reuse by other interconnection initiatives.

1.1.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	Base Registries are seen as a priority in the EIS, EIF, as well as form a key pillar of the Once-Only Principle.
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	As one of the priorities in the EIS and the EIF, ISA2 is the best fit for the implementation of this proposal.

1.1.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Name of reusable solution	Cartography of Reusable Solutions
Description	This is a catalogue of existing reusable solutions for different phases of base registry projects.
Reference	
Target release date / Status	The initial Cartography should be up by the end of 2016. It will be continuously updated.
Critical part of target user base	
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	Guidelines for Base Registry Access and Interconnection
Description	The guidelines tackle different challenges and problems that projects on base registry access and interconnection come across and provide instructions on how to tackle them.
Reference	
Target release date / Status	The initial Guidelines should be released by the end of 2016. They will be continuously updated.
Critical part of target user base	
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	State of Affairs in the MS
Description	This is a state of affairs analysis for base registry access and interconnection in the MS. It will allow policymakers to have up to date information on what is happening in the MS and use that as input for the crafting of different policies on the MS and EU levels.
Reference	
Target release date / Status	An initial state of affairs analysis should be completed by the end of 2016. It will be continuously updated.
Critical part of target user base	
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

1.1.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	The proposal makes use of several ISA interoperability solutions, including the Core Vocabularies and EIRA.
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	

1.1.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	The Action contributes to the Once-Only Principle, which is one of the priorities of the DSM.

1.1.6 PROBLEM STATEMENT

Currently most public administrations store their authentic data on citizens, businesses, properties, vehicles and other items in large databases called base registries. The problem is that this data is often duplicated in other databases as well and the different parts of the public administrations are not interconnected between each other.

This results in a subpar delivery of public services and higher costs. Citizens are often asked to provide their data multiple times to different entities within the public administration, which causes significant burden for them.

The solution to this problem is to interconnect the different base registries, which will allow the citizen to provide their data only once. The different public administration entities providing this data will then be able to access this data without having to ask the citizen for it again (provided there is user consent).

1.1.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Member States' public administrations	<p>More efficient and effective access to information across borders when establishing European Public Services.</p> <ul style="list-style-type: none"> - Improved cooperation and communication between base registers
European Commission Services	<p>Development of a software toolset and accompanying blueprint on integration knowledge management will facilitate future automation and integration projects by providing loose blocks of reusable components.</p>
Citizens and enterprises	<p>Reduction of administrative burden</p> <ul style="list-style-type: none"> - Easier cross-border access to Base Registries information (e.g. through the generic search engine, through open data services) - Increased transparency at EU level regarding companies

1.1.8 EXPECTED MAJOR OUTPUTS

No outputs additional to outputs already mentioned under section 1.1.5.5

1.1.9 ORGANISATIONAL APPROACH

1.1.9.1 Expected stakeholders and their representatives

Stakeholders	Representatives
ISA2 representatives	

European Commission DGs	

1.1.9.2 Communication plan

1.1.9.3 Governance approach

The entire action will be coordinated under the ISA2 Programme. A Steering Committee will be set up.

The Steering Committee will:

- Champion the project, raising awareness at senior level
- Guide and promote the successful execution of the project at a strategic level
- Provide high level monitoring and control of the project
- Adopt the project charter
- Follow timely delivery and quality of new developments delivered by the system supplier
- Set priorities, authorise plan deviations, scope changes with high project impact and decide on recommendations
- Arbitrate on conflicts and negotiate solutions to important problems
- Drive and manage change in the organisation
- Ensure adherence to organisation policies and directions
- Approve and sign-off all key management milestone artefacts (vision document, project plan, business case, etc.)

1.1.10 TECHNICAL APPROACH AND CURRENT STATUS

The technical approach will build upon the previous studies done under the Action on Base Registries and take advantage of synergies with other ISA Actions such as the Cartography and the European Interoperability Reference Architecture.

The Action is in the process of implementing a practical tool (dashboard) in JoinUp. This tool will allow different stakeholders to access the three main outputs of the current phases of the Action (Cartography of Reusable Solutions, Guidelines for Base Registry Interconnection, State of Play on Base Registry Interconnection in the MS) in an interactive way.

The three main deliverables are being converted into dashboards and interested parties will be able to click through to the relevant information they are looking for. In this way, they won't have to read through long word documents, but instead have all the relevant information be gathered in a user-friendly way on JoinUp.

This dashboard will serve as the main hub of a community that will promote the interconnection and access to base registries.

The three studies will serve as main inputs to the dashboard. As such, these studies will be continuously updated in order to reflect the changing situation of base registry interconnection on the EU and MS levels.

The aim of this Action is to be of practical help to the different initiatives trying to interconnect base registries. The action should provide guidance to the different initiatives and some potentially reusable solutions. This will be done through three main deliverables: two on the lower level dealing with reusable solutions and guidelines to overcome common problems, and one on a higher level looking at the state of play of base registry access and interconnection in the Member States.

The current and future phases of the action will tackle several common problems that the different developers are facing. This part will be done through two of the three main deliverables of the action on the interconnection and access to base registries:

- 1) Cartography of Reusable Solutions for Base Registry Interconnection
- 2) Guidelines for Base Registry Interconnection

In the lifecycle of an interconnection of base registries initiatives, a set of requirements is gathered, which then translates into the definition of architectural building blocks (using TOGAF terminology) with different functionalities that the future system should have. The next challenge comes in trying to identify solutions in order to fulfill those functionalities. Often a new solution is developed in order to fulfill that functionality, when in reality an already existing reusable solution exists for that purpose. One problem that the interconnection initiatives face is that they might not be aware of the different solutions that they could reuse, or if they are aware of potential candidates, they are not sure whether that solution is in fact reusable and fulfills their requirements.

The current phases of the Action should help in that respect. A result of these phases is an initial Cartography of Reusable Solutions for the Interconnection and accessibility of Base Registries, together with guidelines on how to best interconnect and provide access to these base registries and how to use the Cartography of Reusable Solutions to find reusable solutions to fulfill needs. In order to do this, the study will use the EIRA as a basis for its mapping work. The entire work should then become a part of the EU Cartography at ISA.

There are several different problems that the interconnection of base registries faces. In order to help with this, best practices from the different Member States and the European level can be of great help. In order to share these best practices Guidelines for Base Registry Interconnection are being developed and will be further updated in future stages of the action.

However in order to identify the different problems that are being faced another important aspect needs to be looked at and that is the identification of the state of play of base registry interconnection in the different Member States.

Currently, this overview of what is happening in the individual Member States has been missing, which has hindered the process of selecting the right policies on the European level. Having this overview will also help in promoting best practices and reusable solutions across borders. This state of play has been identified as a priority and will form the bulk of the work to be done in the future phases. The result of this is described in a third major deliverable:

3) Analysis of the State of Play of Base Registry Interconnection on the EU and MS levels

This deliverable serves as the initial phase of a mechanism that will monitor the state of play of base registry interconnection in the Member States. This mechanism will not be a benchmarking, but instead serve as input for the European Commission to know what types of solutions and approaches are being developed in the Member States. In this way, it will be better able to take into account the varied approaches and states of development in the different Member States when developing a policy on the Once-Only Principle.

This deliverable will result in a more complete picture of the situation in the Member States in what concerns the base registers. It will look at whether the recommendations that have been identified in the past programme are being applied. It will also cover legal aspects of base registry access, interconnection and the exchange of data, identify the owners of the data, the different responsibilities of the actors, access rights, interfaces, semantics and also the different technical solutions that are implemented.

This state of play will also look at the base registries in a broader context and identify ways that they could be used in order to achieve end-to-end services.

This analysis also serves as input for the previous two deliverables. From the completed picture, the obstacles that Member States face can be identified. This helps in identifying the ways that the European Commission can help be of assistance. The deliverable will keep in mind the subsidiarity principle and that the ways to achieve the objective of interconnection and access to base registers and the information they contain, may differ depending on the particular institutional context of each member state.

This state of play will also include a more detailed analysis of what is happening on the European level as well and produce recommendations what further steps can be taken in order to facilitate the cross-border interconnection of base registries and the once-only principle.

One challenge that this Action will need to address is how to disseminate this information. One way will be to create an interactive dashboard on JoinUp that will display all this information and where interested parties can click through to quickly get the information they need. A marketing and dissemination plan will be set up in order to promote this material and heighten the awareness of policy makers, developers and other interested parties.

1.1.11 COSTS AND MILESTONES

1.1.11.1 Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Initiation	Update of actions' deliverables and dashboard creation and maintenance	250		Q4/2016	Q3/2017
Planning	Further steps	197		Q4/2017	Q3/2018
	Total				

1.1.11.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Initiation	250	
2017	Planning	197	
2018			
2019			
2020			

1.2 CATALOGUE OF SERVICES (2016.29)

1.2.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common frameworks
Service in charge	DG DIGIT.B6
Associated Services	DG GROW.R4 E3 and R3

1.2.2 EXECUTIVE SUMMARY

A large number of public administration portals have been/ are being implemented throughout Europe with no harmonisation among them in terms of the description of public services and associated information. This lack of harmonisation makes it difficult to link or federate them. Furthermore, public services are often not organised in a user-centric perspective making it more difficult to search and to integrate services around business or life events.

This action will deliver a set of specifications and solutions to achieve a certain level of interoperability among national and European public service descriptions as well as to facilitate the federation of public services and the creation of national and European catalogues. These instruments will contribute to the "Single Digital Gateway" action established in the Digital Single Market Strategy.

Under the ISA programme, in collaboration with the representatives of the Point of Single Contacts of the Services Directive in several Member States, a Core Public Service Vocabulary Application Profile was defined as an extension of the ISA Core Public Service Vocabulary in order to model in more detailed public services information and to link them to business events.

The Core Public Service Vocabulary Application Profile (CPSV-AP) has been extended to cover all types of public services in order to support also life events.

Under ISA, the action has carefully analysed the needs of different stakeholders to make the CPSV-AP applicable to public service descriptions in other domains outside the Services Directive (e.g. public services for citizens, other public services for businesses) and how this action can contribute to the "Single Digital Gateway" action identified in the DSM strategy action plan.

Some software tools answering the requirements identified in previous phases for the creation, validation, mapping and harvesting/ federation of public service descriptions have been implemented as prototypes for potential re-use and as supporting tools for the use of the CPSV-AP.

In addition, a number of interested Member States and European portals have been engaged in order to launch a series of real life pilots in order to test and prove the benefits of adopting the CPSV-AP and the software tools

as means to: harmonise the descriptions of public services at national PSCs (Points of Single Contact) and the Single Digital Gateway; federate public services at the national portals and also at the European level; and create ultimately harmonised catalogues of public services

In parallel, and as a result of the pilots, the data model for public service descriptions has been updated.

The data model specification for describing public services (CPSV-AP) will be further maintained and improved by adding multi-lingual controlled vocabularies and investigating the description of catalogues of public service description. The same will be done for the software tools. It will be explored the possibility of organising these tools in a testing facility.

Technical support like testing use cases will continue to be provided to EU MSs and EUIs (for instance DG GROW in the context of the Digital Single Gateway and YourEurope portal) in order to assist them in creating a catalogue of public services around life and business events, and use the CPSV-AP and/or the tools.

New pilots with some portal owners will be launched to promote the creation of public services catalogues at national level as well as across-borders and improve the user's experience.

Finally, a dissemination plan aligned with that of SEMIC will be launched in order to promote the use of the tools and technical specifications created in this action and raise the awareness of policy makers, developers and other interested parties.

The action will disseminate information material which will provide information on the how catalogues of services can be created and used to rationalise public services and organised in a more effective way at the one-stop-shop portals; they will also demonstrate the potential benefits and cost savings for public administrations, portal owners and end-users, like:

- Development of guidelines and best practices on how to create and maintain a catalogue of public services;
- Development of case studies of real-life implementations of the CPSV-AP, pilots and reuse of test implementations of the tools;

1.2.3 OBJECTIVES

The main objective of the action is to achieve interoperability around national and European service descriptions that would help European public administrations build national as well as cross-border harmonised catalogues of public services.

The action will work towards the fulfilment of these objectives:

- implement interoperability specifications that will help European public administrations to describe public services a group them under life and business events
- implement solutions to enable the link and federation of national and European public service into a Single Digital Gateway in order to foster them as one-stop-shops;

- test in real life how those solutions can provide the expected benefits and based on the practical results improve them
- promote the creation of public services catalogues and improve the user's experience at public services portals
- Promote the federation and in some cases aggregation of the public services offered by the various levels of public administrations into national Single Digital Gateways or one-stop-shops. This would lead at a later stage to the creation of a European catalogue of public services in various domains;

1.2.4 SCOPE

The objective of the present action will be served through implementing interoperability solutions and running pilots to link the Catalogues of public services existing throughout the EU. Initially the scope was limited to the Services Directive but under ISA² it will be extended to other cross-domains as well.

The main target audience are public administrations, in particular the entities in public administrations that are responsible for the implementation and provisioning of public services and the owners of the public service portals acting as one-stop-shops.

The action will deliver a set of specifications and solutions to achieve a certain level of interoperability around national and European public services descriptions as well as to facilitate the federation of public services and the creation of catalogues. This will help European public administrations to improve the discovery and the provisioning of national and cross-border services.

1.2.5 ACTION PRIORITY

According to the EIF, MS need to put in place catalogues of public services, interoperability solutions and use common models for describing them. To support the ability to find reusable resources (like public services) relevant catalogues are needed. This component allows publishers to document and make available resources with the potential to be reused by others. Commonly agreed descriptions of services and interoperable solutions published by catalogues are fundamental, to enable interoperability amongst different catalogues. This action aims at defining a technical specification (data model) and at implementing tools to facilitate the creation of catalogue of public services, one of the interoperability enablers for integrated public services according to the conceptual model defined by the EIF.

1.2.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
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<p><i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>This action aims at defining a technical specification (data model) and at implementing tools to facilitate the creation of catalogue of public services, one of the interoperability enablers for integrated public services according to the conceptual model defined by the EIF.</p>
<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>There is not a data model at EU level to harmonise the description of public services and the creation of catalogues of public services</p>

1.2.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i></p>	<p>This action aims at defining a technical specification (data model) and at implementing tools to facilitate the creation of catalogues of public services in cross-cutting policies areas like the Services Directive or the "Digital Single Gateway" that is part of Communication on "A Digital Single</p>

	Market Strategy for Europe", COM(2015)192.
<i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i>	

1.2.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	This action aims at defining a technical specification (data model) and at implementing tools to facilitate the creation of catalogue of public services at national and European level in areas like the Services Directive or the "Digital Single Gateway" that is part of Communication on "A Digital Single Market Strategy for Europe", COM(2015)192.
<i>For proposals or their parts already in operational</i>	

phase: <i>have they been utilised by public administrations of three (3) or more EU Members States?</i>	
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1.2.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	<p>The action facilitates the creation of a one-stop-shop catalogue of public services thus contributing to the implementation of the "Digital Single Gateway" that is part of Communication on "A Digital Single Market Strategy for Europe", COM(2015)192.</p> <p>The Services Directive establishes a single market for services within the EU and obliges MS to create Point of Single Contacts with all the information and the electronic access to the formalities to set-up a business. These portals can make use of the tools and solutions of this action for the harmonisation</p>

	of the descriptions and the federation of public services, in order to foster the PSCs as one-stop-shops.
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	Yes, since interoperability is fundamental in the implementation of solutions in this action. In addition to that, the scope of this action falls under the development, establishment, bringing to maturity, operation and re-use of new cross-border or cross-sector interoperability solutions and common frameworks; once of the principles of the ISA2 scope.

1.2.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Output name	Core Public Service Vocabulary Application Profile (CPSV-AP)
Description	Data model to facilitate the creation of catalogue of public services and the interoperability of machine readable descriptions of any type of public service; the model will also allow for the modelling of public service descriptions around life and business events.
Reference	https://joinup.ec.europa.eu/asset/cpsv-ap/home
Target release date / Status	The extended version also counting for life events will be released for public consultation in autumn 2016 and the consolidated version will be available by the end of 2016
Critical part of target user base	Some portals acting as one-stop-shops for public services (PSCs; eGovernment portals; Digital Single Gateways)

For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Reused by Italy and Estonia to create national catalogues of public services
Output name	Tools for the creation of Catalogues of Public Services
Description	<p>Tools for the automated federation of public service descriptions and for the creation of catalogue of public services at national and cross-border level.</p> <p>The tools will provide the following functionalities: CPSV-AP mappings, public service description editor, public service description harvester, CPSV-AP validator.</p> <p>It will be analysed how to organise and maintain the existing pilots and tools to facilitate the use and adoption of them by PAs through test cases in a testing facility.</p>
Reference	
Target release date / Status	<p>The pilot implementations of the tools have been released in summer 2016</p> <p>Fully production releases expected in 2017</p>
Critical part of target user base	Some portals acting as one-stop-shops for public services (PSCs; eGovernment portals)
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	In piloting phase, some MS are reusing the pilot implementation of the tools.

1.2.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
<p>Does the proposal intend to make use of any ISA², ISA or other relevant interoperability solution(s)? Which ones?</p>	<p>The CPSV-AP is based on the Core Public Service Vocabulary.</p> <p>DCAT-AP specification will be reused to create at the CPSV-AP a container of public service descriptions like a catalogue.</p> <p>Solutions to be developed by the action are mapped to the building blocks of the</p>

	<p>European Reference Interoperability Architecture (EIRA) as the first step for their inclusion in the EUCart;</p> <p>The tools to federate public service descriptions and use of the CPSV-AP will make use of the test bed action as much as possible to create practical use cases for the users and a testing facility.</p>
<p>For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?</p>	

1.2.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
<p>Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?</p>	<p>The action facilitates the creation of a one-stop-shop catalogue of public services thus contributing to the implementation of the "Digital Single Gateway" that is part of Communication on "A Digital Single Market Strategy for Europe", COM(2015)192.</p> <p>The Services Directive establishes a single market for services within the EU and obliges MS to create Point of Single Contacts with all the information and the electronic access to the formalities to set-up a business. These portals can make use of the tools and solutions of this action for the harmonisation of the descriptions and the federation of public services, in order to foster the PSCs as one-stop-shops.</p>

1.2.6 PROBLEM STATEMENT

Member State public administrations provide various types of public services to their citizens and businesses but in very few cases there is a national/ regional catalogue listing all of them. Different types of approaches are being adopted towards the building of public services and their catalogues. There is usually no standard way of describing and documenting these services. The understanding of services and service implementations are different and even the basic definition of what constitutes a public service differs. Furthermore, there is a lack of an overview of what types of services already exist, often resulting in redundant work and inefficiencies.

The above makes the identification of European public services hard or impossible and creates barriers in the interoperable delivery of public services to end users, citizens and businesses resulting to loss of time and underuse of already available public services.

Some MS have defined their own semantic models to define and describe public services. These semantic models are then followed by competent authorities resulting in a higher level of integration of the various public service portals.

This structured approach should be adopted at EU level in order to create Catalogue of Services, ultimately interconnected and federated to each other. It will further make possible the federation of European Catalogues as one-stop-shops of public services to boost the discovery and re/use of cross-border European public services.

1.2.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
National and European public portals and one-stop-shops providing information about public services for citizens and businesses (Point of Single Contacts of the Service Directive; eGovernment portals;	For relevant European national authorities or agencies: the ability to federate public service descriptions from various sources and the creation of one-stop-shops; the efficient re-use of information available in other Member States and the creation of national and European catalogue of public services. Easier provision of national and cross-border public services following a user centric approach.

other business portals)	
DG Grow	Your Europe portal and the future Single Digital Gateway can use the output of the action in order to harmonise the public service descriptions around life and business events and also federate the services at the various portals.
Citizens and businesses	Easier discovery and understanding of the available public services related to business or life events. This is materialised in time savings.

1.2.8 EXPECTED MAJOR OUTPUTS

Output name	Consolidated technical specification of the Core Public Service Vocabulary Application Profile
Description	Data model to facilitate the creation of catalogue of public service; interoperable machine readable descriptions of any type of public service and grouping of them around life and business events.
Reference	https://joinup.ec.europa.eu/asset/cpsv-ap/home
Target release date / Status	The extended version also counting for life events will be released for public consultation in autumn 2016 and the consolidated version will be available by the end of 2016.

Output name	Tools for the automated creation of Catalogues of Public Services
Description	<p>Release of tools for the automated federation of public service descriptions and for the creation of catalogue of public services at national and cross-border level.</p> <p>The tools will provide the following functionalities: CPSV-AP mappings, public service description editor, public service description harvester, CPSV-AP validator.</p> <p>It will be analysed how to organise and maintain the existing tools to facilitate the use and adoption of them by PAs through test cases in a testing facility.</p>
Reference	
Target release date / Status	The pilot implementations have been released in summer 2016 Fully production releases expected in 2017

1.2.9 ORGANISATIONAL APPROACH

1.2.9.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Member States	ISA ² representatives from the various working groups and committees.
Member States	Points of Single Contact (EUGO Network) owners; other public service portals and national catalogues at Member State Level
DG GROW	Representatives of the EUGO Network; DG Grow services responsible for the Digital Single Gateway implementation and for YourEurope portal.

1.2.9.2 Communication plan

The progress of this action will be communicated on a regular basis to ISA² representatives from the various working groups and committees.

The current technical working group composed of several PSCs owners has been extended to other portal owners. Several webinars have been held. A distribution list was created to communicate and exchange working documents and other information with the various participants in the working group. All the deliverables and related info to the action will be available in a workspace set-up on Joinup.

Some dissemination and communication material will be produced to raise awareness on the works carried out in this action and in order to engage all interested public administrations.

A dissemination plan aligned with that of SEMIC will be launched in order to promote the use of the tools and technical specifications created in this action and raise the awareness of policy makers, developers and other interested parties. Some communication material will be elaborated to show how catalogues of services can be created and used.

1.2.9.3 Governance approach

The action is managed by DIGIT with the support of an external contractor. Whenever major deliverables are to be published, the validation of the MS representatives will be sought.

The current technical working group composed of several Member States from the EUGO Network has been extended in order to hold the technical discussions and build consensus related to the implementation and the piloting of interoperability solutions. This group is counting on relevant European and Member States' stakeholders responsible for the provisioning of one-stop-shops of public services and for the creation of national catalogue of public services.

1.2.10 TECHNICAL APPROACH

The technical approach will build upon the previous phases carried under Action 1.3., namely:

- Study on the feasibility of building a European Catalogue of Public Services and the potential federating of national catalogues at European level;
- Analysis on existing key business events used across the PSCs of the 28 MS and proposal for a list of first level business events that can be used for harmonisation across-borders;
- Definition of a data model, the core Public Service Vocabulary Application Profile (CPSV-AP) that can be reused by all PSC to model and federate public service descriptions under business events: Those services are offered by different competent authorities and the federation of the information at public portals will ease the search of info by the end users on the procedures to undergo to request a service.
- An analysis and proposal for a harmonised list of key business, life events and main service output that can be used across the PSCs to group public services and facilitate the discovery and execution of them.
- Identification of what are the technical solutions used by the PSCs of the participating Member States to facilitate the federation of public services and what others that are missing could be implemented;
- Analysis of public service portfolio management methodologies and ways for modelling and representing them;
- Functional requirements for the implementation of some software applications, open source tools, to facilitate the federation of public services and the creation of catalogues at the national public service portals (mapping; editing; harvesting tools).

This way, it has been analysed carefully what are the needs of different stakeholders to make the CPSV-AP applicable to public service descriptions in other domains outside the Services Directive (e.g. public services for citizens, other public services for businesses) and how this action can contribute to the "Single Digital Gateway" action identified in the DSM strategy action plan (what other steps and interoperability solutions could be implemented).

All of this has been discussed in the context of an extended CPSV-AP Working Group composed of relevant Member States' stakeholders responsible for the provisioning of one-stop-shops of electronic services and for the creation of national catalogues of public services.

Some software tools answering the requirements identified in previous phases for the creation, validation, mapping and harvesting/ federation of public service descriptions have been implemented as prototypes for potential re-use and as supporting tools for the use of the CPSV-AP.

In addition to this, a number of interested Member States and European portals has been engaged in order to launch a series of real life pilots in order to test and prove the benefits of adopting the CPSV-AP and the software tools as means to: harmonise the descriptions of public services at national PSCs (Points of Single Contact) and the Single Digital Gateway; federate public services at the national portals and also at the European level; and create ultimately harmonised catalogues of public services

In parallel, and as a result of the pilots, the data model for public service descriptions has been updated.

The data model specification for describing public services (CPSV-AP) will be further maintained and improved by adding multi-lingual controlled vocabularies and investigating the description of catalogues of public service description. The same will be done for the software tools. It will be explored the possibility of organising these tools in a testing facility.

Technical support like testing use cases will continue to be provided to EU MSs and EUIs (for instance DG GROW in the context of the Digital Single Gateway and YourEurope portal) in order to assist them in creating a catalogue of public services around life and business events, and use the CPSV-AP and/or the tools.

New pilots with some portal owners will be launched to promote the creation of public services catalogues at national level as well as across-borders and improve the user's experience.

Finally, a dissemination plan aligned with that of SEMIC will be launched in order to promote the use of the tools and technical specifications created in this action and raise the awareness of policy makers, developers and other interested parties.

Some communication material will be elaborated to show how catalogues of services can be created and used to rationalise public services and organise them in a more effective way at the one-stop-shop portals; also the potential benefits and cost savings for public administrations, portal owners and end-users, like:

- Development of guidelines and best practices on how to create and maintain a catalogue of public services;
- Development of case studies of real-life implementations of the CPSV-AP, pilots and reuse of test implementations of the tools;

1.2.11 COSTS AND MILESTONES

1.2.11.1 Breakdown of anticipated costs and related milestones

Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA, ISA ² / others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Inception/ execution	Analysis of the current situation and ways to contribute to the Digital Single Gateway action of	250	ISA ²	Q2/2016	Q3/2017

Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA, ISA ² / others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
	the DSM strategy. Extension of the public services data model. Implementation, test and pilot of solutions for the federation of public services descriptions.				
Operation	Pilot operation with some national and European portals	147	ISA ²	Q3/2016	Q2/2017
	Total	397			

1.2.11.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Inception, Execution, Operation	200	
2017	Execution, Operation	197	

1.2.12 ANNEX AND REFERENCES

Description	Reference link	Attached document
CPSV-AP	https://joinup.ec.europa.eu/asset/cpsv-ap/home	First release of the Core Public Service Vocabulary application profile

1.3 DATA COMMUNICATION NETWORK SERVICE (TESTA / TESTA NG) (2016.02)

Type of Activity	Common Services
Service in charge	DIGIT.C.4
Associated Services	

1.3.1 EXECUTIVE SUMMARY

The TESTA-ng network service is the continuation of an existing action of the ISA Programme. A number of sectorial networks are currently using the TESTA services for their sectorial applications (OLAF, DG MOVE, DG EMPL, DG HOME, DG SANTE, CDT, DG JUST, DG ECHO and DG TRADE), while other DGs have requested to use the network for their trans-European systems in the future (e.g. DG TAXUD). The network is also used by the European Institutions and the European agencies. In addition, the TESTA framework is also extensively used by DG HOME for the implementation of the SIS II and VIS II networks and EUROPOL for the implementation of their own dedicated EUROPOL network. Also, the General Secretariat of the Council is using the TESTA framework contract for the implementation of the FADO network, the Council Extranet and Courtesy networks.

The TESTA network is also used in the context of non-Community projects by Member State administrations or organisations acting on their behalf under certain conditions as described in the TESTA Memorandum of understanding. One of the most successful non-community programmes is the trans-border police cooperation in the context of the Prüm treaty and the Financial Intelligence Unit network in the context of money laundering.

Currently TESTA is preparing the next evolution in order to keep abreast of the latest technologies and developments and to achieve DIGIT's vision of becoming the sole and only network of choice of the European Union that handles all data transactions between Member State, EU Institutions, EU Agencies, EFTA Countries, Accessing Countries and members of community programs. In this perspective a taskforce has been set-up in order to investigate the future governance model, architecture and procurement.

1.3.2 OBJECTIVES

TESTA is primarily focusing on the following objectives:

1. **Connectivity:** The provision of a highly available, extendable, flexible and secured communication infrastructure between public administrations in Europe, so that current and future communication needs between these administrations can be covered;
2. The consolidation of existing data networks independently managed by other Institutions or European bodies.
3. **Security:** The provisioning of a secured, RESTREINT UE accreditable (if required) communication infrastructure;

4. Support: Provision of a central support infrastructure that can act as a single point of contact for trouble shooting, support to sectors and administrations, alert management and reporting;
5. Management: The overall project management as well as service management and administrative management of the TESTA networking services;
6. Assistance: The provision of assistance services dedicated to control and audit of the operational networking services.

1.3.3 SCOPE

The scope of TESTA is to exchange electronic data between administrations in Europe in a secure, reliable and efficient way. It is dedicated to inter-administrative requirements and is providing guaranteed performance levels and security.

- facilitate cooperation between public administrations;
- create interoperability at EU level through shared generic solutions;
- consolidation of existing parallel networks by providing secure reliable and flexible building blocks;
- cost reduction;
- and the provision of an extended catalogue of generic services (Collaboration tools, PKI, secure mail ...)

are the main driving forces for the new TESTA-ng.

TESTA-ng will be operated as a fully resilient network always having a look into confidentiality, integrity and availability.

1.3.4 ACTION PRIORITY

According to art. 7 of the ISA² decision the following points are applicable to the action:

1.3.4.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<p><i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>The nature of the TESTA project "trans border data communication" makes that TESTA as undelaying communication infrastructure is directly contributing to cross border interoperability. Various policy areas (trans-border police cooperation, money laundering, asylum policy etc...) are directly served via the TESTA initiative.</p>

<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>Due to the security layer (confidentiality, integrity, availability needs) and the private nature of the communication infrastructure centrally securely managed, no alternative solutions are for the moment available. Possible alternative communication infrastructures like the TAXUD CCN network, are merging with TESTA.</p>
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1.3.4.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i></p>	
<p><i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i></p>	<p>TESTA is the undelaying secured transport platform for many policy areas. Justice and Home Affairs, Health, Transport, Trade, Employment are examples of policy areas that rely since years on TESTA.</p>

1.3.4.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i></p>	-

<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	Yes. TESTA is covering the whole territory of the European Union, EFTA Countries and Acceding Countries
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1.3.4.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	The continuation of the funding of this action for 2017 is urgent in order to guarantee the continuity of the services to the current stakeholders.
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	Since ISA ² is focussing on new initiatives, the long-term financial sustainability has been questioned. Alternative funding mechanisms as from 2018 are under investigation.

1.3.4.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Name of reusable solution	TESTA
Description	
Reference	
Target release date / Status	
Critical part of target user base	
For solutions already in operational phase - actual reuse level (as	One of the main objectives of TESTA was "network consolidation". In this perspective a common data

compared to the defined critical part)	communication infrastructure has been set up and is used and reused by many policy areas. The last decade TESTA as actively avoided the proliferation of communication infrastructures dedicated to one application.
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1.3.4.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	TESTA can offer technical support for the delivery of other interoperability solutions to the TESTA community.
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	TESTA is reusing existing interoperability solutions such as CIRCABC, EU Survey.

1.3.4.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	As underlying secured communication infrastructure TESTA contributes directly via the information systems that are using TESTA to the implementation of the Digital Single Market

1.3.5 PROBLEM STATEMENT

The last migration from sTESTA (Secured TESTA) to TESTA-ng (TESTA New Generation) proved to be more difficult than the previous ones owing the large span of activities and the new contractor. It is therefore time to

have a broad reflection on different aspects of the future of TESTA, in order to consolidate its existence and provide more added value services within a smooth process.

In line with the DIGIT management plan, it has been decided to launch a taskforce to address the following topics:

- Achieve financial independence
- Achieve flexibility in procurement
- Achieve Governance independence
- Achieve excellence in service delivery and service offering (competitive advantage)
- Provide High Bandwidth to each connection point
- Align to EU initiatives and proposals.

1.3.6 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Specific sectors	Ability for sectors and agencies to use a secured trans-European network service for the exchange of data with specific availability or security requirements over a shared quality solution. Prevents proliferation of uncontrolled networks.
Member States' public administrations	Ability for MS administrations to use a secured trans-European network service for the exchange of data with specific availability or security requirements, with EU Institutions, EU agencies and other MS administrations. The provided solution is managed and the access points are under control of the MS administrations.
EU institutions and agencies	Avoids the unnecessary implementation of costly shadow network infrastructures.
Non-community programs	TESTA can be used in the context of a non-Community project by Member States administrations or organisations acting on their behalf under certain conditions described in the TESTA Memorandum of understanding. It stimulates the re-usage of an existing infrastructure.
Citizens and enterprises	Citizens and enterprises are out of the scope of the TESTA networking services but are indirectly benefiting due to the protection of the personal data on the level of the network.

1.3.7 ORGANISATIONAL APPROACH

1.3.7.1 Expected stakeholders and their representatives

Stakeholders	Representatives
EU institutions, Member States gov., EEA countries, Candidate countries, EU Agencies	TESTA representatives

1.3.7.2 Identified user groups

Working group on “TESTA (*Trans European Services for Telematics between Administrations*)”,

1.3.7.3 Communication plan

The main pillars on which the Communication Strategy will be based are the following:

1. TESTA-ng awareness and engagement to the programme's initiatives.
2. Collection of user's feedback.
3. Knowledge management.
4. Promotion of current and future services under TESTA-ng.

Event	Representatives	Frequency of meetings / Absolute dates of meetings?	Communication Channel
TESTA workshop	TESTA national experts/EU Institutions/EU Agencies/	2 times a year	Face to face meetings
TESTA stakeholders	EU Institutions / EU Agencies/ national governments / National, Regional, Local Administrations / European Commission services	On demand	Virtual meetings
TESTA SAP	EU Member States NSA representatives	On hold up until activation on request	

1.3.7.4 Governance approach

The TESTA approach is collaborative: it builds on national efforts to establish national, regional or local administrative networks by forging these to a trans-European network. In this so called domain based approach, every connected domain will have to fulfil the necessary security, performance and organisational requirements in order to obtain a full access to the TESTA network. In addition to the default setup, administrations might decide to implement additional access points and closed user groups or secured network services on the existing TESTA infrastructure. The budgetary impact of such a decision will fall under their responsibility. The TESTA network is controlled and supported by a central support and operation service, responsible for all operational issues, including the security management of encryption devices.

DIGIT C4 responsible for network infrastructure services at the European Commission has the organisational and contractual control over the execution of the TESTA Framework Contract. This organisational approach guarantees the operational and technical sustainability.

1.3.8 TECHNICAL APPROACH

The technical design is based on a fully meshed, fully encrypted layer 2 backbone connected each node with resilient 10Mbit (minimum) but with enough expansion capacity to handle future needs as they arise. Day-to-day operations are managed from a Security and Operations Centre in Kosice (Slovakia) and backed-up by a warm-standby site in Berlin (Germany). Data Services are provided from a fully resilient site in Munich (Germany) with a hot backup site located in Vienna (Austria).

The bulk of migration has been completed by mid of 2016 for all major deliverables with minor elements to be delivered by year end. In the meantime, the project has gradually transited into operational phase from mid-2016 and is now into continuous assessment and monitoring.

Whilst in 2017 we are expecting the project to remain in the same stable operational phase as achieved in mid-2016, we shall actively be kick-starting the deployment of enhanced services such as secured email, secured FTP and secured video conferencing, elements that have been requested by the community and are designed to enhance the services portfolio of TESTA.

Due to the issues we had with the acceptance of deliverables, our consultants had to perform more than average visits to the sites ie: Kosice, Berlin, Vienna and Munich and more iterative audits till the main elements of the project were brought in line with the requirements set in the CFT. For 2017, we foresee less audits and minor acceptance sessions (as all major deliverables will be accepted in 2016) however we are foreseeing an increase in consultancy and testing work required with respect to the new services we shall be deploying.

1.3.9 COSTS AND MILESTONES

1.3.9.1 Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Closing	Finalisation of Migration	118	ISA ²	Q3/2015	Q4/2016
Operational	Net Operations	732	ISA ²	Q2/2016	Q4/2016
Execution	Auditing and Assessment	1,650	ISA ²	Q1/2016	Q4/2016
Operational	Net Operations	1,546	ISA ²	Q1/2017	Q4/2017
Execution	Auditing, Consultancy & Assessment	1,000	ISA ²	Q1/2017	Q4/2017
Initiation	Deployment of new Services	1,000	ISA ²	Q1/2017	Q4/2017
	Total	6,046			

1.3.9.2 Breakdown of ISA² funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Implementing, Operating, Execution	2500	
2017	Operating, Execution & Development	3546	
2018			
2019			
2020			

1.4 IPV6 FRAMEWORK FOR EUROPEAN GOVERNMENTS (2016.09) – NO FUNDING REQUESTED FOR 2016

1.4.1 IDENTIFICATION OF THE ACTION

Type of Activity	“Common Frameworks “
Service in charge	CONNECT.E4
Associated Services	

1.4.2 EXECUTIVE SUMMARY

Almost all relevant data networks today are operating with the Internet Protocol - IP. Thus, every European digital cross-border communication is based on IP. The Internet Protocol Version 4 has around 4 billion addresses available, which officially run out. The lack of available IPv4 addresses is one of the main reasons why the change from IPv4 to IPv6 (which has a significantly greater address space) is without alternative.

The adoption of IPv6 in Europe, in particular within European public administrations, is still low, but the availability of IPv6 communication is vital for the economic development and the digitisation of European public administrations. The goals of the Digital Agenda for Europe and the Digital Single Market Strategy are based on stable and reliable data networks.

This project will create a common framework for European public administrations on how to procure addresses, organize the address space and adapt IPv6.

The first step to accomplish this is to create a detailed guide to implement a Local Internet Registry (LIR) to act as an address provider on national level within the public administration. Further steps are to create technical IPv6 profiles for the Network equipment and to introduce an IPv6 Transition Guide. Furthermore, this project will create Training Material for IPv6 Workshops that will help to enable the public administration of the EU Member states (MS) to cope with the IPv4 to IPv6 Transition.

1.4.3 OBJECTIVES

To ensure the cross-border interoperability of online services and the digitisation of European public administrations IPv6 is a must-have for the ISA² goals. MS as for instance Germany could bring strong support to the deployment of IPv6 within the European public administrations. Experience from certain Member States, e.g. Germany and other GEN6 participants should be reused and be made available and usable for all MS and the EC itself. Existing local IPv6 concepts and guidelines for public administrations shall be merged and adapted for a European-wide usage. These concepts and guidelines consider technical as well as organizational aspects. This will help to create a common framework to support all EU Member States in managing the transition from IPv4 to IPv6.

1.4.4 SCOPE

The aim is to deliver a clear blueprint for public administrations within Europe on how to procure and organize IPv6 address space and implement it within their organisations. The results will be derived from research and transition experience from MS that already derived concepts and guidelines like Spain, Slovenia, Switzerland (non-EU) and Germany. For the creation of these blueprints and guidelines, tangible experiences already made by European countries will be used. For example why and how to operate a so-called government LIR for the public administration of a MS. Therefore, the results can be the basis for a standardisation of the IPv6 introduction in the EU.

1.4.5 PROBLEM STATEMENT

In context of the lack of IPv4 addresses, the ability for a successful transition to IPv6 is crucial. The low deployment rate and a lack of experience and proven concepts for public administrations in Europe hinder cooperation within the EU.

Technically IPv6 is the only available solution on the network layer which has the ability to fulfil the requirements resulting from the sum of EU initiatives related to information technology.

1.4.6 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Member states' public administrations	Every Member state faces technical and organizational challenges in the transition to IPv6. A Common IPv6 framework will help to share best practices among the European public administration.
European Commission	A common European IPv6 framework will help the Commission to coordinate the development of next generation networks throughout Europe.
Member states' public administrations, vendors, ISPs, public users, universities	As a buyer and user of network infrastructure and applications, public administrations play an important role in the European market. With the introduction of IPv6, the demand for IPv6-capable products will rise. A support of IPv6 will create greater transparency and make planning for participating interest groups easier. At the same time, the stimulus package will help to motivate the IT sector to adopt IPv6.
governments, vendors, ISPs, public users, universities	IPv6 is a new technology. With professional guidance on how to use it, the security and the reliability of IT infrastructures across Europe will rise.
European citizens / universities	Support within the EU public administration of IPv6 will create greater transparency and make planning for participating interest groups easier.

1.4.7 RELATED EU ACTIONS / POLICIES

Action / Policy	Description of relation, inputs / outputs
GEN6	http://www.gen6-project.eu The project described here is based on the results of the GEN6 project.
Digital Agenda for Europe and Digital Single Market Strategy	http://ec.europa.eu/priorities/digital-single-market/ http://ec.europa.eu/digital-agenda/en/digital-agenda-europe-2020-strategy IPv6 is the essential precondition for a digital Europe. This work will enable the public administrations of the MS to communicate safe, secure and cross-border. The adoption of IPv6 in the public sector will reinforce business in the European ICT market
Digitisation of the EU	http://ec.europa.eu/digital-agenda/en/digitisation-digital-preservation Digitisation of the EU will need more addresses for the additional digitised systems and applications. This is only possible by the usage of IPv6, which needs support to be deployed in the EU public administrations. To push this, the EU administration itself has to be a pioneer.
European eGovernment Action Plan 2011-2015	http://ec.europa.eu/digital-agenda/en/european-egovernment-action-plan-2011-2015 The basis of a successful European e-Government strategy is a European communications network. A “Common IPv6 Framework” will help to achieve this for the near future. This is also valid for the upcoming follow up plan “new EU eGovernment Action Plan 2016-2020” http://ec.europa.eu/digital-agenda/en/news/workshop-new-eu-egovernment-action-plan-2016-2020

1.4.8 REUSE OF SOLUTIONS DEVELOPED BY ISA, ISA² OR OTHER EU / NATIONAL INITIATIVES

This project will be based on the results of the GEN6 project (<http://www.gen6-project.eu/>). The work will also take into account the relevant documents of the RIPE (<http://www.ripe.net>). In addition, the extensive results of the local German governmental IPv6 research and development project (http://www.bva.bund.de/DE/Organisation/Abteilungen/Abteilung_BIT/Leistungen/IT_Beratungsleistungen/IP_v6/best_practice/bestpractice_node.html) will be extended and adapted for an EU level usage. The content is already partly translated to English and available free under a creative commons licence for everyone over the Internet.

1.4.9 EXPECTED RE-USABLE OUTPUTS (solutions and instruments)

Output name	1. Guide to setup IPv6 in the public administration - LIR setup and processes
Description	A detailed guide on how to order address space, to set up and implement a Local internet Registry
Reference	
Target release date / Status	4 / 2016

Output name	2. IPv6 Profile for public administrations of the EU
Description	A detailed technical profile with recommendations, to implement IPv6 options within IPv6 components for public administrations.
Reference	
Target release date / Status	6/ 2016

Output name	3. IPv6 Transition Guide for public administrations of the EU
Description	A guideline on how to migrate a public authority of a MS to IPv6/IPv4 dual-stack. It includes step-by-step instructions, security recommendations and project organisation guidelines.
Reference	
Target release date / Status	12/ 2016

Output name	4. IPv6 Workshop material for public administrations of the EU
Description	Slide sets and usage instructions to enable public administrations of the EU to start with a cost efficient IPv6 planning phase.
Reference	
Target release date / Status	12 / 2016

Output name	5. Description and discussing document of IPv6 related EU infrastructures, especially TESTA-NG for public administrations of the EU
Description	This document creates the link between the guidelines and the technical profile to the actual network-infrastructure.

Reference	
Target release date / Status	09 / 2016

1.4.10 ORGANISATIONAL APPROACH

1.4.10.1 Expected stakeholders and their representatives

Stakeholders	Representatives
ISA ² coordination group	The ISA ² coordination group is expected to be one of the first and most important stakeholders
EU Member states' national authorities	CIO's, decision makers of national authorities
Some former GEN6 members	Former GEN6 representatives of the MS
RIPE NCC (in cooperation with)	Representatives of RIPE who developed the IPv6 RIPE profile document

1.4.10.2 Communication plan

The scope and the current project status will be published on a dedicated project homepage. In addition, all partners are encouraged to place articles in the media. Presentations on conferences including RIPE meetings or related events (Mobile World Congress Barcelona, CeBIT Hannover) will produce project attention.

1.4.10.3 Governance approach

The action will be carried out by CONNECT.E4 and supervised by the ISA² Coordination Group.

Cross Relations:

Cooperation with RIPE NCC, Member states, GEN6 Participants

Regular meetings and written correspondence

1.4.11 TECHNICAL APPROACH

All documents described above will be proven by results from a lab environment, so all statements are accompanied by relevant evidence.

Technical Approach:

- Organizational and Process LIR Definition

- Assessment of relevant IT devices
- Identification of relevant IPv6 standards
- Definition of requirements to IPv6 enabled devices within European public administrations
- Definition of minimal mandatory IPv6 capabilities

1.4.12 COSTS AND MILESTONES

1.4.12.1 Breakdown of anticipated costs and related milestones

Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA ² / others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Inception	Project Charter	30	ISA ²	Q1/2016	Q1/2016
Execution	output 1	80	ISA ²	Q1/2016	Q1/2016
	output 2	120	ISA ²	Q1/2016	Q2/2016
	output 3	80	ISA ²	Q1/2016	Q4/2016
	output 4	40	ISA ²	Q1/2016	Q4/2016
	output 5	80	ISA ²	Q2/2016	Q4/2016
operational	pilot -output 3	35	ISA ²		
	pilot -output 5	35	ISA ²		
	Total	500			

1.4.12.2 Breakdown of ISA² funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Inception	30	
2016	execution, operational	470	
2017			
2018			
2019			
2020			

1.4.13 ANNEX AND REFERENCES

Description	Reference link	Attac hed docu

		ment
GEN6	http://www.gen6-project.eu/	
Spain's' transition to IPv6 strategy	http://administracionelectronica.gob.es/pae Home/pae Estrategias/pae Interoperabilidad Inicio/pae Transicion a IPv6.html?idioma=en	
The Government of the Republic of Slovenia, Ministry of Higher Education, Science and Technology Study: Transition to IPv6 (Guideline for Deliberation on the National IPv6 Strategy)	http://go6.si/docs/Study_MVZT_IPv6_en.pdf	
Federal Ministry of the Interior and "Deutschland Online Infrastruktur", presentation IPv6 Workshop - creating a constructive Dialogue, European Commission, April 2010. Presentation in the NL	https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/20114.pdf https://www.forumstandaardisatie.nl/fileadmin/os/presentaties/10mei12 constanze-buerger.pdf	
All Documents from Germany	http://www.bva.bund.de/DE/Organisation/Abteilungen/Abteilung_BIT/Leistungen/IT_Beratungsleistungen/IPv6/best_practice/bestpractice_node.html	

1.5 TRUSTED EXCHANGE PLATFORM (E-TRUSTEX) (2016.19)

1.5.1 IDENTIFICATION OF THE ACTION

Type of Activity	Reusable generic tools
Service in charge	DIGIT B.4
Associated Services	DIGIT B.2, SG A.1, JUST B.2, COMP R.3, SANTE A.4

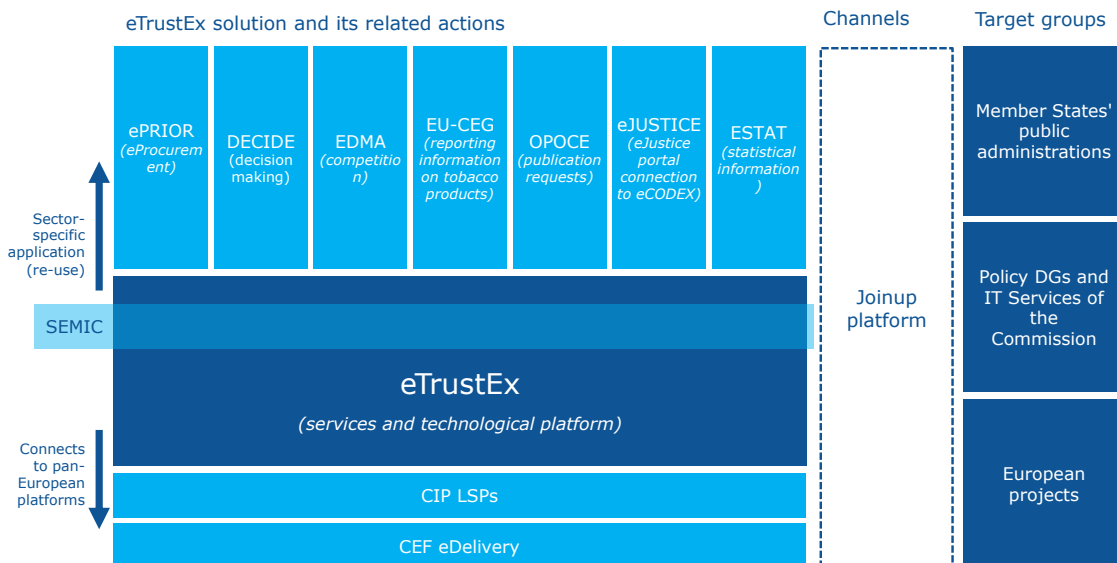
1.5.2 EXECUTIVE SUMMARY

More and more data is exchanged between administrations. According to our estimates European policy additionally increasingly requires the data to be exchanged electronically (see section 1.1.6). This action aims to support the public administrations in their implementation of these policies, enabling them to exchange data electronically in a secure, reliable and interoperable way through re-use.

In parallel, the CEF programme and the Large Scale Projects funded under the CIP programme provide pan-European exchange platforms. They, however, require integration with the back-end systems of their re-users in order to achieve end-to end coverage and interoperability. To address the above problem, e-TrustEx also helps public administrations to link their national systems to the pan-European exchange platforms.

The e-TrustEx solution is already operational and the platform is offered to the EU Institutions as a service and to the Member States as an open source software tool.

This action is introduced to improve the service offering, to keep the operations of the platform live and to provide support to re-users. Please find below a summary view of the eTrustEx solution, its related actions and target groups.



1.5.3 OBJECTIVES

The main objective of this action is to support public administrations in the implementation of European policies in different sectors by promoting Interoperability through re-use. This can be achieved through the use of e-TrustEx which helps accelerate the implementation of secured exchange of information between Publication Administrations. e-TrustEx enables the automation of document exchange and offers value added services such as validation and routing of documents as well as the ability to send large messages. When needed and possible, the receipts given by the post will be replaced by electronic receipts. Thanks to the Open Source policy, Member States will be able to re-use and extend it themselves for their own specific needs at national, regional or local level.

By fulfilling these objectives, the action will not only stimulate trusted information exchange, but also a cohesive interoperability architecture founded on re-use of work and reduction of redundancy, in line with the priorities of the European Interoperability Strategy and the Digital Single Market Strategy.

1.5.4 SCOPE

In scope: The e-TrustEx platform is offered to the EU Institutions as a service and to the Member States as a tool. This action covers:

- Development of additional features and improvements within the e-TrustEx platform, increasing its value in both cases;
- Operations of the platform for the EU institutions that reuse it in service delivery mode. This includes maintenance of the platform as well as improving the governance and the quality control and assurance processes and mechanisms in order to enhance the services provided to the project stakeholders; and
- Support on technical aspects both to its existing users and for Member States willing to re-use the platform. This includes activities such as increasing the user request resolving time, support of deployment, integration, specifications of the technical interface and of the several components of the platform, debugging and testing, etc.

Out of scope: Implementation of back-office integration is not covered by this action and should be complemented by Policy DGs using their own budget. The Policy DGs should additionally fund the provision of specific support to their users. Member States' Administrations adopting the platform should equally manage the hosting, the specific support and the development of specific functionality and extensions. The exchange of classified documents is also out of the scope of this action.

1.5.5 ACTION PRIORITY

1.5.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i>	<p>e-TrustEx is a platform offered to Public Administrations at European, national and regional level to set up secure exchange of natively digital documents or scanned documents from system to system via standardised interfaces. e-TrustEx is a cross-sector, open-source, free-to-use tool that will help you to exchange structured and unstructured documents and to connect to pan-European e-delivery infrastructures with reduced investment.</p> <p>It promotes interoperability, it facilitates the cross-border and cross-sector information exchange, taking into account legal, organisational, semantic and technical aspects.</p>
<i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i>	Yes. This proposal refers to an already existing action, to which its relevance in terms of interoperability has been demonstrated, and recognized by the ISA ² program

1.5.5.2 Cross-sector

<i>The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned</i> Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i>	N/A
<i>For proposals or their parts already in operational</i>	e-TrustEx is utilised in the following policy

<p>phase: have they been utilised in two (2) or more EU policy areas? Which are they?</p>	<p>areas:</p> <ul style="list-style-type: none"> • Business <ul style="list-style-type: none"> ○ e-PRIOR electronic procurement (DIGIT) • Justice, home affairs and citizens' rights <ul style="list-style-type: none"> ○ DECIDE decision making (SG) ○ eJustice portal (DG JUST) • Environment, consumers and health <ul style="list-style-type: none"> ○ EU-CEG tobacco reporting (DG SANTE) • Economy, finance and tax <ul style="list-style-type: none"> ○ EDMA competition cases (DG COMP) • Cross-cutting policies <ul style="list-style-type: none"> ○ OJ (OP) ○ CEF eDelivery connector (DG CONNECT) ○ Eurostat proof of concept (ESTAT)
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1.5.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<p>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</p>	<p>N/A</p>
<p>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</p>	<p>The e-TrustEx platform is used currently as pan-European message exchange platform by the following projects:</p> <ul style="list-style-type: none"> • e-PRIOR (DIGIT), • DECIDE (SG) • EDMA (DG COMP) • eJustice portal (DG JUST) • OPOCE (OP) • EU-CEG (DG SANTE) • Eurostat (ESTAT) – currently conducting a PoC • CEF eDelivery connector (DG

	<p>CONNECT)</p> <p>In the scope of these projects it is used by over 68 public institutions (such as national parliaments and permanent representations) of the 28 member states. Approximately 0.5 million documents have been exchanged between the European Commission, the EU council and the MSs to date. In addition, over 900 private companies have exchanged close to one million documents with the EC and other EU institutions in the scope of the e-PRIOR project.</p>
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1.5.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	This proposal refers to an already ongoing action. Its urgency has already been assessed by ISA ²
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	This proposal refers to an action already under the ISA ² scope

1.5.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Name of reusable solution	e-TrustEx open source software package
Description	The e-TrustEx open-source software package is offered to Public Administrations at European, national and regional level to set up secure exchange of digital structured and unstructured documents from system to system via standardised interfaces.
Reference	https://joinup.ec.europa.eu/software/openetrustex/description
Target release date / Status	Released

Critical part of target user base	Target level: 1 known reuser
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	EU-CEG (DG SANTE) has adopted the e-TrustEx solution to interconnect CEF eDelivery with the EU-CEG back-office. DG SANTE hosts and manages it in a secure environment. The full reuse volume of the open source software package is unknown to the project owner (as it can be freely downloaded and reused)

Name of reusable solution	e-TrustEx instance hosted at the EC
Description	e-TrustEx can be reused in a service delivery mode within the EU Institutions.
Reference	DIGIT-eTrustEx-Support@ec.europa.eu
Target release date / Status	Released
Critical part of target user base	Target level: 5
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	<p>The following projects are reusing, or considering reusing the solution:</p> <ul style="list-style-type: none"> • e-PRIOR (DIGIT) – In production • DECIDE (SG) – In production • EDMA (DG COMP) – In production • OJ (OP) – In production • eJustice portal (DG JUST) – In pre-production • Eurostat (ESTAT) – PoC ongoing <p>In the scope of these projects it is used by over 68 public institutions (such as national parliaments and permanent representations) of the 28 member states. Approximately 0.5 million documents have been exchanged between the European Commission, the EU council and the MSs to date. In addition, over 900 private companies have exchanged close to one million documents with the EC and other EU institutions in the scope of the e-PRIOR project.</p>

1.5.5.6 Level of reuse by the proposal.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	ISA Action 2.9 – Document repository services for EU policy support: eTrustEx will be integrated with the existing open source

	document repository services.
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	<p>ISA Action 1.7 - ePRIOR: The e-TrustEx platform was originally built on the basis of the ePRIOR platform and is now used by ePRIOR</p> <p>ISA Action 4.2.4 - Joinup: The e-TrustEx platform is made available via the ISA Collaborative Platform (Joinup)</p> <p>ISA Action 1.1 - SEMIC: IMMC Metadata (Interinstitutional standard metadata defined in the context of the decision making process) files are transferred to EU stakeholders and Members States through e-TrustEx.</p> <p>CEF eDelivery DSI: The eTrustEx is integrated with the CEF eDelivery network and can be used by the Member States as a connector to link national systems to the network.</p> <p>CIP LSPs: eTrustEx is integrated with the solution deriving from the convergence of the eDelivery solutions of the CIP Large Scale Pilots.</p>

1.5.5.7 Interlinked

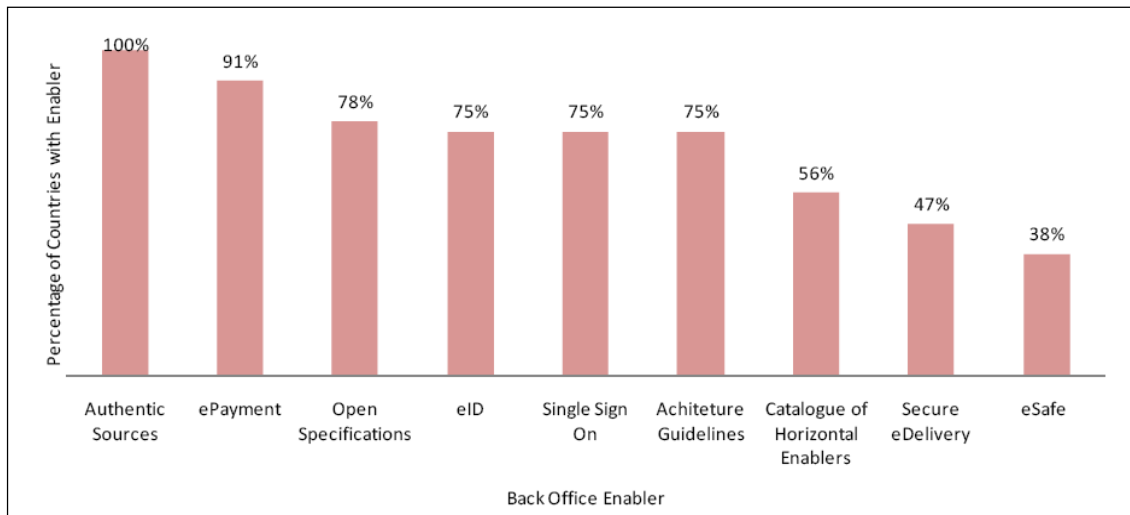
Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	<p><i>Digital Agenda</i></p> <p>e-TrustEx contributes to the Digital Agenda, in particular to its first pillar: achieving the digital single market.</p> <p><i>DSM strategy</i></p> <p>In 2015, a digital single market strategy was released and the e-TrustEx action contributes to boosting competitiveness through interoperability and standardisation, which is explicitly mentioned in the communication.</p> <p>EIF/EIS : eTrustex is aligned with teh revised</p>

	<p>EIF and contributes to the implementation of the European Interoperability Strategy.</p> <p>Contributes to the <i>Jucker's political guidelines</i></p> <p>As e-TrustEx creates technical interoperability cross borders, it supports Priority n°2: A Connected Digital Single Market of the Political Guidelines for the next European Commission – A New Start for Europe: My Agenda for Jobs, Growth, Fairness and Democratic Change (15 July 2014)</p> <p><i>eGovernment Action Plan 2016-2020</i></p> <p>In Action 6 of the eGovernment action plan the Commission commits to reusing operational building blocks (such as e-TrustEx) in view of its own digital transformation.</p> <p><i>eIDAS Regulation</i></p> <p>The regulation on electronic identification and trust services for electronic transactions was adopted at end of 2014. It will further foster interoperability and reduce barriers in the internal market, supported by solutions such as e-TrustEx.</p>
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1.5.6 PROBLEM STATEMENT

Public administrations exchange increasing amounts of information and the current ways of exchange are often unreliable and unsecure (e.g., via e-mail or via paper documents, CDs or DVDs exchanged via postal mail, faxes, etc.). This is confirmed by the "9th Benchmark Measurement of European e-Government services"¹ which shows that there is an increasing need of the Member States for a secure electronic delivery platform.

¹ https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/eqov_report.pdf



A survey carried out by the e-TrustEx project team in 2010 confirms the same trend. The survey also shows that the Member States believe the European Commission should promote the re-use of a common set of building blocks for cross-border data exchange. In addition, European policy increasingly requires information between public administrations in the EU Member States to be exchanged electronically. This action supports the implementation of these policies by public administrations in the European Union and introduces interoperable, secure and reliable exchange possibilities.

The e-TrustEx architecture and its components are also re-used by the CEF² e-Delivery project to allow greater ease of connectivity of back-end systems to the CEF and the e-SENS e-Delivery solutions and of directly submitting documents to such networks through a graphical user interface. e-TrustEx already provides integration with CEF e-Delivery which includes the e-Delivery framework coming from the eCODEX³ Large Scale Project (EBMS3/AS4) as well as the PEPPOL⁴ Large Scale Project. These integrations are integral to achieving a pan-European interconnection among existing information exchange communities. Each of these pan-European exchange platforms offers generic and highly reusable components and services; however, if not integrated, the lack of “end-to-end” coverage (including the “last-mile”) and interoperability between them may hinder their actual re-use. Therefore the components developed by this action are reused to provide a connector, helping public administrations to link their national systems to the pan-European exchange platform CEF eDelivery.

The e-TrustEx platform is already operational⁵ and during the next phases the project intends to build on the experience acquired during the past years of the programme to improve and implement new features that are vital for the platform users. During 2015 an evaluation activity on the perceived quality of e-TrustEx was undertaken as part of the ISA programme monitoring⁶. Based on the conclusions, more attention will be drawn to aspects such as the platform functionality improvement and increasing the user request resolving time by the support team. Focus will also be put on improving the governance and the quality control and assurance

² <http://ec.europa.eu/digital-agenda/en/connecting-europe-facility>

³ <http://www.e-codex.eu/home.html>

⁴ <http://www.peppol.eu/>

⁵ funded by earlier ISA Work Programmes as well as the first ISA² Work Programme

⁶ CGI-Accenture for the ISA programme monitoring (July 2015). INTEROPERABILITY SOLUTIONS FOR EUROPEAN PUBLIC ADMINISTRATIONS MONITORING AND EVALUATION - ACTION 1.8 PERCEIVED QUALITY AND UTILITY MONITORING REPORT (Report No. D03.05/D03.06)

processes and mechanisms in order to enhance the services provided to the project stakeholders. The project will also maintain the service in operation and provide support to its users.

1.5.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Member States' public administrations and EU institutions	<ul style="list-style-type: none"> - Switching from registered post to digital exchange of information reduces the cost of these exchanges (as an example, in France around 25 to 40 million letters with delivery receipt are exchanged by public administrations – around 4€ to 5€ each). - Enable the creation of a European ecosystem of electronic message exchange which can serve several sectors requiring cross-border exchange of information. This will create economies of scale avoiding that each sector develops a specific solution, - Increase the security and reliability of information exchange and in the same time reduce the manual work involved in the process. - Cost savings and improved efficiency by ensuring interoperability of information exchange at European, national, regional or local level. - Provide free-to-use open source tools for national parliaments and permanent representations to send and receive electronic legal documents and metadata. - Experience, lessons learnt, specifications, tools and components published as open source reusable by any Member State or EU Institution.
Policy DGs and IT services of the Commission	The European Commission, because of its trans-national position, is more and more called upon to develop systems to coordinate political actions in various fields. Having a generic system, like e-TrustEx, in place and widely used would be a very big progress for the whole interoperability issue in Europe and would also represent important cost savings.
European projects	Cost and time savings to connect to pan-European infrastructures

1.5.8 ORGANISATIONAL APPROACH

1.5.8.1 Expected stakeholders and their representatives

Stakeholders	Representatives
ISA ² Organisational Board	The ISA ² OMB assists the Commission in translating priorities into actions

Meeting	and to ensure continuity and consistency in their implementation.
DIGIT – Directorate General for Informatics of the European Commission	<p>Unit DIGIT.B.4 (<i>Corporate financial, Procurement and Policy solutions</i>)</p> <p>This unit is the main service in charge of this action and responsible for the development coordination and maintenance of e-TrustEx. It ensures the development and re-use of the e-PRIOR related modules and services and coordinates the interaction between the different stakeholders.</p> <p>Unit DIGIT.B.2 (<i>Corporate knowledge and Decision making solutions</i>)</p> <p>This unit is in charge of developing the e-TrustEx GUI, adapter and of the DECIDE project.</p>
Secretariat general Of the European Commission	<p>Unit SG.A1 (<i>Advice, developments and logistics</i>)</p> <p>This unit is the system owner and business project manager of DECIDE and represents the interests of the DECIDE users.</p>
DG CONNECT – Directorate General for Communication Networks, Content and Technology of the European Commission	<p>Unit CONNECT.H3 (<i>ICT for Government and Public Services</i>)</p> <p>The cooperation with CONNECT is key given its role as the primary link between CIP pilots, the provision of building blocks through the CEF programme and the Commission.</p>
DG COMP - Directorate General Competition of the European Commission	<p>Unit COMP.R.3. (<i>Information Technology</i>)</p> <p>This unit is in charge of the EDMA project and is be responsible of the development of the EDMA specifically related modules.</p> <p>Unit COMP.R1 (<i>Document Management</i>)</p> <p>This unit is the system owner and business project manager of EDMA and represents the interests of the EDMA users.</p>
DG EUROSTAT - the statistical office of the European Union.	<p>ESTAT.B.3</p> <p>This department is currently conducting a PoC, as part of the adoption of eTrustEx to exchange statistical information between member states and the EU institutions.</p>
EU-CEG Project (DG-SANTE)	<p>Unit SANTE.A.4</p> <p>This unit is the system owner and business project manager of the EU-CEG project</p>

1.5.8.2 Identified user groups

The e-TrustEx action targets Member States' public administrations, Policy DGs and IT Services of the Commission and European projects. The following projects are identified as user groups:

- e-PRIOR (DIGIT)
- DECIDE (SG)
- EDMA (DG COMP)
- OJ (OP)
- eJustice portal (DG JUST)
- EU-CEG Project (DG-SANTE)

- CEF eDelivery connector (DG CONNECT)
- Eurostat (ESTAT)

1.5.8.3 Communication plan

Event	Representatives	Frequency of meetings / absolute dates of meetings?
ISA ² TIE Working Group	eTrustEx team members, Member States representatives, ISA unit members, ISA ² Coordination Group	Quarterly
Operational Management Board Meetings	Project Coordination Group and the Extended Coordination Group	Regular basis (specific periodicity to be defined with the stakeholders)
Bilateral meetings with Member States	DIGIT representatives, Member States representatives	These meetings are arranged by DIGIT on ad hoc basis.
Bilateral meetings with Policy DGs	DIGIT representatives, Policy DGs representatives	These meetings are arranged by DIGIT on ad hoc basis.
Relevant conferences and events	DIGIT with any other project stakeholder	DIGIT is invited to participate in meetings organised by Member States, the LSPs, e-Practice, etc.
Joinup	DIGIT representatives	(online channel)
ISA ² TIE Working Group	eTrustEx team members, Member States representatives, ISA unit members, ISA ² Coordination Group	Quarterly

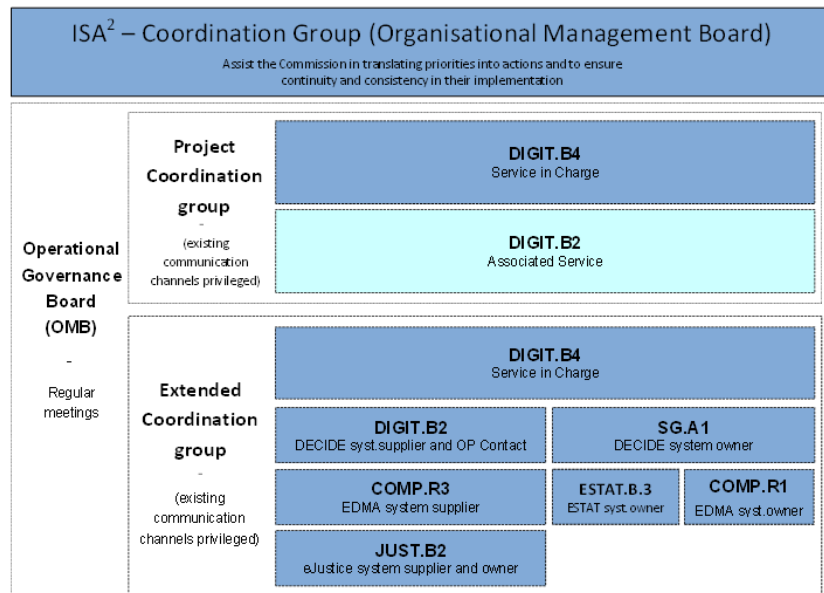
1.5.8.4 Governance approach

First and foremost, the e-TrustEx project is an action of the ISA² programme and therefore, it follows the ISA² governance structure.

To achieve the aforementioned objectives, this project will collaborate with several DGs of the European Commission and with several other stakeholders (e.g. participants of CIP pilots, Member States).

The Project Coordination Group ensures coordination and involvement of each of the associated services. Continuous coordination with the system owners of the systems connected to e-TrustEx is assured by an Operational Management Board (OMB). The OMB will be composed of the Project Coordination Group (acting as chair) and the Extended Coordination Group and it will meet regularly. The objective of the OMB is to

provide a vehicle for the participants to handle all operational matters regarding the 'operational-side' of the e-TrustEx project. Decisions and other important information are to be discussed in this forum.



1.5.9 TECHNICAL APPROACH AND CURRENT STATUS

This action is not a new initiative, but rather execution and operation building on already conducted work funded under the ISA Work Programme as well as ongoing work funded under the first Work Programme of ISA². The platform has, as part of the earlier ISA Work Programmes implemented several phases of architecture roadmap enhancement, making the platform scalable, reliable and supporting additional functionalities. During the last ISA Work Programme a number of pilots in cross-border information exchange have been implemented in several sectors using the same e-TrustEx platform. As a consequence of those successful pilots eTrustEx is onboarding multiple new stakeholders, which are or will be using the platform in a production mode.

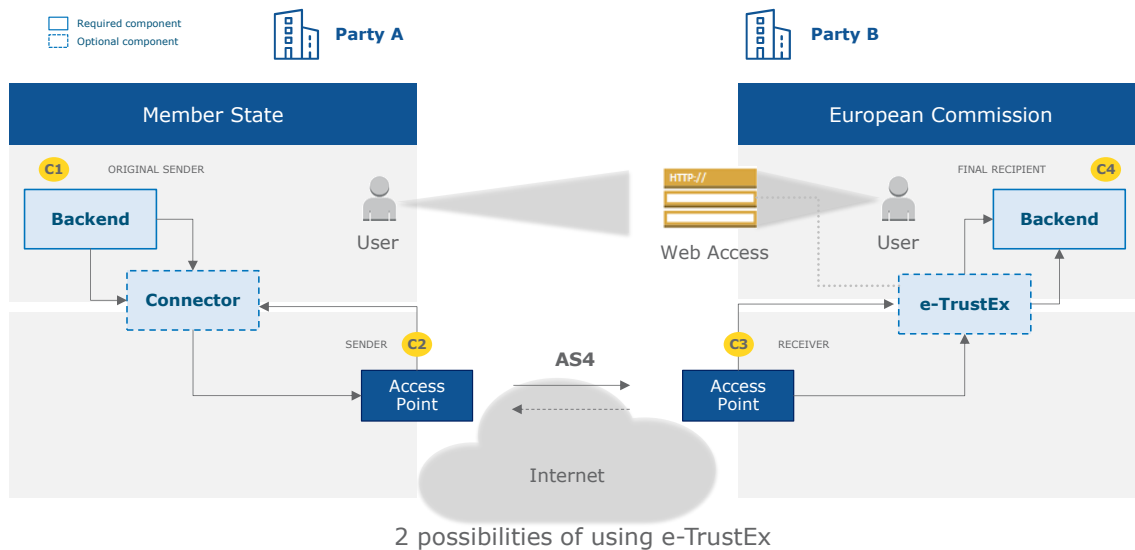
The project is now focusing on the adoption of software development QA/QC best practices, documentation, and implementing a governance model more in line with current eTrustEx operational status. This includes implementing essential needs identified by users and keeping the services operational. The various activities of the project are executed in three phases:

- Execution;
- Operational; along with a parallel
- Monitoring and control phase.

The activities involved in each execution sub-phase will contribute towards the development of further functionality in order to support the objectives of the phase, whereas the activities for the operational parts will contribute towards providing the necessary support and roll-out, and cooperation with MS and policy DGs in order to facilitate their adoption of the tool.

In terms of architecture, an action is ongoing to fully align e-TrustEx to the complementary use with the CEF eDelivery building block as shown in the architecture diagram below. It is expected that, as a final result, the e-TrustEx adapter no longer will be needed given the integration of the CEF eDelivery Access Point with e-TrustEx. It is also expected that, in order to minimise the impact on current users, some of the features of the adapter will be added to a plugin to the Domibus sample implementation of the CEF eDelivery Access Point.

eDelivery | e-TrustEx – Architecture overview



The outputs and results of the execution phase are divided into work packages as detailed below. The first stage is currently ongoing.

Execution phase stage 1 – currently ongoing, from April 2016 with planned conclusion for March 2017

Main focus: Additional functionalities and improvements

Details: The activities of this phase are contained in 6 Work Packages (WPs):

	Scope	Identified objectives
WP1	Integration with other services	<ul style="list-style-type: none"> Integrate to evidence handling of CEF eDelivery Start work on integrating eTrustEx adapter with archiving/cleaning service (with retention policy) of the Node Start work on integrating with smart card readers for signing Complete work on integration with the document repository services of ISA action 2.9.
WP2	Adapt to evolution of browsers	<ul style="list-style-type: none"> Start work on redevelopment of the e-TrustEx web applet using HTML5
WP3	Support of new protocols	<ul style="list-style-type: none"> Implement support for additional protocols (such as FTP) Implement interoperable queue protocol Implement new interface with improved genericity (SBDH)

WP4	Configuration and notification	<ul style="list-style-type: none"> ▪ Implement centralised configuration mechanism ▪ Implement notification mechanism
WP5	Mobile access	<ul style="list-style-type: none"> ▪ Start work to make an e-TrustEx user interface version which offers the best experience to mobile users
WP6	eIDAS compliance	<ul style="list-style-type: none"> ▪ eIDAS impact assessment

Execution phase stage 2 – planned for April 2017 - March 2018

Main focus: Adoption of development QA and QC best practices, continuous improvement

Details: The activities of this phase are contained in 7 Work Packages (WPs):

	Scope	Identified objectives
WP1	Integration with other services	<ul style="list-style-type: none"> ▪ Complete work on integrating eTrustEx adapter with archiving/cleaning service (with retention policy) of the Node ▪ Complete work on integrating with smart card readers for signing
WP2	Adapt to technological evolution	<ul style="list-style-type: none"> ▪ Complete work on redevelopment of the e-TrustEx web applet using HTML5 ▪ Removal of JSCEF framework from the admin console ▪ Improvements to the admin console ▪ Adaptations to the e-TrustEx adapter taking into account the results of the gap analysis between the e-TrustEx adapter and the CEF eDelivery AP.
WP3	Adoption of quality assurance and quality control best practices in SW development	<ul style="list-style-type: none"> ▪ Implementation of code QA and QC methods and tool (code quality review, unit testing and integration testing tools, test automation)
WP4	Improved deployment	<ul style="list-style-type: none"> ▪ Facilitate deployment of eTrustEx (docker)
WP5	Mobile access	<ul style="list-style-type: none"> ▪ Complete work to make an e-TrustEx user interface version which offers the best experience to mobile users
WP6	eIDAS compliance	<ul style="list-style-type: none"> ▪ Implementation of actions identified by eIDAS impact assesment
WP7	Continuous improvement	<ul style="list-style-type: none"> ▪ Stakeholders Change request/enhancements ▪ Improve existing documentation ▪ Improve existing support service

1.5.10 COSTS AND MILESTONES

1.5.10.1 Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Phase 1 – Execution	Additional functionalities and improvements	950	ISA ²	Q2/2016	Q1/2017
Phase 1 – Operational	Operation phase 1	250	ISA ²	Q2/2016	Q1/2017
Phase 2 – Execution	Adoption of development QA and QC best practices, Continuous improvement	1020	ISA ²	Q2/2017	Q1/2018
Phase 2 - Operational	Operation phase 2	250	ISA ²	Q2/2017	Q1/2018

1.5.10.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Phase 1 – Execution	950	
	Phase 1 – Operational	250	
2017	Phase 2 – Execution	1020	
	Phase 2 – Operational	250	
2018			

1.6 INTEROPERABILITY AGREEMENTS ON ELECTRONIC DOCUMENT AND ELECTRONIC FILE (2016.26)

1.6.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common Frameworks
Service in charge	DIGIT B6
Associated Services	DG GROW, SG, DIGIT.B2, EU Publications Office, DG CONNECT

1.6.2 EXECUTIVE SUMMARY

Administrative activity is distinguished by its documentary character, in the sense that the administrative documents are evidences of their activity and the external form of such acts.

The need to exchange the above documents and files in an electronic format make necessary the establishment of interoperability guidelines about their exchange. Special consideration should be given to the context in which the object of exchange is the electronic document and not just the data it carries.

Preliminary work has been done under the ISA programme, to explore what Member State administrations try to achieve when using electronic documents and how they do it.

This will, under the ISA² programme, be extended to get a full overview and serve as the basis for the categorisation of requirements, possible solutions and interoperability issues related to these solutions, with the goal to identify areas where interoperability agreements would be useful, and consequently establish such agreements.

1.6.3 OBJECTIVES

The objective of the action is the definition of common specifications (interoperability agreements) in relation to the electronic documents and the electronic files:

- An interoperability agreement for electronic documents would define a common approach describing e-documents, including contents, e-signatures, and minimum required metadata;
- An interoperability agreement for e-files would define a common approach to the structure of e-files (being a collection of electronic documents grouped into a common context, e.g. a case), including e-documents, e-indexes, e-signatures, and minimum required metadata, and specifications on how to send and make them available.

The action aims to first establish a complete picture of solutions and standards for electronic documents and electronics files, covering the whole lifecycle of e-electronic documents and electronic files, including bundling (containers), exchange (e-Safe and others) and archiving.

This picture should be at EU and national level and in various domains (e.g. social security, taxation and maritime affairs), taking into account security, privacy and data protection and the citizen's right to data preservation. It will then serve to identify the needs / requirements and best practices, and eventually propose interoperability agreements to fulfil these requirements.

1.6.4 SCOPE

Building on the reference architecture for electronic documents that was developed under the ISA programme, the action will consider various aspects related to e-documents and identify interoperability issues where further action is needed. Different types of solutions to similar problems will be compared and their advantages and disadvantages elaborated. Where common specifications are lacking, the action will draft such specifications, building as much as possible on existing standards, and aiming at a wide range of consensus.

1.6.5 ACTION PRIORITY

1.6.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i>	The EIF calls for the establishment of interoperability agreements. The action aims at establishing such agreements for electronic documents and electronic files.
<i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i>	The landscape of existing solutions and their cross-border / cross-sector interoperability is little known; it is one of the goals of the action to get a better understanding of the solutions that fulfil this interoperability need.

1.6.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i></p>	<p>Not applicable for action outputs that are reports. Cross-sector applicability of e-documents solutions is one of the aspects that the action examines.</p> <p>The e-documents reference architecture is certainly applicable across sectors, but specific intentions to use it are not (yet) known.</p> <p>Interoperability agreements that relate to the content of electronic are often sector-specific; where they relate to the generic aspects of documents they often remain very high-level (related to s-delivery and security)</p>
<p><i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i></p>	

1.6.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i></p>	<p>The purpose of the action is to facilitate the cross-border exchange and mutual recognition of electronic documents and electronic files.</p> <p>It is impossible at this point to say how many Member States will actually implement interoperability agreements.</p> <p>Alignment with the Danish eDocs reference</p>

	architecture is planned.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	

1.6.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	Electronic documents and their mutual recognition play a role in many policy areas (e.g. Services directive, Justice)
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	Since a large portion of the work consists in an analysis of the as-is-situation and a gap analysis, it fits well into the scope of the ISA programme. Elaboration of interoperability specifications is closely linked to other ISA actions (SEMIC, EIRA)

1.6.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Output name	Updated study on state of the art of e-Document and eSafe solutions in Europe
Description	The inventory and analysis of what exists in this area in terms of existing standards and solutions actually in use in Member States and at EU level will be extended to cover eSafe solutions in Europe, too.

Reference	To be published on Joinup
Target release date / Status	2016

Output name	Updated and extended Reference Architecture for e-Documents
Description	Under the ISA programme, the e-Documents action has produced a reference architecture for electronic documents, based on the European interoperability Reference Architecture (EIRA). Under ISA ² , this will be finished and maintained. It is meant to enable public administrations to make informed architecture decisions when building e-document solutions.
Reference	To be published on Joinup
Target release date / Status	2016 / Status: first version published in 2015

Output name	Interoperability agreements (context dependent) for the exchange of electronic documents and electronic files.
Description	Interoperability agreements can occur on all EIF layers: organisational (e.g. agreement about mutual acceptance), semantic (e.g. minimal set of document metadata, or content schemas, technical (e.g. signature formats and containers). The format will vary accordingly.
Reference	To be published on Joinup
Target release date / Status	Q2 2017 / Status: not started

1.6.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	The e-documents engineering method put forward in the first phase of the action was developed in cooperation with the ISA action 1.1 (SEMIC). Any future work on standardised

	<p>formats will have to take into account the instruments created by the SEMIC action. Core Vocabularies in particular can play a role in the definition of e-document formats (side by side with international standards such as Dublin Core, SBDH, UN/CEFACT and UBL). Specifications developed in the Member States and coming from other funded projects (e.g. LSPs), as well as the analysis done in the context of the Services Directive will serve as input for any draft interoperability agreements.</p>
<p>For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?</p>	

1.6.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
<p>Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?</p>	<p>Mutual recognition of electronic documents and efficient exchange between administrations are certainly key elements for the free movement of citizens and goods and establishing the once-only principle.</p>

1.6.6 PROBLEM STATEMENT

Administrative activity is distinguished by its documentary character, in the sense that the administrative documents are evidences of their activity and the external form of such acts.

The need to establish some guidelines for interoperability in the exchange of electronic documents and electronic files is assumed, well known, and a key for interoperability. Special consideration needs to be given

to a context in which frequently the object of exchange is the electronic document (with its documentary character preserved) and not just the data it carries.

Lessons learned from existing experience in establishing relevant specifications shall be taken into account.

1.6.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Commission Services	Better European Public Services especially those which are document-based.
Public Administrations	Reduction of administrative burden. Electronic documents allow for shorter processing, fewer errors, reduced printing and postage costs and, most importantly, fully integrated processing.
Business and citizens	Reduction of administrative burdens, improved users' satisfaction

1.6.8 ORGANISATIONAL APPROACH

1.6.8.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Member States	ISA ² Committee, ISA ² Coordination group (or ISA CG equivalent) and working groups
Commission Services	A representative from each concerned Commission service.
ICT	Representatives of ICT industry, SMEs
Standardisation bodies	Representatives from standardisation organisation fora and consortia.

1.6.8.2 Identified user groups

The reports produced by the action are meant to be used by

- Policy makers in the Member States that want to know what kind of solutions are in place in other MS
- Policy makers at European level that want to know what kind of solutions are in place in the Member States, to what extent they can be used across borders and sectors and where there are potential gaps to be filled
- IT architects in the Member States that want to know the typical components of solutions for electronic document and how to make them interoperable

Actual interoperability agreements are meant to be used by IT architects and implementers when designing systems for the exchange of electronic documents across organisational and political borders.

1.6.8.3 Communication plan

Under the ISA programme, MS solutions for electronic documents and electronic files were examined. This inventory will continue under ISA² – targeted communication with experts takes place through e-mail and telephone interviews, so as to achieve a complete picture of the situation in Member States. The reference architecture for electronic documents that was also created under the ISA programme will be finalised and then further disseminated, through presentations and webinars. Draft interoperability agreements will be created with the help of a working group and be subject to a public consultation – an effort will be made to engage here specifically the owners of standards and specifications for electronic documents in Member States.

Already while drafting these interoperability agreements, the action will actively search for cooperation partners to identify specific pilots according to the recognised needs. This will help to pinpoint obstacles on the organisational layer early on.

1.6.8.4 Governance approach

The action will be managed by DIGIT with the support of an external contractor. Whenever major deliverables are to be published, the validation of the MS representatives will be sought.

This action will be run in close collaboration with the relevant ISA² working group and with the concerned Commission services. Once interoperability agreements are established, they will require a more formal governance – this will be created in a later stage of the action, depending on the nature of the agreements (based on existing work for similar types of interoperability agreements, e.g. SEMIC), and taking into account the participation of relevant stakeholders.

1.6.9 TECHNICAL APPROACH AND CURRENT STATUS

During the inception phase, the inventory and analysis of what exists in the Member States (started under the ISA programme) will be completed as a basis to scope the next steps towards, for example, the identification of overlaps and gaps and the needs/requirements.

The e-documents reference architecture that has been created in parallel will enable identification of requirements on the different interoperability layers, including in particular aspects that are relevant to the documentary character of electronic communications, like integrity, confidentiality, non-repudiation etc.

This work will then be used to identify where definition and agreements on common templates of interoperability agreements (specifically oriented towards electronic documents and electronic files) could contribute to increase interoperability amongst EU systems.

Once some clarity about the need for agreements on the different interoperability layers has been achieved, a working group will be established to draft these agreements. The planning of pilots will begin in parallel, to ensure real-life relevance of this work.

1.6.10 COSTS AND MILESTONES

1.6.10.1 Breakdown of anticipated costs and related milestones

Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA ² / others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Inception	Definition of scope for interoperability agreements	100	ISA ²	Q2 2016	Q3 2016
Execution- 1	Draft interoperability agreements	150	ISA ²	Q4 2016	Q2 2017
Execution-2	Pilots	197	ISA ²	Q3 2017	Q4 2017
	Total	447			

1.6.10.2 Breakdown of ISA² funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Inception Execution-1	250	
2017	Execution-2	197	

1.6.11 ANNEX AND REFERENCES

Description	Reference link
Updated Reference Architecture for e-Documents	http://joinup.ec.europa.eu/site/isa_edocuments/edocuments/ (to be updated)

2. SEMANTIC INTEROPERABILITY

2.1 SEMIC: PROMOTING SEMANTIC INTEROPERABILITY AMONGST THE EUROPEAN UNION MEMBER STATES (2016.07)

2.1.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common Services
Service in charge	DG DIGIT
Associated Services	EU Publications Office, DG CNECT, ESTAT, Secretary General

2.1.2 EXECUTIVE SUMMARY

Within the ISA Programme, the Action has produced specifications, created communities, and supported policy domains, DGs and MSs in improving semantic interoperability.

In the new Programme the Action continues to develop specifications in the form of data standards and reference data with close collaboration with the domain owners and addressing needs from DGs and MSs.

The existing semantic interoperability solutions produced by the Action and other EC initiatives will be further promoted to be used in operational systems. Recent examples include the successful use of the Core Business vocabulary in the DG JUST Business Registers Interconnection System (BRIS), the DCAT-AP specification in the DG CNECT pan-European Open Data Portal (part of the CEF DSIs), the Core Vocabularies for the DG COMP State Aid Notification system, the Core Public Service Vocabulary in Estonia and the Maltese National Data Strategy where the Core Vocabularies are referred as the starting point for developing national core data standards. Moreover, resources will be invested to exploit these core data model in base registries, with the aim to develop the missing common semantic layer to allow exchange of basic data amongst the MSs, contributing to the "once-only" vision.

Furthermore, aiming at addressing the lack of a mature and interoperable tool for the management and publication of controlled vocabularies, the Action, in close collaboration with the Publications Office of the EU, will continue the development around the open-source thesaurus management tool VocBench. VocBench 3.1 will offer a ready solution for the management, alignment and publication of controlled vocabularies as Linked Open Data, thus taking away the burdens for public administrations to maintain and publish their controlled vocabularies in an open and interoperable way.

At the same time, the Action will continue investing towards innovative approaches to achieve application and data integration by applying semantic technologies and linked data. This will take the form of pilots to be organised with the active participation of MSs and relevant EU services checking amongst others efficient ways to decrease the costs and increase the efficiency for bringing together systems that have been developed independently but need to exchange information.

Last, the Action will elaborate and update as needed the semantic layer of the European Interoperability Reference Architecture (EIRA) working closely and contributing to the relevant ISA² Action.

2.1.3 OBJECTIVES

The objective of this action is to promote semantic interoperability amongst the EU Member States (MSs) and the EU Institutions. This is achieved by:

- Supporting alignments and agreements on common definitions and specifications at the semantic layer for the MSs and the EU Institutions.
- Promoting the use of the ISA Core Vocabularies, the ADMS and DCAT-AP specifications.
- Identification of areas for new Core Vocabularies and/or common data models.
- Supporting relevant policy and projects executed by DGs and MSs.
- Using core data models in base registries.
- Supporting DGs and MSs for using the ISA data models in operational systems.
- Supporting and promoting metadata management policies to MSs and DGs.
- Promoting open and linked data approaches and technologies.
- Promoting best practices, and lessons-learned in the area of semantic interoperability.
- Supporting the development of a new version of VocBench (version 3.1) as a toolbox for controlled vocabularies, metadata and glossaries.
- Continuation of the promotion and dissemination work including the SEMIC conference.

2.1.4 SCOPE

Development of new specifications, policy and technical support, pilots, promotion activities are within the scope of the Action. Emphasis will be given on promoting cross-domain interoperability but single-domain, cross-border and/or cross-EU institutions initiatives remain with the scope of the Action. Moreover, the Action will develop a new version (version 3.1) of the collaborative thesaurus-management platform VocBench.

The following activities are not considered within the scope of this Action:

- All technical development related to the Joinup platform including the implementation of the federation of interoperability solutions.
- Specific VocBench deployments to any of the partners involved in the ISA initiative

2.1.5 ACTION PRIORITY

2.1.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
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<p><i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>The Action supports the implementation of the EIF and the EIS, the INSPIRE Directive, the PSI Directive, the Service Directive by promoting semantic interoperability, through the definition and use of common specifications and by providing an open-source reference tool for the management of semantic interoperability assets.</p>
<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>The Action tries to develop and promote common specifications when such specifications are not available. It is the only horizontal action for promoting semantic interoperability for the European public administrations. Moreover, VocBench is the most mature OSS platform for advanced thesaurus management.</p>

2.1.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i></p>	<p>The specifications developed by the Action are generic and reusable in any policy domain. VocBench can be used for hosting any type of thesauri and vocabulary, allowing also mappings and alignment amongst assets coming from different policy areas.</p>
<p><i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i></p>	<p>The DCAT-AP spec is used in the PSI (open data) and in environmental (INSPIRE) policy areas. The Core Public Service Vocabulary has been used in the Service Directive (points of single contacts), eGovernment (national portals) and local government (OSLO initiative). VocBench is already used in multiple EU policy areas such as “Agriculture, fisheries and foods”, “Justice, home affairs and citizens' rights” and “Employment and social rights”.</p>

2.1.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	The results of the Action can be used by all MSs while VocBench supports multilinguality.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	DCAT-AP is used in more than 8 MSs, CPSV in at least 3 MSs, VocBench in 4 MSs.

2.1.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	Semantic interoperability has always been identified as an important barrier in digital EU policies (e.g. Digital Agenda for Europe, Digital Single Market)
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	As semantic interoperability should be promoted at a horizontal and cross-domain level, the ISA ² is a perfect match for hosting such activities

2.1.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Name of reusable solution	Data models
Description	A set of 6 Core Vocabularies, three DCAT-related specifications, ADMS have been developed by the Action
Reference	https://joinup.ec.europa.eu/community/semic/description
Target release date / Status	2012 – today: All the specifications are released on Joinup.
Critical part of target user base	The specifications can be used by all system architects, designers and national authorities as horizontal data standards.
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	34 known implementations in 8 countries are presented on https://joinup.ec.europa.eu/community/semic/description

Name of reusable solution	VocBench 3.1
Description	The main outcome of the work. A fully fledged collaborative platform for management of RDF thesauri (in SKOS / SKOSXL) and ontologies (OWL) with particular emphasis on Controlled Collaboration, Extensibility and Scalability
Reference	http://vocbench.uniroma2.it/
Target release date / Status	Currently available as V2.4.2 stable, a further 2.5 will be released on September, 2016). Planned 3.0 for July 2017. Planned 3.1 for the end of the project (at most, or intermediate release and further features added by the end).
Critical part of target user base	VocBench will be an open source system for collaborative editing of RDF data, OWL ontologies and SKOS and SKOS-XL thesauri. VocBench's adoption is not meant to be in any way restricted to the registered stakeholders, and its full compliance with W3C standards make it a perfect platform for the evolution of many organizations and authorities towards production and publication of Linked Open Data.

For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	N.A.
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2.1.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	<p>Joinup is used as a publishing and community building tool for all the specifications developed under the Action. The specifications produced by the Action have the potential to be used by several other Actions in all data modelling tasks.</p> <p>For VocBench, the Metadata Registry module will allow generating descriptions of the controlled vocabulary in DCAT-AP and ADMS. The module can be extended to cover other ISA interoperability solutions such as StatDCAT-AP and GeoDCAT-AP.</p>
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	Joinup is the main publishing and community platform for the Action.

2.1.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
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<p>Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?</p>	<p>Interoperability is considered critical for the progress of the Digital Single Market, and special references are included in the relevant strategy. Admittedly, semantic interoperability together with organisational are the two layers where most MSs experience the most severe problems.</p> <ul style="list-style-type: none"> ○ The Action contributes to "better public services" in the Digital Single Market strategy. ○ Copying from the DSM strategy "<i>The lack of open and interoperable systems and services and of data portability between services represents another barrier for the cross-border flow of data and the development of new services.</i>" The Action contributes to better interoperability and data portability. ○ The DSM promotes the "Free flow of data" and identifies interoperability as an important issue for achieving this. ○ The DSM strategy asks for a revision of the European Interoperability Framework. One of the interoperability levels there refers to "semantic interoperability". ○ The DSM discusses about the interconnection of base registries and the Once-Only principle. Semantic interoperability is a prerequisite for achieving these targets. <p>PSI and Open Data</p> <p>In line with the EC objectives in the area of the PSI Directive, the Action promotes policies towards both open data and open metadata by the MSs and the EU services as a support measure for the more general Open Data policy.</p> <p>One of the concrete measures developed to implement this policy entails the setting up of the EU Open data Portal which is operated by the Publications Office of the EU. Close collaboration and common activities with the Publications Office of the EU have already started in 2013 and continues to secure alignment of efforts and concrete results.</p> <p>The creation of the pan-European Open Data portal is also part European open data policy. The portal has started its operation in 2015, and the DCAT-AP specification is used as the metadata standard for the description of the datasets coming from over 70 Open Data portals from 34 countries. The Action closely collaborates with the relevant EC service (DG CONNECT/G3).</p> <p>In 2014, a revision of the DCAT-AP has been concluded. Moreover, two extensions of the specifications are being developed to cover description of geospatial (GEO/DCAT-AP) and statistical (STAT/DCAT-AP) data.</p>
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2.1.6 PROBLEM STATEMENT

The environment in which data exchange and service execution takes place amongst MSs is very complex contributing many barriers and challenges to the exchange of data during the execution of European Public Services. These barriers include divergent interpretations of the data, lack of commonly agreed and widely used data models, absence of universal reference data (e.g. code lists, taxonomies), from which only few are publicly available and even less as Linked Open Data, lack of interoperable tools/formats for the management and publication of reference data, the multilingual challenge. Last, in the sensitive area of labour markets, we currently experience fragmented European labour markets which hinders European mobility as the data of jobseekers and the matching job vacancies are kept in different systems due to the existing digital segmentation etc.

Due to these pressures, semantic interoperability becomes an important element in many eGovernment and interoperability national agendas and interesting experience and lessons-learnt can already be shared at a European level.

2.1.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Member States' Public Administrations	<ul style="list-style-type: none"> ○ Forum to identify opportunities for harmonization at European level ○ A virtual place to share best practices and experiences ○ Core Vocabularies, reference data, XML schemata and thesauri ready to be used in public administration information systems development. ○ Linked data best practices. ○ Reduced development costs <ul style="list-style-type: none"> • due to reuse during the initial development phase • due to less interoperability conflicts while integrating systems or providing cross-agency/domain/country services
IT Services Industry	<ul style="list-style-type: none"> ○ Reduced development costs, as explained above. ○ Reuse and integrate controlled vocabularies and metadata produced by Member States and Public Administrations or EU institutions and bodies.
European Commission Services	<ul style="list-style-type: none"> ○ A set of specifications in the form of Core Vocabularies and other relevant tools, such as reference data (e.g. authority tables), XML schemata and thesauri that can be reused by the EC services to facilitate interoperability among different applications and systems ○ Reduced development costs, as explained above.
For VocBench	

<p>Publications Office (EuroVoc, Name Authority Lists) and its stakeholders: Cedefop (European Agency for vocational training), EU-OSHA (Agency for Security and Health at Work) European Executive Agency for Education and Culture (EEAEC), EIGE (Institute for Gender Equality); EEA (European Environment Agency)</p>	<p>The Publications Office proposes as a free collaborative environment open to the EU institutions and bodies for the maintenance of their controlled vocabularies. The system is based on a common ontology-profile that increases the interoperability between the controlled vocabularies but also facilitates their dissemination in a common EU controlled vocabularies data portal.</p> <p>VocBench enables to re-use the concepts and their translations in the different controlled vocabularies but also to extend the coverage with most specific or generic concept. For example, EuroVoc will be enriched with the concepts from the specialised thesauri (EU-OSHA, EEAEC, EIGE, Cedefop, EIGE) while the specialised thesauri will re-use the most generic concepts from EuroVoc;</p> <p>VocBench also manages the semantic relations with remote controlled vocabularies such as Gemet, AgroVoc, JRC Inspire Feature Concepts or UNBIS (United Nations Thesauri).</p> <p>EuroVoc and its semantic extensions (specialised thesauri, alignments) will be established as reference vocabulary used to index/ annotate and to retrieve EU resources as well as resources published by national or regional authorities (for example, legislation, publications, datasets or web resources).</p>
<p>European Commission Library</p>	<p>Reconciliation and mapping of the European Commission thesaurus (ECLAS) with EuroVoc in the purpose of re-indexing the European Commission Library collection (ECLAS) with EuroVoc.</p>
<p>European Commission, Informatics Directorate (DIGIT)</p>	<p>Use VocBench for the maintenance and dissemination of the glossaries and ontologies produced by DIGIT.</p>
<p>EU and national Open Data Portal</p>	<p>Use VocBench for the maintenance and dissemination of the dcat-ap themes used as a standard vocabulary to annotate the Open Data datasets in European, trans-European and national Open Data Portal.</p>
<p>FAO (Food and Agricultural Organisation)</p>	<p>Use VocBench for the maintenance and dissemination of the Agrovoc thesaurus, the Glossary of Biotechnology for Food and Agriculture, the Land and Water controlled vocabulary and the FAO main topics. A list of the partners acting in the VocBench Community is available at http://VocBench.uniroma2.it/support/community.jsf</p>
<p>JRC Inspire Registry</p>	<p>Use VocBench for the maintenance and dissemination of the JRC Inspire themes and features concept dictionary.</p>
<p>National and regional authorities</p>	<p>Use VocBench for the maintenance of their controlled vocabularies and metadata, for the alignment of their national and regional controlled vocabularies with EuroVoc.</p> <p>Enrich the EU-level semantic of EuroVoc with in-depth national and regional coverage responding to the need of the Member States.</p>
<p>Academy and Education</p>	<p>Given the open and standard compliant nature of VocBench, it is being adopted in various areas of education (ranging from digital libraries,</p>

	archiving and purely IT areas of learning) for teaching how to develop thesauri compliant with W3C standards for the web of data.
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2.1.8 EXPECTED MAJOR OUTPUTS

Output name	Targeted studies, use cases and publications promoting semantic interoperability
Description	
Reference	
Target release date / Status	

Output name	Consultancy and support provided to MSs and EU institutions
Description	
Reference	
Target release date / Status	

Output name	Metadata Registry and Retriever (temporary name)
Description	<p>The Metadata Registry and Retriever is a separate open-source project adopted in VocBench as an embedded software component of the system. The purpose of this module is to edit metadata descriptions of datasets available online.</p> <p>The Metadata Registry shall handle the standard formats such as DCAT, VOID or ADMS. There are three main intended usage scenarios for this module:</p> <ol style="list-style-type: none"> 1. First it will allow describing the datasets that are being created with VocBench. 2. Second It will provide a pertinent mechanism to handle external resource descriptions for the Vocabulary Alignment Module (used to link the created vocabulary to other existing vocabularies hosted at places and described by their metadata). 3. Third, this module also acts as a single interface for accessing the remote resources wrapping various ways of access. For example the resources can be available via http dereferencing (at the concept level) or via SPARQL endpoint.

	The component was not realized in the course of the first action on VocBench, due to budget reduction and other more urgent requirements which emerged at the first VocBench stakeholders meeting and which have been listed in deliverable D03.03
Reference	N.A.
Target release date / Status	M6

Output name	MAPLE
Description	<p>MAPLE is being developed as a separate open-source project adopted in VocBench as an embedded software component of the system.</p> <p>It is built on the lexical metadata vocabulary LIME, developed by UniTov and contributed to the OntoLex W3C community group.</p> <p>MAPLE will automatize the alignment capabilities in VocBench, providing dataset-access facilities and lexical resource provisioning to alignment systems.</p> <p>The component was not realized in the course of the first action on VocBench, due to budget reduction and other more urgent requirements which emerged at the first VocBench stakeholders meeting and which have been listed in deliverable D03.03</p>
Reference	http://art.uniroma2.it/maple/ http://art.uniroma2.it/lime/
Target release date / Status	Planned integration by the end of the project.

2.1.9 ORGANISATIONAL APPROACH

2.1.9.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Member States	<ul style="list-style-type: none"> ○ ISA² Committee ○ ISA² Coordination Group or ISA CG equivalent

	<ul style="list-style-type: none"> ○ Persons/units in charge of National and/or regional Interoperability Frameworks and/or metadata standards catalogues/repositories, etc. ○ Persons/units in charge of governmental portals
Standardization bodies	<ul style="list-style-type: none"> ○ W3C ○ OASIS ○ GS1 ○ CEN ○ UN/CEFACT ○ Dublin Core Metadata Initiative ○ EU Interinstitutional Metadata Maintenance Committee (IMMC)
DIGIT	<ul style="list-style-type: none"> ● DIGIT/B2, DIGIT/01 ● Unit (s) responsible for promoting common specifications in new and existing systems
EU Publications Office	<p>The unit responsible for metadata management</p> <p>The unit responsible for the EU Open Data portal</p> <p>The unit responsible for the Common Vocabulary for legal documents</p>
Other EC DGs and EU Institutions	<p>Representatives from the DGs who work as IT coordinators (IRMs)</p> <p>Representatives from DGs and EU Institutions (e.g. JRC, EEA etc.) who work in the area of metadata management.</p> <p>DG CNECT units for public services and G.3 PSI and open data</p> <p>The EC Secretariat General</p> <p>The EU Council, the European Parliament.</p>
FAO	The unit responsible for metadata management using VocBench.

2.1.9.2 Identified user groups

All MSs and EU institutions.

2.1.9.3 Communication plan

The Action will create the necessary links with the ISA² Communication Action to coordinate the promotion and dissemination of results to several types of recipients. The Action includes within its plan communication activities which are of technical nature, while Action 4.1.1 will promote the results to a broader audience, using appropriate non-technical language, and different channels.

Event	Representatives	Frequency of meetings / absolute dates of meetings?
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Event	Representatives	Frequency of meetings / absolute dates of meetings?
The Action tries to disseminate its work with presentations, posters and panels in the major eGovernment and semantic technologies conferences and events		
The Action will try to raise awareness for the importance of metadata management, data standards and alignment in MSs and internally in the EC		
The Action will try to disseminate and promote the use of the Core Vocabularies and linked data best practices in the EU MSs		2 MSs visits per year
The Action will continue organising its annual conference which has been very successful so far		1 conference per year

VocBench is already a mature open-source project. Communication about its further releases, support and discussion are given and held through different channels, covering different needs with the most appropriate solution, and exhibiting redundancy to some extent.

By first, the official site of VocBench: <http://vocBench.uniroma2.it> represents an entry point for people/organizations willing to approach the system. Secondly, two mailing lists/discussion groups: Users⁷ and Developers⁸, provide assistance to, respectively, the community of users and of those willing to contribute the project or develop independent extensions for it. An Atlassian Suite instance provides project management, bug report and wiki services. Finally, the Agricultural Information Management Standards (AIMS) portal, managed by FAO, reports on news about VocBench and associated systems and tools.

The Publications Office of the EU will reserve a space on its future corporate EU Vocabularies website for information on VocBench. The Publications Office offers access to an instance of VocBench to other EU institutions and bodies through the Testa network. It will organise information and training sessions for services interested in managing their controlled vocabularies in VocBench.

Promotion beyond the EU institutions of the new version of VocBench is foreseen by making use of social media (Twitter), webinars and participation in conferences (posters). The project stakeholders will promote VocBench in their respective communities.

⁷ <http://groups.google.com/group/VocBench-user>

⁸ <http://groups.google.com/group/VocBench-developer>

2.1.9.4 Governance approach

The Action is run by the European Commission, DG DIGIT, B.6 (ISA Unit).

For the work expected in this Action, collaboration with MSs and other stakeholders (e.g. DG EMPL, the EU Publications Office, other DGs, EU institutions, agencies and bodies, standardisation bodies) is considered of critical importance. For this reason, communication with the MSs and third parties will be frequent and their active involvement will be encouraged via invitations for participation in ad hoc groups discussing specialised issues related to the content of the Action.

For the design and development of a new major version for VocBench (version 3.1) A Project Steering Committee will be established to provide overall guidance and to ensure the consistency of the project regarding the roadmap, the technical specifications and the programme actions. The Committee will consist of representatives from the Publications Office, UNITOV, DIGIT (European Commission), Joint Research Centre (Inspire Registry), Food and Agricultural Organisation (FAO), European Environment Agency (EEA) and representatives from the Member States' national or regional authorities.

2.1.10 TECHNICAL APPROACH AND CURRENT STATUS

Overview for work so far

The Action tries to overcome semantic interoperability problems by:

- documenting what is available in each MS with regards to metadata policies and the management of semantic interoperability assets;
- identifying opportunities for alignment;
- promoting share and reuse of semantic assets, experiences and tools and facilitating agreements in key areas;
- raising awareness on the importance of metadata management;
- identifying and promoting successful practices and tools for linking governmental data;
- developing and promoting common specifications.

Through this action, the ISA programme sets to achieve a better collaboration between European public administrations towards creating new and promoting existing agreements on the meaning of the exchanged information and on the common use of metadata. Joinup provides the necessary infrastructure for this collaboration while a broad network of stakeholders including several EU bodies like JRC, DG SANTE, DG EMPL, DG FISMA, DG GROW, the PO, DG TAXUD, DG MARE, DG CONNECT, DG COMP, DG COMM and DG JUST actively participate and/or follow the work.

The Action maintains communication links with relevant initiatives to promote semantic interoperability around the world (e.g. USA, Japan) to exchange views and share experiences.

Below an overview of the results of the Action during the last 5 years is provided.

In 2011, an assessment of the Action results for the period 2008-2010 took place. Based on this evaluation, recommendations were provided to identify areas where the Action could contribute. Following these recommendations, the Action produced the following results:

a) In the period 2011-2012, the Asset Description Metadata Schema (ADMS) was developed as a common vocabulary to describe semantic assets. ADMS has been extended to describe any type of interoperability solution. Based on this specification, a federation of semantic assets repositories has been developed and is available via the Joinup platform. This federation went live in January 2013. Currently, more than 20 repositories participate in the federation making available over 2.000 specifications. The Action will continue providing support to MSs to participate in the federation and use ADMS for describing their own assets. Nevertheless, the EFIR Action (action 4.2.4) remains the focal place for the federation maintenance and support in Joinup.

b) In the period 2011-2013, the Action has developed four Core Vocabularies, namely Core Business, Core Person, Core Location, and Core Public Service in close collaboration with other EU bodies including DG MARKT, Eurojust, and the JRC. These specifications (together with ADMS) have been endorsed by the ISA Coordination Group. In 2013-2014, implementations of the vocabularies have been implemented in 5 pilots with data coming from MSs and different EC/DGs.

c) In 2013, the DCAT Application Profile (DCAT-AP) as a specification to describe open data catalogues and datasets was developed in close collaboration with DG CONNECT and the EU Publications Office.

d) During the period 2011-2014 several case studies, surveys and recommendations have been published trying to raise awareness on issues related to semantic interoperability, open and linked data, metadata management and persistent Unique Resource Identifiers (URIs).

e) In 2014, the Action has tried to promote the use of core vocabularies both at national and at European level. Issues related to sustainability, governance, publication and persistence for these specifications were also identified and work has started to set up relevant policies. During the same year, the Action produced guidelines and support for the publication of high-value datasets, and initiated cross-institutional work to draft metadata and URI policies for the EU institutions which are reusable by the MSs. Work to create a stack of tools for metadata management with the participation of DG MARE, JRC, DG COMP and the PO has been also initiated.

f) In 2015/16, the Action delivered: a revision of the DCAT-AP and two extensions to describe geospatial and statistical data; supported the DCAT-AP implementation at EU and MSs level; drafted a specification for publishing State Aid Notifications as open data working closely with DG COMP; supported the work to develop the Common Vocabulary for describing legal documents in the context of the IFC; drafted a specification for publishing the EU budget as open data with the PO; run a pilot with ESCO and DG Employment; run a pilot with the Core Public Service Vocabulary in Estonia; supported the creation of the data model for the Business Registers Interconnection System (BRIS) for DG Justice; provided the semantic layer for EIRA; supported the Secretariat General of the EC and EFSA to establish an information management strategy; supported EU inter-

institutional work to establish persistent URIs management; supported local pilots to use the Core Vocabularies in Italy and Belgium.

Activities in the new WP

Activities promoting semantic interoperability at horizontal level

In the new ISA² Programme WP2017, the Action will continue to maintain, update whenever necessary, and promote the above-mentioned specifications. It will also try to identify and develop more Core Vocabularies (e.g. Core Budget), promote the real usage of the existing specifications, make available a robust toolset for metadata management, further elaborate on policies for metadata and URI management. More specifically the Action will deliver the following results:

- Core Vocabularies
 - Identification of areas for new Core Vocabularies and/or common data models.
 - Checking maturity and opportunities for developing specifications with communities.
 - New vocabularies development.
 - Sustainability of the existing specs.
- Policy and project support to DGs and MSs for promoting semantic interoperability with pilots and policy advice including the areas of open and linked data.
- Support for using the ISA data models in operational systems in DGs and MSs
- Use of core data models in base registries.
- Work for metadata management, including documenting existing policies and tools, drafting guidelines, architectures, providing direct support to MSs and DGs, aligning and coordinating relevant initiatives.
- Information management strategy: good practices, guidelines, recommendations, tools.
- Support work for open data and open data portals interoperability with further animation of the community of practice for DCAT-AP implementation.
- Continuation of the promotion and dissemination work including the SEMIC conference, identification of good practices, case studies, recommendations.

VocBench 3.0

The objective of the first ISA2 action was to start a completely revised version of VocBench with respect to its predecessor VocBench 2, by removing all those technological barriers which version 2.0 had inherited from version 1.0.

VocBench 3 is being built on the lessons learned from the move from VocBench 1.0 to 2.0, by rewriting VocBench original layers with proper technologies and adopting more flexible solutions for the history and validation, based on proper serializations of the content changes expressed natively in RDF. Development will follow the already established modalities, based on planning through JIRA, bug reporting, unit testing and possibly adding continuous development and deployment through a dedicated server.

The planned features (with references to deliverable ISA 2015 SEMIC 7, D03.03: "Report on the provided support for the development of VocBench 3.0" and the set of user requirements expressed there) are:

-
- Editing Capabilities
 - Advanced Concept Management (aspect of 5.1.5 not dealt with in round 1)
 - Support for OWL 2 (requirement NF-O-1 of D03.03)
 - Multiple Properties Editing Support (section 5.1.5.1 of D03.03)
 - Support for UNDO (sect. 5.10. of D03.03):
 - Support for managing skos:Collection and skos:OrderedCollection
 - Visualization and Human-Computer Interaction
 - Rendering Engine Extension Point and three implementations for RDFS, SKOS and SKOSXL lexical models
 - Search Support (indexing and autocompletion across different triple store technologies, sect. 5.1.6. of D03.03)
 - Extension Points: role/context-based extension points for pluggable actions on resources
 - User Notification Support (sect. 5.10.1.1 of D03.03)
 - Improved multilingualism: support for Locales
 - Property Language Tags Support (sections 5.1.5.3, 5.10 and 5.10.1 of D03.03)
 - MAPLE (was left out of first ISA2 action on VocBench 3 due to change of priorities)
 - Global Data Management
 - Data Export Management: Excel Export (section 5.3.2 of D03.03)
 - Data Export Management: Customizable Export (section 5.3.2 of D03.03)
 - Sheet2RDF: Highly configurable spreadsheet Import (part of it is described in sect. 5.3.1. Data Import Management of D03.03)
 - Metadata management
 - Resource Level Metadata (sect 5.6.2 of D03.03)
 - Provenance Management (parts of 5.6.4 not dealt with in first action on VocBench 3)
 - Metadata Registry and Retriever (adding retriever part and the LOD registry part, while metadata production has been implemented in the first action on VocBench 3)
 - Low-level customization
 - Extensible URI Generation System
 - Discovering Data Inconsistencies, and fixing
 - SKOS Vocabulary Constraint Management (sect. 5.9.1.1. of D03.03)
 - Integrated Constrains Validation Service (sect. 5.9 of D03.03)
 - Alignment
 - Alignment covering datasets exposed through HTTP dereferenciation and datasets exposed on a SPARQL endpoint (completion of requirement FR-I-35 started in first ISA2 action on VocBench 3 due to change of priorities)
 - Alignment Management Service (sect. 5.5 of D03.03)
 - Improved Collaboration
 - Other Collaboration Services (sect. 5.8.3. of D03.03): Development of extensions points for: connectable collaboration frameworks (extension point 2 was not included in first)
 - Specific extension point for connectable collaboration frameworks implementation for JIRA Support (sect. 5.8.3.1. of D03.03)
 - Action Level History Management (sect. 5.7.3 of D03.03): realization of a Time Machine
 - Related Documentation
 - A development manual presenting the Semantic Turkey REST API and Web API with sample code for the various extension points
 - An improved User Manual (on public site) with all added/improved functionalities
 - An improved Architecture Manual (on public site) with added components

2.1.11 COSTS AND MILESTONES

2.1.11.1 Breakdown of anticipated costs and related milestones

Main SEMIC action

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
	Support to define information management strategies: good practices, guidelines, recommendations, tools.	50	ISA ²	Q2/2016	Q12/2016
Operational	Identification of areas for new Core Vocabularies and/or common data models. Checking maturity and opportunities for developing specifications with communities. New vocabularies development. Update and sustainability of the existing specs.	371	ISA ²	Q2/2016	Q4/2017
	Policy and project support to DGs and MSs for promoting semantic interoperability, linked and open data with pilots and policy advice.	400	ISA ²	Q2/2016	Q4/2017
	Use of core vocabularies in base registries.	175	ISA ²	Q2/2016	Q4/2017
	Support for using the ISA data models in operational systems in	200	ISA ²	Q2/2017	Q4/2017

	DGs and MSs				
	Work for metadata management, including documenting existing policies and tools, drafting guidelines, architectures, providing direct support to MSs and DGs, aligning and coordinating relevant initiatives.	150	ISA ²	Q2/2016	Q4/2017
	Support to define information management strategies: good practices, guidelines, recommendations, tools.	50	ISA ²	Q2/2017	Q4/2017
	Support work for open data interoperability with animation of a community of practice for DCAT-AP and support is real life- implementations.	100	ISA ²	Q2/2016	Q4/2017
	Continuation of the promotion and dissemination work including country visits, the annual SEMIC conference, one international workshop and webinars.	200	ISA ²	Q2/2016	Q4/2017
	Total	1696			

VocBench subactivity

Phase:	Description of milestones reached or to be reached	Anticipated Allocations	Budget line	Start date	End date
Inception		(in KEUR)	ISA/ others (specify)	(Q2/2016)	(Q2/2017)
Inception	Study, testing and comparison of state of the art technologies that are suitable for the design of	10	ISA ²	Q2/2016	Q2/2016

Inception	VB3.0 and its technological innovation. Definition of the new technological stack	5	ISA ²	Q2/2016	Q2/2016
Execution	Designing and Developing the Semantic Turkey architecture as the core system of VB3.0.	80	ISA ²	Q3/2016	Q3/2017
Execution	Enabling all user aspects (Authentication, permissions etc.) in ST	25	ISA ²	Q3/2016	Q3/2017
Execution	Action History: completely rewritten wrt old module in VB2.0.	15	ISA ²	Q3/2016	Q3/2017
Execution	Controlled Collaboration & Validation: completely rewritten wrt old module in VB2.0.	25	ISA ²	Q3/2016	Q3/2017
Execution	Versioning	25	ISA ²	Q3/2016	Q3/2017
Execution	Provenance Management	15	ISA ²	Q3/2016	Q3/2017
Execution	Metadata Registry and Retriever and integration in VB	20	ISA ²	Q3/2016	Q3/2017
Execution	MAPLE Finalization and integration in VB	20	ISA ²	Q3/2016	Q3/2017
Execution	Lexical Linked Data Registry, starting and managing the Service and making VB compliant with it.	25	ISA ²	Q3/2016	Q3/2017
Execution	Improved Alignment: access and interaction with LOD data.	15	ISA ²	Q3/2016	Q3/2017
Execution	Improved Alignment : more automatism/support for validation of externally loaded mappings	15	ISA ²	Q3/2016	Q3/2017
Execution	Metadata producer: generators for ADMS/DCAT-AP/VoID/LIME Metadata.	10	ISA ²	Q3/2016	Q3/2017
Execution	Development of extensions points for : - customized export - connectable collaboration Frameworks	15	ISA ²	Q3/2016	Q3/2017
Execution	JIRA connector as an instance of a collaboration framework connector. Execution reported in 2017-2018 (Vocbench 3.1)	8	ISA ²	Q3/2016	Q3/2017
Execution	Dedicated SKOS-AP-EU exporter as an instance of the export extension point.	5	ISA ²	Q1/2017	Q3/2017
Execution	Property Language Tags Support (sections 5.1.5.3, 5.10 and 5.10.1 of D03.03)	9	ISA ²	Q3/2017	Q4/2017
Execution	Data Export Management: Excel Export (section 5.3.2 of D03.03)	1	ISA ²	Q3/2017	Q3/2017
Execution	Extensible URI Generation System	12	ISA ²	Q3/2017	Q4/2017
Execution	Alignment covering datasets exposed through HTTP	10	ISA ²	Q3/2017	Q4/2017

	dereferenciation and datasets exposed on a SPARQL endpoint (completion of requirement FR-I-35 started in first action on VocBench 3)				
Execution	Integrated Constrains Validation Service (sect. 5.9 of D03.03)	6	ISA ²	Q3/2017	Q4/2017
Execution	User Notification Support (sect. 5.10.1.1 of D03.03)	21	ISA ²	Q3/2017	Q2/2018
Execution	Sheet2RDF: Spreadsheet Import (part of it is described in sect. 5.3.1. Data Import Management of D03.03)	37	ISA ²	Q3/2017	Q2/2018
Execution	Extension Points: role/context-based extension points for pluggable actions on resources	19	ISA ²	Q3/2017	Q2/2018
Execution	MAPLE (was left out of first ISA action on VocBench 3)	25	ISA ²	Q3/2017	Q2/2018
Execution	Support for OWL 2 (requirement NF-O-1 of D03.03)	28	ISA ²	Q3/2017	Q2/2018
Execution	Rendering Engine Extension Point and three implementations for RDFS, SKOS and SKOSXL lexical models	8	ISA ²	Q3/2017	Q3/2017
Execution	Search Support (indexing and autocompletion, sect. 5.1.6. of D03.03)	8	ISA ²	Q3/2017	Q4/2017
Execution	Data Export Management (section 5.3.2 of D03.03)	12	ISA ²	Q3/2017	Q4/2017
Execution	Overall Testing	14	ISA ²	Q3/2017	Q2/2018
Execution	Metadata Registry and Retriever (adding retriever part and the LOD registry part, while metadata production has been implemented in the first action on VocBench 3)	26	ISA ²	Q4/2017	Q2/2018
Execution	Alignment Management Service (sect. 5.5 of D03.03)	21	ISA ²	Q4/2017	Q2/2018
Execution	Action Level History Management (sect. 5.7.3 of D03.03)	12	ISA ²	Q4/2017	Q2/2018
Execution	Resource Level Metadata (sect 5.6.2 of D03.03)	21	ISA ²	Q4/2017	Q2/2018
Execution	Provenance Management (parts of 5.6.4 not dealt with in first action on VocBench 3)	12	ISA ²	Q4/2017	Q2/2018



Execution	SKOS Vocabulary Constraint Management (sect. 5.9.1.1. of D03.03)	15	ISA ²	Q4/2017	Q1/2018
Execution	Advanced Concept Management (parts of 5.1.5 not dealt with in round 1)	12	ISA ²	Q1/2018	Q2/2018
Execution	Multiple Properties Editing Support (section 5.1.5.1 of D03.03)	4	ISA ²	Q1/2018	Q1/2018
Execution	Support for UNDO (sect. 5.10. of D03.03):	6	ISA ²	Q1/2018	Q1/2018
Execution	Other Collaboration Services (sect. 5.8.3. of D03.03): Development of extensions points for: connectable collaboration frameworks (ext.point.2 was removed in round 1)	14	ISA ²	Q1/2018	Q2/2018
Execution	Specific extension point for connectable collaboration frameworks implementation for JIRA Support (sect. 5.8.3.1. of D03.03)	9	ISA ²	Q1/2018	Q2/2018
	Total	695			

2.1.11.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Operational	950	950
2016	Execution (VocBench)	348	
2017	Operational	746	
2017	Execution (VocBench 3.1)	347	
2020			

2.1.12 ANNEX AND REFERENCES

Description	Reference link	Attached document
Federation of Semantic Assets Repositories	https://joinup.ec.europa.eu/catalogue/all?filters=bs_current_version:true	

Core Vocabularies (Core Person, Core Business, Core Location, Core Public Service)	https://joinup.ec.europa.eu/community/core_vocabularies/description
The DCAT Application Profile	https://joinup.ec.europa.eu/asset/dcat_application_profile/description
Towards Open Government Metadata	http://www.semic.eu/semic/view/documents/towards_open_government_metadata.pdf
Similar project in another, related domain: Specifications for the development of an open metadata schema for qualifications	 20150717 Specifications.pdf  20150717 Annex to the Specifications.pdf

2.2 SEMANTIC INTEROPERABILITY FOR REPRESENTATION POWERS AND MANDATES (2016.12)

2.2.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common frameworks and reusable generic tools
Service in charge	DIGIT B1, B6
Associated Services	CNECT.TFSEC-LEG.EIDAS

2.2.2 EXECUTIVE SUMMARY

STORK 2.0 project was initiated with the aim, among others, of developing an operational framework and infrastructure encompassing eID for secure electronic authentication of legal persons, including facilities for the management of representation powers and mandates.

In that sense, the project has achieved significant results, evolving STORK specifications to include attributes for legal persons and representation powers and mandates, and adapting the software building blocks to allow cross-border transfer of this kind of information. The feasibility of the developed solution has been verified by means of the STORK 2.0 pilots, in which use cases that require cross-border access to information about representation capabilities have been successfully tested.

However, the project has also found important barriers that currently hinder the adoption of an EU wide solution for cross-border transfer of representation information, one of the most relevant being the lack of a common semantic framework. Representation is complex and the national solutions are often too much focused on country specific details. Therefore, although there are some similarities among countries, there is not a shared European taxonomy about representation powers and mandates, what prevents powers/mandates information originated in one country from being directly machine processable in other.

Additionally, the need for service providers of having powers/mandates information together with the data regarding the represented and representing persons in order to properly assess the scope of the transactions that the representing person is allowed to perform on behalf of the represented one, has been steadily highlighted in the discussions of the eIDAS expert group.

Taking into account that the goal of the European Commission ISA² programme is the promotion of interoperable electronic public services, and that it includes specific actions about semantic interoperability like the ISA core vocabularies, there is an opportunity for continuing the work done in STORK 2.0 and other initiatives regarding representation powers/mandates under the scope of the ISA² programme and, by incorporating the results of this action in the eIDAS interoperability framework, keep progressing towards the single digital market and the semantic harmonisation Europe-wide. In that sense, an evolution of the ISA Core Vocabularies to extend the Core Person and Core Business vocabularies with a common taxonomy for

representation powers/mandates linked to legal entities may be one of the potential initiatives to be taken over by the ISA² programme.

2.2.3 OBJECTIVES

The main objective is **to create a shared European data model about representation powers and mandates**, which allows powers/mandates information originated in the information systems of one country to be directly processed automatically by the information systems in other country. The data model will be tested in real life through pilots with some MS and the technical specification will be put forward to the CEF eID Operational Management Board for endorsement and proposed to be incorporated in the CEF eID sample implementation and extension of the CEF eID technical specifications.

2.2.4 SCOPE

The action will provide a common data model for representation powers / mandates linked to legal entities, aligned with the Core Person and Core Business vocabularies, as well as some tools for integrating that data model into business applications.

2.2.5 ACTION PRIORITY

For the eIDAS Technical Specifications and the associated implementation under CEF eID, a solution for power and mandates is a top priority. Preliminary results of the study phase are already expected by the eIDAS Expert Group beginning of 2017.

2.2.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i>	The proposal contributes to the implementation of REGULATION (EU) No 910/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, Commission Implementing Regulation (EU) 2015/1501 and REGULATION (EU) No 1316/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
<i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i>	Yes, currently there is no technical specification on how to support power in

	mandates in the context of the eIDAS infrastructure.
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2.2.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i>	The solution could be implemented in the CEF eID Building block, pending Operational Management Board approval. Once integrated, the solution would be used in the same EU policy areas as the CEF eID Building Block. For more information see the CEF Reuse matrix .
<i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i>	Nothing in operational phase.

2.2.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	Yes. As part of eIDAS interoperability framework.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members</i>	Nothing in operational phase.

States?	
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2.2.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	The main stakeholder group for which this action is addressed are the users of the CEF eID Building Block. As there are already commitments made to re-use this Building Block, and the likelihood that the requirement for power and mandates is high, the action is very urgent.
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	As this action is about the design of a solution for powers and mandates, there are no other available sources under CEF.

2.2.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Name of reusable solution	Generic technical specification for the interoperability of powers and mandates
Description	Generic technical specification for the interoperability of powers and mandates, including a common data model or vocabulary, with semantic metadata models and controlled vocabularies that can accommodate cross-domain and cross-border requirements.
Reference	
Target release date / Status	Q2/2017

Critical part of target user base	The DSIs that are committed to use CEF eID, for more information see the CEF Reuse matrix .
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	N/A

2.2.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	Core Person and Core Business vocabularies
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	Nothing in operational phase

2.2.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	This proposal contributes to CEF eID Building Block. The CEF finances projects which fill the missing links in Europe's energy, transport and digital backbone. It will also make Europe's economy greener by promoting cleaner transport modes, high speed broadband connections and facilitating the use of renewable energy in line with the Europe

2.2.6 PROBLEM STATEMENT

Representation powers and mandates are an essential element for businesses establishing relationships with other businesses, governments and customers, because legal persons can only act legally by means of natural persons in most countries. Currently, there are important barriers that hinder the adoption of an EU wide solution for cross-border transfer of representation information, being one of the most relevant the lack of a common semantic framework. Representation is complex, and electronic mandates schemes and policies are basically national and usually do not contemplate the possibility to use those mandates in cross-border scenarios.

2.2.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
EU institutions and Member States	<p>More efficient transmission of information about representation powers and mandates between governments</p> <p>Reduction of the administrative burden imposed to legal persons for performing transactions with the governments</p> <p>Creation of a trusted environment for performing fully online transactions between companies across Europe, fostering the single market</p>
Citizens and business in Europe	<p>Promoting growth in the cross border DSM services</p> <p>Reduction of the transaction costs by automating identification processes for online interaction</p> <p>Prevention of fraud by having more reliable information about representation when conducting business</p>

2.2.8 ORGANISATIONAL APPROACH

2.2.8.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Member States	<ul style="list-style-type: none"> • ISA² Committee • ISA² Coordination Group (or ISA CG equivalent) • CEF governance: eID DSI Operational Management Board; eID DSI expert group and Cooperation Network

	<ul style="list-style-type: none"> • Persons/units in charge of National Interoperability Frameworks and/or metadata standards catalogues/repositories, etc. • o Persons/units in charge of business registers, public procurement and taxation applications, representation powers/mandates registries, etc.
Standardization bodies	W3C, OASIS, GS1, CEN , UN/CEFACT, etc.
European Commission	DG JUST, DG GROW, TAXUD, DG DIGIT Unit (s) responsible for promoting common specifications in new and existing system, DG CONNECT as building block owner for eID
End users	Citizens Representatives of companies

2.2.8.2 Identified user groups

eIDAS interoperability framework and DSIs that are using or are committed to use CEF eID. For more information please see [CEF Reuse matrix](#).

2.2.8.3 Communication plan

Due to the strong link of the proposed action with action 1.1 Promoting Semantic Interoperability amongst the European Union Member States and action 1.2 Access to Base Registries, it is suggested that the communication plan for the proposed action leverages the dissemination activities already foreseen in the actions current under execution.

2.2.8.4 Governance approach

Again, due to the link of the proposed action with the two mentioned actions, it is suggested to follow a similar approach to the one followed in those actions: Action run and coordinated by DG DIGIT B1, under the CEF governance for the eID DSI; i.e. Operational Management Board and the eID DSI expert group. Also with strong collaboration with other units of the Commission involved in managing information about representation (e.g. DG JUST as representation information is frequently managed by Business Registers; DG GROW for eProcurement applications; DG TAXUD in relation to the UUM&DS Project). DIGIT B6 will provide support for the development of the semantic data model.

2.2.9 TECHNICAL APPROACH AND CURRENT STATUS

STORK 2.0 project has developed an operational framework and infrastructure encompassing eID for secure electronic authentication of legal persons, including facilities for the management of representation powers and mandates. In that sense, it has evolved STORK specifications to include attributes for legal persons and

representation powers and mandates, and has adapted the SW building blocks to allow cross-border transfer of this kind of information.

The feasibility of the developed solution has been verified by means of the STORK 2.0 pilots, in which use cases that require cross-border access to information about representation capabilities have been successfully tested.

To support this use cases, the project has developed a set of tools, which include a basic taxonomy for powers and mandates, that allows to obtain information about representation in one country, map this information to a common semantic model, and transfer it to another country so that it can be interpreted by an electronic service provider that needs it in order to perform a transaction with a natural person acting on behalf of a legal person.

The aim of the action is therefore to generalise this basic data model and related tools, now oriented to solve the specific needs of the STORK 2.0 project, so that it can cover any potential cross-border transfer of information about representation.

To do so, the action proposes four different phases:

- An initial phase or feasibility study analysing the current situation on how electronic powers and mandates are managed in the individual Member States and also by other European-related projects like the UUM&DS Project from DG TAXUD, and their cross-border interoperability: The study will scope the work needed in order to develop a common data model that could be used across-sector and across-borders for the electronic identification of legal entities and the representation and mandates of those action on behalf of that legal entity.

Other similar initiatives will be taken into account, especially those in a European context offering services in production. Alignment with the eIDAS Regulation and the CEF specs on the eID DSI will be sought.

- A second phase of production of requirements and good practices like frameworks and solutions that could facilitate the interoperable interconnection of representation information across sectors and across borders.
- A third phase of designing and elaborating a generic technical specification for the interoperability of powers and mandates, including a common data model or vocabulary, with semantic metadata models and controlled vocabularies that can accommodate cross-domain and cross-border requirements. The action will consult with the CEF eID Expert Group in the context of phase 3.
- A fourth phase where some solutions for integrating that framework into business applications will be implemented and also where real-life pilots with the MS will be launched to test the specification.
- Finally, and as a result of the pilots the specification will be enhanced and presented to the CEF board for endorsement and proposed to be incorporated in the official specs of the CEF eID DSI.

2.2.10 COSTS AND MILESTONES

2.2.10.1 Breakdown of anticipated costs and related milestones

Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA ² / others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Study	Study about cross-border interoperability of powers and mandates	150	ISA ²	Q3/2016	Q4/2016
Study	Production of requirements and good practices	100	ISA ²	Q3/2016	Q1/2017
Inception	Elaboration of the technical specification for interoperability	74	ISA ²	Q1/2017	Q2/2017
Execution	Design of reusable specifications and solutions and launch of pilots	320	ISA ²	Q3/2017	Q4/2017
	Total	644			

2.2.10.2 Breakdown of ISA² funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Study	250	
2017	Inception + Execution	394	
2018			
2019			
2020			

2.2.11 ANNEX AND REFERENCES

Description	Reference link	Attached document
STORK 2.0 project website	https://www.eid-stork2.eu/	

STORK 2.0 Deliverable D3.3 Mandate/Attribute Management Report	https://www.eid-stork2.eu/index.php?option=com_phocadownload&view=file&id=7:d33-mandateattribute-management-report&Itemid=175	
STORK 2.0 Deliverable D3.5 Legal Entities Identification Report	https://www.eid-stork2.eu/index.php?option=com_phocadownload&view=file&id=8:d35-legal-entities-identification-report&Itemid=175	

2.3 PUBLIC MULTILINGUAL KNOWLEDGE MANAGEMENT INFRASTRUCTURE FOR THE DIGITAL SINGLE MARKET (2016.16)

2.3.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common services, common frameworks
Service in charge	Publications Office of the European Union
Associated Services	DG Connect DG DIGIT DG DGT European Parliament, DG TRAD, Terminology Coordination Centre de Traduction

2.3.2 EXECUTIVE SUMMARY

In their open letter to the European Commission the European Language (Technology) Community claims: Europe's Digital Single Market must be multilingual!⁹ EU cross-border online services represent only 4% of the global Digital Market and only 7% of small and medium sized enterprises (SMEs) in the EU are actually selling cross-border.¹⁰ Providing support for the EU economy and in particular to SMEs to overcome the language barriers will help to unlock the e-Commerce potential within the EU.

The objective of this action is to support enterprises and in particular the language technology industry with the implementation of the necessary multilingual tools and features in order to improve cross border accessibility of e-Commerce solutions. It will also be an input to the CEF Automated Translation Platform, a

⁹ See <https://ec.europa.eu/futurium/en/content/european-language-and-language-technology-community-europes-digital-single-market-must-be>

¹⁰ See http://europa.eu/rapid/attachment/IP-15-4653/en/Digital_Single_Market_Factsheet_20150325.pdf

common building block implemented through the CEF programme to be used by European cross-border online public services.

The public multilingual knowledge infrastructure will be governed by a representative subgroup of stakeholders of the final system.

In this context multilingual tools and features refer to capabilities such as machine translation, localisation and multilingual search. The public multilingual knowledge infrastructure should reduce the investments of enterprises for the creation of their individual knowledge management systems by providing an agreed, open, reliable and persistent public core knowledge management system. This would also create space for innovation instead of wasting resources for redundant activities.

Public administrations and public entities within the EU will largely benefit from this initiative, in particular regarding the internationalisation of their e-Services. They will be able to share and to valorise existing taxonomies/terminologies and to extend their multilingual capabilities. This will also help to increase the interoperability between public administrations within EU in general.

To realise the public multilingual knowledge infrastructure the following aspects need to be addressed:

- Implementation of a technical infrastructure to expose existing multilingual taxonomies/terminologies in a standardised way based on semantic technology and Semantic Web standards;
- Implementation of existing alignments between terminologies and creation of further alignments and relations in order to enable interoperability;
- Creation and maintenance of meaningful supplements, i.e. of terms and relations that complete the coverage of the multilingual knowledge infrastructure and facilitate interoperability;
- Set-up of a community and a governance structure to extend systematically the coverage of the core infrastructure by the integration of supplementary public multilingual taxonomies/terminologies.

The cornerstone of the public multilingual knowledge infrastructure will be EuroVoc, the multilingual, multidisciplinary thesaurus covering the activities of the EU, which is managed by the Publications Office. The project will also benefit from already existing alignments of EuroVoc with other thesauri (Agrovoc, Eclas, Gemet, Anubis and Inspire¹¹).

In addition, it should be investigated how the publication of the information as Linked Open Data (LOD) could be enhanced by introducing lexical semantic links between semantically equivalent and similar entities in an automatized way.

2.3.3 OBJECTIVES

The objectives of the proposed activity are:

¹¹ See <https://open-data.europa.eu/en/data/dataset/eurovoc>

- To provide an agreed, reliable, persistent and extensible public multilingual terminology platform for multiple purposes and for multiple stakeholders composed of open public multilingual resources.
- To increase the interoperability of existing multilingual terminologies, in particular by aligning and linking them with other existing terminologies. Linking will enable at the same time specialisation (for example by linking a concept of a more general taxonomy/terminology with the corresponding concept of a domain specific taxonomy/terminology) and broadening (for example by linking similar concepts at the same level of granularity).
- To establish the initial governance structure to support and to supervise the execution of the project as well as the implementation, the management and the evolution of the final system. Synergy with the governance structure, which is being set-up for the CEF.AT platform (see <http://www.lr-coordination.eu/anchor-points>), will be established.
- To contribute to the further standardisation of data models for thesauri and lexical knowledge database representations using latest semantic technologies.
- To support the contributing institutions with the transformation of their resources into adopted semantic format of the platform.
- To further develop the LOD capabilities of the system, in particular by enhancing the creation of semantic links between similar and related concepts.

2.3.4 SCOPE

The objective of the proposed activity in the scope of the ISA² programme is to verify the feasibility of the approach and to prepare the technical and the organisation aspects for the definitive and permanent implementation of an open public multilingual knowledge infrastructure managed by the EU Institutions.

Nevertheless, it will deliver already results, which could be used and applied by public administrations and bodies of Member States and EU Institutions independent from the public multilingual knowledge infrastructure project itself.

In scope

1. Adoption of a standard representation for multilingual terminologies (candidates include SKOS¹², Lemon¹³ ...)
2. Definition of a core data model based on the standard representation in order to facilitate the interoperability between different terminologies, i.e. through a shared set of metadata, and to harmonise the representation of the data, which will be made available through the platform
3. Specification of the technical architecture of the public multilingual knowledge infrastructure and the necessary services to access and to manage the system
4. Proof of concept – implementation of a first operational release of the system to demonstrate the core services of the system
5. Set-up/adoption of an adequate initial governance structure
6. Definition of an iterative implementation strategy, i.e. the specifications and the roadmap for the extension of the initial release of the system into a public service, which will be managed, further

¹² See <http://www.w3.org/2004/02/skos/>

¹³ See <http://lemon-model.net/index.php>

developed and maintain by the EU Institutions and governed by all contributors, i.e. in particular public entities within in EU. The result of the proof of concept should be reused for the implementation of the final system.

7. Feasibility study in order to analyse and to test the creation of lexical semantic links between semantically equivalent and similar entities in an automatized way.

Out of scope

1. Implementation of the definitive, permanent platform, made available as a public service and free of charge.
2. Management, further development and maintenance of the definitive system.

2.3.5 ACTION PRIORITY

The creation of a Public Multilingual Knowledge Infrastructure contributes to the overcoming of language barriers, in particular in the context of the implementation of a digital single market. It should also help to reduce the investments of the different stakeholders in cross-border e-commerce solutions and multi-lingual eGovernment solutions and to enhance the linguistic quality of the solutions.

2.3.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<p><i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>Yes. The proposal meets the recommendations included in the European Interoperability Strategy (EIS)¹⁴. In particular the adherence to specific standards for describing language resources and the creation of an interoperability platform to manage them comply with the main approaches and “clusters” of the EIS (reusability of the solutions, interoperability service architecture in the EU multilingual context, implication of ICT on new EU legislation, as well as promotion of the awareness on the maturity level and of the shareability of the public administration services). Similarly, the proposal meets the</p>

¹⁴ COM(2010) 744 final Annex 1, http://ec.europa.eu/isa/documents/isa_annex_i_eis_en.pdf

	<p>recommendations and principles of the European Interoperability Framework (EIF)¹⁵, in particular as regards multilingualism, accessibility, administrative simplification, transparency, reusability of the solutions. The creation of a public multilingual knowledge infrastructure will allow EU public administrations to create services that can be accessible and shareable independently from the language actually used, as well as the SMEs to sell goods and service cross-border in a digital single market.</p>
<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>Yes. This action represents a tremendous opportunity to harmonize the different language resources managed by EU institutions (for example Eurovoc, IATE, Glossaries searchable on GlossaryLinks of the DG TRAD, etc.), as well as the national resources managed by Member States, and make them interoperable.</p>

2.3.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i></p>	<p>This action aims at establishing multilingual interoperability of language resources; therefore it will promote multilingual interoperability services, as cross-collection and cross-language information retrieval, as well as translation services.</p> <p>It will contribute therefore to facilitate the creation of a Digital Single Market in the EU, which represents one of the main priorities of the European Commission. In particular it addresses all the three policy areas of such</p>

¹⁵ COM(2010) 744 final Annex 2, http://ec.europa.eu/isa/documents/isa_annex_ii_eif_en.pdf

	<p>priority:</p> <ul style="list-style-type: none"> - Better online access to digital goods and services - An environment where digital networks and services can prosper - Digital as a driver for growth.
<p><i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i></p>	<p>This proposal is not in operational phase yet.</p>

2.3.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i></p>	<p>By guaranteeing interoperability of language resources in all the 24 official languages of the EU, this proposal has the potential of improving the service interoperability of public administrations of all EU Member States, candidate countries or EFTA States.</p>
<p><i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i></p>	<p>This proposal is not in operational phase yet.</p>

2.3.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
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<p><i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i></p>	<p>The outcomes of this action can greatly improve the accessibility of EU and Member States' legislation and related information systems by promoting the interoperability of the language resources used for automatic translation, as well as multilingual classification and indexing. Moreover, it will promote e-commerce solutions and related services which will rely on an agreed, authentic and persistent set of multilingual terminologies. This action is in particular foreseen in the framework of the creation of a European multilingual Digital Single Market, which is one of the priorities of the European Commission, aimed at supporting the EU economy (in particular the SMEs) to overcome the language barriers in order to unlock the e-Commerce potential within the EU. A prompt implementation of such proposal will have direct beneficial impacts on the addressed fields.</p>
<p><i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i></p>	<p>Yes. The proposal is specifically addressed to improve the <i>interoperability of language resources</i> and the <i>services for public administration and SMEs</i>. For both these reasons, ISA² fits to it better than other actions.</p>

2.3.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Name of reusable solution	Core data model for Multilingual taxonomies/terminologies
Description	Formal definition of the core data model for multilingual taxonomies/terminologies and its necessary extensions that will be implemented by the public multilingual knowledge infrastructure.

	<p>The approach should be flexible in the way that data providers would be able to define private extensions, which would allow the upload of supplementary data that is available on their side and that could be useful for re-users.</p> <p>The aspects "provenance" and "license" have also to be taken into account.</p>
Reference	PUB_MUL_TERM_FORMAT
Target release date / Status	Q2/2017
Critical part of target user base	n/a
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Not in operational phase

Name of reusable solution	Semantic links
Description	<p>Feasibility study and prototype in order to explore the possibilities to enhance the semantic capabilities of the platform, in particular regarding the creation of lexical semantic links between semantically equivalent and similar entities in an automatized way.</p>
Reference	PUB_MUL_TERM_SEMANTIC
Target release date / Status	Q4/2017
Critical part of target user base	n/a
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Not in operational phase

Name of reusable solution	First release of the system
Description	<p>Implementation of a first release of the system (repository and core services), which should be considered first of all as an operational proof of concept to demonstrate the core services of the platform and which will be reused to build the final system.</p>
Reference	PUB_MUL_TERM_POC
Target release date / Status	Q3/2018

Critical part of target user base	n/a
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Not in operational phase

2.3.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	The proposal will make use of VocBench 3, developed in the context of the ISA ² 2016. VocBench 3 represents a direct evolution of VocBench 2, originally developed by the Food and Agriculture Organization (FAO) of the United Nations for specifically managing their thesaurus Agrovoc and later evolved into a general purpose SKOS editor, adopted, among others, by the Publications Office for the maintenance of EuroVoc.
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	Not in operational phase

2.3.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the	This proposal contributes in particular to Digital Single Market (DSM) priority (cfr.

DSM? If yes, which ones? What is the level of contribution?	1.1.5.2).
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2.3.6 PROBLEM STATEMENT

"Linguistic diversity is and must remain a cornerstone and treasured cultural asset of Europe. However, the language barriers created by our 24 official EU languages cause the European market to be fragmented and to fall short of its economic potential. Almost half of European citizens never shop online in languages other than their native tongue, access to public e-services is usually restricted to national languages and the richness of EU educational and cultural content is confined within linguistic communities. European SME's are at particular disadvantage, because the cost of providing services in multiple languages is prohibitive and has a negative impact on their competitiveness."¹⁶

This challenge needs to be addressed and a public multilingual knowledge infrastructure will contribute to reduce and to secure the investments of the different stakeholders in cross-border e-commerce solutions and related services because part of their implementation could rely on an agreed, authentic and persistent set of multilingual terminology.

Because the contributions for public multilingual knowledge infrastructure will come from different stakeholders (essentially public administrations and bodies of EU Member States, EU Institutions and international organisations) the challenge is to build a system, which empowers the stakeholders to manage the development and evolution of their taxonomies/terminologies on an individual base, but at the same time enables interoperability through alignment and linking.

The only constraint should be that stakeholders have either to adopt the core data model proposed by the public multilingual knowledge infrastructure or, at least, have to be able to perform the necessary transformations to provide new releases in compliance with the core data model. Ideally, new releases have to be provided in a way that they can be integrated largely automatically.

2.3.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
EU economy	<p>Many studies have already been conducted to evaluate the possible economic impact of an increase in cross-border e-commerce between EU Member States. The creation of a real EU digital single market has become a priority of the Commission.</p> <p>The initiative will provide a contribution on the technological level. It will help to reduce the localisation effort for e-commerce platforms, enhance the quality of the domain specific terminology and improve their</p>

¹⁶ See <https://ec.europa.eu/futurium/en/content/european-language-and-language-technology-community-europes-digital-single-market-must-be>

	harmonisation. It will also facilitate the implementation of multilingual search capabilities.
EU language technology industry	Cost reduction and faster implementation of services related to cross-border e-commerce (machine-translation, localisation software, cross-language search solutions...). This will also increase the usability and searchability of resources for the creation of new, innovate services.
EU Member States	Will benefit in the context of the internationalisation of their e-government services for example to facilitate foreign investments in the local market. Will be able to improve interoperability with other Member States and/or public entities based on shared or aligned taxonomies/terminologies.
EU Institutions	Valorisation of existing multilingual taxonomies/terminologies, spin-offs for EU translation services and other multilingual services. It will help to increase the interoperability of multilingual LOD, which are made available by the EU Institutions.

2.3.8 EXPECTED MAJOR OUTPUTS

Output name	Technical architecture
Description	Technical design of the public multilingual knowledge infrastructure architecture including definition of all related services (ingestion of and access to data (including search), management of the infrastructure itself...).
Reference	PUB_MUL_TERM_ARCHITECTURE
Target release date / Status	Q3/2017

Output name	Governance structure
Description	Proposal for an adequate governance structure for the supervision of the public multilingual knowledge infrastructure.
Reference	PUB_MUL_TERM_ARCHITECTURE
Target release date / Status	Q2/2017

Output name	Implementation strategy
Description	Proposal of an iterative implementation strategy in order to prepare the political decision about whether the EU institutions will support the implementation of the public multilingual knowledge infrastructure and, if yes, how the system should be managed and financed.
Reference	PUB_MUL_TERM_STRATEGY

Target release date / Status	Q1/2019
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Output name	Community building
Description	Proposal for implementation and organisation of a community (contributors, users...) to drive the further evolution of the system and of the language resources.
Reference	PUB_MUL_TERM_COMMUNITY
Target release date / Status	Q2/2019

2.3.9 ORGANISATIONAL APPROACH

2.3.9.1 Expected stakeholders and their representatives

Stakeholders	Representatives
EU Institutions	European Parliament DG TRAD, Terminology Coordination Commission DIGIT DG DGT DG CONNECT Publications Office of the EU Translation Centre for the Bodies of the European Union
International organisations	FAO
Member states	
Language technology industry	For example the companies represented by the LT innovate Association
Research community	Universities and research institutions that are active in this area

2.3.9.2 Identified user groups

- Member States (public administrations involved in "internationalisation" and "eGovernment" initiatives)
- Implementers of eGovernment solutions
- European Institutions and bodies
- Language Technology Industry and their customers
- Citizens
- Candidate countries, EFTA and other countries(public administrations involved in "internationalisation" and "eGovernment" initiatives)

2.3.9.3 Communication plan

The following table presents a first rough idea of a communication plan based of the different beneficiaries/interest groups, which have been identified in a first phase.

The existing platforms of the ISA programme in the domain of language technology will be taken into account for the set-up of an adequate communication platform.

Beneficiaries	Communication channel	Frequency
EU economy	Web (information about the activity on the ISA ² website, publicity on the Publications Office and other EU Institutions websites)	Regular updates during the lifetime of the project.
EU language technology industry	Web (information about the activity on the ISA ² website, publicity on the Publications Office and other EU Institutions websites) Conferences (delivery of presentations)	Regular updates during the lifetime of the project. 1 to 5 conferences per year
Member States	Web (information about the activity on the ISA ² website, publicity on the Publications Office and other EU Institutions websites) Workshops (organisation of dedicated workshops with interested member states)	Regular updates during the lifetime of the project. 1 to 3 workshops per year
EU Institutions	Meetings Workshop (organisation of dedicated workshops with interested services)	Regular meetings of the EU institutional stakeholders 1 to 3 workshops per year
Terminology community	Conferences (delivery of presentations)	1 to 3 conferences per year
Semantic Web community	Conferences (delivery of presentations: SEMIC, dedicated conferences...)	1 to 3 conferences per year

2.3.9.4 Governance approach

The implementation of a governance body is needed at different levels.

In the first phase the work to be done in the scope of the ISA² programme needs to be governed by a representative subset of the stakeholders of the final system. This group is considered as the implementation of the initial government structure. It should rely on governance structure, which is being set-up for the CEF.AT platform (see <http://www.lr-coordination.eu/anchor-points>).

If the implementation of the system has been decided, the governance structure has to be adapted to be able to support and to supervise the management and the further evolution of real production system.

2.3.10 TECHNICAL APPROACH AND CURRENT STATUS

Aspects to be considered:

- Management of multilingual taxonomies/terminologies

The data structure for the public multilingual knowledge infrastructure will be defined by a core data model, which will be composed of two parts: a mandatory part (core metadata), which has to be respected by all data providers and optional part (private extensions) to allow the publication of additional data, which exist for a particular dataset and which are not covered by the core data model, if it represents an added value for the users of the system. I.e. additional data could be stored by the system but will eventually not be fully supported by the common services offered by the system.

All individual concepts have to be represented in the adopted (semantic) format. Each individual concept will be identified by a unique persistent URI.

The reuse/adoption of existing software components will be encouraged.

- Distributed infrastructure

The public multilingual knowledge infrastructure should be implemented as a distributed network of RDF triple stores in order to guarantee a maximum of availability of the system.

Adequate management capabilities are needed to guarantee the consistency of the data.

APIs and online access should be implemented in a way that the technical implementation is hidden. The user works on a virtual system, which is composed by a set of federated RDF triple stores, physically hosted in different locations.

- Management of the system

Also the management services of the system should be implemented in a way that the technical implementation is hidden.

There will be different groups of services:

- Maintenance of data

- Ingestion of new data sets (including validation processes)

- Update of existing data sets

- Management of supplementary concepts, i.e. concepts that only exist on the level of the public multilingual infrastructure (create, update, delete)

- Search and visualisation

- Maintenance of data structure (core data model and extensions, relations, alignments...)

- Management of the platform itself

- Administration interface (monitoring of services, configuration, user management (for contributors and administrators))

2.3.11 COSTS AND MILESTONES

2.3.11.1 Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Inception	Project organisation has been set-up	60		Q3/2016	Q4/2016
Execution	Standard representation has been adopted	50		Q4/2016	Q1/2017
Execution	Core data model and a first set of extensions have been defined (including documentation)	100		Q4/2016	Q2/2017
Execution	Technical architecture has been defined	100		Q2/2017	Q3/2017
Execution	Proposal for an adequate government structure has been defined	50		Q1/2017	Q2/2017
Execution	First release of the system (operational proof of concept)	300		Q1/2018	Q3/2018
Execution	Proposal for the implementation strategy	60		Q4/2018	Q1/2019
Execution	Creation of the community	60		Q4/2018	Q2/2019
Execution	Feasibility study for the enhancement of the semantic capabilities of the platform	144		Q2/2017	Q4/2017
	Total	924			

2.3.11.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Inception/execution	160	
2017	Execution	344	
2018	Execution	360	
2019		60	
2020			

3. ACCESS TO DATA / DATA SHARING / OPEN DATA

3.1 SHARING STATISTICAL PRODUCTION AND DISSEMINATION SERVICES AND SOLUTIONS IN THE EUROPEAN STATISTICAL SYSTEM (2016.06)

Type of Activity	Common services
Service in charge	ESTAT.B3
Associated Services	ESTAT.B1 ESTAT.B5

3.1.1 EXECUTIVE SUMMARY

European statistics are produced by the European Statistical System (ESS) that is a partnership between the Commission (Eurostat), and the public administration responsible for the production and dissemination of official statistics in each Member State¹⁷ (mainly national statistical institutes (NSIs) as well as other national authorities). Member States collect data and compile statistics for national and EU purposes. The ESS functions as a network in which Eurostat has a key role to ensure harmonization of statistics working in close cooperation with the national statistical authorities. The ESS members share the same challenges and drivers: they have to embrace the digital transformation as well as to produce new, innovative and high quality standard statistical products under the pressure of limited and decreasing resources.

Based on a long tradition of sharing information, standards and tools, Eurostat and the members of the ESS jointly developed a common vision, the “ESS Vision 2020”¹⁸, which

- Aims at further developing the cooperation between ESS members;
- Strives for setting up more collaborative production processes based on a shared architecture in the ESS, which should enable addressing new business requirements with a reduced time to market, strengthened quality and increased efficiency;
- Aims in particular at a future-proof dissemination and communication strategy that satisfies user needs at both national and European level, is flexible enough to adapt to emerging technologies and offers a variety of output channels and services.

Actions of this proposal elaborate on closely related to on-going ESS Vision 2020 implementation initiatives:

1. ESS Enterprise Architecture (ESS EA) – a joint effort to create a comprehensive target state ESS architecture considering both Member States and Eurostat. This allows harmonisation of business processes and bridging the gap between business and IT;
2. “Shared SERVICES” (SERV) – a project to create the conditions for sharing technical statistical services (including dissemination) and supporting their integration in the statistical production processes at national, ESS and Commission level;

¹⁷ and EEA and EFTA countries

¹⁸ The statistical dissemination has received as well special attention at EC level as external communication is listed as a key domain for cross sector and cross policy IT rationalisation in "Communication from VP Šefčovič to the Commission: Follow up to the Communication "Getting the best from IT in the Commission" of 7 October 2010 - First decisions in the IT rationalisation process".

3. Digital Communication (DIGICOM) – a programme to develop key capabilities to support user analytics, communication, dissemination, data visualisation, mobile solutions etc.

Part of those initiatives are already funded by Eurostat and some other parts require additional funding – potentially from ISA². ISA² funding is necessary to:

1. Finalise and extend the current **ESS statistical production reference architecture** to get it closer to implementation integrating the information sharing and the interoperability aspects;
2. Develop a sustainable release of **common infrastructure elements** such as the ESS catalogue of shared services;
3. Perform a thorough benchmark of as is architecture in MS to **identify components which can be readily transformed into shared services** as well as mapping the needs and gaps and tentatively define roadmaps for benefiting from shared development;
4. Provide new **reusable services and solutions** based on existing components or certified open source statistical library/components and to allow statistical producer to upgrade their architecture. For **dissemination of statistics, reusable solutions** will be derived from the "renovated Eurostat dissemination chain for statistical dissemination";
5. Set up **reference implementations of processes using shared services** suitable to various environments and to propose technical architecture patterns and open source environments suitable for integration of service in statistical production.

The results of these actions will be publicly available benefiting a broad range of public administrations that *produce and disseminate statistics*. In particular, the European Commission DG and Agencies of the European Union that collect and disseminate "other" statistics for their policy monitoring could reuse the dissemination packages, should they need so. In this case the cost of integration should be relatively low as the reusable components should operate as well on the generic EC infrastructure.

This proposal was already selected for the first year of implementation of the ISA2 work programme. A budget of 1050k€ was allocated to ESTAT. The preparatory work (contract preparation and signature etc.) is on-going since May 2016 and the project plan is in line with initial scope and objectives. The development activities will start in September 2016 (see more details in section 3.1.10)

3.1.2 OBJECTIVES

The overall objective of the proposed project is to realise the conditions and implement the sharing of statistical services among organisations contributing to the production and dissemination of European statistics building on the early developments initiated by two ESS Vision implementation initiatives, namely the ESS Enterprise Architecture initiative and the Shared Service project.

The objectives of the proposed project are the following:

- Provide a reference architecture for statistical production provisioning for operational, semantic and technical operability of processes and information systems in the European Statistical System
- Develop the common infrastructure necessary to support sharing of components;
- Improve the alignment to ESS reference architecture and adoption of Shared Services standards for at least 5 ESS members;
- Support and guide statistical organisations to upgrade their architecture to align to the target state architecture and to benefit from services sharing;

- Identify and build shared services based on existing components in use or certified open source statistical libraries.
- Deliver reusable services and a packaged solution for the statistical dissemination.

3.1.3 SCOPE

The project will deliver:

- Extension and consolidation of the ESS Statistical Production Reference Architecture (for the 4 layers of EA).
- Development of a multi-tenant version of the ESS Service Catalogue and related common infrastructure;
- Support to statistical production organisation to upgrade and align their infrastructure to benefit from shared statistical services;
- Establishment of a list of certified and existing components or libraries suitable for the compilation of shared services;
- Setting up of a whitelist of architecture patterns and open source components for realising the integration and usage of shared services;
- Implementation of new statistical production processes using shared services providing reference implementations adapted to different contexts.
- Development and packaging of reusable solution and services for statistical dissemination

Out of scope for the project (*what the project will not deliver*):

- Development of statistical methodologies, libraries and code (that is in the scope of separate business projects such as the "renovated Eurostat dissemination chain");
- Production of statistical data;
- Standardisation of metadata repositories used by EC statistical data producers.

3.1.4 ACTION PRIORITY

3.1.4.1 Contribution to the interoperability landscape

The contribution of this action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<p><i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>The project contributes to</p> <p>1) EIS - cluster 'Trusted Information Exchange'</p> <ul style="list-style-type: none"> ○ By providing a catalogue of reusable statistical IT services and solutions for the production and dissemination of statistics by EU public administrations (including the EC) <p>2) EIS _cluster "Interoperability Architecture"</p> <ul style="list-style-type: none"> ○ By providing an implementation of the EIRA in the domain of production and dissemination of official statistics ○ By providing a common infrastructure and for the exposure and consumption of shared statistical services <p>In addition, as described in the introduction, the proposal contributes significantly to the realisation of the ESS Vision 2020 objectives in the domain of sharing tools and improving statistical dissemination.</p>
<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>The proposal follows a interoperability standard (CSPA) which has been proposed at the level of the Official Statistics Community for the sharing of statistical services .</p>

3.1.4.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i></p>	<p>Yes, in general, the statistical products and services produced, developed and disseminated by the ESS constitute key data and information assets in order to help the Commission achieve its overall political objectives.</p> <p>The realisation of all Commission political priorities as a whole indeed relies heavily on the quality and accessibility of the European statistics</p> <p>In the case of dissemination, solution reuse is already planned in the domains of Economics and Financial affairs (DG ECFIN) as well as Taxation and Customs union (DG TAXUD), and should be soon in discussion for: Employment (DG EMPL), Internal Market (DG GROW), Competition (DG COMP) Education (DG EAC), plus possibly other DGs</p>

3.1.4.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i></p>	<p>Yes, in the current state, the development of statistical services includes a broad international community.</p> <p>In the ESS, no less than 10 MS are actively involved in the development of the guidelines for sharing of statistical services. More countries will be interested in the reuse of developed solutions and services.</p> <p>In the architecture domain, the ESS reference architecture in its current state has been adopted by the 28 NSI's CIO's and Heads of Methodology. Its improvement towards more interoperability through more standards and deeper architectural guidance is done in collaboration with an ESS EA Board involving 5 MS</p>

<p><i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i></p>	<p>NA</p>
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3.1.4.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<p><i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i></p>	<p>All actions of the proposal are key actions for the ESS Vision 2020 implementation which aims among others to upgrade ESS capacity to respond to policy needs by providing high quality and timely indicators for the monitoring of the objectives of EU 2020 strategy.</p> <p>More specifically, several business projects like the European Systems of Business Registers or the National Accounts are in demand of clear interoperability guidance and reusable services ensuring the smooth functioning of their service based target architecture.</p> <p>In addition, in the domain of statistical dissemination, the project has been listed as a critical project for Eurostat, with a strong commitment for the delivery of package solutions to DG ECFIN and TAXUD.</p>
<p><i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i></p>	<p>A closer integration of production and dissemination of statistics with ISA2 framework will clearly generate economies of scale and sustainability of the results. The financial support of the ISA2 will certainly allow going a step further in the operationalization of the ESS Vision 2020 objectives.</p>

3.1.4.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Name of reusable solution	Reusable solution for the dissemination of statistics
Description	<p>Dissemination means the activity of making statistics and statistical analysis accessible to users.</p> <p>The project aims at providing a reusable solution for the dissemination of statistics (cross policy & cross sector) to significantly improve technical interoperability in the fields of statistics, i.e. allowing multiple organisation to expose the same dissemination tools towards data consumers.</p> <p>The dissemination tools included in the solution are based on the established SMDX standards¹⁹ (information model, guidelines for web services, implementations & tools);</p>
Reference	<p>SDMX Information model</p> <p>See https://webgate.ec.europa.eu/fpfis/mwikis/sdmx/index.php?title=Special:Pdfprint&page=SDMX https://webgate.ec.europa.eu/fpfis/mwikis/sdmx/index.php/Self_Learning_Tutorial:Information_Model https://sdmx.org/wp-content/uploads/SDMX_2-1-1_SECTION_2_InformationModel_201108.pdf</p>
Target release date / Status	<p>1) For ECFIN & TAXUD</p> <ul style="list-style-type: none"> • Alpha release delivered in early July 2016 • Beta release to be delivered in December 2016 • Release Candidate release to be delivered by end Q1 2017 • Release for production to be delivered by end Q2 <p>2) For all other DGs</p> <p>Available for reuse by DGs of the European Commission: as from Mid-2017.</p> <p>By end 2016, Eurostat will identify candidate DGs to further extend the reuse within the EC as from the 2nd half of 2017</p> <p>3) For any other purpose</p> <p>Available on Joinup in 2018 (first publication), as a downloadable package</p>
Critical part of target user base	Any administration, institution or organisation in need of disseminating statistics
For solutions already in	Although the solution is still not operational, the first alpha

¹⁹ <https://sdmx.org/>

operational phase - actual reuse level (as compared to the defined critical part)	release has been delivered in early July 2016 to the two target DGs, in accordance with the planned target for this year.
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Output name	Statistical Production Reference Architecture V1.0 and subsequent
Description	<p>Based on the ESS EA RF developed by the ESS, this (ISA) project will release a fully fledged and ready for implementation Statistical Production Reference Architecture i.e. set of artefacts to standardise EU statistic production processes including information and interoperability aspects. Subsequent releases will be enriched by reference to standard solution and reference implementations. Organisation should use it to benchmark their production architecture, develop services to be shared and integrate shared service in their production of statistics.</p> <p>This Statistical Production Reference Architecture can be re-used by the ESS Members and also by other Commission DG's dealing with official statistics.</p>
Reference	ESS EA RF European Interoperability Reference Architecture (EIRA)
Target release date / Status	SPRA v1.0 (first release) : 31/03/2017
Critical part of target user base	ESS 32 NSIs (EU + EFTA) and Eurostat
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	The ESS EA RF has been adopted as a common reference for ESS Vision 2020 implementation by 28 NSI CIO's

Output name	Multi-tenant version of the ESS Service Catalogue
Description	<p>Multi-tenancy is an architecture in which a single instance of a software application serves multiple customers. A central ESS Service Catalogue is required to publish the statistical services that are available for re-use in the European Statistical System. This service catalogue should use the same solution as the global (UN sponsored) service catalogue of statistical services</p>

	(CSPA Service Catalogue). These catalogues shall be based on the same system, but shall clearly indicate the level of availability of the offered statistical services (e.g. ESS level or global level). It shall be also analysed how the ESS Service Catalogue – that contains statistical services according to international standards – can be integrated with the Service Catalogue of the Joinup platform.
Reference	SERV Business Case ESSC 29th meeting minutes
Target release date / Status	31/12/2017
Critical part of target user base	ESS 32 NSIs (EU + EFTA) and Eurostat Other statistical organisations
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Output name	Reference implementations of statistical and dissemination processes using shared services adapted to different contexts
Description	The project will identify and prioritise development of shared services within the ESS. 5 new shared services based on existing components or statistical libraries will be implemented during the project and reference point in the ESS catalogue. The shared service will be implemented in the statistical processes of multiple ESS members and bring them process improvements. Furthermore the implementation and integration of those statistical services in several ESS members will lead to improvement of those services, which will allow easier adoption by further organisations.
Reference	TF Shared Services Mandate
Target release date / Status	31/12/2017
Critical part of target user base	ESS 32 NSIs (EU + EFTA) and Eurostat
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Output name	White list of open source packages for statistical production business functions and for integration and orchestration of statistical productions
Description	<p>Re-using services can be based on services developed by other statistical organizations and also on open source. This work package will leverage the open source solutions for statistical production and for process orchestration.</p> <p>Commercial statistical production systems (e.g. SAS or ORACLE) have sophisticated functionality, however they require high license fees. On the other hand open source packages (e.g. packages in language R) are offering similar functionality. The price of open source is much lower, however it is not clear if the applied algorithms can be trusted at the same level and provide the same level of integration and interoperability of solutions as the ones in the commercial packages. Some NSI's are using the open source statistical packages, however some others refrain using them with the rationale that verifying the open source packages would require at least as much resources as the licence fees of the commercial packages. However, if we consider the ESS as whole, and its economy of scale, the verification of open source software can already pay off. This deliverable will provide a verified set of open source packages that can be safely used for statistical production.</p> <p>Similarly the open source packages for process orchestration can facilitate the implementation of service oriented architectures in statistical organizations..</p>
Reference	SERV Business Case ESSC 29 th meeting minutes
Target release date / Status	31/12/2017
Critical part of target user base	ESS 32 NSIs (EU + EFTA) and Eurostat Other statistical organisations
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Output name	Technical architecture patterns for realising the ESS EA
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Description	The analysis of open source software packages and the benchmark of MS architectures will produce a number of technical architecture patterns for realising the target state architecture. This will enable MS's to make practical decisions to start implementing the architecture in full scale. These architecture patterns will also be available and beneficial to other producers of statistics such as parts of the Commission.
Reference	CSPA
Target release date / Status	31/12/2017
Critical part of target user base	ESS 32 NSIs (EU + EFTA) and Eurostat
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Output name	Fit / Gap Analysis and roadmaps for the transition to a target state architecture
Description	<p>As part of the project, at least 5 ESS members use the benchmarks to evaluate their fit to the defined architecture. The members will perform a fit/gap analysis, define roadmap to target architecture, and implement measures to improve alignment with the target architecture.</p> <p>The roadmaps can be used by other organizations as examples for transitioning to a modernised architecture, which should lower barriers and increase the likelihood of successful realisation of the ESS EA.</p>
Reference	
Target release date / Status	31/12/2017
Critical part of target user base	ESS 32 NSIs (EU + EFTA) and Eurostat
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Output name	Inventory of reusable software components for statistical production
Description	The benchmark of the Member State architectures will identify and qualify a various solutions and services that can be made available to the ESS community and potentially outside the ESS
Reference	
Target release date / Status	31/12/2017
Critical part of target user base	ESS 32 NSIs (EU + EFTA) and Eurostat
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

3.1.4.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions

Question	Answer
<p>Does the proposal intend to make use of any ISA², ISA or other relevant interoperability solution(s)? Which ones?</p>	<p>Joinup The reusable statistical services delivered by the project will be made available to anyone by means of Joinup, Joinup will serve as a repository for the ESS shared services catalogue where interfaces and service description will be made available in a standard way.</p> <p>EIRA - European Interoperability Reference Architecture ISA programme of the European Commission for classifying and organising building blocks relevant to interoperability, which are used in the delivery of digital public services. The goal is to facilitate interoperability and reuse when developing public services. EIRA will be used to upgrade the ESS Statistical Production Reference Architecture.</p> <p>DCAT Application Profile for data portals in Europe The DCAT Application Profile for data portals (DCAT-AP) provides a common specification for describing public sector datasets in Europe to enable the exchange of descriptions of datasets among data portals.</p> <p>EUPL - European Union Public Licence The EUPL is the first European Free/Open Source Software (F/OSS) licence The expected applicable license scheme used for the delivery of this project is likely to EUPL (solution derived from existing open source software component, licensed under the EUPL)</p> <p>EIC - European Interoperability Cartography The EIC is an instrument to map and analyse the interoperability landscape in Europe and to identify solutions that are available</p> <p>Open data Support Open Data Support is a 36 month project of DG CONNECT</p>

	<p>of the European Commission to improve the visibility and facilitate the access to datasets published on local and national open data portals in order to increase their re-use within and across borders.</p> <p>Catalogue of Services - Service attributes A2A Catalogue of Services- list of common service attributes or service descriptors to identify web services across different MS</p> <p>EUSurvey EUSurvey is a multilingual online survey management system built for the creation and publication of surveys and public consultations.</p>
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	NA

3.1.4.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	<p>DSM – Open government + Content & Media The reusable solution for the dissemination of statistics can be used by any administration (first EC DGs, in 2018 any organisation through Joinup) to</p> <ul style="list-style-type: none"> • Ease the public delivery of statistical data to consumers, i.e. promoting open data and the reuse of public sector information / statistical data • Reduce the costs of dissemination • Re-use building block(s)

3.1.5 PROBLEM STATEMENT

Historically, statistical organizations have developed their own business processes and IT-systems. This can be referred to as 'accidental architecture' as the process and solutions were not designed from a holistic view.

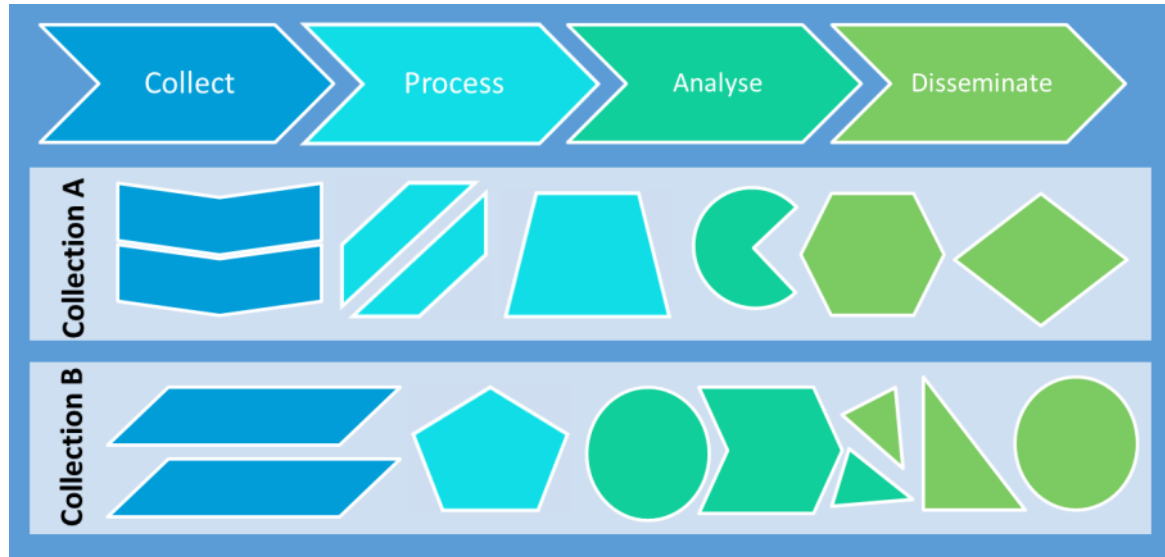


Figure 1: Accidental Architectures

Statistical organizations find it difficult to produce and share data and information aligned to modern standards²⁰. Process and methodology changes are time consuming and expensive resulting in an inflexible, unresponsive statistical organization.

Enterprise architecture is more and more used by statistical organisation to underpin their vision and change strategy. Enterprise architecture work enables to standardize organisation and processes. This is shown in Figure 2 where, as opposed to Figure 1, the countries have standardized their components and interfaces.



²⁰ E.g. Data Documentation Initiative (DDI) and Statistical Data and Metadata eXchange (SDMX)

Figure 2: The result of standardization within an organization

A common reference architecture will allow the statistical organisation in the ESS to share development cost and to provide new statistical products in a cost efficiency manner.

3.1.6 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Eurostat	<ul style="list-style-type: none"> • Harmonization of processes and methodologies for the production of EU statistics • Capability to promote statistical standardisation and related best practices • Increased quality of statistical data • Technical interoperability reducing manual intervention
Member States' National Statistical Institutes (as members of the European Statistical System)	<ul style="list-style-type: none"> • Support the cost-efficient modernization of their architectures • Improved statistical processes by sharing best practices and services • Delivery of new statistical products meeting users needs • Cost savings via reusable services and solutions • Capability to share further statistical services
Other European Commission services	<ul style="list-style-type: none"> • Reuse statistical services for the production of European-level statistics (e.g. data validation services) • Reuse architecture patterns for statistical production based on corporate EC platform • Reusable solution for the dissemination of statistics <ul style="list-style-type: none"> ○ Cost-efficiency and economies of scale ○ IT rationalisation ○ Integration with EU Open Data Portal and European Data Portal ○ Integration with NE-CMS Europa <p>Currently,</p> <ul style="list-style-type: none"> ○ DG ECFIN for Business and Consumer Surveys (BCS) and annual macro-economic database (Ameco) ○ DG TAXUD for effective tax levels data. <p>collaborate with Eurostat to be ready for go live by mid-2017.</p> <p>Focus will then go to promote reuse in other DGs, first with</p> <ul style="list-style-type: none"> ○ DG COMP for State Aid Scoreboard statistical data ○ DG GROW for postal statistics ○ DG EMPL²¹ for Labour Market Policies <p>Eurostat will in 2017 further develop contacts²² with other DGs known</p>

²¹ See also <http://ec.europa.eu/social/main.jsp?catId=1143&intPageld=3227&langId=en>

	to disseminate statistics
European citizens (data consumers)	<ul style="list-style-type: none"> • Improved cost-efficiency of official statistics • Easier and smarter access to statistics with cross-sector & cross-policy relevance

3.1.7 ORGANISATIONAL APPROACH

3.1.7.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Eurostat	Eurostat Architecture extended Team ESS Vision 2020 portfolio managers Eurostat units B3, B4, B5
National Statistical Institutes	Members for the Task Force and Steering Groups Shared Service Grant participants Members of the ESS EA Board
EC & inter-institutional stakeholders	EC (other statistics): network of statistical correspondents Inter-institutional: Editorial Committee on the Internet (CEIII)
Information Resource Managers (IRMs)	<ul style="list-style-type: none"> • List of Information Resource Managers • Digital Stakeholder Forum - chaired by DIGIT and assures inter-service communication and coordination for all matters relating to IT in the Commission
DIGIT	<ul style="list-style-type: none"> • DIGIT.B1 (Architecture centre of excellence) • DIGIT ISHS • DIGIT IPCIS team

3.1.7.2 Identified user groups

The ESS IT Working Group bringing together IT correspondents in 32 NSIs and EVUG (EDAMIS and Validation Service User group)

The ESS EA Community of Practice (first meeting on 23 November 2016)

The EC DGs and agencies disseminating statistics

²² Following communication channels will be used

- Meetings of the [network of statistical correspondents](#)
- [Digital Stakeholders Forum](#)
- Inter-institutional Editorial Committee on the Internet (CEIII)
- Bilateral meetings between Eurostat and DGs

3.1.7.3 Communication plan

Being part of the ESS Vision 2020 implementation the project will benefit from a broad communication plan designed for its purpose. Specific component targeting Commission services producing statistics will be added.

The main list of stakeholders for ESS Vision 2020 and tentative related communication channels are:

European Commission	MyIntraComm Ad hoc seminar and workshops Digital Stakeholder Forum Leaflets
Eurostat staff	Cybernews Eurostat-Infos Lunchtime presentations Ad hoc seminar and workshops
NSI staff	European Statistical Training Program Quartely news letter on Vision implementation Videos and webinars on the Vision implementation
NSI management	Regular presentation of project advances (Vision Implementation Group) ESS Website Dedicated European Statistical Training Program courses Circabc Leaflets
General Public	Eurostat website (ESS vision dedicated section) Joinup
Official statistics Community	Conferences, Workshops Leaflets

3.1.7.4 Governance approach

Project owner: E. Baldacci, Director - Methodology; corporate statistical and IT services (ESTAT.B).

The project will report about the reusable dissemination solution for internal Eurostat governance to the

- Eurostat Dissemination Chain Steering Group;
- Eurostat IT Advisory Committee, and finally to
- Eurostat Director's Meeting

The project will report to the related ESS governance bodies

- The ESS Steering Group on Shared Services;
- The ESS Task Force on Shared Services for the project;
- ESS IT Director's Group (ITDG) will review project progress and its main deliverables;

- The Vision Implementation Group established by delegation of ESSC (The European Statistical System Committee) will provide strategic guidance for the project.

At EC level, involved governance bodies are the following

- IT Governance: the [IT Board](#)
- ISA2 Governance bodies (through monitoring & evaluation reports, reporting about sub-delegated credits usage)

3.1.8 TECHNICAL APPROACH AND CURRENT STATUS

The project builds on a service-oriented paradigm to establish the cooperative architecture for ESS and for sharing statistical services among organisations. This approach leans on the SOA strategy of the Commission and on the Common Statistical Production Architecture developed at industry level facilitated by UNECE. The reusable solution for dissemination leans on the future renovated Eurostat dissemination chain (see task 8 description)

Task 1: Develop detailed ESS EA.

Activities: Detail the existing ESS EA to provide an operationalization of the sharing of services, the orchestration of these services in production processes and the management of data and metadata in the process. Communicate the ESS EA and facilitate the discussion and agreement in the ESS community on the ESS EA.

Deliverables: The ESS EA incorporating EIRA and operationalizing the sharing and orchestration of services and the management of metadata.

Current status: Contract signed. Benchmarking study of ESS EA against EIRA is starting on 1 September 2016. New release of SPRA is planned by April 2017.

Task 2: Benchmark ESS architectures.

Activities: Analyse the ESS member architectures (as-is and target architectures) and benchmark the implementations and usage of technology to support the ESS EA. Identify potential components and services for sharing in the community.

Deliverables: Best practice architecture patterns, list of sharable services/solutions, sample roadmaps for realising the ESS EA based on specific as-is architectures and business requirements. List of possible candidates for shared services.

Current status: the elaboration of the benchmarking model will start on 1 November 2016

Task 3: Develop multi-tenant version of the ESS Service catalogue.

Activities: Develop an ESS Service catalogue for federated use in the ESS with requirements that support a flexible adoption and supporting easy discovery, test, and implementation of usage of a shared service which is preferably built on existing software.

Deliverables: An ESS service catalogue, which can be deployed in a federated manner including both service shared in the ESS as well as MS specific services.

Current status: the architecture of the multitenant catalogue is being elaborated and discussed with stakeholders. Contracts are being launched for implementation.

Task 4: Develop statistical and dissemination services for sharing.

Activities: To select and develop existing functionality into shared services that can be used by the community.

Deliverables: Three services developed and made available to the community either at ESTAT or an NSI.

Current status: not started

Task 5: Produce white-list of open source software.

Activities: Analyse existing open source software packages and produce a white-list of components to be used in the technical architectures

Deliverables: The white-list of open source packages and guidance on its usage in the ESS EA.

Current status: not started

Task 6: Support architecture alignment.

Activities: Support the architecture alignment in ESS member to be carried out by a group of experts from ESS members e.g.: support for implementing an open source software package, detailed guidelines for exposing a shared service to the community.

Deliverables: Active support function to architecture alignment with established KPI (e.g. number of early adopters of the target architecture in the ESS) .

Current status: not started

Task 7: Implement shared services in production processes.

Activities: Support the implementation in production processes of the shared statistical services within ESS members.

Deliverables: The integration of shared statistical services in 7 ESS members production processes.

Current status: not started

Task 8: deliver a reusable solution for the dissemination of statistics.

Activities: retain and further develop the future renovated Eurostat dissemination tools specific components and package these as a software solution for systematic reuse.

Deliverables: Integrated software components and services for the dissemination of statistics

Current status: Contract signed. Alpha release delivered to DG ECFIN and DG TAXUD.

Task 9: extension of the reusable solution for the dissemination of statistics, and services, for the ESS in synergy with DIGICOM

Activities: extensions to the reusable solution for the dissemination of statistics, in a ESS context and development of potential synergies with the Work Package 3 of DIGICOM²³ about (linked) open data applied to the context of statistics.

Deliverables: generic tools and services for reuse

Current status: not started

3.1.9 COSTS AND MILESTONES

3.1.9.1 Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipate d Allocations (KEUR)	Budget line ISA / others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Inception	Project plan	0	ESTAT	15/09/2015	31/12/2015
Execution	Task 1: Develop detailed ESS EA.	200	ISA ²	01/09/2016	30/06/2017
Execution	Task 2: Benchmark ESS architectures.	300	ISA ²	01/01/2017	30/06/2018
Execution	Task 3: Develop multi-tenant version of the ESS Service catalogue.	200	ISA ²	01/10/2016	31/12/2017
Execution	Task 4: Develop statistical services for sharing.	314	ISA ²	01/07/2017	31/12/2018
Execution	Task 5: Produce white-list of open source software.	180	ISA ²	01/07/2017	31/12/2017
Operational	Task 6: Support architecture alignment.	450	ISA ²	01/07/2017	31/12/2018
Operational	Task 7: Implement shared services in production processes.	275	ISA ²	01/07/2017	31/12/2018
Execution & Operational	Task 8: Deliver a reusable solution for the dissemination of statistics.	800	ISA ²	01/01/2016	31/12/2018
Execution & Operational	Task 9: ESS extensions to reusable statistical dissemination solution.	500	ISA ²	01/06/2017	31/12/2018
	Total	3219			

²³ See also <http://www.cros-portal.eu/sites/default/files/TFDIGICOM-2015-0910-02.pdf>

3.1.9.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Initiation & Execution	1050	
2017	Execution & Implementation	1669	
2018	Implementation & Operation	500	
2019			
2020			

3.1.10 ANNEX AND REFERENCES

Description	Reference link	Attached document
SERV Business Case	https://circabc.europa.eu/sd/a/0ffc64b1-5d5c-4a61-a030-4acd897779e0/SERV%20Business%20case%20v0.7.pdf	-
ESSC 29 th meeting (SERV document)	https://circabc.europa.eu/w/browse/2102612c-8f20-4a16-bb5e-5d5541b03492	-
SERV TF Mandate	-	Version 1.1
ESS EA RF	https://ec.europa.eu/eurostat/cros/content/ess-enterprise-architecture-reference-framework_en	Version 1.0
SPRA	https://ec.europa.eu/eurostat/cros/content/spra_en	Version 0.4
ESS Vision 2020	http://ec.europa.eu/eurostat/web/ess/about-us/ess-vision-2020	-
DISSCHAIN RENOV Business Case	https://circabc.europa.eu/w/browse/a21ebee-a7491-4806-8306-2ace57894218	
CSPA	http://www1.unece.org/stat/platform/display/CSPA/CSPA+v1.5	Version 1.5

3.2 FISMA: FINANCIAL DATA STANDARDISATION (2016.15)

3.2.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common frameworks
Service in charge	DG FISMA.PA
Associated Services	DG CONNECT, DG DIGIT, DG ECFIN, EUROSTAT

3.2.2 EXECUTIVE SUMMARY

Many stakeholders from the financial sector, including private companies like banks or public administrations and National and European Regulatory/Supervisory Agencies, need to report or act on financial data as requested by EU law in force. Since 2009, the EC (DG FISMA, formerly DG MARKT) has been part of international initiatives to improve data reporting in support of financial stability.

The huge amount of financial legislative acts and level 2 measures (implemented and expected), together with a recent initiative launched by the U.S. Office for Financial Research (OFR), a call launched by financial industry for further data reporting standardisation and the Call for Evidence (CfE) undertaken in 2016 by DG FISMA to analyse and review the EU regulatory framework for financial services under the Better Regulation agenda and REFIT exercise, are among the driving factors for further standardisation in financial data reporting.

The main issues pointed out are related to the difference in data formats and the lack of modelling and reporting standards allowing to trace financial risk on an instruments-by-instrument and transaction-by-transaction basis in the financial system especially when instruments and transactions involve different jurisdictions and several public (supervisory) authorities that need to be able to rely on sufficiently robust data standards as to arrive at comparable assessments of risk in the system. The lack of a common financial language, the lack of inter-operability between public risk data infrastructures increases on one side the costs related to legal reporting requirements while making it difficult on other side to aggregate risk data and to ensure a complete market monitoring.

As a first step, the Financial Data Standardisation (FDS) project will perform a complete high-level analysis of the DG FISMA financial data reporting requirements to understand better the issues the FDS project will need to address in terms of overlaps, gaps, redundancies and inconsistencies in the data reporting obligations, standards and formats. Based on this high-level analysis, financial frameworks will be selected for detailed analysis.

Several different areas that might contribute to interoperability in the financial sector and a reduction of regulatory costs will be investigated: simplified financial legislation, standardisation, stakeholder requirements, governance, security and data protection, and innovative financial technologies.

A Methodology for Data Reporting Requirements (DRR) analysis will be developed and verified during the analysis of the first financial frameworks. After validation and any subsequent enhancements required, the methodology will be used for the further analysis of other financial frameworks in the DG FISMA context. Lessons learned and best practices will also be identified.

Eventually, the analysis of the current situation will result in a) an Inventory of Data Reporting Requirements (DRR) which will cover the legal requirements in terms of reporting together with the identification of stakeholders involved, data standards and IT systems used, b) Data Dictionaries which will identify the different data elements that are part of the legal reporting requirements together with their semantic, metadata, structure, business rules and existing standards, and c) Business Process Models which will map financial institutions information flows.

Later actions will cover a) an assessment of the added value of new innovative technologies such as Distributed Ledger Technology, APIs, Smart Contracts, etc. for financial reporting, b) a pilot in a priority area to test the feasibility and measure the impact of interoperability, standardisation and new technology, and c) a cost/benefit assessment of financial data standardisation with the costs of "standardisation" versus the costs for "non-standardisation". If the current situation is kept as is, what does it cost to the industry compared to an ideal situation, and what are the benefits/drawbacks with the related risks?

Finally, a roadmap together with a framework of interoperable financial data reporting standards will be elaborated. The roadmap will identify priority areas for financial data standardisation. This roadmap needs to take into account the need for a general financial data reporting framework and specialised reporting in sectors. This framework must cover the interdependency between sectors and the implementation status of ICT systems used for reporting.

3.2.3 OBJECTIVES

The FDS project will propose a framework of interoperable standards by developing improved financial data standards and enhancing interoperability of relevant data infrastructures, enabling a more efficient reporting of financial data and the monitoring of the financial system (banks, insurance companies, and financial markets) and allowing risk assessment by the supervision authorities, and thus contributing to the safeguarding of the stability of the European Union's financial system.

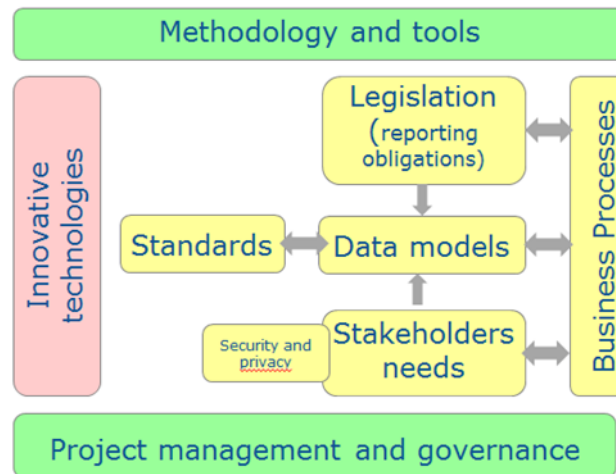
More specifically, the following project objectives have been identified:

- process and share more efficiently financial data by enhancing the interoperability of (existing) data standards
- reduce compliance costs that arise in the context of legal reporting requirements by applying the "once for all" principle in reporting
- explore new solutions improving the way data can be used by (and shared between) authorities
- improve the monitoring of the allocation and evolution of risk in the EU's financial system

3.2.4 SCOPE

The scope of the FDS project is the analysis of existing financial data reporting requirements defined in the legislation from DG FISMA in order to achieve interoperability and reusability of data exchanged through a framework of standards.

The project covers all areas necessary to achieve the objectives: financial legislation, standardisation, stakeholder requirements, governance, security and data protection, and innovative financial technologies.



The project scope may be further updated after completion of the stakeholder analysis. During project initiation, stakeholders will be further identified that could impact or be impacted by the project and the analysis of their expectations.

Priority areas for further in-depth analysis will be selected based on the results of this initial analysis in combination with the findings of the Call for Evidence undertaken in 2016 by DG FISMA to identify possible redundancies and overlaps in financial data reporting requirements.

The following activities are considered being in scope:

- stock taking of reporting requirements and inter-operability implications in proposed and adopted legislation
- identification of stakeholders
- identification of synergies with other European Commission DGs and with existing global initiatives
- review of existing studies already carried out on EU Financial Data
- identification of IT tools and electronic formats used, if applicable, to implement this reporting
- identification of areas where standardisation could bring savings, with an estimate of savings which could be achieved
- definition of a draft data dictionary in coordination with ongoing initiatives in this area, e.g. the Banking Data Dictionary (BDD) at the ECB)
- definition of a roadmap for standardisation
- carry out a pilot in a priority area to test the feasibility and measure the impact of standardisation

3.2.5 ACTION PRIORITY

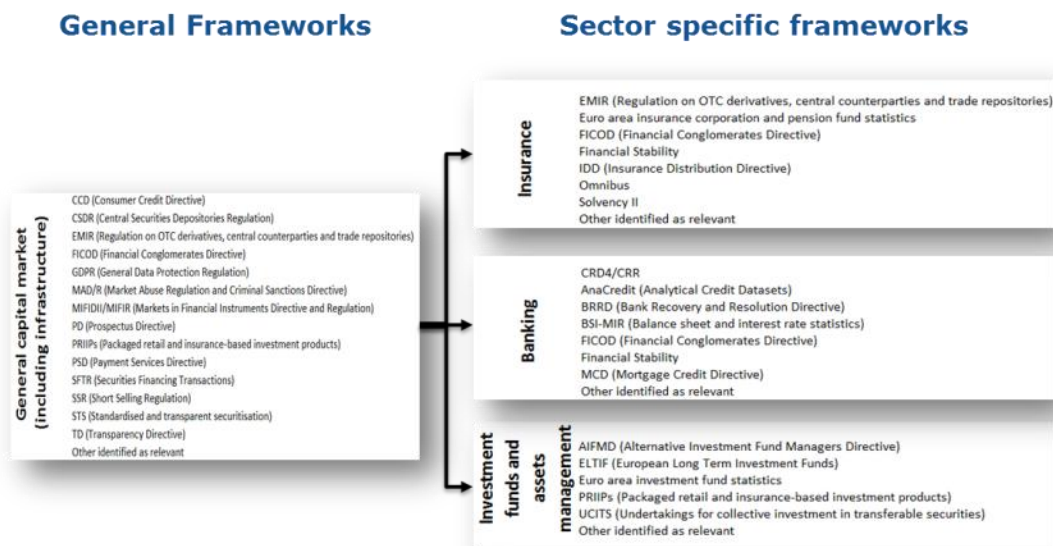
3.2.5.1 Contribution to the interoperability landscape

Question	Answer
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<p><i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>In the context of the European Interoperability Framework (EIF) the FDS targets the interoperability for exchange of information between administrations on business requests (scenario 2 from EIF) as well as the exchange of information between national administrations and EU institutions (scenario 3 from EIF). 12 recommendations from the EIF are in the scope of the FDS project (see annex 1).</p> <p>ESAs, international fora: Significant work is under way with the aim of setting global standards for financial data reporting. For example, in OTC derivatives, the FSB, CPMI and IOSCO have made progress to define a number of key reporting elements such as the UPI, UTI, and the LEI.</p> <p>In the area of securities financing transactions, the FSB Data Expert Group is working on the harmonisation of data fields and content (including definitions) required allowing global harmonisation and aggregation ahead of the implementation by jurisdictions of the FSB Recommendations.</p> <p>Business registers: Interoperability in the identifiers used for companies will need to be achieved, establishing a link with the Legal Entity Identifier (LEI) or with identifiers set up in Business Registers Interconnection System (BRIS) or defined in the context of the SEDIA project.</p>
<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>The innovative aspect of the FDS approach is that it will bring together and analyse from several viewpoints the information from the different financial sectors (banks, insurance companies, and financial markets). Per sector, information is already available but has never been put together. The main actors in the financial data reporting domain (ESMA, EIOPA, EBA, ECB, and Frankfurt Group) strongly believe that the involvement of the European Commission will be required to define a common vision and strategy to address the current financial data reporting issues. The financial agencies tried for many years to solve the inconsistencies but failed to do so because no actor has sufficient authority to set standards on its own. As a result, for example, a single taxonomy for all financial agencies is still missing today.</p>

3.2.5.2 Cross-sector

Question	Answer
<p>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</p>	<p>The project's vision is that it will be possible to: report financial data more efficiently; monitor more effectively the financial system (banks, insurance companies, and financial markets); produce better data for risk assessment by the supervision authorities; and thus contribute to the safeguarding of the stability of the European Union's financial system. This involves different legislations from different policy areas in the financial sector (see diagram below) and covers both sectorial and cross-sectorial frameworks.</p>
<p>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</p>	<p>N/A</p>



3.2.5.3 Cross-border

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	The proposal will be very useful for banks, insurance companies, financial markets, and public administrations (regulatory and supervisory authorities) in all EU Member States and in non-EU countries covered by equivalence decisions for FISMA legislation.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	N/A

3.2.5.4 Urgency

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	Under the Better Regulation Commission Agenda and the REFIT exercise, DG FISMA has undertaken in 2016 a Call for Evidence (CfE) to analyse and review the EU regulatory framework for financial services. The FDS project will be proposed by DG FISMA as a concrete follow-up action on the Call for Evidence and will address the reported issues regarding perceived overlaps, duplications and inconsistencies in the regulatory framework and lack of interoperability in the reporting and disclosure requirements. It is therefore expected that the FDS project will become urgent in 2017 and it is anticipated that this action will have a huge potential impact on the financial sector interoperability.
<i>Does the ISA2 scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	On the short term, no other funding sources than those received from the ISA ² programme can be made available. In addition, the project is supported by - and cooperating with - the Frankfurt Group for Optimisation and Interoperability of financial data reporting standards. This informal group is co-chaired by the ECB and ISO/TC 68 Financial Services. The ISA ² financial capacity would better fit joint actions by DG FISMA and the Frankfurt Group.

3.2.5.5 Reusability of action outputs

Name of reusable solution	Methodology for Data Reporting Requirements (DRR) analysis
Description	In order to successfully deliver the FDS Project, an adequate methodology needs to be developed and verified on DG FISMA legislation. After validation and any consequential enhancements required, the methodology will be used for the further analysis of the financial frameworks in the DG FISMA context. Lessons learned and best practices are also to be identified.
Reference	
Target release date / Status	Q1 2017
Critical part of target user base	Methodology can be reused for the analysis of all DG FISMA legislation: currently 117 Legislative Acts (Level 1) in force. The methodology could also be reused by other DGs deciding to apply the same approach.
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	Analysis of Data Reporting Requirements
Description	Redundancies, Inconsistencies, Overlaps and Gaps in financial data reporting requirements will be identified across EU regulations.
Reference	
Target release date / Status	Q1 2018
Critical part of target user base	This analysis will be reused to propose measures to reduce costs incurred due to the DRR requirements by developing improved financial data standards and enhancing interoperability of data infrastructure benefiting all actors in the financial sector.
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	Supporting tool
Description	The Knowledge Online on European Legislation (KOEL) supporting tool will be extended with the required functionality to do an inventory of reporting obligations and analyse the DRR redundancies, gaps, overlaps and inconsistencies and report the findings. . KOEL will be a

	web application containing the legislation from DG FISMA, including Level 1 measures (L1M) with Related level 2 measures (L2Ms). It will contain the necessary functionalities to manage the Reporting Obligations, Reporting Frameworks and Level 3 Measures (L3Ms).
Reference	
Target release date / Status	Q1 2018
Critical part of target user base	Tool can be reused for the analysis of all DG FISMA legislation: currently 117 Legislative Acts (Level 1) in force and Level 2 and 3 Measures
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Ongoing discussions with DG MARE for them to use the tool.

Name of reusable solution	Data dictionary
Description	Inventory of all data elements subject to data reporting, together with the semantic(s) and legal instruments in which the data element is mentioned. The data dictionary will contain references to existing standards and business rules defined in legislative instruments. The data flows concerned will be included, with identification of stakeholders involved.
Reference	
Target release date / Status	Q1 2018
Critical part of target user base	Data dictionary can be reused for the analysis of all DG FISMA legislation: currently 117 Legislative Acts (Level 1) in force
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

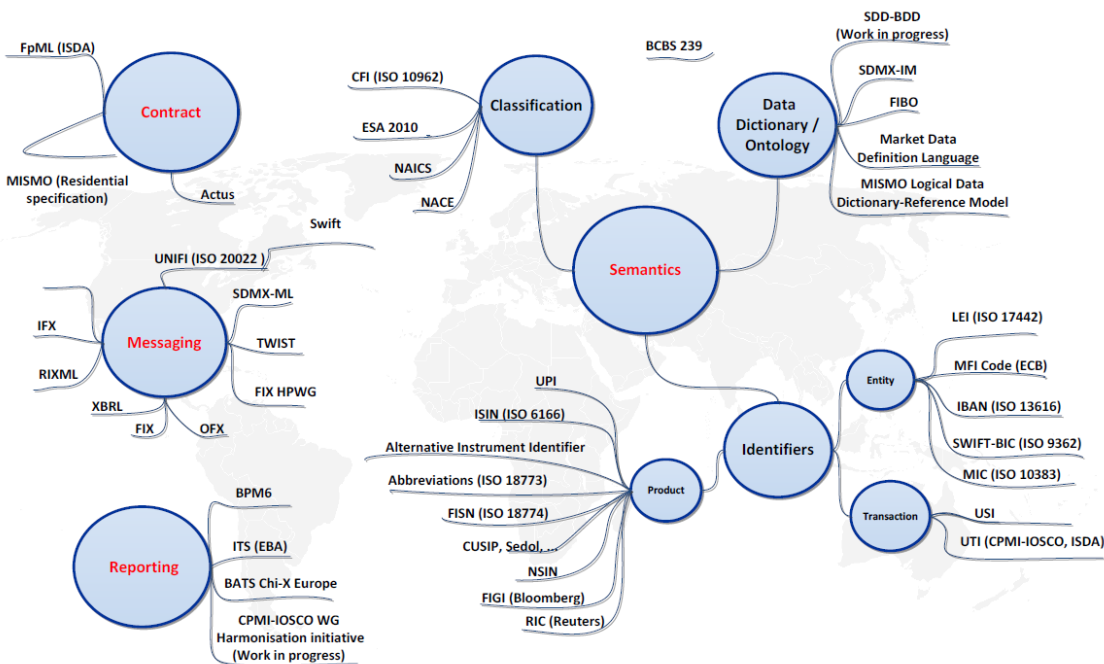
Name of reusable solution	Business Process Models
Description	Financial Institutions Information Flows (FIIF) will be mapped. The business processes will start at the data creation (source), transmission across various types of financial instruments from the moment the instrument is generated across all regulatory requirements up until the moment of last regulatory request. The maps will be designed using the Business Process Modelling Language (BPML)
Reference	

Target release date / Status	Q1 2018
Critical part of target user base	<p>All financial actors will better understand relations and data evolution along the information flows spanning trade activities and supervisory / statistical compliance, understand the impact of new regulations and changes to regulations on data flows, analyse harmonisation opportunities (as well as reasons for no harmonisation) across dictionaries of data definitions, and understand connections between data components and properties, legal regulations and macro processes as well as technologies.</p> <p>These business process models could be used to include other dimensions, e.g. taxation, anti -money laundering, and terrorist financing</p>
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

3.2.5.6 Level of reuse by the proposal

Question	Answer
<p><i>Does the proposal intend to make use of any ISA², ISA or other relevant interoperability solution(s)? Which ones?</i></p>	<p>It is crucial that any efforts at financial data standardisation are undertaken by those bodies which are best suited to do so, and that they take into account all of the work which has already been accomplished and which is currently underway.</p> <p>Different standards already exist for reporting - issued by international organisations (ISO, UN/CEFACT) or by the European Commission (see diagram below). An important part of the study will consist in making an inventory of existing standards and mapping the standards to reporting requirements. When multiple standards could be used for the same requirements, a comparison between these standards should be carried out</p> <p>Following existing initiatives should be investigated (non-exhaustive list):</p> <ul style="list-style-type: none"> • XBRL which is used for the FINREP Taxonomy: • International Financial Reporting Standards (IFRS) • Core vocabularies

	<p>The Financial Stability Board (FSB) publishes progress reports under the Data Gaps project and on the implementation of risk data aggregation.</p> <p>The OFR has published an overview of the various remaining challenges attached to (international) financial data standards in its Annual Report as well as on the ongoing Data Gaps agenda.</p> <p>The FDS project will investigate possible reuse of ISA solutions such as core vocabularies; meta data standards, governance and methodology; and the EIF reference architecture.</p> <p>In addition the ERF (European Reporting Framework) and BIRD (Banks Integrated Reporting Directory) from the ECB will be analysed for possible reuse</p>
<p><i>For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?</i></p>	<p>"D03.02. The draft methodology for metadata governance and management of EU institutions (SC118DI07171)" has been used as input for the tools and methodology aspects of the project.</p>



3.2.5.7 Interlinked

Question	Answer
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<p><i>Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?</i></p>	<p>Digital Single Market (DSM): The financial sector has been an early adopter of ICT in the 1990s developing many proprietary data systems and data infrastructures; these legacy data and legacy systems, two decades later, are costly to maintain and create barriers to competition; in the absence of fully machine readable financial data (including contractual information) the sector will not realise the full potential contained in interoperability and data sharing solutions and is falling behind sectors such as the automotive sector where (digital) interoperability between many users is well advanced. The FDS project intends to address these interoperability issues including harmonization of data.</p>
	<p>Better Regulation: In the communication from the Commission on "Better regulation for better results - An EU agenda", the REFIT section identifies 7 areas where implementation can be improved in order to reduce administrative burden. This REFIT review will have a particularly strong focus on areas where stakeholders have recently indicated their concerns, such as agriculture, energy, environment and financial services. Under the Better Regulation agenda and REFIT exercise, DG FISMA has undertaken in 2016 a Call for Evidence (CfE) to analyse and review the EU regulatory framework for financial services. The FDS project will be proposed as a concrete follow-up action on the CfE and will address many of the reported issues.</p>

3.2.6 PROBLEM STATEMENT

Many stakeholders from the financial sector, including private companies like banks or public administrations like National and European Regulatory/Supervisory Agencies, need to report or act on financial data as requested by EU law in force. However, the lack of interoperable standards in the financial sector increases costs for all stakeholders in the context of legal data reporting requirements and creates difficulties to monitor the markets on the side of public authorities.

Since 2009, the EC (DG FISMA, formerly DG MARKT) has been part of international initiatives to improve data reporting in support of financial stability. In January 2015, in addition to the ongoing Financial Stability Board (FSB) Data Gaps project²⁴ with its focus on Global Systemically Important Banks (G-SIBs), an initiative in the form of two Research Workshops²⁵ has been taken by the U.S. Office of Financial Research (OFR)²⁶, the Bank of England (BoE) and the European Central Bank (ECB). It is a voluntary effort to get a wider set of standard setters involved. This complementary initiative reflects (i) a shared understanding of data standards' impact on the entire financial sector and the economy, (ii) the awareness that a number of fundamental semantic and IT issues are still unresolved, and (iii) that the financial sector is falling behind compared to other sectors in terms of interoperability in a digitized economy.

²⁴ See: <http://www.fsb.org/what-we-do/policy-development/additional-policy-areas/addressing-data-gaps/>

²⁵ "Setting Global Standards for Granular Data"; see the full programme here:

<http://www.bankofengland.co.uk/research/Pages/conferences/0115.aspx>

²⁶ The OFR had been established by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 to support the Financial Stability Oversight Council, the Council's member organizations. The OFR has a Director appointed by the US President and confirmed by the Senate, and an organisation built around a Research and Analysis Centre, and a Data Centre. The OFR is part of the US Treasury; two of its three strategic goals for 2015-19 are built around the adoption and further improvement of financial data standards.

In addition, the U.S. and EU authorities have both received in June 2015 a letter by global financial industry representatives calling for further data (reporting) standardisation as a matter of urgency.

In the context of the Better Regulation²⁷, the complexity and variety of reporting requirements from the financial sector has also been mentioned as an area where standardization could reduce regulatory costs.

In response to the financial crisis the European Commission (EC) had to pass a whole range of legislation in recent years, including data reporting obligations. Under the Better Regulation agenda and REFIT exercise, DG FISMA has undertaken in 2016 a Call for Evidence (CfE) to analyse and review the EU regulatory framework for financial services. Many issues were reported regarding perceived overlaps, duplications and inconsistencies in the regulatory framework and lack of interoperability in the reporting and disclosure requirements.

The Financial Data Standardisation (FDS) project is a concrete follow-up action on the CfE and will address the reported issues. The information received through the CfE was mainly of a qualitative nature and often lacked details. The FDS project will therefore first analyse the reported issues in detail and provide quantitative data about the perceived inconsistencies, overlaps and gaps. This will provide a factual and objective basis for the further exploration of possible solutions for better regulation and cost reductions.

The lack of a common financial language has the following negative impacts on all stakeholders involved:

- Need to provide data in different formats reflecting different mandates of national and European financial supervisory structures
- Need to ensure interoperability of different IT reporting systems, at national and European level
- Difficulty to aggregate the data
- Difficulty to receive (near) real-time data
- Difficulty to follow the life-cycle of a financial instrument

This creates difficulties to monitor the markets on behalf of public authorities but also increases costs for all stakeholders involved.

3.2.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

The expected beneficiaries are identified in the table below, as well as quantifying the expected benefits by being part of this study.

Beneficiaries	Anticipated benefits
Financial institutions	Reduction of compliance costs related to reporting requirements; incentive to abolish legacy data and legacy IT systems by switching to a new system based on robust common data standard; increased transparency for internal risk reporting; safer and more competitive

²⁷ "Better Regulation - EU Agenda", page 12 (http://ec.europa.eu/smart-regulation/better_regulation/documents/com_2015_215_en.pdf)

"For example, the Commission will launch a broad review of reporting requirements to see how burdens can be alleviated. This review will have a particularly strong focus on areas where stakeholders have recently indicated their concerns, such as agriculture, energy, environment and financial services"

	environment as data standards allow the transition to a fully digitized reporting framework avoiding the risk attached to manual handling of risk data and allowing third party providers to design solutions (including APIs) based on a transparent (open source) standard.
National Supervisory Agencies (NSAs)	Improved capacity to aggregate and monitor risk data as well as to share analysis of such data among authorities including European Authorities. Due to compliance costs reduction at the side of the banks, it will be easier for regulators to request new data or to request existing data in a structured format.
National Regulatory Agencies (NRAs)	Improved capacity to aggregate and monitor risk data as well as to share analysis of such data among authorities including European Authorities; increased clarity and precision in drafting/amending regulation thanks to improved and more comprehensive data dictionaries
European Central Bank (ECB)	Same as for National Authorities with the supplementary need to aggregate, monitor and simulate risk data for the Euro area as a whole
European Securities and Markets Authority (ESMA)	Same as for National Authorities with the supplementary need to aggregate, monitor and simulate risk data for the European Union as a whole; ESMA directly supervises Trade Repositories (TRs) and Credit Rating Agencies (CRAs), two types of agents that deal with some of the most complex financial instruments where the data standards issues are particularly relevant.
European Insurance and Occupational Pensions Authority (EIOPA)	Same as for National Authorities with the supplementary need to aggregate, monitor and simulate risk data for the European Union as a whole.
European Banking Authority (EBA)	Same as for National Authorities with the supplementary need to aggregate, monitor and simulate risk data for the European Union as a whole.
Regtech/Fintech Companies	<p>The complexity and diversity of financial legislation and reporting obligations is an obstacle for new companies to invest in this business area. The simplification of standardisation is a key enabler to allow new companies to invest in IT/tools solutions to ensure the regulatory compliance of the financial sector.</p> <p>The interoperability will also create new opportunities to aggregate the immense amount of information available (big data).</p> <p>The investigation of innovative technologies could also open new possibilities of reporting that could not be envisaged with the classical reporting style currently used.</p>

3.2.8 EXPECTED MAJOR OUTPUTS

Output Name	Business Case for Financial Data Standardisation
Description	The Business Case captures the reasoning for the adoption of a framework of interoperable financial data reporting standards, provides a justification for the investment in time and effort and establishes its budgetary needs. It provides contextual information to the decision makers on the project's benefits and is used

	<p>to determine whether the project is worth doing or not</p> <p>The Business Case typically contains an analysis of the necessary effort and costs to be incurred in the project as well as the benefits that the project will bring. In the case of larger projects addressing a political context, the Business Case will have to take into account an impact assessment, risks and a cost-benefit analysis.</p> <p>The FDS project will propose the Business Case based on 1) an assessment of the added value of new technologies for financial reporting, 2) a pilot in a priority area to test the feasibility and measure the impact of interoperability and standardisation, 3) a Cost/benefit assessment of financial data standardisation</p>
Reference	
Target release date / Status	2019

Output Name	Roadmap and framework of interoperable financial data reporting standards
Description	A roadmap identifying priority areas for financial data standardisation will be delivered. This roadmap needs to take into account the need for a general financial data reporting framework and specialised reporting in sectors. The framework must cover the interdependency between sectors and the implementation status of ICT systems used for reporting.
Reference	
Target release date / Status	2019

3.2.9 ORGANISATIONAL APPROACH

3.2.9.1 Expected stakeholders and their representatives

Stakeholders	Representatives
DG FISMA	Units (internal stakeholders): <ul style="list-style-type: none"> • 01 (LEI) • 02 (REFIT platform) • B3 (Transparency Directive) • C2 (EMIR) • C3 (MiFID II) • Dir D (Legal Reporting Requirements of Financial Institutions) • Digital Finance (D3) • E3 (ESRB work on Data Standards) • E4 (stress testing and resolvability of critical market infrastructure).
European Commission DGs	DG DIGIT, DG CNECT, DG ECFIN, ESTAT, TAXUD
European Central Bank (ECB)	
European Supervisory Market Authority (ESMA)	
European Insurance and Occupational Pensions Authority (EIOPA)	
European Banking Authority (EBA)	DG Market Infrastructure & Payments
Single Resolution Board (SRB)	
Frankfurt Group	

Eurofiling	
ISO/TC 68 Financial Services	
European Systemic Risk Board (ESRB)	

3.2.9.2 Identified user groups

The identified users of the FDS project results in all EU Member States are:

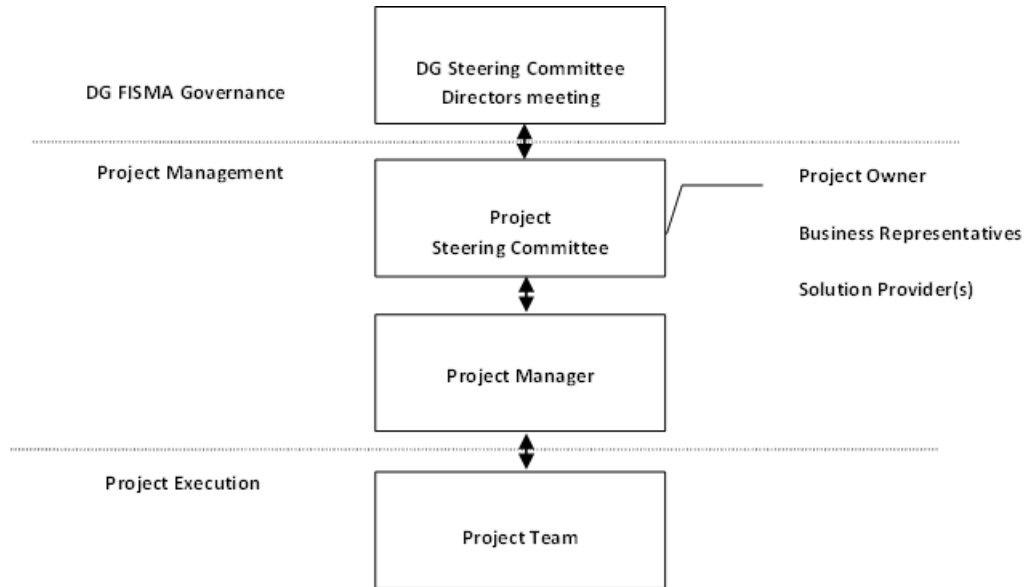
- banks, insurance companies, financial markets
- national public administrations (regulatory and supervisory authorities)
- European Supervisory and Regulatory Agencies
- European Central Bank
- European Commission

3.2.9.3 Communication plan

A website will be set up as a central point to collect and share information on the FDS project. The information will be updated on a regular basis. Access will be provided to relevant internal and external stakeholders such as financial agencies and to the external contractor performing the studies. For discussions, emails and video-conferencing will be used. In the case of stakeholder's consultation, the EU Survey tool will be used when appropriate.

3.2.9.4 Governance approach

The governance of the project is a key factor for the effective delivery of its objectives and is expected to improve the quality of the services provided, guarantee the alignment of its deliverables with the strategic objectives, ensure the proper allocation of roles and responsibilities and clearly identify the timeframes for a manageable and transparent execution of projects.



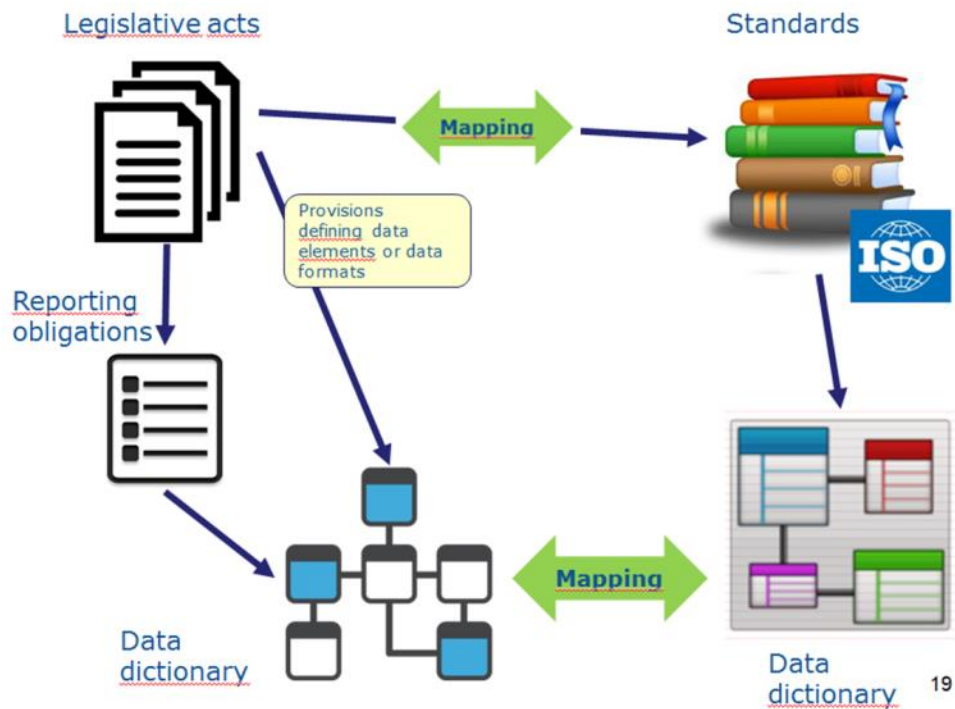
The action will be managed by a Project Steering Committee (PSC) chaired by Director B being the Project Owner. Unit B2 will provide the Project Manager and is responsible for the coordination inside the DG. The PSC will meet at least once every two months but could meet more regularly if necessary. The PSC will be responsible to decide on the scope of the action.

This governance structure can be modified based on the evolution of the project.

At project level, the Project Core Team will be mainly composed by external contractors from consultancy firms, supported by unit representatives. These unit representatives will provide to consultants, all necessary documents and answer potential questions.

3.2.9.5 TECHNICAL APPROACH AND CURRENT STATUS

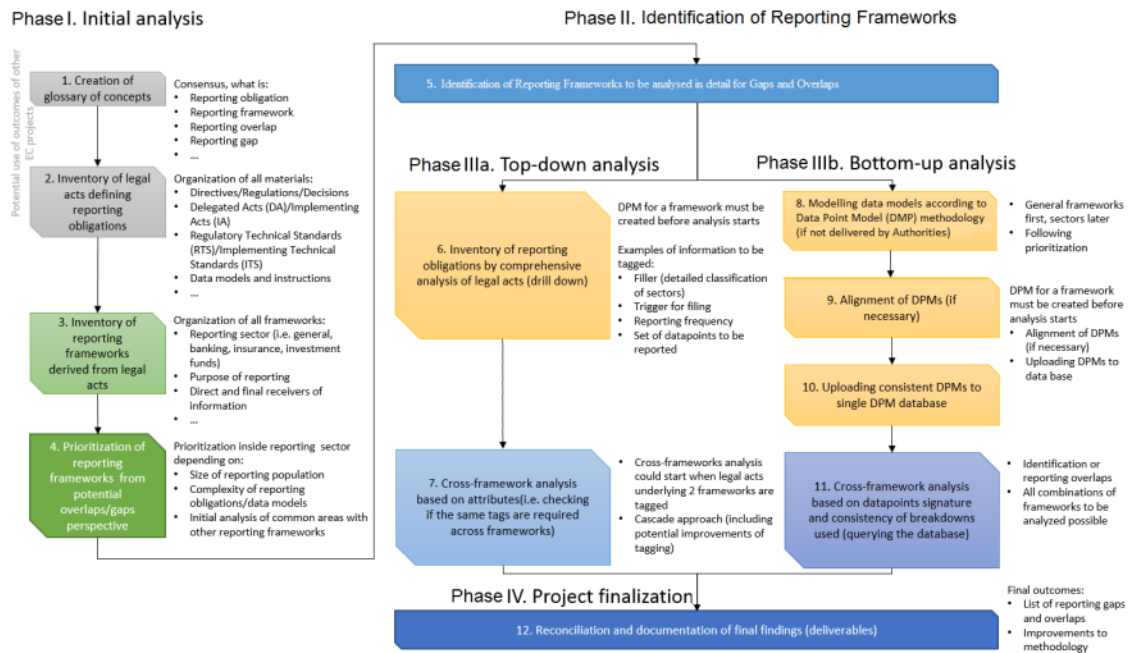
The FDS project is in the initiation phase. As a first step, a complete high-level analysis of the DG FISMA financial data reporting requirements will be performed to understand better the issue the FDS project will need to address in terms of overlaps, gaps, redundancies and inconsistencies in the data reporting obligations, standards and formats. Based on the high-level analysis, financial frameworks will be selected for detailed analysis.



Several areas that might contribute to simpler regulation and a reduction of regulatory costs will be investigated: financial legislation, standardisation, stakeholder requirements, governance, security and data protection, and innovative financial technologies.

A Methodology for Data Reporting Requirements (DRR) analysis will be developed and verified during the analysis of the first financial frameworks. This methodology combines a top-down with a bottom-up analysis which should allow after reconciliation the identification of both gaps and overlaps. After validation and any consequential enhancements required, the methodology will be used for the further analysis of other financial frameworks in the DG FISMA context. Lessons learned and best practices will also be identified.

Methodology



Eventually, the analysis of the current situation will result in a) an **Inventory of Data Reporting Requirements (DRR)** which will cover the legal requirements in terms of reporting together with the identification of stakeholders involved, data standards and IT systems used. Based on this full picture, areas will be flagged where further standardisation could bring benefits, and possible synergies between data reporting requirements will be identified. The results of the Call for Evidence (CFE) and REFIT will also be used as a tool to set priorities; b) **Data Dictionaries** which will identify the different data elements that are part of the legal reporting requirements together with their semantic, metadata, structure, business rules and existing standards. It will allow the visualisation of data to be reported in the context of multiple legislations and identify and quantify overlapping reporting requirements and redundancies. In addition, gaps and inconsistencies will be identified in terms of available standards and absence of data formats/structures for legislative acts; c) **Business Process Modelling** which will map Financial Institutions Information Flows (FIIF). Business processes will start at the data creation (source), transmission across various types of financial instruments from the moment the instrument is generated across all regulatory requirements up until the moment of last regulatory request. The maps will be designed using the Business Process Modelling Language (BPML).

Independently from the previous work streams, a study will be conducted which aims to assess the feasibility of creating a digital data container (DDC) based on Distributed Ledger Technology and Smart Contracts as an innovative solution to financial reporting needs. The DDC would use, inter alia, algorithmic representations of contracts; the latter would not hold any legal value but would be used solely for the purpose of demonstrating how reporting could be made significantly less burdensome (and less costly), while producing data for supervisory purposes that is more timely and that can be easily processed and visualized for use by supervisors, regulators, as well as policy makers. The container approach strongly reduces the number of key identifying characteristics thereby allowing for a much simplified (and potentially automatic) reporting throughout the lifecycle of the contract. If successful, this new form of reporting holds the potential to, at first, run alongside the standard reporting channels as a second legal reporting option and may eventually replace the currently common reporting channels. It also caters as an intermediary step towards the full digitalisation of financial

contracts altogether. The feasibility study will investigate all the aspects of this new approach and demonstrate how a "once for all" reporting principle can be implemented by the financial sector.

Later actions will cover an 1) assessment of the added value of new innovative technologies such as Distributed Ledger Technology, APIs, Smart Contracts, etc. for financial reporting, a 2) pilot in a priority area to test the feasibility and measure the impact of interoperability, standardisation and new technology, and a 3) Cost/benefit assessment of financial data standardisation with the costs of "standardisation" versus the costs for "non-standardisation". If the current situation is kept as is, what does it cost to the industry compared to an ideal situation, and what are the benefits/drawbacks with the related risks?

Finally, a roadmap together with a framework of interoperable financial data reporting standards will be elaborated. The roadmap will identify priority areas for financial data standardisation. This roadmap needs to take into account the need for a general financial data reporting framework and specialised reporting in sectors. This framework must cover the interdependency between sectors and the implementation status of ICT systems used for reporting.

3.2.10 COSTS AND MILESTONES Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Initiation	Methodology validation for DRR analysis	80	ISA ²	Q3 2016	Q4 2016
Initiation	High-level DRR analysis of selected frameworks	50	ISA ²	Q3 2016	Q1 2017
Initiation	Detailed DRR analysis of 4 selected financial frameworks	150	ISA ²	Q4 2016	Q1 2017
Initiation	Feasibility study Distributed Ledger Technology	200	ISA ²	Q3 2016	Q1 2017
Execution	Tool development supporting efficient DRR analysis and reporting	220	ISA ²	Q2 2016	Q1 2018
Execution	DRR data input in developed tool and definition of functional requirements for reporting of results	220	ISA ²	Q2 2016	Q1 2018
Execution	Detailed DRR analysis of 20 priority financial frameworks using endorsed methodology	250	ISA ²	Q2 2017	Q1 2018
Execution	Business Process Modelling	200	ISA ²	Q2 2017	Q1 2018
Execution	Financial standards Map	150	ISA ²	Q2 2017	Q1 2018
Execution	Final methodology: Business Process Modelling with data	182	ISA ²	Q3 2017	Q2 2018

	from initiation (DRR analysis methodology, high-level analysis, and detailed analysis) and integration of the work done during initiation to define a final methodology				
Execution	Roadmap for standardisation	168	ISA ²	Q4 2017	Q1 2018
Execution	Methodology to assess financial standards suitability for DRR and/or reporting frameworks	132	ISA ²	Q1 2018	Q3 2018
Execution	Pilot in priority area to test feasibility and measure the impact of interoperability and standardisation	500	ISA ²	2018	2019
Execution	Assessment of added value of new technologies for financial reporting	200	ISA ²	2018	2019
Execution	Cost/benefit assessment of financial data standardisation	500	ISA ²	2018	2019
Closing/Final Evaluation	Framework of interoperable financial data reporting standards	200	ISA ²	2018	2019
	Total FDS project	3402			

3.2.10.1 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Initiation	480	
2016	Execution	220	
2017	Execution	1170	
2018	Execution	1332	
2018	Closing/Final Evaluation	200	
2019			
2020			

3.3 DEVELOPMENT OF AN OPEN DATA SERVICE, SUPPORT AND TRAINING PACKAGE IN THE AREA OF LINKED OPEN DATA, DATA VISUALISATION AND PERSISTENT IDENTIFICATION (2016.18)

3.3.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common Services and Reusable Generic Tools
Service in charge	Publications Office of the European Union
Associated Services	EC: JRC, CONNECT, DIGIT, COMM, ESTAT. Agencies: EMA, ERA, INEA.

3.3.2 EXECUTIVE SUMMARY

The action aims at providing data providers (institutions, agencies and other bodies) of the European Union Open Data Portal (EU ODP) and other stakeholders (Pan-European Data Portal including affiliated Member State portals) with an open data service package in order to enable them to further open up their data and increase data interoperability in view of better data reusability and data visualisation.

It has been triggered by the needs expressed by European Commission DGs, institutions and agencies during workshops and individual meetings with EU ODP teams and additionally brought to evidence by the interinstitutional survey on data visualisation needs (carried out between May and July 2015), namely

- for a **structural approach for sharing knowledge about open data management** (Guidelines, consultancy, assistance, training, awareness raising, etc.), reusable data structures, data visualisation and the development of shareable tools;
- for significantly **mutualising and rationalising efforts** towards the identification, development and sharing of modern **data processing and visualisation tools** (i.e. a corporate visualisation solutions pool);
- to **raise awareness** about the dependency of easily reusable visualisation tools on interoperable data structures, and to put in place structural measures in order to achieve this alignment;
- to support further opening of data namely by assistance in transforming data into Linked open data (LOD) and persistent identification.

Through its different action strands (implementing guidelines, consultancy and hands-on assistance, workshops and training sessions, development of toolsets, etc.), the project will deliver an

- interinstitutional **knowledge base** on open data publishing, open data treatment and processing, data visualisation;
- interinstitutional **pool of reusable** data processing and data visualisation **tools**;
- governance structure, **implementation guidelines** and development of a toolset for unique and **persistent identification based** upon the sub-domain data.europa.eu and accompanied, where suitable, by the Digital Object Identifier (DOI).

Moreover, it will contribute to building up an intra-institutional community of practice in the domains of open data and data visualisation (a network of open data and data visualization stewards) and an increased data publishing maturity of participating institutions, agencies and bodies.

The project will be implemented with existing key partners of the Open Data Portal (data providers, stakeholders) as well as with new partners to be identified during the follow-up phase of the interinstitutional survey on visualisation needs (ISA 1.1 – January-June 2016)

3.3.3 OBJECTIVES

The project aims at providing data providers (institutions, agencies and other bodies) of the Open Data Portal (EU ODP) and other stakeholders of the Open Data Portal (Pan-European Data Portal including affiliated MS portals) with an open data service package in order to enable them to further open up their data and increase data interoperability in view of better data reusability and data visualisation.

3.3.4 SCOPE

The project covers

- open data publishing, open data treatment and processing, data modelling in view of linked open data, data visualisation (setup of an interinstitutional knowledge base)
- the set-up of an interinstitutional pool of reusable data processing and data visualisation tools
- the implementation of a toolset for unique and persistent identification based upon the sub-domain data.europa.eu and accompanied, where suitable, by the Digital Object Identifier
- community building in all abovementioned areas

It entails activities in the areas of:

- consultancy and conceptual assistance,
- development of training material, delivery of training sessions/workshops,
- development of toolsets (including catalogues of tools)
- development of interoperability guidelines and documentation

3.3.5 ACTION PRIORITY

3.3.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i>	<p>The proposal contributes to the implementation of the European Interoperability Framework in particular to the underlying principles of openness, reusability, transparency, effectiveness and efficiency.</p> <p>It also corresponds to the European Interoperability Strategy, namely the strategic approach 14.7 for the accompanying measure 'Sharing Best Practices'</p>
<i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i>	Yes, to our knowledge no other initiative among the EU institutions addresses the topic of interoperability for data visualisation purposes.

3.3.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i>	Data visualisation is per se of cross-sector relevance. The participants in the working group come from across all institutions, agencies and other bodies. The pilots foreseen envisage the visualisation of research results (CORDIS), EU budget, etc.
<i>For proposals or their parts already in operational</i>	Not applicable

<i>phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i>	
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3.3.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	The elaboration of the catalogue and of the pilots considers also experiences made in Member States. Member States administrations could consult the catalogue, after ECAS authentication. Member States could also reuse the solution.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	Not applicable

3.3.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	Data visualisation and synergies in data management are key topics in the Communication on Data, Information and Knowledge Management at the European Commission. Furthermore, we embed and feed-back all outputs of this ISA ² project into the Commission internal initiative Data4Policy.

<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	Yes, the strong focus of ISA ² on interoperability, standards, reuse and cross-service cooperation is especially propitious for the topics data visualisation, data management, unique and persistent identification and linked open data.
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3.3.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Name of reusable solution	Common toolset in the domains data visualization and the reuse-oriented data management and data treatment (in particular LOD)
Description	Toolset (presented most probably as a catalogue of applications, libraries, etc.) consisting of reusable tools for data visualization and data treatment and conversion (methodologies, develop common libraries for data conversion and for visualisation, enabling the presentation of data with different granularity and modality (spatial, temporal, organizational, etc.).
Reference	
Target release date / Status	Q4 2017
Critical part of target user base	The output can be re-used by a critical part of their target user base.
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Not applicable

Name of reusable solution	Governance structure, implementation guidelines and development of a toolset for unique and persistent
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	identification based upon the sub-domain data.europa.eu
Description	<ul style="list-style-type: none"> • Setup of URI governance model • Development of a toolset for decentralised URI generation and management • Development of a central URI Register
Reference	
Target release date / Status	Q4 2017
Critical part of target user base	The output can be re-used by a critical part of their target user base.
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Not applicable

Output name	Data models, ontologies and content of pilots treated within the project
Description	<ul style="list-style-type: none"> • Transformation of some data into LOD (CORDIS, TED, ESTAT, BUDGET, other interested DGs) and publishing them on EU ODP • Visualizations produced and listed on EU ODP
Reference	
Target release date / Status	Q4 2017
Critical part of target user base	The output can be re-used by some users.
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Not applicable

3.3.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
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<p>Does the proposal intend to make use of any ISA², ISA or other relevant interoperability solution(s)? Which ones?</p>	<ul style="list-style-type: none"> • The proposal addresses the need of a common pool of reusable visualisation tools. Those tools are being described using ADMS²⁸. • It recommends that metadata describing those dataset be expressed in DCAT AP²⁹. • Recommendations of the interinstitutional URI Committee based upon the domain data.europa.eu³⁰. • Core vocabularies
<p>For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?</p>	<p>Not applicable</p>

3.3.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
<p>Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?</p>	<p>(Open) government data is a core asset for the knowledge-based economy, since its reuse is a basis for innovative information products and services. It makes a significant contribution to the Digital Single Market and is a key enabler for transparency, evidence-based decision-making and a broader participation in the political discourse. As a by-product, it enhances administrative efficiency through streamlined data management. The project aims at providing data providers (institutions, agencies and other bodies) of</p>

²⁸ <https://joinup.ec.europa.eu/asset/adms/home>

²⁹ https://joinup.ec.europa.eu/asset/dcat_application_profile/description

³⁰ <https://joinup.ec.europa.eu/community/semic/news/persistent-uri-taskforce-experiments-central-uri-redirection-service>

	the EU Open Data Portal and other stakeholders of the EU Open Data Portal (Pan-European Data Portal including affiliated MS portals) with an open data service package in order to enable them to further open up their data and increase data interoperability in view a better data reusability and data visualisation.
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3.3.6 PROBLEM STATEMENT

A) EU institutions, agencies and other bodies need a structural approach for sharing knowledge about open data visualisation and a pool of reusable data visualisation tools

Given the growing amount of data produced, gathered, processed and published by the EU institutions, there is a need to develop effective tools for visualising data. At the moment Commission DGs, institutions and agencies have common visualisation needs. Sharing of knowledge and tools would strengthen and facilitate their work and allow for cost reduction.

B) EU institutions, agencies and other bodies need a structural and reuse-oriented approach for sharing knowledge about open data management and publishing, data models, data identification, and the development of shareable tools.

3.3.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
European Commission, all other institutions, agencies and bodies interested in participating in the projects	<ul style="list-style-type: none"> ○ Single point of access to a catalogue of shareable visualisation tools, as a first step towards a corporate pool of visualisation solutions. ○ Interoperability guidelines in the domains of data visualisation, data treatment for reuse and visualisation, open data publishing, in particular as Linked Open Data ○ Possibility to obtain training, share knowledge and conceptual support ○ Increased data publishing maturity of participating institutions, agencies and bodies ○ Building up an interinstitutional community of open data and data visualisation experts, evangelists and quasi-contact points

Users of the Open Data Portal and the Pan-European Portal (diverse reuse communities)	<ul style="list-style-type: none"> ○ Better data quality, including better documentation ○ More and better visualisations ○ More open datasets published on the Open Data Portal
Member States Portals and other portals	<ul style="list-style-type: none"> ○ Reuse of the developed guidelines and toolsets

3.3.8 EXPECTED MAJOR OUTPUTS

Output name	Knowledge base and the reuse-oriented data management and data treatment (in particular towards LOD) and data visualisation
Description	<p>Knowledge base consisting of:</p> <ul style="list-style-type: none"> ○ Implementation guidelines ○ Training material, footage of training sessions, ○ briefings on conceptual assistance, <p>development of interoperability guidelines and documentation</p>
Reference	
Target release date / Status	As of project inception, continuously enriched and improved

Output name	Delivery of training on open data, linked data visualisation and data visualisation
Description	<p>The following training sessions are foreseen:</p> <ul style="list-style-type: none"> ○ 3 introductory half-day training sessions, with 2 instructors, and ○ 6 two-day workshops, with minimum 2 instructors, on data publishing, visualisation and related tools.
Reference	
Target release date / Status	Q1-Q2 2017

3.3.9 ORGANISATIONAL APPROACH

3.3.9.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Publications Office	Open Data Portal (Norbert Hohn, Agnieszka Zajac) Common repository (Cellar) : Peter Schmitz Metadata registry : Willem van Gemert EU Budget: Carmen Malagon
Eurostat	Marc Vanderperren (Renovation of the ESTAT dissemination chain)
CONNECT	Daniele Rizzi (Pan-European Data Portal)
JRC	Andrea Perego, Anders Friis Christensen
DIGIT	TBD
COMM	Jose Arcos
Others	Other key stakeholders identified during ISA 1.1 Action on data visualisation (Jan-June 2016)

3.3.9.2 Identified user groups

The following main user groups have been identified:

- The staff of the European Commission, institutions, agencies and other bodies working on data management, data visualisation, publishing and presentation.
- The staff of public administrations in Member States especially statistical institutes and national data portals.
- The users of data portals: researchers, journalists, data reusers.

3.3.9.3 Communication plan

The results of the visualisation survey and the actions to be derived from it will be ready to be discussed with ISPMB (The European Commission Information Systems Project Management Board) and the stakeholders' community not earlier than late September 2015. This process will require a structured approach over 2-3 months in order to properly collect input, and to define the follow-up strategy and the measures to be taken.

For this, it is proposed to use an action within ISA 1.1 as a communication platform for bringing together the stakeholders and define the requirements, priorities and work plan for a subsequent implementation within an ISA² action as of May 2016.

During the lifetime of the ISA² project, communication of the project will be ensured through the following channels:

- Open Data Portal network and the Publications Office's publishing officers network towards institutional data providers
- Pan-European Data portal towards affiliated Member State portals
- Open Data Portal social media and other channels towards reuser communities

3.3.9.4 Governance approach

The Publications Office will ensure the chairmanship and the project management.

All key stakeholders will be involved in the piloting of the data visualisation catalogue.

3.3.10 TECHNICAL APPROACH AND CURRENT STATUS

Following the preparatory work done under ABCIII SC 245 "D04.08 Reusable data visualisation tools to support data-driven policy making", the implementation of the catalogue of reusable data visualisation tools will involve taking decisions about its high-level architecture, starting the development of a pilot of the catalogue and building a knowledge base on data visualisation tools.

The catalogue will be created following a collaborative and iterative approach that will engage a number of key stakeholders from the EU Institutions, not limited to the OP.

The catalogue of reusable data visualisation tools will be a service package providing to EU staff support related to the use of data visualisation and data visualisation tools. It is composed of three elements:

- the catalogue itself, which represents a collection of data visualisation tools and visualisations made available via an online service. In addition to tools and visualisations, the knowledge base of the catalogue will also provide links to relevant documentation, studies and reports, learning resources, user reviews of data visualisation tools etc.;
- a community around the catalogue comprising EU staff who will exchange knowledge and ideas in an online environment to the EU Institutions; and
- a set of capacity building services for data visualisation, e.g. provision of training and creation of sample visualisations for selected datasets.

The evolution of the catalogue will be community-driven, built in a step-wise manner.

The core service will be developed first, by adding functionalities incrementally on the principle of iterative prototyping and based on user needs and demand. This approach allows for monitoring the catalogue's success over time and performing a cost-benefit analysis on the next steps.

The metadata associated with the description of data visualisation tools are described based on ADMS-AP³¹ (a profile of the DCAT-AP used to describe reusable solutions).

In regard to the implementation of the catalogue, four alternatives have been identified:

³¹ ADMS-AP: https://joinup.ec.europa.eu/asset/adms/asset_release/adms-ap-joinup-version-20

- the catalogue implemented using the Drupal 7 multisite platform of the European Commission;
- the catalogue as a part of Joinup;
- the catalogue as a part of a standalone service, or
- the catalogue as a part of EU Open Data Portal.

Current status: the Publications Office is preparing the specific contract within ABCIII Framework contract with PwC and Everis consortium for a period of 12 months.

3.3.11 COSTS AND MILESTONES

3.3.11.1 Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
	Project Management	50	ISA ²	Q2/2016	Q4/2017
	Development of catalogue of data visualisation tools and knowledge base	200	ISA ²	Q2/2016	Q4/2017
	Support services for developing open data capabilities in the EU Institutions	110	ISA ²	Q2/2016	Q4/2017
	Publishing and visualising EU budget and related data	40	ISA ²	Q2/2016	Q4/2017
	Raising awareness and communication	18	ISA ²	Q2/2016	Q4/2017
	Total	418			

3.3.11.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016		300	
2017		118	
2018			
2019			
2020			

3.4 AUTOMATIC BUSINESS REPORTING (2016.11)

3.4.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common Frameworks
Service in charge	DIGIT.B6 (tbc)
Associated Services	TAXUD, FISMA, ECFIN

3.4.2 EXECUTIVE SUMMARY

Automation and data exchange between companies and authorities is relevant for many European countries as well to increase productivity. Thus for the European countries to become particularly strong in the digital area, there is a need for a good infrastructure, sound public data and a willingness to develop digital solutions that can create jobs and economic growth.

The project will work to investigate the potential of establishing ways of automating data exchange between companies and authorities in the European Union. The idea is that this project will help to strengthen the region as a digital forerunner and greatly improve the digital inner market in Europe.

Automatic business reporting is an ambitious vision that potentially can revolutionize the way companies do accounting. Key to fulfilling the vision is to replace the burden of reporting on companies with a digital infrastructure that involves a greater use of automation and data reuse between authorities and companies. Automatic business reporting is a paradigm shift from the current state of reporting where businesses report data to the authorities again and again, to a new state where the authorities can “pull” or “harvest” relevant data from the companies through the use of a central data repository. The goal is to harvest data at the lowest level possible in the companies to enable full automation of the reporting.

Automatic business reporting is a new concept where production data from the companies are stored in a central solution. The central infrastructure can be accessed by public institutions and private organizations. Access and privacy issues are managed by a user authentication system to regulate the distribution of data. The software needed to deliver the data is developed by private companies according to specific standards specified by the government. Once the standardized format is settled the market can develop and modify existing systems to the new standards.

Ideally, once the user authentication, the standardized format and the central repository is developed the following outputs will happen:

- Business reporting to public institutions will cease to exist. Instead public institutions will harvest the necessary data using the central repository
- Documentation requirements in the form of financial statements and budgets are replaced by granting access to the data in the repository

- Automatic business reporting facilitates new and innovative ways of linking sales, inventory management, supplier management and bookkeeping in the individual company
- The Danish government cut spending on controlling the companies for tax fraud and etc. as the quality of the data improves both by the increased mass of data and the level of detail.
- The individual companies will have much better business intelligence (BI) options as the general level of digitization is increased and systems providers can develop new BI solutions and improve the growth potential.

While Automatic business reporting is very advantageous for the government in terms of better control mechanisms and more accurate reports, the real benefits of Automatic business reporting are actually reaped in the companies. Fully implementing Automatic business reporting will eventually increase the digitization level in the companies by a large margin. Having better technologies and a more detailed insight in the company will strengthen the company's business intelligence and improve B2B-relations due to more accurate information about the individual companies as well as entire business sectors.

This project is a study of the potential of establishing Automatic business reporting in the European countries. The primary actions will be analysis and the outputs will be extensive knowledge about the subject at hand and executable results on how to proceed with the Automatic business reporting vision.

3.4.3 OBJECTIVES

- Investigate the potential of data sharing and reuse in the European region.
- Investigate the possibility of increased automatic and standardized reporting in the European countries.
- Investigate the potential and possibilities of efficient business intelligence and business-to-business relations for SME's in European countries.

3.4.4 SCOPE

The scope of the project is to:

- Define the vision and scope for an Automatic Business Reporting.
- Identify and analyse the potential of automatic business reporting in terms of public savings and benefits for private businesses. Deloitte has made a rough estimate of the potential savings of automated reporting in Denmark. The estimate concludes that automatic business reporting has the potential of saving businesses 5-7 billion DKK every year. This estimate has to be further qualified in a more detailed analysis. Similar analysis can be initiated in the other European countries
- Initiate a range of technical, legal, cultural, organizational and political analyses to evaluate the potential of automatic business reporting in the European countries and identify solutions to overcome these barriers in close coordination with the other two European case studies.

3.4.5 PROBLEM STATEMENT

Big data and data-driven companies will be essential if the European Union wants to maintain a key role in the global economy. Automatic business reporting incentivises SME's to become more data-driven and reduces the burdens of administrative reporting by introducing automatic data collection.

3.4.6 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

This initiative will strengthen the competitiveness and create growth for small and medium enterprises, which will be the expected beneficiaries. The companies spend a lot of time and resources on administrative reporting – a cost that is estimated to 1 billion euros in Denmark alone. Deloitte has made a rough estimate of the potential savings of automated reporting in Denmark. The estimate concludes that automatic business reporting has the potential of saving businesses 1 billion euros every year in Denmark. The potential savings in the European Union are not calculated, but similar results can be expected.

Beneficiaries	Anticipated benefits
Small and medium enterprises	1) Fewer administrative burdens 2) Higher degree of digitization in the individual companies 3) Increased business intelligence and easier business-to-business relations

3.4.7 RELATED EU ACTIONS / POLICIES

Action / Policy	Description of relation, inputs / outputs
ISA2: Specific activities in the field of financial reporting and auditing	In a global economy, there is a need for a global accounting language. Automatic business reporting requires a standardized accounting language to pull the data from the ERP-systems, so the two policies synergizes well.

3.4.8 REUSE OF SOLUTIONS DEVELOPED BY ISA, ISA² OR OTHER EU / NATIONAL INITIATIVES

Data standardization in the European union
Digitization strategies in the European countries
Development and use of digital reporting in other countries (Netherlands, Australia, etc.)

3.4.9 EXPECTED RE-USABLE OUTPUTS (solutions and instruments)

Output name	State of the art report
Description	The report will assess already existing building blocks, solutions, identify users, needs to assess the feasibility of the proposal.

Reference	To be published on Joinup
Target release date / Status	2016

3.4.10 ORGANISATIONAL APPROACH

3.4.10.1 Expected stakeholders and their representatives

Stakeholders	Representatives
The Danish Business Authority	Rasmus Eskild Jensen, Nils-Bro Müller
Agency for Digitisation in Denmark	n/a
Business authorities in MSs	The action will identify further stakeholders in the course of the project

3.4.10.2 Communication plan

The Automatic business reporting project requires legal adaption to become a success. As such the project is much more a political and administrative complex project rather than a technical issue. Thus, the communication plan will be built around this assumption and will rely heavily on gaining political support in the member states. Automatic business reporting can be introduced in different tempi and is thus flexible in the adaption phase.

3.4.11 TECHNICAL APPROACH

The action will first analyse the current state of affairs in the MS and on the EU level. The report will serve as a basis for potential further actions.

3.4.12 COSTS AND MILESTONES

3.4.12.1 Breakdown of anticipated costs and related milestones

Phase:	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others	Start date (QX/YYYY)	End date (QX/YYYY)
Inception					
Execution					
Operational					

			(specify)		
Inception	Analysis of the state of affairs in the MS and on the EU level (including existing accounting standards) and potential barriers	150		Q2/2016	Q4/2016
Inception	Creation of a data taxonomy for financial data	200		Q1/2017	Q3/2017
	Total	350			

3.4.12.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Inception	150	
2017	Inception	200	
2018			
2019			
2020			

3.6 BIG DATA FOR PUBLIC ADMINISTRATIONS (2016.03)

3.6.1 IDENTIFICATION OF THE ACTION

Type of Activity	Study and reusable generic tools
Service in charge	DIGIT B4
Associated Services	DIGIT.B2, DIGIT.B6, DG RTD.E2, DG CNECT.R3, DG CNECT.F4, CNECT.02, ESTAT

3.6.2 EXECUTIVE SUMMARY

The amount of data generated worldwide increases at an astounding pace - by 40% annually and will increase 30 fold between 2010-2020. Due to the segmentation of public services and due to using non-interoperable means to describe data, most of the data generated in the public sector is not available for re-use.

This action, titled 'Big Data for Public Administrations', aims at addressing the use of big data within public administrations' as a means for enabling wiser decision making. With recent technologies such as big data, data mining, social media, cloud etc. organisations have greater potentials in generating, creating and storing data, information and knowledge thus providing greater opportunities for wisdom.

Consequently, the main objectives of this action are to identify concrete big data opportunities and requirements in public administrations and in specific policy contexts through which a number of kick-off pilots are to be undertaken as a means for creating or compiling tool sets that can be generalised and further extended in order to be used in different contexts. Finally, the action will continuously work towards launching new cooperation with policy DGs and the MSs through the execution of new pilots in order to accelerate the data driven transformation.

Phase 1 of this action was funded by the ISA programme and was executed in 2015. It aimed at carrying out a landscape analysis in order to identify (i) the requirements and challenges of public administrations in Europe and the Commission in the context of big data (ii) on-going initiatives and best practices in these areas including an assessment of the tools and solutions that these initiatives have implemented (iii) synergies and areas of cooperation with the policy DGs and the MSs in this domain. Furthermore, phase 1 also intends to execute some pilots that showcase the usefulness and policy benefit that big data can bring.

This action will continue to build upon the results of phase 1, focusing on the following activities:

- Track 1: continue with the identification of further opportunities and areas of interest whereby the use of big data could help improve working methods as well as ensure better policy making for policy DGs as well as Member States' public administrations.
- Track 2: continue the implementation of already identified pilots through generalising the developed functionalities and thus extending its use to policy agnostic contexts in order to maximise the benefit and return on investment of the proposed solution. As an example, the National Statistics Office of the Netherlands has already shown great interest in collaborating on one of the identified pilots, with a good potential of reuse of the generated outputs (more information in the Technical Approach section).

- Track 3: launch a new wave of pilots in specific domains which hold a potential of later being generalised and scaled-up to be made available to different services agnostic of their specific policy area.

3.6.3 OBJECTIVES

- To further identify concrete big data opportunities and requirements in public administrations and in specific policy contexts. The action shall explore the requirements in at least 3 specific areas that shall be chosen based on the best practices identified through phase 1.
- To generalise and extend further the solutions produced through the already launched pilots, thus ensuring that they can be used by different policy areas and offer at least 25% of new functionality.
- To launch new co-operations with policy DGs and the MSs through the execution of at least 3 new pilots in order to accelerate the data driven transformation.

3.6.4 SCOPE

The details of the activities to be performed through this action are provided in the "Technical approach" section of this proposal. The following is a brief overview detailing the scope of the main activities to be performed:

- To **analyse the impact of big data on the policy making life-cycle**;
- To **identify best practices and lessons learnt** in the area of public administrations, more specifically in the areas of policy life-cycle and big data, including an assessment of the **benefits, risks and impacts** of these initiatives;
- To analyse the technical **tools and solutions** that these initiatives have implemented;
- To **identify the requirements and challenges** of public administrations in Europe and the Commission in the context of big data;
- To **identify synergies and areas of cooperation** with the **policy DGs** and the **MSs** in the this domain;
- To **execute pilot projects** that showcase the usefulness and policy benefit that big data can bring;
- To **identify areas of interests for the ISA² program** to lead and fund future **initiatives** that will allow **practical implementations** that will answer the requirements of the public administrations in Europe.

3.6.5 ACTION PRIORITY

3.6.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<p><i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>The European Commission has presented a Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions titled 'Towards a thriving data-driven economy'³². This communication focuses on the need for framework conditions that enable a single market for big data and cloud computing. The ability to handle and analyse big data is elementary in different areas particularly scientific research, public sector and innovation. The communication highlights the importance of open standards and data interoperability in this field, and of the mapping of existing relevant standards for a number of big data areas.</p> <p>This action will contribute, through the execution of proof of concepts and technical studies, to the definition and exploration of the most suitable standards and tools and to the gathering of best practices for implementing big data and analytics projects, both at technical and organisational level. Additionally, this action will make available open-source software solutions for data analytics, which can be shared and re-used by public administrations in the Member States.</p>
<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>Multiple commercial and open-source products are available on the market to support (big) data analytics projects, and the market is rapidly evolving in this domain. However, the selection, set-up, configuration and implementation of such tools/products to cover specific policy needs require significant resources and highly qualified data scientists. These resources are rarely available in public administrations. This action will deliver methodologies and best practises, including recommendations on interoperability issues, as well as free open-source re-usable solutions, to facilitate the take-up of new technologies such as text mining or data analytics, in order to support the public administrations' policy-making lifecycle.</p>

³² <https://ec.europa.eu/digital-agenda/en/news/communication-data-driven-economy>

3.6.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i></p>	<p>Potential areas of action, where big data could have a real and direct impact are:</p> <ul style="list-style-type: none"> • Foresight and agenda setting. Making best use of available but unexploited data as a means for setting agendas and strategic foresight is possible through the use of big data technologies. The vast amount of data that is available to consider when developing a plan or taking an action is massive and in most instances, the limited human resources available do not provide enough manpower to execute such resource intensive work. • Improve evidence for evaluation assessments. Current evidence data used in evaluation assessments are based on small data sources (desk research, surveys, interviews, expert groups, case studies etc.). These methods increase the risks of inaccurate estimations, inadequate extrapolations and false perceptions. The use of big data could bring more accuracy by detecting complex and subtle patterns in bigger, all-encompassing datasets and by increasing the capability to analyse short term patterns. • Monitoring of legislative transpositions. Whenever a new regulation or directive is adopted it is the obligation of Member States to ensure the correct transposition through appropriate implementation measures. The validation of the timely and correct transpositions into national legislation is a resource-intensive procedure for the European Commission and it is therefore foreseen that big data technologies, particularly text analytics, could considerably facilitate the monitoring process. • Social inclusion. A strategic objective of European administrations (national, regional and local) is to help to the social insertion of collectives at risk or poverty or social exclusion using several instruments and mechanisms. The public administrations need to

	<p>better understand the different collectives of individuals and family units with homogenous issues that lead to exclusion and that therefore need particular policies and follow-up for inclusion. To measure the results of these policies on each collective and their chronological evolution is a critical issue, in order to better assess the potential social insertion of an individual or a family unit. Data analytics can help in this regard. A pilot project will be started with the Comunidad de Madrid (Spain) in Q4 2016 in this policy domain.</p> <p>The analysis of potential re-use of the outcome of this action in other policy areas will be explored during the course of the project.</p>
<p><i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i></p>	<p>Pilots have been already launched in different policy areas in the previous phase of the action:</p> <ul style="list-style-type: none"> • Research and innovative medicine. The objective of the pilot is to identify the main trends in innovative medicine by analysing the content of the scientific publications coming from internal (e.g. CORDIS) and external (e.g. PubMed) sources. This will help the EC orient its research funding towards the most innovative areas of research. While the pilot projects focuses on innovative and personalised medicine, the intention is to extend it to other areas of research in the future. • ICT JOB Market. This pilot project is intended to analyse a large number of ICT job vacancies published on public websites of all MSs, in order to identify the most demanded job profiles and skills. The policy objective is to understand which skills are the most requested in the market, and fund trainings accordingly. The idea for the future is to extend this pilot to cover all job domains and not only ICT. • Transposition of European Legislation. This pilot project aims at supporting the manual checks performed by staff members who need to verify whether a European directive is correctly and completely transposed in national legislation (in all 28 countries). The pilot is being currently carried out with two directives of DG GROW, in order to prove the value of using such technologies to support complex manual work, and to extend its scope in the future.

3.6.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	The results of the action, mainly studies and software solutions, are not linked to any Member State specificity. They can be reused by all EU public administrations. For example, the software developed of the pilot on Monitoring of legislative transpositions can be used to support the monitoring of the compliance of the legislation of all Member States' with EU directives. More information about the expected benefits for EU public administrations can be found in section 1.1.7.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	Public administrations in several Member States (Belgium, the Netherlands, Italy, UK, Denmark, Lithuania, Estonia) have been already contacted during the previous phase of the action, in order to collect best practices on big data implementation project and raise awareness about the action. A pilot will be started in Q4 2016 with a Spanish public administration.

3.6.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	The above-mentioned Communication from the Commission titled 'Towards a thriving data-driven economy', highlights that the annual growth of the big data sector is equivalent to 40% , making it one of the strongest assets for economy growth, posing substantial opportunities that have so far not been reaped by the European market players. It identifies a number of key actions for the EU to help seize the opportunities of this sector amongst which is the provision of the enabling technologies and underlying infrastructures and skills as well as the provisioning of public data resources and research data infrastructures .
<i>Does the ISA² scope and financial capacity better fit for the</i>	The only additional funding source covering the activities in this proposal could potentially come from DGs interested in

<i>implementation of the proposal as opposed to other identified and currently available sources?</i>	participating in one or more pilots or in re-using the outcomes of the action. However, such additional budget has not yet been identified for 2017. In any case, this additional budget will only cover the specific needs of the participating DGs and will not be used to support wider re-use.
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3.6.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Name of reusable solution	Big data analytics for policy making Study
Description	The study investigates big data and data analytics initiatives launched by public authorities in Europe in order to provide insights. First, the study analyses the potential or added value of big data analytics to help public administrations at all levels of government and in different domains to reach their goals. Secondly, it captures valuable lessons learnt and best practices of mature public organisations to inspire peers and help them along the journey to use big data analytics and become more insight driven.
Reference	Published on joinup: https://joinup.ec.europa.eu/asset/isa_bigdata/document/big-data-analytics-policy-making-report
Target release date / Status	Published
Critical part of target user base	All staff in MSs public administrations willing to launch big data / data analytics projects to support policy-making.
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	RTD Pilot Software Components
Description	The software components that shall be developed or re-used as part of the RTD proof of concept implemented in phase 1 of

	this action will be referenced and/or made available for re-use by other actions.
Reference	This output shall be made available through the Joinup platform.
Target release date / Status	Q3 2016 / currently under testing
Critical part of target user base	Scientific / research community
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	DG GROW Pilot Software Components
Description	The software components developed under the pilot carried on with DG GROW will be made available for re-use. This will include the text mining algorithms used for the implementation of the pilot and the data visualisation module, as well as the supporting documentation.
Reference	This output shall be made available through the Joinup platform.
Target release date / Status	Q1 2017 / first prototype under testing
Critical part of target user base	EC staff / Public administrations staff working dealing with implementation of EU legislation
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	VICTORY Pilot Software Components
Description	The software components that shall be developed or re-used as part of the VICTORY pilot to be implemented in phases 2 and 3 of this action shall be referenced and/or made available for re-use by other actions.
Reference	This output shall be made available through the Joinup platform.
Target release date / Status	2017 / currently under development
Critical part of target user base	Public administrations working in the job market policy area / citizens
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

phase - actual reuse level (as compared to the defined critical part)	
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Name of reusable solution	Social inclusion pilot software components
Description	The software components developed under the social insertion pilot, which will be carried out in collaboration with the Comunidad de Madrid, will be made available for re-use through Joinup. This will include the data analytics algorithms used for the implementation of the pilot and the data visualisation module, as well as the supporting documentation.
Reference	This output shall be made available through the Joinup platform.
Target release date / Status	Q2 2017
Critical part of target user base	EC staff / Public administrations staff working dealing with implementation of EU legislation
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	DG CNECT Data Analytics Service (DORIS)
Description	The SW modules developed under the pilot carried on with DG CNECT, DIGIT and SecGen will be made available for re-use. This will include the text mining algorithms, a customisable dashboard, as well as the supporting documentation.
Reference	This output shall be made available through the Joinup platform.
Target release date / Status	Q3 2017/Generalisation of data analytics components ongoing
Critical part of target user base	EC staff / Public administrations staff dealing with stakeholder engagement and consultations as well as large call for proposals and tenders
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

3.6.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	<p>Action 2016.36 - Sharing and re-use</p> <p>The reusable practices and guidelines as well as the reusable software solutions delivered through this proposed action can adopt the strategy defined in Action 2016.36 in order to ensure that the outputs are shared and re-used with public administrations in Europe.</p> <p>Action 2016.20 – Joinup – European Collaborative Platform And Catalogue</p> <p>The Joinup collaborative platform shall be used as a means for sharing the experiences as well as the deliverables of this action with the Member States' public administrations.</p> <p>Action 2016.07 – SEMIC</p> <p>Reusable interoperability solutions, core vocabularies, the linked data pilots, studies (e.g. on the business value of linked data) and other resources made available through Joinup and which might be relevant to this action shall be explored and reused as much as possible in order to ensure interoperability as well as continuation of existing efforts.</p>
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	To date, the Joinup platform has already been used to promote the action and publish some of its outputs.

3.6.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
<p>Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?</p>	<p>This action is linked to the following EU actions/policies:</p> <p>Digital Agenda</p> <ul style="list-style-type: none"> • Pillar I: Digital Single Market pillar. Within this pillar there is an action that promotes government bodies at all levels: local, regional, national, European and international, to open up and disseminate the vast amounts of information that is collected as part of their tasks in order to allow for the reuse of such information as well as a means for improving transparency of organisations. • Pillar II: Interoperability & Standards. This pillar addresses the need for interoperability and standards as a means for allowing for data originating from different sources to be interoperable. <p>This action contributes to both pillars by providing methodologies, best practises, and solutions that allow processing and visualising of vast amounts of information, thus supporting re-usability of information and interoperability.</p> <p>COM(2014) 442: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. This action addresses the need to provide the right framework conditions for a single market for big data and cloud computing as a means for helping accelerate the transition towards a data-driven economy.</p>

3.6.6 PROBLEM STATEMENT

The **opportunity for public service transformation is real**. Big data analytics can be an immensely powerful tool for helping organizations to learn about how they work. Traditionally, managers and public sector leaders have looked at a relatively small set of key performance indicators to assess the health and efficiency of their organisations. Digitisation has massively increased the quantity of management information available, the resolution and frequency at which it is captured, and the speed at which it can be processed. However, so far, most organisations, including EU public administrations, have been unable to consume such large data sets, despite being at their disposal either because consuming the data without the appropriate tools is too time consuming or in certain instances even not possible.

3.6.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
- EU institutions - Member States public administrations (national, regional, local levels)	<p>The development of an action which will give a background basis for the development of open-government initiatives in a coherent way will provide Member States public administrations, DGs at the European Commission, EU institutions, and European agencies at all levels with the following benefits:</p> <ul style="list-style-type: none"> • A harmonised ways to manage big data resulting in more effective and informed actions by public administrations. • Support public administrations to become more modern, adaptive, responsive, dynamic, flexible organisations and meet better the expectations of their stakeholders. • Reach out to citizens through consideration of opinions and data sources beyond the traditional means. This will ensure a more effective process for open government activities. • An increase of the efficiency, e.g. by: <ul style="list-style-type: none"> ○ Reducing time to make the right decisions; ○ Getting the right knowledge at the right time; and ○ Making use of tacit knowledge to support policy making. • Building cost-efficient solutions implementing the actions based on “lessons learnt” and “risks to avoid” highlighted on the framework, thus reducing the “time to market”.
- Citizens and business in Europe	<ul style="list-style-type: none"> • Innovate through the reuse of open source software for knowledge discovery.

3.6.8 ORGANISATIONAL APPROACH

3.6.8.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Interoperability solutions for European public administrations (ISA)	<p>The ISA² Committee will oversee the project, with the assistance of the ISA² Coordination Group.</p> <p>The ISA unit (DIGIT.B6) is an associated service of this project, participates in the definition of requirements and guarantees continuation and exploitation of work conducted in other ISA Action and particularly Action 1.1 on semantic interoperability.</p>
DIGIT.B4	<p>This unit is the service in charge of this action. It will coordinate the</p>

Digital Business Solutions – Corporate Financial Procurement & Policy Solutions Unit	interaction between the different stakeholders within the European Commission and MSs which may express an interest for a more active involvement in the work.
DIGIT.B2 Corporate knowledge and decision making solutions Unit	This unit is the service in charge of Information System development supporting document management and corporate decision making processes. This unit an associated service of this project in the context of the execution of the pilot for briefing preparations, taking part in the definition of requirements, the development and deployment of the solution.
DG RTD.E2	This unit is an associated service of this project and will take part in the definition of the requirements, the performance and the guidance of the proof of concept planned to be executed in the context of research paper analysis through text mining within phase 1 of this action.
DG CNECT.R3 Support Systems and Tools Unit	This unit is an associated service of this project and will take part in the definition of the requirements, the performance and the guidance of this action. This unit will liaise with other relevant units within DG CNECT.
DG CNECT.02 Knowledge Sharing Unit	This unit is an associated service of this project and will take part in the definition of the requirements, the performance and the guidance of this action.
DG CNECT.F4 European Semester and Knowledge Base	This unit is an associated service of this project and will take part in the definition of the requirements, the performance and the guidance of the job vacancies pilot project (VICTORY) planned for phases 2 and 3 of this action.

3.6.8.2 Identified user groups

This action targets management and staff members of the European Union Institutions and Member States public administrations needing to leverage internal and external data to support decision-making. This includes both IT and non-technical users.

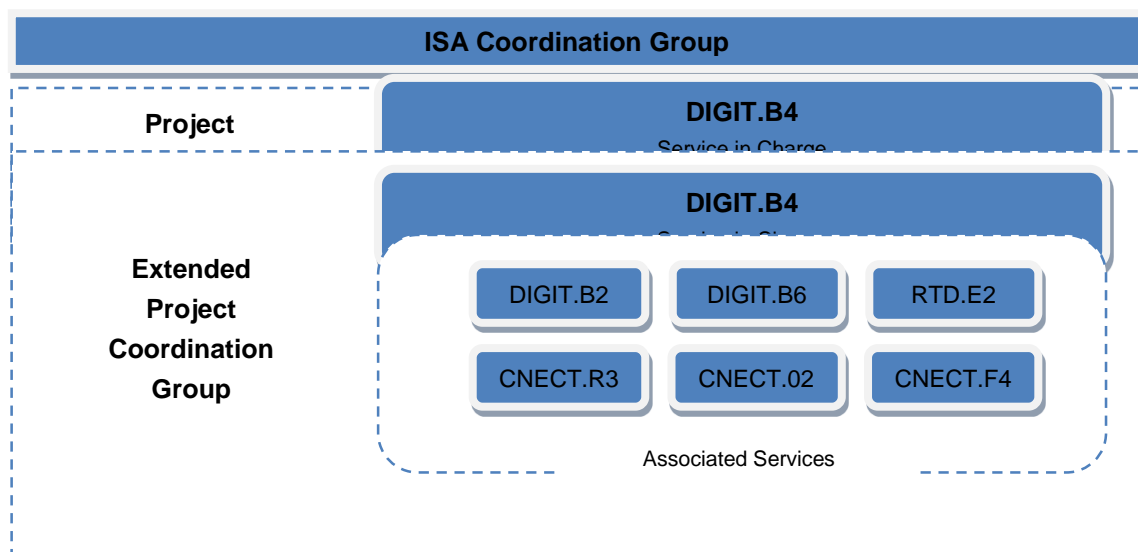
3.6.8.3 Communication plan

Event	Representatives	Frequency of meetings / absolute dates of meetings?
Bilateral meeting with Member States	DIGIT.B4 representatives, Member States representatives	These are arranged by DIGIT B4 on ad hoc basis.
Bilateral meetings with Policy DGs	DIGIT.B4 representatives, Policy DGs representatives	These are arranged by DIGIT B4 on ad hoc basis.
Relevant conferences and events	DIGIT.B4 representatives with any other project stakeholder	On occasions whereby DIGIT is invited to participate in meetings organised by Member States, policy DGs etc.
ISA Trusted Information Exchange Cluster	DIGIT.B4 team members, Stakeholder's representatives, ISA unit	These meetings are arranged by the ISA unit.
Joinup	(online)	

3.6.8.4 Governance approach

This action is part of the ISA programme and therefore it follows the ISA governance structure with the action reporting back to the Member States' representatives pertaining to the ISA working groups.

This action will actively involve all associated services at each of the different stages. The governance structure for this action is depicted in the diagram below.



In order to achieve its objectives this project will work closely together with primarily identified associated DGs to better define the business needs and challenges, bearing in mind the need of potentially other services in order to come up with generic and extendable software solutions.

Particular attention will be given to the coordination activities in order to ensure a successful undertaking of the different activities.

3.6.9 TECHNICAL APPROACH AND CURRENT STATUS

During 2015 this action focused on the execution of a **landscape analysis** in Europe, in the areas of big data. The analysis assesses current good practices including an assessment of tools and solutions used as well as the identification of future plans in Member States and EU institutions and their relations to policy actions.

The purpose of the analysis, which has been defined as **Phase 1** of the action, is to:

- identify the **requirements and challenges** public administrations in Europe are confronted with in the area of big data and identify opportunities;
- identify **best practices** by public administrations and/or organisations which could be used as **lessons learnt** including an assessment of the **tools and solutions** that these best practices have implemented;
- identify **synergies** and **areas of cooperation** with the **policy DGs** and the **MSs** in the big data domain;
- execute a **proof of concept** that showcases the use of big data in the EC research domain, in cooperation with DG RTD, in order to prove the usefulness and policy benefit that big data can bring. This proof of concept shall demonstrate the use of text mining techniques used on large amounts of unstructured research papers as a means of identifying areas of interest overlap that a particular research area should consider prior to launching calls for grants;
- identify **areas of interests** whereby the ISA² programme and its proposed successor could have an **active role in launching initiatives** for enabling **practical concrete implementations** that will answer the requirements of the public administrations in Europe.

The work performed during 2015 shall be continued in 2016 and 2017, through phases 2 and 3, in order to ensure that the benefits of using big data in different policy areas are continued and further explored. The following are the planned phases and the respective planned activities:

Phases 2 and 3 shall be composed of **3 tracks** each:

- **Track 1:** continue with the identification of **further opportunities and areas of interest** whereby the use of big data could help **improve working methods** as well as ensure **better policy making**. These efforts shall be done in close **cooperation** with both policy DGs as well as with Member States' public administrations and shall cover the further **assessment of not only tools and solutions but also standards and vocabularies** that are identified to be mature enough to be considered as potential enablers to be reused by either MSs or Commission Services;
- **Track 2:** continue the implementation of already identified pilots through **generalising the developed functionalities** and thus **extending** its use to **policy agnostic contexts** in order to maximise the benefit and return on investment of the proposed solution. This track shall also ensure that further analysis of the needs derived from these pilots is performed and that further functionality is provided whereby future potential of generalisation and re-use is identified.

- **Track 3:** launch a **new wave of pilots** in specific domains which hold a **potential** of later being **generalised** and **scaled-up** to be made available to different services **agnostic of their specific policy area**. The following are a number of potential areas of interest that could be explored:
 - o Business cases identified through the work executed by DG CNECT.02 titled 'Big data and other innovative data-driven approaches for evidence-informed policy making'.
 - o Monitoring of legislative transpositions
 - o Support preparation of briefings by providing the appropriate references to related material and documentation. This activity shall be done in cooperation with DIGIT.B2.
 - o Analysis of open procurement data using data analytics tools for the early detection of actual or prospective anomalies.

3.6.10 COSTS AND MILESTONES

3.6.10.1 Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Execution	<u>Phase 2.1</u> D.1.- MS and EC requirements assessment D.2.- Inventory of tools and solutions, standards and vocabularies available for reuse	100	ISA ²	Q2/2016	Q1/2017
	<u>Phase 2.2</u> D.3.- Specification definition D.4.- Generalisation of core platform and modular components D.5.- Extension of core and modular components in the context of the pilots	250	ISA ²	Q2/2016	Q1/2017

	<u>Phase 2.3</u> D.6.- Pilot requirements assessment D.7.- Specification definition D.8.- Implementation of core and modular components in the context of the pilots	250	ISA ²	Q3/2016	Q1/2017
Execution	<u>Phase 3.1</u> D.1.- MS and EC requirements assessment D.2.- Inventory of tools and solutions, standards and vocabularies available for reuse	100	ISA ²	Q2/2017	Q1/2018
	<u>Phase 3.2</u> D.3.- Specification definition D.4.- Generalisation of core platform and modular components D.5.- Extension of core and modular components in the context of the pilots	241	ISA ²	Q2/2017	Q1/2018
	<u>Phase 3.3</u> D.6.- Pilot requirements assessment D.7.- Specification definition D.8.- Implementation of core and modular components in the context of the pilots	250	ISA ²	Q3/2017	Q1/2018
	Total	1191			

3.6.10.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Execution	600	
2017	Execution	591	
2018			
2019			
2020			

3.6.11 ANNEX AND REFERENCES

Description	Reference link	Attached document
A vision for Public Services	http://ec.europa.eu/digital-agenda/en/news/vision-public-services	
Data for Policy - A Study for big data and other innovative data-driven approaches for evidence-informed policy making	http://www.data4policy.eu/	

4. GEOSPATIAL SOLUTIONS

4.1 EUROPEAN LOCATION INTEROPERABILITY SOLUTIONS FOR E-GOVERNMENT (ELISE) (2016.10)

4.1.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common Frameworks, Common Services, Reusable tools
Service in charge	JRC
Associated Services	DIGIT, ENV, ENER, MARE, MOVE, ESTAT, CNECT

4.1.2 EXECUTIVE SUMMARY

Location-related information underpins an increasingly high proportion of EU and national governmental policies, digital services and applications used by public administrations, companies and citizens. Although various studies point to the tremendous potential value of publicly and privately held location information, there are many obstacles to the efficient sharing and re-use of this information. The PSI Directive, INSPIRE and ISA have started to remove barriers and some Member States have introduced important initiatives in this field. However, there is much further potential to tap into interoperable location information: the implementation of INSPIRE is ongoing and new thematic policies are emerging and will benefit from a more harmonised approach.

The European Location Interoperability Solutions for e-Government (ELISE) Action is a package of legal/policy, organisational, semantic and technical interoperability solutions to facilitate efficient and effective electronic cross-border or cross-sector interaction between European public administrations and between them and citizens and businesses, in the domain of location information and services, supporting Digital Single Market (DSM), Better Regulation (BR) and Public Sector Modernisation (PSM) goals. It is aligned with the proposed focus of ISA² on European public administrations, businesses and citizens, and the need to ensure that best practice interoperable solutions are deployed across the European Union (EU).

The interoperability solutions produced by ELISE will include guidance and tools for data publication and access, building where possible on INSPIRE (e.g. approaches to improve the free flow of data envisaged in the Digital Single Market strategy), “ready for operation” pilots in different sectors (e.g. energy, transport, marine) or cross-sector location-based statistics, and “common services” that support key priorities (e.g. gazetteer of geographic names and addresses). It will also act as the “Geo Knowledge Base” for ISA² and Commission services for aspects of legal, organisational, semantic and technical interoperability, where “location” is an important characteristic. This will include ensuring that the “location” aspects in the revised EIS and EIF are duly taken into account, providing “location” inputs to the assessments of ICT implications of new policies and the solution architecture being created with the EIC, and giving “location” advice to other ISA2 actions where relevant.

ELISE continues and builds on the work of the European Union Location Framework (EULF) and A Reusable INSPIRE Reference Platform (ARE3NA) Actions in the ISA programme, which partially addressed the challenges and opportunities in location-related interoperability, in terms of frameworks, application pilots and re-usable

tools. ELISE will build on these and other solutions and provide the step-change that is needed, in particular, to spatially enable the DSM.

The Action also factors in the proposals from Flanders for work on addresses, search engines, and metadata catalogues, either directly or by providing input to other ISA² actions.

The ELISE work programme was initiated in 2016, with continued development of geospatial interoperability tools (e.g. the ARE3NA platform, Re3gistry, and web search tools), and pilot activities on energy efficiency and marine spatial data sharing, and new activities to assess Digital Single Market opportunities, start a pilot for an EU gazetteer service, and design and pilot the Geo Knowledge Base service. The 2017 work programme takes ELISE into the ‘execution’ phase with a more substantial work programme of studies, development of frameworks and solutions, development and roll-out of pilots, and operation of the Geospatial Knowledge Base service. All of this is targeted at increasing take-up of best practice location interoperability solutions, and is part of a five-year programme mapped out to 2021.

4.1.3 OBJECTIVES

Objective	Provide guidelines and tools for the implementation of the EIF regarding location information/services.
Relation to ISA2 objectives and criteria	Being anchored to the EIF, ELISE supports the ISA2 Programme basic objective to identify, create and operate interoperability solutions implementing Union policies.

Objective	To help European public administrations remove barriers to the free flow of location data, and build more effective location enabled e-government services.
Relation to ISA2 objectives and criteria	ELISE facilitates efficient and effective electronic cross-border or cross-sector interaction between European public administrations, citizens and businesses, in the domain of location information and services.

Objective	Support Better Regulation goals by promoting a coherent and consistent approach to the sharing and re-use of location information in EU policies.
Relation to ISA2 objectives and criteria	ELISE supports the development, maintenance and promotion of a holistic approach towards European ‘location’ interoperability, to eliminate fragmentation and inconsistency, by assessing ICT implications of EU legislation; identifying legislation gaps hampering interoperability and supporting policy makers through the policy cycle.

4.1.4 SCOPE

In scope:

- a) Acting as the “geospatial knowledge base” for Commission Services and other actions in ISA2, including providing ‘location’ inputs to ICT assessments of new legislation, and training and awareness raising;
- b) Establishment of pre-operational “common services” for use of public administrations, businesses and citizens, e.g. gazetteer of geographic names, address registry;
- c) Development and re-use of tools to access and use location data and to make them interoperable;
- d) Studies on key topics, such as the Digital Single Market and location interoperability;
- e) Guidance in key areas across interoperability levels, e.g. on licensing, privacy, spatial data modelling, the adoption of INSPIRE in different sectors and linking geodata and statistical data;
- f) Location pilots in different sectors (e.g. energy, transport, marine) to share Member State best practices between public administrations and to support Digital Single Market goals;
- g) “Location” inputs to the cartography of interoperability solutions (EIC) based on the European Interoperability Reference Architecture (EIRA);

Out of scope:

- a) Generic interoperability solutions produced by ISA2 or elsewhere that are required for ELISE applications and tools. These will be re-used within the ELISE solutions;
- b) Location interoperability solutions produced by other initiatives. Best practice solutions will be promoted and re-used by ELISE.

4.1.5 ACTION PRIORITY

4.1.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i>	The ELISE framework, solutions and pilots apply the principles of the EIF, the structure of the EIRA, and contribute to the EIC and the Rolling Plan for ICT Standardisation. The work programme has a strong focus on supporting Better Regulation and Digital Single Market goals. ELISE also supports the implementation of the Directive 2007/2/EC on the establishment of an infrastructure for spatial information in the European Community (INSPIRE).
<i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i>	While INSPIRE is creating cross border geospatial interoperability solutions for

	environmental policy and the European Location Framework project is creating pan-European mapping data, ELISE is complementary to these activities, in creating a systematic needs-based approach to address geospatial interoperability across sectors and borders.
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4.1.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i>	ELISE aims to develop cross-sector guidance, tools and services for consistently addressing location aspects in different policy domains. It will help environmental data publishers meet their commitments more efficiently under INSPIRE (e.g. in marine). It will also pilot and support rollout of applications in other policy domains, e.g. energy, transportation, statistics.
<i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i>	Most solutions and frameworks developed in ELISE are aimed to be cross-sector. However, ELISE is mainly aiming at developing cross-sector solutions to a pre-operational stage. The operationalisation of developed solutions is foreseen using dedicated operational funds (e.g. CEF or ESOF) or stakeholder funds (e.g. solutions implemented within Member States infrastructures or used in the private sector).

4.1.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<i>Will the proposal, once completed be useful, from</i>	Once completed, the common services (e.g.

<p><i>the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i></p>	<p>EU Gazetteer) and tools (including those supporting the development of INSPIRE) developed by the ELISE Action will cover many Member States. The ELISE Geospatial Knowledge Base will provide support to the use of location data and services for EU institutions and public administrations, businesses and citizens in multiple Member States.</p>
<p><i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i></p>	<p>The transportation pilot outputs (started under EULF) are operational in Norway and Sweden. The marine pilot outputs (also started under EULF) are being adopted in Germany, the Netherlands and the United Kingdom. The Re3gistry software (developed under ARE3NA) has been reused by Slovakia as well as the SEMIC ISA/ISA2 action, and is currently being tested by France, Spain, Austria and Norway. Several MS have indicated their intention to use the INSPIRE test framework (developed under ARE3NA) once completed.</p>

4.1.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<p><i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i></p>	<p>Solutions and frameworks developed in the ELISE Action support</p> <ul style="list-style-type: none"> • the implementation of the INSPIRE Directive, which has its next implementation deadline in late 2017, • Action 19 of COM(2016) 179 final - EU eGovernment Action Plan 2016-2020 ('Accelerate the deployment and take-up of the INSPIRE Directive data infrastructure') with a target date of 2016-2020; • the Commission's objective to 'increase R&D&I investment specifically for data

	<p>interoperability and standards as of 2016.</p> <p>This will cover areas such as (i) cross-sectorial data integration (e.g. for entity identifiers, data models, multilingual data management, etc); (ii) better interoperability of data and associated metadata, including INSPIRE metadata' under COM(2016) 176 final ICT Standardisation Priorities for the Digital Single Market; and</p> <ul style="list-style-type: none"> the implementation of other policies such as the Marine Strategy Framework Directive and the Intelligent Transport Systems Directive and the Energy Performance of Buildings Directive.
<p><i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i></p>	<p>The ISA2 programme offers a unique opportunity to investigate how to reuse and build on INSPIRE (which is already cross-border and to some degree cross-sector) in order to build synergies between geospatial and wider ICT interoperability solutions and frameworks.</p>

4.1.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Examples of the expected re-use of ELISE outputs is given below.

Name of reusable solution	'Location' Guidance
Description	Re-use of Blueprint and associated guidance (e.g. procurement, policy alignment, service design) developed under EULF, coupled with new guidance developed as part of the ELISE work programme (e.g. Digital Single Market 'location framework', geodata and statistics guidance).
Reference	http://ec.europa.eu/isa/actions/02-interoperability-architecture/2-13action_en.htm
Target release date / Status	Q4/2018 – Q4/2019 for new guidance

Critical part of target user base	Reuse by 5 public bodies
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	References and Inventories
Description	ELISE will provide a structured inventory ('solution patterns') of standard processes, services, applications and tools, referenced to the EIRA, and published in the EIC, Related best practice factsheets will be developed to help communicate and promote selected best practice solutions. This work will build on the existing EULF and ARE3NA inventories.
Reference	http://ec.europa.eu/isa/documents/eulf-references-v1-final_en.pdf
Target release date / Status	Q3/2018 – Q4/2020
Critical part of target user base	Input by 5 public bodies, Use by 5 public bodies or businesses
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	Re3gistry software
Description	The maintenance and extension of the open source Re3gistry software to ensure support for INSPIRE and cross-sector register federations. Plans will be developed to explore hand-over options, including as a full open source project and/or the CEF.
Reference	https://joinup.ec.europa.eu/software/re3gistry/description
Target release date / Status	Q4/2018 operational solution
Critical part of target user base	Re-use by 5 public bodies
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Already used in Slovakia and by SEMIC ISA action.

Name of reusable solution	INSPIRE test framework
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Description	Extended testing frameworks to ensure that reuse of INSPIRE and other geo-ICT data infrastructures provide reliable and appropriate content.
Reference	https://github.com/inspire-eu-validation/
Target release date / Status	Q4/2018
Critical part of target user base	Re-use by 10 public bodies
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	Common services: EU gazetteer, Open EU mapping pilots
Description	Key pan European geospatial common services supporting multiple e-government applications, for example an EU gazetteer services of geonames, administrative units and addresses will be usable within any European data portal or other eGovernment application (e.g. through linked data approaches). ELISE will create 'ready for operation' solutions through pilot projects, reusing other work as appropriate (e.g. INSPIRE implementations, European Location Framework, pan European Data Portal gazetteer approach).
Reference	
Target release date / Status	Q1/2019 – Q1/2021
Critical part of target user base	Use (e.g. integration into applications/portals) by 10 public bodies or businesses
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	Application pilots
Description	ELISE application pilots, comprising rollout of existing transportation and marine pilots, and development of new pilots in support of energy efficiency, geospatial-based statistics, and business innovation. These developments will be phased in different years where appropriate to ensure a stream of re-usable solutions. Assets produced will include data specifications, methodologies, data transformation tools, data assembly and validation testbeds, presentation

	capabilities, training, guidance, and awareness raising and promotional assets (e.g. videos, business cases).
Reference	https://www.youtube.com/watch?v=jnny5ATwTYE
Target release date / Status	Q1/2018 – Q4/2021 ongoing programme of pilots
Critical part of target user base	Take up by public bodies and/or businesses in 10 MS
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Transportation pilot outputs already used in Norway and Sweden

4.1.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	<p>ELISE will promote, re-use and build on the solutions developed in the ISA programme under the EULF and ARE3NA Actions, focusing on how they can be re-used to support the ELISE. Moreover, ELISE will re-use and promote other ISA and ISA² solutions, including:</p> <ul style="list-style-type: none"> a) embedding the revised EIS and EIF into its implementation approach; b) applying the recommendations in the sharing and re-use strategy; c) contributing interoperability solutions at all levels to the EIC, and recommending and applying the EIRA as a reference approach where possible; d) promoting the assessment of ICT implications of new legislation process with policy makers, and providing 'location' inputs to the assessments; e) using the Interoperability Maturity Model for assessing selected location-related services; f) publishing documents and solutions on

	<p>Joinup;</p> <ul style="list-style-type: none"> g) promoting the guidelines on base registries and applying these in developments of location 'common services'; h) re-use of SEMIC generic approaches on vocabularies, metadata and data modelling; i) input to SEMIC work on metadata catalogues and spatial annotation of websites; j) investigating synergies with the actions on interoperability testing; k) incorporating ISA and ISA2 guidelines and solutions, where relevant in the ELISE pilot applications. <p>ELISE will also re-use and promote solutions from other EU and national initiatives, including:</p> <ul style="list-style-type: none"> a) using INSPIRE data specifications and technical services in application pilots; b) identifying best practice re-usable components, applications or services and sharing either information about the solutions (e.g. through factsheets) or the solutions themselves; c) reusing solutions in pilot applications and common services, building on other EU-funded or national projects (e.g. European Location Framework services and tools, GeoSmartCity developments in energy efficiency, Belgian approach to OpenStreetMap, Danish and Czech Republic approaches to core registries, Danish cross-border addressing approach); d) combining approaches in other projects and initiatives with ELISE activities to establish user-focused, sustainable solutions (e.g. working with ELF on feasibility studies and pilots for common services; reusing methodologies from UN-
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	<p>GGIM: Europe and Geostat2 to integrate statistical and geospatial information in ELISE guidance and a statistical pilot application);</p> <p>e) re-using legal and organisational assets, e.g. licensing frameworks, open data frameworks, business cases, public private partnership models, training modules, videos.</p>
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	The Transportation pilot has reused the TN-ITS data specifications and the INSPIRE approach to location (linear) referencing. The INSPIRE test framework is based on existing test engines, such as the OGC CITE engine.

4.1.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	<p>The action supports the key policy drivers of Digital Single Market, Better Regulation and Public Sector Modernisation, with in each case:</p> <ul style="list-style-type: none"> a) assessments of demand and opportunities b) specific studies (e.g. assessment of DSM opportunities and barriers); c) relevant guidance (e.g. DSM framework, covering open data, licensing, privacy, data interoperability, skills, and public private partnerships) and tools; d) relevant pilots (e.g. "ready for operation" thematic pilots supporting specific legislative requirements in areas where location data interoperability is essential, e.g. energy, transport, marine, statistics) <p>There will be a particular focus on actions to enable the free-flow of data (DSM), align policies (BR), and enable better digital services, including supporting the "once-only"</p>

	<p>and “end-to-end digital services” goals (PSM), all in the context of ‘location’.</p> <p>The Geospatial Knowledge Base supports the Better Regulation agenda for aspects related to location (e.g., Better Regulation Toolbox, tool #23: ICT assessment, the digital economy and society). Pilots are envisaged that will implement interoperability solutions based on the guidelines and tools.</p>
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4.1.6 PROBLEM STATEMENT

The ELISE Action aims to address the following challenges and opportunities that cut across DSM, Better Regulation, and Public Sector Modernisation goals:

- Location-related information is important in many policy areas, and a comprehensive approach to sharing and re-use of this information already exists for environmental policy (through INSPIRE). However, other policy areas do not yet have similar approaches or are developing them independently and without recognising the potential role of and/or lessons to be learnt from INSPIRE.
- Public administrations do not yet fully support data sharing and re-use including publishing open data. Geospatial data is frequently quoted amongst the ‘high value’ datasets requested by users. Improved sharing and re-use is not just about common data formats and interoperable technologies. Other issues need to be addressed such as licensing (including open data), data quality, funding, awareness raising (‘spatial literacy’) and capacity building (training).
- More consistent and relevant approaches are needed to link geospatial information and statistics at increased levels of detail and to support more dynamic cross-sector and cross-border statistical data requirements.
- e-Government processes and services do not always use location information efficiently or effectively in support of user needs and expectations (e.g. for location-based mobile applications) and support growth (e.g. through access to location data and other key datasets. More collaborative approaches are needed to make this happen.

4.1.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

The recent INSPIRE mid-term evaluation demonstrated a strong business case for “location interoperability” on environmental policy. INSPIRE is relevant in many domains, given the scope of the Directive, and, provided an approach is developed that meets specific thematic requirements, the benefits of data harmonisation can be

achieved in multiple situations using and reusing the INSPIRE framework documents, technical guidelines, and the infrastructural components (e.g. the registry and validation service) and (open source) tools.

The DSM Strategy has highlighted the importance of removing barriers to the free-flow of data and in the need for data interoperability. The EIF is mentioned as an important element. Various studies have shown the potential value of access to public data in support job creation and growth, including in particular open, accessible location data. The ELISE project places a strong emphasis on actions in these areas, with actions to evaluate DSM barriers, plan solutions, support innovation, and develop open approaches to share important geospatial datasets.

The table below summarises some of the main benefits of ELISE for the different beneficiaries.

Beneficiaries	Anticipated benefits
EU and MS policy makers	<p>More effective policy development where location is a feature (better evidence and analysis, cross policy alignment)</p> <p>Improved policy outcomes (location-enabled policy implementation)</p> <p>Better links between public authorities nationally and internationally on location matters</p> <p>Cost savings in policy development and implementation involving location information</p>
Public sector location data users	<p>Better business processes, systems and access to location data (cross-sector and cross-border)</p> <p>Effective skills (including spatial literacy)</p> <p>Cost savings in time spent to find and use location data</p> <p>Access to more relevant location data</p>
Public sector location data providers	<p>Access to best practices, standards and guidelines</p> <p>Knowledge sharing with peers across the EU</p> <p>More effective partnering between related organisations and initiatives</p> <p>Cost savings from re-use and interoperability</p>
Businesses	<p>Better location-based services with reduced burdens</p> <p>More effective partnering with government in the use of location data and services</p> <p>Impact on profitability and growth (easier to introduce new location-based products and services)</p> <p>Access to wider markets through removal of barriers</p>
Citizens	<p>Better location-enabled services (designed around user needs)</p> <p>Cost and time savings (location-enabled services, avoiding duplication)</p> <p>Increased transparency and participation</p>

Beneficiaries	Anticipated benefits
	Wider socio-economic benefits
Research and academia	More innovative and authoritative research (better access to location data, richer data sources, reusable software) Better links with businesses potentially creating new businesses
EU and international standardisation bodies	Feedback on fitness for purpose of location data standards Requirements for new work, improved standards in thematic domains Increased take-up of standards

4.1.8 EXPECTED MAJOR OUTPUTS

The ELISE work packages and outputs form a holistic proposal, with a defined approach to delivery, an understanding of the benefits (outcomes and impacts), and clear links to key ISA2 selection criteria. ELISE will act as a ‘solution incubator’ to develop and pilot new interoperability solutions (proposed new thematic “ready for operation” pilots and common services), a ‘solution bridge’ to further develop solutions and bring them to maturity (e.g. ARE3NA Reference Platform, Re3gistry) and a ‘solution broker’ to find new users for existing interoperability solutions:

In addition to the key reusable solutions and instruments summarised in 4.1.5.5, ELISE involves a number of feasibility studies that help scope the requirements and assess solution options on particular topics. Other key outputs are the ARE3NA Reference Platform and the Geospatial Knowledge Base service.

Output name	Improving the free flow of location data in DSM
Description	Assessment of economic opportunities and barriers concerning the free flow of location based data in support of the DSM, and development of plan to address these barriers. Topics are likely to include open data, licensing, privacy, data interoperability (e.g. consistency of standards and levels of detail), skills, and public private partnerships.
Reference	
Target release date / Status	Q4/2017 (under procurement with ISA ² 2016 ELISE budget)

Output name	Open EU mapping feasibility study
Description	Assessment of requirements, supply options and outline business case for an open EU mapping data service. This will include examining the potential scope of data (including quality parameters), uses of the data, barriers to access, options to create a service, and a recommended way forward (which may include deciding not to proceed).

Reference	
Target release date / Status	Q3/2018 (part of ELISE 2017 work programme)

Output name	Supporting better uses of geodata and statistics
Description	An evaluation of requirements and gaps in the linking of geospatial and statistical data, taking into account the work of Eurostat and UN-GGIM in this area, new demands for more dynamic information and new data sources (e.g. social media, satellite data). Development of recommendations and actions including approaches to combine geospatial and statistical data, areas where guidance is needed (including where existing guidance can be re-used), and actions to make improvements or assess where potential improvements can be evaluated (e.g. through pilots).
Reference	
Target release date / Status	Q4/2018 (part of ELISE 2017 work programme)

Output name	ARE3NA Reference Platform
Description	Platform supporting and providing access to reusable location tools and associated guidance. An online resource will be maintained and extended as a specific development to provide access to reusable tools and support the guidance noted above
Reference	https://joinup.ec.europa.eu/asset/are3na-re3ference-platform/description
Target release date / Status	Q3/2016 – Q4/2021 ongoing maintenance and evolution

Output name	Geospatial Knowledge Base service
Description	Formalisation and extension of existing services offered by the JRC to other Commission Services and ISA(ISA2) Actions. The Geospatial Knowledge Base service will support policy makers, data publishers and users of geospatial data. The service will include landscape and benefits analysis at EU and MS level, It will provide “location” input to thematic expert groups and ICT assessments of EU legislation, as well as supporting policy makers through the policy cycle. Support will be given to implementers of e-government services and developers through webinars, FAQs, helplines etc. Training and awareness-raising will be a key element of the work

	programme to bridge the “spatial literacy” gap and to help in ensuring solutions are used effectively. The service will include an “operational handover” package for ELISE interoperability solutions, containing documentation of the solutions and how they should be set up in a typical operational environment. Specialists will be on hand to answer questions and, if required, participate in the handover process. Where solutions are implemented separately in different locations, ELISE will facilitate knowledge sharing within the community.
Reference	
Target release date / Status	Q4/2017 service definition and piloting completed; Q1/2018 – Q4/2021 operation of service

4.1.9 ORGANISATIONAL APPROACH

4.1.9.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Commission Services	ENV, ESTAT, CONNECT, DIGIT, MOVE, MARE, ENER. Commission Inter service group on Geographic information (COGI)
INSPIRE governance	Maintenance and Implementation Group (MIG), e.g. to identify needs, promote reusable solutions Member States National Contact Points (NCPs) Legally mandated organisations (LMOs) European Environment Agency
INSPIRE solution providers	Businesses including SMEs
ISA ²	ISA ² Working Group on Geospatial Solutions ISA ² Committee, Working Groups, and Actions established under the ISA ² Programme
ITS	ITS Committee ITS working groups
Other policy domains	Committees, working groups
Standardisation bodies (CEN, ISO, OGC, W3C, OASIS, etc.)	Coordination groups, including relevant focus groups on e-Government. Liaison with these groups to develop relevant standards.
UN-GGIM:Europe	This committee of experts aims to influence policy and promote good practices. EULF has contributed to the

Stakeholders	Representatives
	UN-GGIM:Europe priority setting and activities in its initial work programme. ELISE will contribute to and re-use UN-GGIM:Europe deliverables going forward (including a possible pilot activity for statistics and location, taking into account on-going ISA ² work in this area).
Member State organisations, groups and projects	Location / e-Government coordination bodies Government digital agencies National mapping and cadastral agencies National and cross-border projects Business sector groups
Other pan-European interest groups, organisations and projects	Open source and open data communities, research / academic groups, thematic expert groups, industry groups EuroGeographics, EUROGI FP7 & CIP projects: European Location Framework (this CIP ICT-PSP project is developing seamless pan-European mapping and associated tools, making it easier to build cross-border applications; collaboration with ELF is envisaged in the development of thematic pilots and common services), eENVplus, smeSpire, SmartOpenData
EEA/EIONET, National environment agencies	EEA/EIONET national focal points (NFPs), National Reference Centres for Information Systems.

4.1.9.2 Identified user groups

Key stakeholder groups are defined in the table above. Of note, however, is that the scope of ELISE will be extended to cover businesses and citizens, in line with the direction of ISA². Support to businesses and citizens will be addressed primarily through Member State public administrations and will consider successful models and solutions they have put in place (e.g. to support innovation, provide funding, establish public private partnerships, take on board citizen inputs) in devising “ELISE” proposals. However, more direct engagement approaches will be explored, under the guidance of the ISA² Working Group on Geospatial Solutions, e.g. involvement of business communities in a ‘Business Forum’.

4.1.9.3 Communication plan

Documentation will be published on the ISA² website and on Joinup. Cross-references will be made to other communications resources, in particular the INSPIRE website and ‘partner’ websites. Training will be carried out in face-to-face events, webinars, and through access to online resources. Various key communications will

be made through the use of videos, brochures, and the ARE3NA platform will be used and promoted whenever possible. Key governance and communications “events” are summarised in the table below.

Event	Representatives	Frequency of meetings / absolute dates of meetings?
ISA ² Committee and Coordination Group Meetings	MS representatives	Twice yearly
ISA ² Working Group on Geospatial Solutions	MS and Commission representatives	1-2 times per year
ISA ² Geospatial Solutions Business Forum	Business community representatives (possibly divided into thematic streams)	1-2 times per year
ELISE workshops	MS and Commission representatives, invited experts	1-2 times per year
INSPIRE Conferences	INSPIRE stakeholders	Once per year
INSPIRE Maintenance and Implementation Group and Sub-Group meetings	MS representatives and invited experts	To be determined
Meetings of standardisation groups (CEN, ISO, OGC, W3C)	Standards experts	2 - 3 times per year
Business innovation events, e.g. apps incubators, hackathons, competitions	Web / mobile developers Geo ICT SMEs	1 per year
Stakeholder Consultation event(s)	General invite	Provisionally 2018
Meetings of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) Europe	UN-GGIM Europe members	Twice per year
Ad hoc partner events, e.g. EUROGI, ONE Conference, ELF, smeSpire, eENVplus, GeoSmartCity, SmartOpenData	Organisers and participants	As required to promote and obtain inputs to ELISE

4.1.9.4 Governance approach

The ISA² WG on Geospatial Solutions³³ under the ISA² Committee will continue to have a vital role in advising the ISA² programme – and the ELISE action – and ensuring new priorities are tackled effectively. In particular, it will be consulted on the yearly update of the ELISE WP.

The Action is also strongly linked to the INSPIRE governance structure, and in particular the INSPIRE Maintenance and Implementation Group (MIG), a formal Commission expert group with MS representatives. Selected ELISE activities will contribute to the INSPIRE maintenance and implementation work programme 2016-2020³⁴.

A condition for success and sustainability of the ELISE Action is to become firmly embedded in the stakeholder communities it aims to reach. This requires that the governance approach needs to be adapted, and offering shared ownership over the ELISE outputs to the stakeholder communities, e.g. when developing pilots. Based on the EULF recommendations, and in close dialogue with the ISA² WG on Geospatial Solutions and the Commission Inter-service Group on Geographic Information (COGI), ELISE will draw-up a governance action plan.

Whenever a consultation is planned, MS representatives will be encouraged to seek views in their countries, and to team-up with national representatives in other relevant general (e.g. UN-GGIM: Europe, Group on Earth Observations, standardisation) or thematic (e.g. MSFD WG DIKE, Covenant of Mayors) initiatives for improved communication and coordination. JRC.B06, as chair for the ISA² WG on Geospatial Solutions, will ensure a proper link between ELISE, COGI, and INSPIRE MIG.

4.1.10 TECHNICAL APPROACH AND CURRENT STATUS

The proposed ELISE work packages and outputs are shown in Figure 1 below. ELISE builds on the work of EULF and ARENA but delivers a step change in the approach to extend the reach of the action in terms of geography, policy areas, applications and users and deliver greater benefit.

³³ The ISA² WG on Geospatial Solutions is the successor of the ISA WG on Spatial Information and Services (SIS), which was the governance group for the EULF and ARE3NA ISA actions.

³⁴ <https://ies-svn.jrc.ec.europa.eu/documents/58>

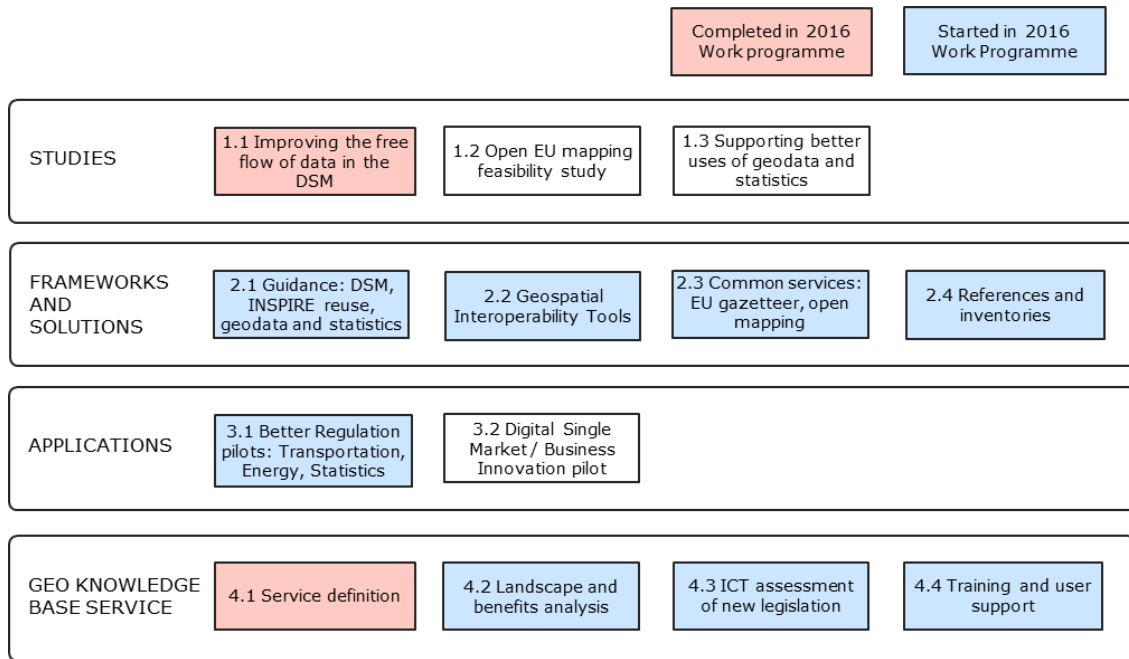


Figure 1 – ELISE work packages and outputs.

Key features of the ELISE technical approach are:

- a) *Driven by key policies* – the work programme is oriented to support the key policy drivers of the Digital Single Market, Better Regulation and Public Sector Modernisation;
- b) *Support to businesses and citizens* – in line with the direction of ISA². This has been a focus in EULF to date and will be extended in ELISE with more targeted actions (e.g. pilots, governance);
- c) *Extending the framework and tools already delivering benefit* – building on EULF and ARE3NA;
- d) *Developing priority ‘common services’ to extend the range of applications significantly* – key common data services such as geonames, administrative units, addresses, and open mapping will be developed with relevant partners;
- e) *Promoting and developing practical interoperability solutions that address priority needs* – proposed solutions will be based on a rigorous analysis of demand and solutions available for re-use, and assessment of the business case for development and, where necessary, a detailed feasibility study;
- f) *User support model to facilitate take-up* – the emphasis will not just be on delivering solutions but in ensuring they meet user needs and in supporting users in adoption and take-up of the solutions. Specifically, the Geospatial Knowledge Base service will support policy makers and implementers through, for example, ICT assessments of new legislation, training and awareness raising, and support in adoption of best practices and solutions;
- g) *Increased synergies with other ISA² actions* – ELISE follows the principles of the EIS and EIF and will contribute solutions to the EIC, cross-referenced against the EIRA. It will build on existing ISA2 observatories to include ‘location’ analysis and will provide ‘location inputs’ to

ICT assessments of new legislation and, if required, interoperability maturity assessments. ELISE will also promote and explore joint opportunities with other ISA² actions, including possible actions on base registries, SEMIC work on metadata catalogues and semantic annotation of government portals and websites, sharing and re-use etc. Opportunities will also be explored for shared approaches to developing and testing solutions.

The work of ELISE relates to all of the EIF interoperability levels, as shown in the diagram below.

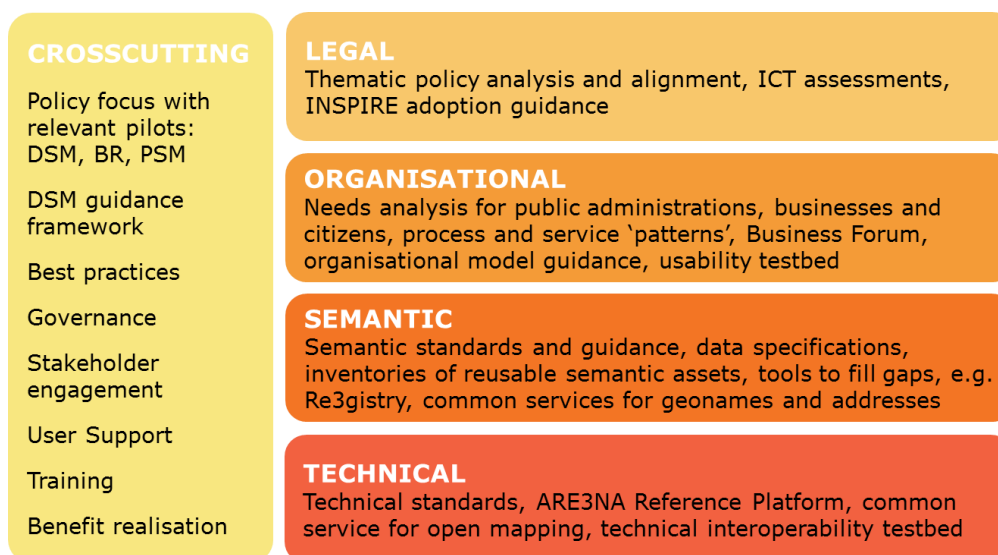


Figure 2 – ELISE work in relation to the EIF interoperability levels.

The focus of the individual ELISE work packages for 2017 is described in detail in Table 1.

Table 1. Focus of ELISE work packages for 2017

Work package	2017 focus
1. Studies	
1.2 Open EU mapping feasibility study	Scope, requirements, rationale and plan for an open EU mapping common service; assessment of the fitness for purpose and potential for re-use of OpenStreetMap and ELF services
1.3 Supporting better uses of geodata and statistics	Assessment of uses of geodata for statistical purposes, current gaps and issues, and actions to make improvements
2. Frameworks and Solutions	
2.1 Guidance:	DSM (including open data), INSPIRE reuse, input to SEMIC work on metadata interoperability, maintenance and evolution of existing guidance. Rolling work programme agreed with stakeholders.
2.2 Geospatial Interoperability Tools	Maintenance and evolution of ARE3NA platform; evolution and sustainability of INSPIRE Re3gistry; INSPIRE test framework maintenance and improvement; Spatial Data on the Web tools and guidance for data

Work package	2017 focus
	providers, plus input to SEMIC work on semantic annotation of government portals and websites.
2.3 Common services:	EU gazetteer pilot phase 1 (geonames and administrative units): Initial pilot development
2.4 References and inventories:	Ongoing collection of reusable location interoperability solutions and cataloguing in the EIC best on identified patterns, further best practice factsheets, and input to the Rolling Plan for ICT Standardisation
3. Applications	
3.1 Better Regulation Pilots	<p>CEF Transportation Pilot: Digital maps for multi-modal travel and traffic information - support to pilot execution</p> <p>Marine Pilot: capacity building and support for pilot roll-out in multiple countries</p> <p>Energy Pilot phase 2: pilot execution</p>
4. Geo Knowledge Base Service	
4.2 Landscape and benefits analysis	Monitoring and analysis of EU and MS policies and MS implementations to assess demand and identify re-usable frameworks and solutions. Scoping and piloting approach to impact and benefit capture.
4.3 ICT assessment of new legislation	Support to policy makers and DIGIT in ICT assessments of new legislation, where there is a significant geospatial requirement
4.4 Training and user support	Training development and delivery; Promotion, stakeholder engagement, awareness raising, web publication, support to users

4.1.11 COSTS AND MILESTONES

4.1.11.1 Breakdown of anticipated costs and related milestones

The proposed ELISE work programme spans five years and has three phases:

Initiation (year 1): Mobilisation and definition activities and evolution of EULF and ARE3NA solutions

Execution (years 2-4): Contains largely execution activities with new studies, guidance, services and application pilots; existing tools will be maintained and improved; a mid-term evaluation is also planned in this phase

Closing (year 5) Readying of solutions for operation, support to handover of solutions, final evaluation, and transition to “operational governance”).

The work programme will be based on the elements identified elsewhere in this proposal, although precise details of the relevant costs and milestones will be identified on a rolling basis. The anticipated costs and related milestones for the Initiation phase and first year of the Execution phase are shown in the table below.

Phase: Initiation Planning Execution Closing/Final Evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date	End date
1. Studies					
Initiation	1.1 Improving the free flow of location data in the DSM	160 –	ISA	Q3/2016	Q4/2017
Execution	1.2 Open EU mapping feasibility study	– 140	ISA	Q3/2017	Q3/2018
Execution	1.3 Supporting better uses of geodata and statistics	– 140	ISA	Q4/2017	Q4/2018
2. Frameworks and Solutions					
Initiation	2.1 Guidance	40	ISA	Q1/2017	Q4/2017
Execution		300		Q1/2018	Q2/2019
Initiation	2.2 Geospatial Interoperability Tools	308	ISA	Q4/2016	Q4/2017
Execution		265		Q3/2017	Q4/2018
Initiation	2.3 Common services	75	ISA	Q4/2016	Q3/2017
Execution		250		Q3/2017	Q1/2019
Initiation	2.4 References and inventories	60	ISA	Q4/2016	Q3/2017
Execution		245		Q2/2017	Q4/2018
3. Applications					
Initiation	3.1 Better Regulation Pilots	135	ISA	Q4/2016	Q4/2017
Execution		360		Q3/2017	Q4/2018
4. Geo Knowledge Base Service					
Initiation	4.1 Geo Knowledge Base service definition and piloting	205 –	ISA	Q4/2016	Q3/2017
Execution	4.2 Landscape and benefits analysis	– 165	ISA	Q3/2017	Q4/2018
Execution	4.3 ICT assessment of new legislation	– 90	ISA	Q3/2017	Q4/2018
Execution	4.4 Training and user support	– 285	ISA	Q2/2017	Q4/2018
	Total	3223			

Note: ELISE is a multi-year action. The above table shows only the milestones and required budget in the first two years. In several work areas, there will continued activity and further milestones in subsequent years. See section 1.1.5.5 and 1.1.8 Expected Re-usable Outputs and Major outputs (target release dates).

The proposed work elements are also important to the JRC in supporting the evolution of INSPIRE and its wider scientific interests in data and technology. Consequently, resources from ISA will be complemented by JRC institutional staff resources, that will cover management and governance support, as well as more specific technical support on INSPIRE issues.

4.1.11.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Initiation	983	
2017	Execution	2,240	
2018	Execution	2,485	
2019	Execution	2,705	
2020	Closing/Final Evaluation	1,490	

4.1.12 ANNEX AND REFERENCES

Description	Reference link
INSPIRE Directive, Implementing Rules and Technical Guidelines	http://inspire.ec.europa.eu/
European Union Location Framework	http://ec.europa.eu/isa/actions/02-interoperability-architecture/2-13action_en.htm
ARE3NA	http://ec.europa.eu/isa/actions/01-trusted-information-exchange/1-17action_en.htm
UN-GGIM Europe website	http://un-ggim-europe.org/
European Location Framework (ELF) project website	http://www.elfproject.eu/
Covenant of Mayors initiative on energy sustainability	http://www.covenantofmayors.eu/index_en.html

5. E-PROCUREMENT / E-INVOICING – SUPPORTING INSTRUMENTS

5.1 EUROPEAN PUBLIC PROCUREMENT INTEROPERABILITY INITIATIVE (2016.05)

5.1.1 IDENTIFICATION OF THE ACTION

Type of Activity	Reusable generic tools, common frameworks
Service in charge	Sub-action eProc-01: DIGIT
	Sub-action eProc-02: DG GROW
	Sub-action eProc-03: OP
Associated Services	CNECT.H3, DIGIT B6, GROW F3

This action is split into three sub-actions, the three DGs mentioned as services in charge have the overall responsibility for the sub-action accredited to them, however they will work in close collaboration with mutual consultation.

5.1.2 EXECUTIVE SUMMARY

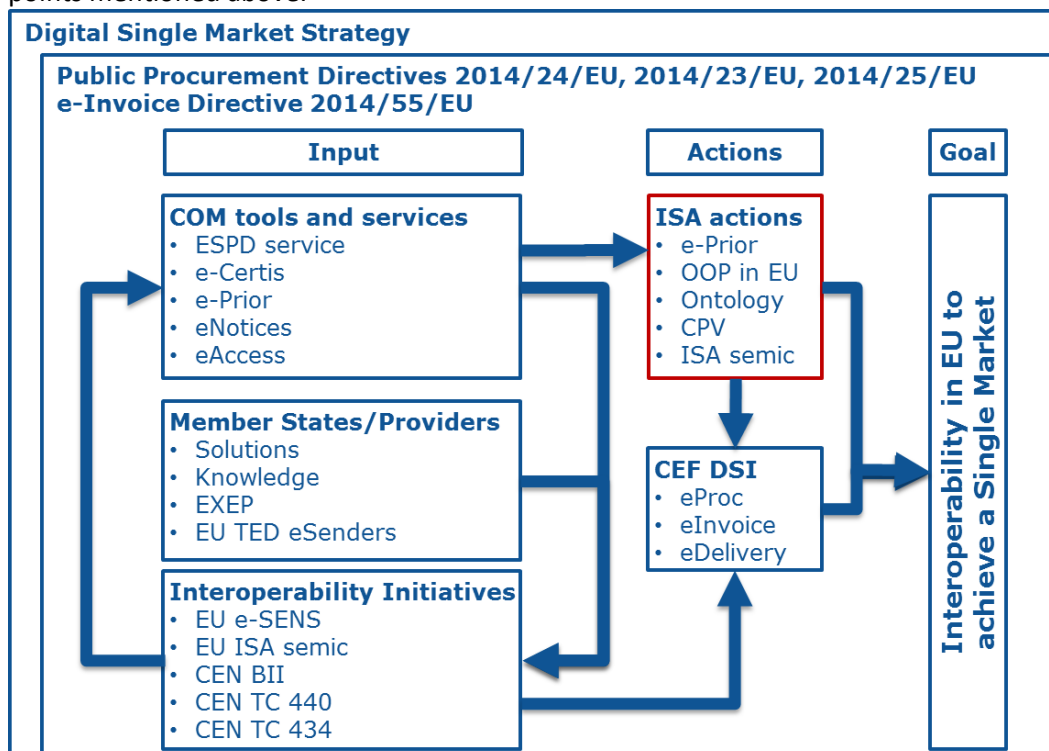
The window of opportunity to achieve a true digital single market in Europe for public procurement within the next few years is within reach. By combining the different elements contributing to electronic public procurement a strong basis is formed to reach this goal:

- The Digital Single Market Strategy (DSM) recognizes that Information and Communications Technology (ICT) is the foundation of modern economic systems and that public procurement plays an important role in promoting standards and interoperability.
- The new public procurement Directives [2014/23/EU](#), [2014/24/EU](#) and [2014/25/EU](#) specifically mention that tools and devices used for communicating electronically should be non-discriminatory, generally available, and interoperable. E-Procurement will gradually become mandatory in the EU for all contracting authorities, by October 2018. In addition e-Certis and the European Single Procurement Document will become mandatory from April 2016 on. The eInvoice Directive [2014/55/EU](#) makes the reception and processing of electronic invoices mandatory by 2020.
- There are several interoperability/standardisation initiatives in Europe that have been working in the area of public procurement for several years, such as CEN BII which are reaching a high level of maturity, especially in the area of post award. An important interoperability pilot on connecting eTendering³⁵ systems throughout Europe is currently ongoing through the EU large scale pilot e-SENS.

³⁵ eTendering systems may cover any combination of the different parts of the procurement chain and should not be confused with the eTendering application of the Publications Office; which provides access to tender documents.

- In some Member States a high degree of IT implementation has already been reached in public procurement.
- The European Commission provides tools and services for public procurement. The Publications Office is mandated to publish notices about procurement procedures above the thresholds mentioned in the Directives. The eTendering application of the Publications Office publishes tendering documents from the Commission and the European Institutions and bodies. e-Certis and the ESPD developed by DG GROWTH will be a cornerstone to achieve the once-only principle in Europe. e-Prior, a procurement tool, covering Pre Award (from eSubmission) and Post Award business processes developed by DG DIGIT uses standards coming from for example CEN BII and is an important potential asset to improve and support interoperability on a European scale.
- The Connecting European Facility (CEF) is an important financial instrument to support interoperability in the area of public procurement and other domains. CEF will help to implement the European standard on eInvoices, exploit the ESPD and ensure eTendering solutions become interoperable. CEF will be fed by the results from the ISA² programme and through interoperability initiatives.
- ISA² itself will not only help to update existing tools like e-Prior or e-Certis but it will also foster interoperability through a common public procurement ontology and will support the implementation of the once-only principle in Europe.

The figure below shows the overall relationship of the ISA² actions in relation with the other points mentioned above.



Combining the legal backing, the technical experience and financial instruments we have the possibility to implement interoperability in the EU to achieve a single market. The ISA² programme and CEF will go on until

2020, the public procurement Directives will have to be fully implemented by 2018 and the invoice directive has to be implemented by 2020. Therefore action has to be taken fast to make full use of this window of opportunity.

5.1.3 OBJECTIVES

This action has the following objectives:

1. contribute to definition of standards for interoperability and support interoperability initiatives;
2. facilitate the implementation of eProcurement for European Public Administrations by providing an open source software solution. This solution is a playground to provide mature standards;
3. implement the once-only principle (OOP), to reduce the administrative burden and simplify procedures for buyers and suppliers to encourage cross border public procurement procedures;
4. the ontology will improve the overall data quality and reusability in view of the European interoperability strategy;
5. the Common Procurement Vocabulary (CPV) need to be modernized to make them easier applicable.

5.1.4 SCOPE

Following the defined objectives, the scope of this project is divided in activities grouped in 4 sub-actions:

Sub-action	Activity	Related Objectives
eProc-01 (DIGIT B4)	Alignment of Pre-Award solution produced by ISA action 1.7 to Directive 2014/24/EU.	Objective 1 Objective 2
	Pilots and operations	Objective 1 Objective 2
	Provide an alternative Open Source software solution	Objective 2
	Analysis of eSens components	Objective 1
	Alignment of solution produced by ISA action 1.7 to standards evolution	Objective 1 Objective 2
	Contribution to standards evolution by TC 440	Objective 1
	Support of European Single Procurement Document (ESPD) in Pre-Award solution	Objective 2
	Bring interoperable components to maturity (alignment to eSENS achievements)	Objective 1 Objective 2

	Migrate Commission eSourcing application to Open Source	Objective 2
eProc-02 (GROW G4)	Connecting e-Certis, the exchange model based on the ESPD service and services of aggregators	Objective 3
	Update and Maintenance of e-Certis and the ESPD service.	Objective 3
eProc-03 (OP C)	Development of a public procurement ontology	Objective 4
	Harmonized code lists in in eProcurement system	Objective 4
	Modernisation of the CPV	Objective 5

5.1.4.1 OUT OF SCOPE:

- Infrastructure elements/services (e.g.: communication services are provided by eTrustEx and/or e-Delivery, e-Signature services are provided by external services)
- Financial support for public and private entities (aggregators, service providers). CEF will be used to support aggregators, service providers and national registers in integration of the specification

5.1.5 ACTION PRIORITY

5.1.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i>	<p>eProc-01</p> <ul style="list-style-type: none"> • The proposal provides a solution architecture for eProcurement that fits into the EIS and the proposal provides a cross border, cross sector playground to mature standards. <p>eProc-02</p> <ul style="list-style-type: none"> • The Public Procurement Directive 2014/24/EU gives the Commission the power to ensure interoperability (article 22 last paragraph). • The Commission Implementing Regulation 2016/7 on the ESPD is also supporting the cross-border dimension (recital 4) <p>eProc-03</p> <ul style="list-style-type: none"> • The onotology will provide relations between different concepts and will be provide a means for different systems across borders to reuse and access data without needing complicated conversions of data • The CPV codes are essential to categorise procedures and to

	support SMEs to find opportunities within Europe. They are also important for effective European policy making.
<i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i>	<p>eProc-01</p> <ul style="list-style-type: none"> eProcurement standards are in the process of being matured. The proposal participates in defining the standards and implements them. <p>eProc-02</p> <ul style="list-style-type: none"> There is no alternative solution to eCertis as it is the central service to provide the mappings there is no alternative. And currently there is no alternative ESPD service on the market. <p>eProc-03</p> <ul style="list-style-type: none"> Currently there is no common ontology that covers both pre and post-award which provides links between the concepts to allow the efficient reuse and access to data. There is no alternative. The CPV codes are provided by the Commission. They have to be used in procedures in Europe above the threshold.

5.1.5.2 Cross-sector

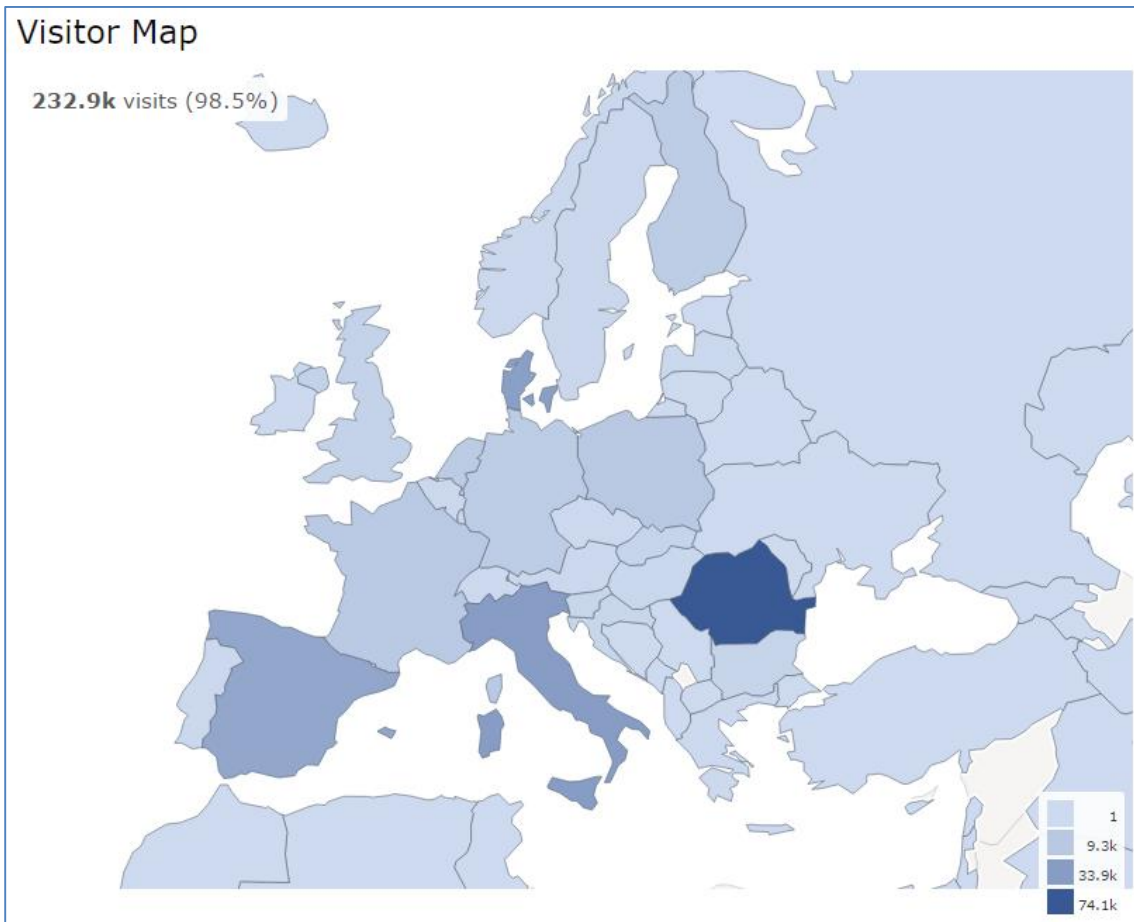
The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i>	<p>The results of this proposal will be used in more than one EU policy areas because of the spill over effects. Examples policies:</p> <ul style="list-style-type: none"> Public Procurement Directives 2014/24/EU, 2014/23/EU, 2014/25/EU Digital Single Market Strategy COM(2015) 192 eIDAS Regulation (EU) No 910/2014
<i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i>	<p>eProc-01:</p> <ul style="list-style-type: none"> ePrior is used by several EU bodies and some components are used by the Belgian administration. As eProcurement is a domain supporting all sectors of activities, ePrior is de facto used in a cross sector context. <p>eProc-02</p> <ul style="list-style-type: none"> Yes, Public Procurement Directives 2014/24/EU, 2014/23/EU, 2014/25/EU <p>eProc-03: Not applicable</p>

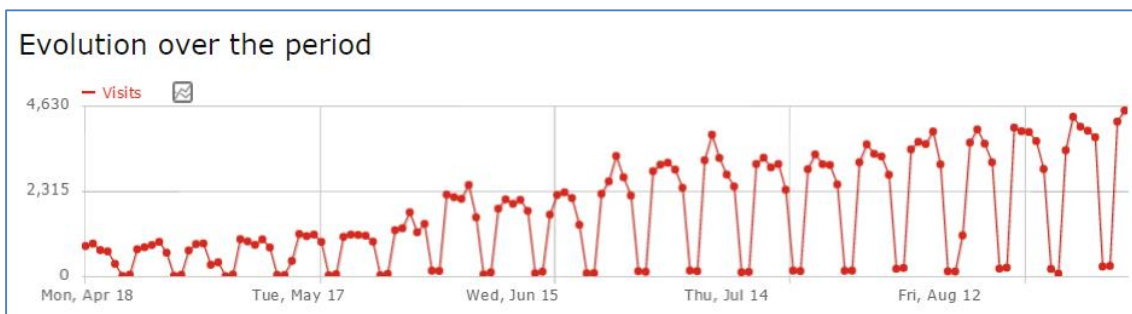
5.1.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	The results of this proposal will have an effect on all Member States and in the EEA.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	<p>Yes.</p> <p>The open source code of the ESPD is reused in the eTendering system TenderNed from NL.</p> <p>ePrior is used by several EU bodies and some components are used by the Belgian administration. In particular in the EU Bodies context, Economic Operators using the ePrior system are from various EU countries.</p> <p>The ESPD service from the Commission is online as of April 2016. Please see figure below. It is the most use service offered by DG GROW</p>



Visits of users of ESPD service from April 2016 to September 2016 in Europe



Visits of users of ESPD service from April 2016 to September 2016 over time

5.1.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU</i>	There are two reasons why this action is urgent: 1. The Digital Single Market Strategy, section 4.1 "Moreover, availability of standards is often not sufficient

<i>legislation?</i>	<p>to ensure interoperability, if existing standards are not integrated by suppliers in their solutions. Public procurement plays an important role in promoting standards and Member States have created national catalogues of ICT-standards and interoperability specifications to guide public procurers and accelerate standards adoption on national markets. Integrating these catalogues into European catalogues would avoid market fragmentation at EU level."</p> <p>2. By October 2018 eSubmission must be possible in all Member States. It can be assumed that therefore existing solutions are upgraded or developed. This is a window of opportunity to support this interoperability initiative.</p>
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	Because of the high volume needed during the development, alternative financial options are not available.

5.1.5.5 Reusability of action outputs

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

5.1.5.5.1 Related sub-action eProc-01

Name of reusable solution	Software - Open e-PRIOR downloadable package
Description	<p>The downloadable package allows installing and configuring the e-PRIOR exchange platform implementing web services to exchange procurement documents. This allows setting-up, after tailoring and adaptations to the specific target environment (e.g.: interfaces with back-office systems of the Contracting Authorities), a node playing the role of intermediary between the back-office applications of the public administration and system connected to the CIPA network or between the back-office applications of the public administration and Economic Operators/Service Providers systems.</p> <p>For the Post Award solution:</p> <p>The e-PRIOR package includes also a web portal allowing suppliers, such as SME and individuals, to manually encode their invoices via a web form.</p> <p>About the Pre Award solution:</p> <p>It will contain also</p> <ul style="list-style-type: none"> • the Front Office component • the Back Office component <p>The Front Office is implemented by the "Supplier Portal" via which the Economic Operator can communicate with the Contracting Authority. It includes a module allowing the Economic Operator to interact with the e-Prior platform, compose the tender and then submit it. The received tenders are routed to the Back Office via the e-PRIOR intermediary exchange platform. These exchanges will be aligned with the e-SENS achievements.</p> <p>The Back-Office implements interfaces with the OP eTendering application (in charge of the publication of the Calls For Tenders) to get the Call For Tenders definition. It allows the Contracting Authority to execute the Opening Session for the tenders via the Front Office and enter the results of the Evaluation and Awarding steps (including the exchanges with the Economic Operators during these steps).</p>
Reference	https://joinup.ec.europa.eu/software/openeprior/home
Target release date / Status	New versions of e-Prior progressively available thanks to ISA ² funding starting from end of STAGE 1. Updates available as results of sub-action eProc-01 STAGE 2 and as results of sub-action eProc-01 STAGE 3 (see table in section 1.1.11.1)
Critical part of target user base	Public or private entities providing services in MS around eProcurement
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	ePrior is used by several EU bodies and some components are used by the Belgian administration. The ePrior solution provides an Open Source alternative solution that can help Public Administrations of any Member State in switching to eProcurement / evaluating the benefits of eProcurement

5.1.5.5.2 Related sub-action eProc-02

Name of reusable solution	eCertis
Description	eCertis will be provided by the European Commission as a central service to Member States. The service provides a web service which can be accessed from solutions to offer added value for end users.
Reference	http://ec.europa.eu/isa/actions/02-interoperability-architecture/2-17action_en.htm
Target release date / Status	Q2 2016 – eCertis is operational
Critical part of target user base	Public or private entities providing services in MS making use of the web service
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	As it is online since Q2 2016 MS have currently started their development to link their systems to eCertis.

Name of reusable solution	ESPD service
Description	The ESPD service is provided by the European Commission. The source code is being made available under the European Union Public License v 1.1. Additional artefacts like the exchange data model or the results developed under Action 1.1 have been made available.
Reference	http://ec.europa.eu/isa/ready-to-use-solutions/esp_d_en.htm
Target release date / Status	Q2 2016 – Both, the ESPD service is operational as well as the ESPD exchange data model. It is planned to update the data model by end Q1 2017
Critical part of target user base	Public or private entities providing services in MS around eProcurement
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	NL is already reusing the open source version of the ESPD in their platform TenderNed.

Name of reusable solution	Specifications about the interfaces for the Once-Only principle in European Public Procurement (OOEPP)
Description	All information and specifications about the interfaces on how to achieve the OOEPP.

Reference	To be published on Joinup
Target release date / Status	Q2 2018
Critical part of target user base	Public or private entities providing services in MS around eProcurement
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Not applicable

5.1.5.5.3 Related to sub-action eProc-03

Name of reusable solution	Public procurement conceptual data model
Description	The conceptual data model will illustrate all data relations from pre-award to post-award. This model would provide a backbone of information when conceptualising platforms, systems and data exchange.
Reference	Not available so far
Target release date / Status	Q1 2018
Critical part of target user base	Public or private entities providing services in MS around eProcurement. Public buyers and economic operators
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Not applicable

Name of reusable solution	Formalised public procurement ontology and vocabularies and codes in OWL
Description	The public procurement ontology and codes will be the basis of creating linked data for the public procurement domain. It is envisaged to use this ontology for diffusing the data available on TED and could also be implemented across Europe by tendering platforms and governments with the support of CEF.
Reference	Not available so far
Target release date / Status	Q1 2018
Critical part of target user base	Public or private entities providing services in MS around eProcurement. Public buyers and economic operators
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Not applicable

Name of reusable solution	Updated and modernised Common Procurement Vocabulary (CPV)
Description	The CPV establishes a single classification system for public procurement aimed at standardising the references used by contracting authorities and entities to describe the subject of the procurement contracts.
Reference	Not available so far
Target release date / Status	Q4 2017
Critical part of target user base	Public buyers
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	The current CPV codes are already used by public buyers in Europe.

Name of reusable solution	Provision of harmonised code lists used in eProcurement including the CPV codes within the metadata registry
Description	Many code lists used in eProcurement are used by different platforms and do not necessarily use the same versions nor sources. It is foreseen to integrate the CPV and other eProcurement code lists in the metadata registry which will provide reusable access to the CPV and other codes for tendering platforms and indeed any system that wants to integrate the codes.
Reference	Not available so far
Target release date / Status	Q1 2018
Critical part of target user base	Public or private entities providing services in MS around eProcurement. Public buyers and economic operators
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Not applicable.

5.1.5.6 Level of reuse by the proposal

Question	Answer
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Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	<ul style="list-style-type: none"> • eTrustex 2016.19 • EIA 2016.32 • SEMIC 2016.07 • Joinup 2016.20 • Test bed 2016.25 • CEF eDelivery • CEF eSignature • IMM 2016.37 • Metadata registry
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	<ul style="list-style-type: none"> • eTrustex 2016.19: Used in e-Prior • Joinup 2016.20: Used for the sub-actions • SEMIC 2016.07: A core criterion/evidence vocabulary was created • Test bed 2016.25: Currently the test bed for the ESPD service is being developed

5.1.5.7 Interlinked

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	As mentioned above, the Digital Single Market Strategy (DSM) recognises that Information and Communications Technology (ICT) is the foundation of modern economic systems and that public procurement plays an important role in promoting standards and interoperability. The activities supported by this proposal will help to further create or improve standards. The ISA2 programme together with the CEF are a perfect instrument to pave finally the way to interoperability.

5.1.6 PROBLEM STATEMENT

Optimal results from public procurement within the European Union can only be achieved by ensuring cross-border bidding, bidding from SMEs and all suitable economic operators. This will only be achievable once European and national platforms are fully interoperable and ensure maximum publicity of business opportunities to attract all suitable bidders. Furthermore to reach optimal results potential bidders should not be discouraged by the problem of non-recognition of evidences across Member States or the need to repeatedly provide the same evidences. The aim of this action to close the gaps and provide synergies between platforms so as to optimise the reuse and access to data in an environment where many different systems and formats have evolved.

Following the public procurement directives approved in 2014 e-Procurement will gradually become mandatory in the EU. It is therefore necessary to update and align to these directives as well as to the evolution of standards and the solutions already implemented via the ISA programme.

5.1.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Member States' Public Administrations - implementers of Public Services	<ul style="list-style-type: none"> • Open source tool, e-PRIOR, for implementing electronic public services for both pre- and post-award e-Procurement. This system includes out-of-the-box functionality – the e-Delivery Connector – to connect to the e-Delivery infrastructure; • Standards for data and processes (CEN/ISSS WS/BII 3) that have been tested in a real-life environment ; • Shared experience in and support for setting up pre- and post-award e-Procurement; • Large cost savings and efficiency improvements, with reduced investment; • Provide example of a real-life implementation of the European Interoperability Framework (EIF); • Provide solutions in line with the new Public Procurement Directives
Public and private service providers	The adoption of eProcurement services in line with the results of this proposal will help to make solutions interoperable.
End users - Suppliers/SMEs	Suppliers and in particular small and medium enterprises will be the main beneficiaries of this action because of the interoperability will help them overall to participate in public procurement procedure nationally and cross-border much easier.
End users - Public and private authorities	Contracting authorities will benefit from the discontinuation of any paper evidences and simplification of the evaluation procedures.
National registers, Aggregators	<p>National registers, aggregators will play a key role in reaping full benefits of the Once-Only principle by providing much better tools and services for buyers and suppliers.</p> <p>A European Commission study on eGovernment and the reduction of administrative burden projected in 2014 that implementation of the OOP is likely to generate annual net savings of 5 BEUR at EU28 level by 2017 (p. VI).</p>
Government , Economists, Information brokers, Journalists	The data will be more readily exploitable for both dissemination and reuse in a flexible manner. Thus the data will be transparent, open and reusable leading to much better policy making and business intelligence

5.1.8 EXPECTED MAJOR OUTPUTS

Sub-action eProc-01

Output name	Contribution to standards activity report
Description	Activity report of the contribution to TC 440
Reference	
Target release date / Status	Planned, Stage 0: Q3.2016, Stage 1: Q2 2017 Stage 2 Q2 2018 Stage 3: Q2 2019

5.1.9 ORGANISATIONAL APPROACH

All three sub-actions will be carried out in parallel by three distinct Services (DIGIT B4, GROW G4, OP C) with mutual consultation.

5.1.9.1 Expected stakeholders and their representatives

Stakeholders	Representatives
ISA ²	ISA ² Committee/ Coordination Group/ ISA2 expert group
Member States	EXEP (Multi-stakeholder Expert Group on eProcurement), European Multi-Stakeholder Forum on eInvoicing (EMSFEI), e-Certis editorial team, ISA2 expert group (or ISA equivalent)
Aggregators	Established aggregators in several Member States
Standardisation initiatives	CEN BII, CEN TC 440, CEN TC 434, ISA Team
European projects	e-SENS, CEF
EU institutions	DG DIGIT, DG CONNECT, DG BUDG, OP, DG GROW, JRC

5.1.9.2 Identified user groups

- Central Purchasing Bodies (CPBs)
- SMEs
- ERP Software Vendors
- Service Providers and other procurement data users like EUPLAT (European Association of public eTendering providers) or organisations identified in the TED LOD project, eSenders

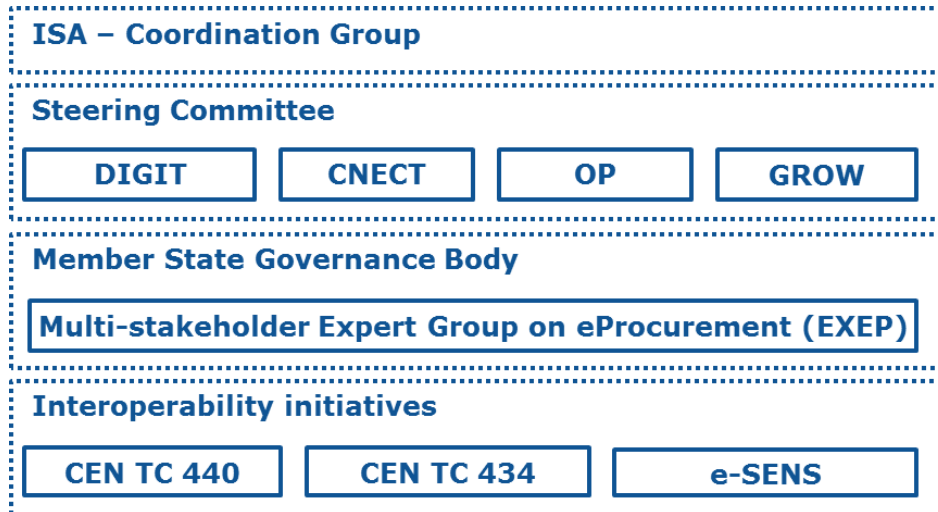
- European Public Administrations

5.1.9.3 Communication plan

Event	Representatives	Frequency of meetings / absolute dates of meetings?
Multi-stakeholder forum on e-Procurement (EXEP)	Member States representatives, Standardisation initiatives, users, etc.	3 times a year
General events	For all stakeholders	Constantly
e-Certis Meeting	e-Certis editorial team	2 times a year
e-Certis Meeting	e-Certis service providers	3 times a year
eSender meetings	eSenders	Min 1 a year
ISA ² expert group	Meeting	2 times a year
e-SENS	Meeting	3 times a year
TC 440	Member States representatives	2 times a year
TC 434	Member States representatives	2 times a year
Workshops	Service Providers, Standardisation initiatives, EC	As necessary
EC Multi-Stakeholder Forum on e-Invoicing	Service Providers, Standardisation initiatives, EC	2 times a year
Conferences on e-Procurement, e-Invoicing or e-Government	Depending on conference, EC	+/- Monthly
Websites of DG DIGIT, DG GROW, OP	For all stakeholders	Online
eProc Wiki	For all stakeholders	Online
e-Practice	For all stakeholders	Online
Joinup	For all stakeholders	Online
LinkedIn e-PRIOR Group	For all stakeholders	Online

5.1.9.4 Governance approach

A steering committee with members from DG DIGIT, OP, DG GROW and DG CNECT, will steer all ISA2 and CEF eProcurement actions to make sure that the objectives are met. The main Member State governance body who will provide advice to the Commission will be the Multi-stakeholder Expert group on eProcurement (EXEP). We will work closely with the relevant interoperability initiatives to assure coherence. In addition, the communication and development of this project will be done in an open and transparent way with all stakeholders and at all possible events.



5.1.10 TECHNICAL APPROACH AND CURRENT STATUS

5.1.10.1 Sub-action eProc-01

STAGE 0, Status: Started

PROJECT CHARTER:

It defines the approach for the next years assessing the gap between the existing solution and the latest standards and taking stock of other activities that may impact the project (eSens, UBL latest transactions, other ISA actions, directives).

ANALYSIS/SPECS:

Continuous contribution to standards

DEVELOPMENT:

Upgrade of eSubmission for Restricted Procedure to use shortlist management component in view of Open Source release (STAGE 1).

STAGE 1, Status: Planned

DEVELOPMENT:

Focus on:

- Upgrade UBL version for eInvoicing and eSubmission Open and restricted procedures, upgrade of technical standards (eg: replace applet with Web Start technology) and initial alignment of solution building blocks to eSens.
- Simple solution for administrations to receive and view eInvoices respecting the norm
- Support minimal requirements for CPBs (Directive 2014/24/EU: April 2017 deadline)

ANALYSIS/SPECS:

- Continuous contribution to standards

- Analysis of
 - eSens components
 - impact of ESPD on eSubmission

STAGE 2, Status: Planned**DEVELOPMENT:**

Focus on:

- supporting ESPD integration, CEI and vendors'list in eSubmission
- further aligning the solution to UBL standard (eOrdering)
- further aligning solution building blocks to eSens solution

ANALYSIS/SPECS:

- continuous contribution to standards
- evaluate HTML 5 for eSubmission

STAGE 3, Status: Planned**DEVELOPMENT:**

Focus on:

- supporting DPSs in eSubmission and improving the management of Lots and variants in the solution.
- eSourcing for low value contracts and for framework contracts, alignment to UBL standard for eCatalogue
- ensuring alignment of the solution with the TC434 Norm on eInvoicing.
- supporting New Standard Forms

ANALYSIS/SPECS:

- Continuous contribution to standards.

5.1.10.2 Sub-action eProc-02**Technical approach**

Both services will play an integral part of the activity on OOP which will be started end of 2016. The first step will be to develop an overall concept on how the OOP can work in the domain of Public Procurement by connecting e-Certis, the ESPD and aggregators. There will be a consultation of the concept with the EXEP and the e-Certis editors group. On the foundation of the concept the specifications will be developed together with stakeholders including a limited number of aggregators.

Current status

Since Q2 2016, the ESPD service is online, the ESPD exchange data model published and e-Certis updated. The code of the ESPD service is made available as open source on Github as well as the data model (<https://github.com/ESPD>). This allows a transparent communication with all stakeholders.

Next steps

Since we are online we have received a number on requests on the current data model as well as on our ESPD service and e-Certis which we are addressing on a monthly basis. The task on the OOP is planned to start in November.

5.1.10.3 Sub-action eProc-03

Given the volume of data relations, the number of stakeholders, the various information inputs available and the different external usages of the ontologies a methodology on how best to meet the constraints will be defined in the inception phase. The development of the ontology will take into consideration the findings of the inception phase and will be developed by finding a consensus amongst members of a working group set up from different stakeholders. A user group will also be set up to decide on the best way to update the current CPV codes. The conceptual data model, the OWL ontology and the code lists used in eProcurement will be disseminated on the metadata registry at the Publications Office.

5.1.11 COSTS AND MILESTONES

5.1.11.1 Breakdown of anticipated costs and related milestones

Sub-action eProc-01					
Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Stage 0: Initiation	<ul style="list-style-type: none"> Project charter Analysis/Specs STAGE 0 Development STAGE 0 Activity Report for Standards Contribution STAGE 0 (see details table in 1.1.10.1)	150	ISA ²	Q22016	Q3/2016
Stage 1: Execution	<ul style="list-style-type: none"> Analysis/Specs STAGE 1 Development STAGE 1 Activity Report for Standards Contribution STAGE 1 (see details table in 1.1.10.1)	1100	ISA ²	Q3/2016	Q2/2017
Operational	<ul style="list-style-type: none"> Support Maintenance and fixing Pilot Deployment Publication in JoinUp 	250	ISA ²	Q2/2016	Q1/2017

Stage 2 Execution	<ul style="list-style-type: none"> • Analysis/Specs STAGE 2 • Development STAGE 2 • Activity Report for Standards Contribution STAGE 2 (see details table in 1.1.10.1)	687	ISA ²	Q3/2017	Q2/2018
Operational	<ul style="list-style-type: none"> • Support • Maintenance and fixing • Pilot Deployment Update • Refresh Publication in JoinUp 	156	ISA ²	Q2/2017	Q1/2018
Stage 3: Execution	<ul style="list-style-type: none"> • Analysis/Specs STAGE 3 • Development STAGE 3 • Activity Report for Standards Contribution STAGE 3 (see details table in 1.1.10.1)	1000	ISA ²	Q3/2018	Q2/2019
Operational	<ul style="list-style-type: none"> • Support • Maintenance and fixing • Pilot Deployment Update • Refresh Publication in JoinUp 	200	ISA ²	Q2/2018	Q1/2019
	TOTAL	3543			

IMPORTANT: Closing phase not yet planned since additional Execution Phases will be described in future update of the Proposal

Sub-action eProc-02					
Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA ² / others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Operational	Maintenance and helpdesk for e-Certis and the ESPD service	250	GROW G4	Q1/2017	Q4/2017
Operational	Further development of e- Certis and ESPD service	800	ISA ²	Q3/2016	Q2/2019
Operational	Support and assess situation in MS to check ESPD compliance and interoperability	400	ISA ²	Q3/2016	Q2/2017
Inception	OOP in PP <ul style="list-style-type: none"> • Project initiation • Drafting concept • Alignment with CEF eProc DSI 	300	ISA ²	Q4/2016	Q3/2017
Execution	OOP development and implementation <ul style="list-style-type: none"> • Drafting specifications • Alignment with CEF eProc DSI • Technical support for interoperability/ interconnection between national systems and to EU systems • Implementation of results in e-Certis and in ESPD service • Dissemination and communication 	685	ISA ²	Q3/2017	Q2/2019
	Total	2435			

Sub-action e-Proc-03 (Objective 4) – OP C					
Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA2/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Inception/ planning phase	<ul style="list-style-type: none"> Definition of the methodology Analysis of available information Project Charter 	50	ISA2	Q4/2016	Q2/2017
Execution	Ontology: <ul style="list-style-type: none"> Requirements and design. Conceptual model Definition / creation/ adaptation of vocabularies and code lists Presentation in OWL 	390	ISA2	Q4/2016	Q1/2018
Execution	CPV: Updating the CPV codes	300	ISA2	Q4/2016	Q4/2017
	Total	740			

5.1.11.2 Breakdown of ISA funding per budget year

The budget for each year is foreseen from mid-year to next mid-year.

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Inception eProc-01	150	
	Execution eProc-01	1100	
	Operational eProc-01	250	
	Inception eProc-02	300	
	Operational eProc-02	350	
	Inception eProc-03	50	
	Execution eProc-03	200	
2017			
	Execution eProc-01	687	

	Operational eProc-01	156	
	Execution eProc-02	392	
	Operational eProc-02	343	
	Execution eProc-03	490	
2018			
	Execution eProc-01	1000	
	Operational eProc-01	200	
	Execution eProc-02	400	
	Operational eProc-02	650	

5.1.12 ANNEX AND REFERENCES

description	Reference link
Directive 2014/24/EC	http://ec.europa.eu/growth/single-market/public-procurement/modernising-rules/reform-proposals/index_en.htm
eIDAS Regulation	http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.257.01.0073.01.ENG
Digital Single Market	http://ec.europa.eu/priorities/digital-single-market/docs/dsm-communication_en.pdf
Digital Agenda	http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0245:FIN:EN:PDF
CEF	https://ec.europa.eu/digital-agenda/en/connecting-europe-facility

6. DECISION MAKING AND LEGISLATION – SUPPORTING INSTRUMENTS

6.1 PARTICIPATORY KNOWLEDGE FOR SUPPORTING DECISION MAKING (2016.04) – FUNDING CONCLUDED

6.1.1 IDENTIFICATION OF THE ACTION

Type of Activity	Reusable generic tools
Service in charge	DG DIGIT B4
Associated Services	DG CNECT.R3, H3, DIGIT.01, SG.C4, Latvian Ministry of Environmental Protection and Regional Development, Parliament, Council, Publications Office

6.1.2 EXECUTIVE SUMMARY

Despite the large amount of opinions, needs and preferences expressed by citizens, governments' decision making processes are so far still not able to consume this unstructured and dispersed knowledge in order to extract meaningful knowledge and use it as input to decision making. Within this context, this action, titled 'Participatory Knowledge for supporting Decision Making Processes', aims at consolidating and integrating existing reusable tools that allow the electronic participation of stakeholders, the analysis of the captured opinions and the discovery and generation of knowledge. This knowledge will in turn be used to provide insights on existing decision making, making them data-driven processes.

In phase 1 of this action, executed in 2015, activities were focused on the identification of the requirements stemming from the public administrations in the different Member States in order to provide a panoramic view of the needs within the Member States and Commission Services. With a better visibility of these needs this action started exploring and assessing existing assets, reusable software solutions, standards and vocabularies that can address the identified needs. This action intends to consolidate and generalise the identified solutions in order to allow them to be used in different areas that aim to address a common challenge. The development effort shall focus on the generalisation of components or integration of components as well as the assessment of modular generic components and the subsequent consolidation into a framework of software solutions. Such modular generic components shall include, as an example, components for sentiment analysis techniques, data analytics, data mining techniques, opinion modelling, text mining techniques and components for visual analytics techniques and reporting (dashboards).

Within phase 1 of this action the above technologies shall be applied in three specific business contexts whereby for each business context a proof of concept will be executed and subsequently further elaborations shall be performed in phase 2 of this action. The three business contexts are (i) the improvement of services through the consumption of citizens' feedback in collaboration with the State Chancellery of Latvia who has developed a leading mobile application called 'Football' (ii) the open participation through perception and opinion elicitation in collaboration with DIGIT IT Governance and Communications Unit and (iii) the execution

of policy making through participatory knowledge through the reuse and further extension of the Futurium platform in collaboration with DG CONNECT Support Systems and Tools Unit.

A continuation of such exploratory activities, which were kicked off in phase 1 of this action, shall be continued throughout phase 2, to be executed in 2016. Phase 2 shall be composed of 3 tracks as follows: (i) continue with the further identification of the requirements stemming from the public administrations in the different Member States as well as Commission services (ii) continue the implementation of already identified pilots, details in the 3 business contexts of phase 1, through the development of further functionality as well as the generalisation of the developed functionalities, and (iii) launch a new wave of pilots in specific domains which hold a potential of later being generalised and scaled-up to be made available to different services agnostic of their specific policy area.

Through these efforts this action shall aim at contributing to making governments throughout Europe open and participatory through the implementation of a number of practical activities. These activities shall strive to make better use of data which is already being collected either internally or externally, thus making it the basis for generating knowledge that brings value to business contexts and contribute towards data-driven decision making processes.

6.1.3 OBJECTIVES

Citizens' participation in governments' decision making processes, through the ability to express their opinions, needs and preferences, is a valuable asset since it brings **insights** and additional **knowledge** to public administrations. Using this knowledge, public administrations can become **more efficient and effective**, offer **user-friendly services**, whilst **reducing costs and administrative burden**; resulting in a **positive impact** on individuals, society, economy, environment etc.

Within this context, the **main objective** of this action is **to consolidate and integrate existing reusable tools that allow the electronic participation of stakeholders, the analysis of the captured opinions and the discovery and generation of knowledge. This knowledge will in turn be used to provide insights on existing decision making, making them data-driven processes. It is not the objective of this action to replace existing stakeholder consultation tools, but to give additional value to them by providing further capabilities for gathering, integrating and analysing big quantities of semi-structured or unstructured information.** The proposed capabilities will in particular cross-fertilise with other existing tools such as EU Survey, Your Voice in Europe or the similar tools in the Member States.

To realise the proposed action the following specific objectives are set out:

- To **cooperate with Member States and related networks**, for instance EUPAN¹, in order to better **identify the technology needs of public administrations** when acquiring stakeholders' opinions as a driving force for open governments. Similarly, this action shall also **cooperate with Policy DGs** in **defining their needs** in shifting towards data-driven decision making processes;
- To **assess different assets that are currently available** for making them accessible, thus allowing for collaboration, transparency and participation;
- To **consolidate and integrate open and reusable software solutions** that will support the interactive knowledge sharing and will allow the elicitation of citizens' opinions and perceptions which is hidden

in tacit knowledge. By leveraging on participation and motivation of citizens, such tools can contribute to better informed decisions and improved legitimacy of the policy making.

6.1.4 SCOPE

By enhancing the participation of stakeholders in decision making we enable governments to make more informed policies, legislative acts and internal decisions. This leads to a participatory type of government that relies strongly on the evidence and the collective knowledge that the various stakeholders bring in. This shall also contribute to inter-administration cooperation and better decision making processes taking into consideration different perspectives coming from different domains and Member States.

The proposed action has a clear focus on using, further extending and mainstreaming **reusable software solutions** to facilitate the capturing of elicited knowledge from unstructured content.

6.1.5 PROBLEM STATEMENT

Society is demanding public administrations in Europe to become more open, transparent, collaborative and participatory in their **pre-legislative consultations, internal decisions and policy-making processes**. Citizens, businesses and other key stakeholders expect their voice to be heard and taken into account. Decision makers on the other hand do not always have the means to reach out and listen to the opinions and perceptions of people. More specifically, acquiring the plethora of citizens' opinions is a challenging task since they are often expressed in an unstructured way on different platforms. It is even more difficult and expensive to **extract meaningful knowledge** that can be used as input to decision making. Data must be gathered, measured and analysed through discovery and analytics tools, which makes it possible to **identify trends, issues and challenges**. For instance, data coming from interactions on social media contribute towards factors other than evidence. Information that may be captured include personal opinions, corporate interests, lobbying, ideological values and other **'non-measurable' factors** that cannot be easily sensed and automatically captured³⁶. The collected information provides information that stakeholders and policymakers can use to reshape decisions. Decisions may also be inspired by desirable visions and aspirations that are not necessarily in line with current, short-term trends.

Although European institutions and Member States' public administrations have launched several initiatives to collect citizens' opinions when consulting stakeholders, these activities are often fragmented and developed in "isolation" with limited cross-organisational or cross-border cooperation.

There is a strong link between open government and knowledge - open knowledge that can be shared and reused in different context by different stakeholders and across public administrations. However, a number of roadblocks are currently preventing the opening up of knowledge namely at organisational, semantic, technical and legal level. This action aims to address the challenges around opinion elicitation in particular at the **semantic and technical implementation levels** with a main focus on **reuse of existing assets**.

³⁶ See: [The Futurium—a Foresight Platform for Evidence-Based and Participatory Policymaking](#), Springer, 2013

6.1.6 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
<ul style="list-style-type: none"> - EU institutions - Member States public administrations (national, regional, local levels) 	<p>The development of a toolbox will allow the collection of opinions from various digital sources in a standardised manner and support informed decision making. This will provide DGs at the European Commission, EU institutions, European agencies and Member States public administrations at all levels with the following benefits:</p> <ul style="list-style-type: none"> • A coherent way to manage open knowledge. • Support public administrations to become more modern, adaptive, responsive, dynamic, flexible organisations to better address the expectations of their stakeholders, • Reach out to citizens through e-participation and open knowledge sharing. This will ensure higher rates of collaboration as compared, for instance, to traditional expert consultations, thus resulting in more effective processes • An increase of the efficiency, e.g. by: <ul style="list-style-type: none"> ○ Reducing time to make the right decisions; ○ Getting the right knowledge/people as needed ○ Harnessing tacit knowledge to support policy making. • A major involvement of the users resulting in: <ul style="list-style-type: none"> ○ An increased generation of knowledge. ○ Maximum re-use of the knowledge. ○ Higher quality of the activities carried out through the sharing of the knowledge. ○ An easy clustering of the expertise of the users.
<ul style="list-style-type: none"> - Citizens, organisations and business in Europe 	<ul style="list-style-type: none"> • Voice their opinion and influence the decisions of governments (supporting e-participation). • Innovate through the reuse of open knowledge and reusable open source software for knowledge discovery. • Empowerment of individuals who have the possibility to build consensus around their own ideas and influence decision makers through a transparent process. • Support to civil organisations, including associations of citizens, youth, unions, and non-governmental organisations, etc. facilitating their open, transparent and efficient collaboration with governments in policy making matters.

6.1.7 RELATED EU ACTIONS / POLICIES

Action / Policy	Description of relation, inputs / outputs
Digital Agenda	<p>Action 3: Open data and re-use of public sector information</p> <p>This action promotes government bodies at all levels: local, regional, national, European and international, to disseminate and reuse the vast amounts of information that is collected as part of their tasks. Activity 5 of this action promotes the dissemination and reuse of information as a means for improving transparency of organisations.</p>
Better regulation policy	<p>One of the Smart Regulation's policy goals is to remove bottlenecks and streamline the Commission's policy making processes as well as to promote open participation through public consultations.</p>
ISA Action 4.2.5.- Sharing and reuse strategy	<p>The reusable practices and guidelines as well as the reusable software solutions delivered through this proposed action can adopt the strategy defined in Action4.2.5 in order to ensure that the outputs are shared and re-used with public administrations in Europe.</p>
ISA Action 4.2.1.- Bringing together the eGovernment platforms (Integrated collaborative platform – Joinup)	<p>The Joinup collaborative platform shall be used as a means for sharing the experiences as well as the deliverables of this action with the Member States' public administrations.</p>
EuroVoc	<p>EuroVoc can be assessed as a potential multilingual, multidisciplinary thesaurus covering the activities of the EU to be used as a basis for the vocabulary used in "Futurium" model (see below).</p>
ISA Action 1.1.- Improving semantic interoperability in European eGovernment systems (SEMIC)	<p>Reusable interoperability solutions, core vocabularies, studies and other resources made available through SEMIC and which might be relevant to this action shall be explored and reused as much as possible in order to ensure interoperability as well as continuation of existing efforts.</p>
Your Voice in Europeⁱⁱ	<p>'Your Voice in Europe' is an existing platform that allows for public consultations to be carried out in order to collect structured data in the form of questionnaires. This platform will be explored as a data source of stakeholders' opinions.</p>
EU Surveyⁱⁱⁱ	<p>EU Survey is a platform provided by the European Commission under the ISA Funding programme with the intention of allowing Commission Services to easily create online surveys as a means of stakeholder opinion or other data collection for potentially any domain. This is also considered to be of potential interest to this</p>

	action as an existing and complimentary source of data that could be consumed by certain business contexts.
'ISA ² Action ICT implications of EU legislation'	Results and conclusions related with the properly preparation and evaluation regarding the ICT implications will be taken into account for developing reusable solutions that allow the electronic participation of stakeholders, the analysis of the captured opinions and the discovery and generation of knowledge.
ISA ² Action 'Interinstitutional framework for digital OLP management'	The proposed interoperable ways of structuring the content of the documents that need to be exchanged between the institutions for the purposes of the ordinary legislative procedure will be taken into account for developing reusable solutions that allow the electronic participation of stakeholders, the analysis of the captured opinions and the discovery and generation of knowledge.
ISA ² Action 'Legislation interoperability tools (LEGIT)'	Existing or under development building blocks (i.e. software, tools etc.) that support and improve the electronic exchange of documents and metadata in the context of the legislative process and the transformation between different formats will be taken into account for developing reusable solutions that allow the electronic participation of stakeholders, the analysis of the captured opinions and the discovery and generation of knowledge.
ISA ² Action 'European Legislation Identifier (ELI)'	The proposed approach for identifying legislation documents and the supporting assets and solutions will provide input for developing reusable solutions that allow the electronic participation of stakeholders, the analysis of the captured opinions and the discovery and generation of knowledge.
ISA ² Action 'Application of EU law: provision of cross-sector communication and problem solving tools (THEMIS)'	Reusable tools and the underlying semantic structures and data standards for monitoring the application of EU law will be taken into account for developing reusable solutions that allow the electronic participation of stakeholders, the analysis of the captured opinions and the discovery and generation of knowledge.

6.1.8 REUSE OF SOLUTIONS DEVELOPED BY ISA, ISA² OR OTHER EU / NATIONAL INITIATIVES

The final output of phase 1, which shall amongst other things explore what tools are available for reuse by public administrations, will greatly impact the choice of solutions that might be reused by this action. Currently, the reuse of the following initiatives can be identified:

- The Football mobile application developed by the Latvian government shall be generalised in order to be made available for re-use by other Member States as well as extended with additional components to provide additional functionality.
- The Futurium platform, developed by DG CNECT.R3 and currently used by Commission's services, shall be further extended and generalised within the scope of this action in order to embed further data analytics as well as user interface and gamification capabilities and make them customisable for the governments.

6.1.9 EXPECTED RE-USABLE OUTPUTS (solutions and instruments)

All outputs generated by each of the pilots shall be provided in a re-usable format. The following are concrete re-usable outputs that can be identified at this stage:

Output name	Football Application and complimentary components
Description	The Football Application together with a set of optional and complimentary components that enhance the functionality of the software package shall be made available for reuse to other Member States' public administrations as well as Commission services.
Reference	
Target release date / Status	Q2 2016 / project currently being kicked-off

Output name	Futurium
Description	The Futurium Application shall be generalised and extended further with additional functionality and subsequently made available for re-use by other public administrations and Commission services.
Reference	
Target release date / Status	Q2 2016 / project currently being kicked-off

6.1.10 ORGANISATIONAL APPROACH

6.1.10.1 Expected stakeholders and their representatives

Stakeholders	Representatives
ISA ²	The ISA ² Committee will oversee the project, with the assistance of the ISA ² Coordination Group.
DIGIT.B4 Digital Business Solutions – Corporate Financial Procurement & Policy Solutions Unit	This unit is the service in charge of this action. It will coordinate the interaction between the different stakeholders within the European Commission.

DG CNECT.R3 Support Systems and Tools Unit	This unit is an associated service of this project and will take part in the definition of the requirements, the performance and the guidance of this proposal and will ensure collaboration with other units, such as F4, O2, H3, G3, D3, D4, etc. that have developed important policies or R&I related to this proposal.
DIGIT.01 Governance and Communication Unit	This unit is an associated service of this project and will take part in the definition of the requirements, the guidance and providing lessons learnt of this proposal.
Latvian Ministry of Environmental Protection and Regional Development	Latvia has developed the application "Football", whose aim is to collect citizen's feedback on the quality of the services provided by Latvian public institutions. The application allows citizens to locate the closest public institution, to find the related contact information and to provide comments about the quality of the service they received. Latvia is an associated Member State of this action.
SG.C4	This unit is an associated service of this project and will take part in the definition of the requirements, the guidance and providing lessons learnt of this proposal.

6.1.10.2 Communication plan

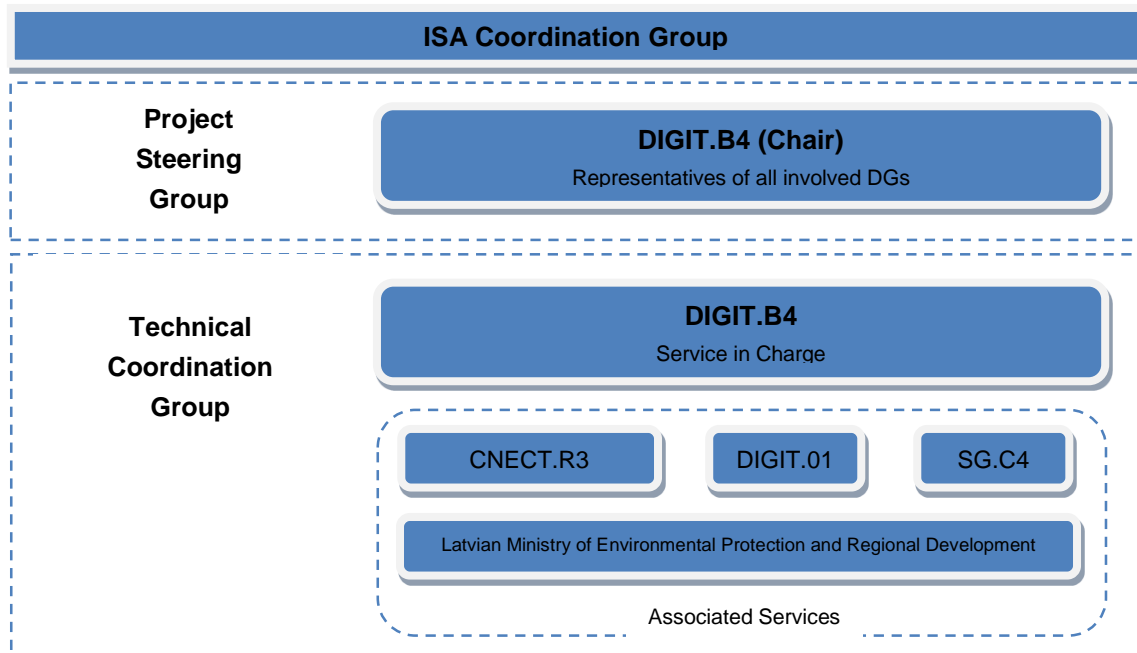
Event	Representatives	Frequency of meetings / absolute dates of meetings?
Project kick-off meeting	DIGIT.B4, CNECT, DIGIT.01	Once at the beginning of the project
Technical Coordination Group	Team leader and team members of DIGIT.B4 and CNECT.R3 technical teams	Bi-weekly
Project Steering Group	Team leader and HoU of DIGIT.B4 and team leaders and HoUs of associated services of each of the activities	Bi-monthly
Bilateral meeting with Member States	DIGIT.B4 representatives, Member States representatives	These are arranged by DIGIT B4 on ad hoc basis.
Bilateral meetings with	DIGIT.B4 representatives, Policy DGs representatives	These are arranged by DIGIT B4 on ad hoc basis.

Policy DGs		
Relevant conferences and events	DIGIT.B4 representatives with any other project stakeholder	On occasions whereby DIGIT is invited to participate in meetings organised by Member States, policy DGs etc.
Dedicated group	ISA ² DIGIT.B4 team members, Stakeholder's representatives, ISA unit	These meetings are arranged by the ISA unit.
Joinup	(online)	

6.1.10.3 Governance approach

This action is part of the ISA programme and therefore it follows the ISA governance structure with the action reporting back to the Member States' representatives pertaining to the ISA working groups.

This action will actively involve all associated services at each of the different stages. The governance structure for this action is depicted in the following diagram.



In order to achieve its objectives this project will work closely together with primarily identified associated DGs to better define the business needs and challenges, bearing in mind the need of potentially other services in order to come up with generic and extendable software solutions. Particular attention will be given to the coordination activities in order to ensure a successful undertaking of the different activities.

6.1.11 TECHNICAL APPROACH

This action shall aim at contributing to making governments throughout Europe open and participatory through the implementation of a number of practical activities. These activities shall strive to make better use of data which is already being collected either through existing internally provided platforms or else through external data collection sources. This data shall be the basis for generating knowledge that brings value to business contexts and contribute towards decision making processes which are more strongly data-driven.

In **phase 1** of this action, executed in 2015, activities were focused on the **identification of the requirements stemming from the public administrations in the different Member States**. The requirements were captured through a field exercise, primarily in cooperation with relevant networks such as the European Network of Public Administrations (EUPAN) and the results of which have provided a panoramic view of the needs within the Member States. In addition, this action also cooperates with a number of Commission Services in order to identify the concrete needs and value added that the open and participatory government practices would bring to decision making processes.

With a better visibility of the needs of the Member States and the Commission Services this action started exploring and assessing **existing assets, reusable software solutions, standards and vocabularies** that can address the identified needs. The identified reusable software solutions shall be classified according to the type of participation platform that it belongs to in order to make it easier for public administrations and Commission services to identify which reusable software might be relevant for them to consider according to the type of challenge they wish to address.

The above mentioned activities are complemented by further activities within this action with the intention of consolidating and generalising the identified solutions in order to allow them to be used in different areas that aim to address a common challenge. These are subsequently integrated in a way that they can consume existing data sources, generate knowledge and present outputs. The **provision of a number of generic and customisable reusable software solutions** shall drive forward stakeholder engagement, enable perception and opinion elicitation and facilitate the generation of participatory knowledge in decision making processes.

The development effort for delivering a number of **software solutions** is foreseen to produce two main streams:

Generalisation of components or integration of components:

- In the context of policy making the existing **participatory platform Futurium** (developed by CNECT) will be further generalised and extended with functionalities such as more customisable **workflows, group/community management, access rights as well as user experiences**. The platform is currently used by DG CNECT and other DGs to support stakeholder engagement and evidence based policy for the Digital Single Market. Furthermore, several local governments and non-governmental organisations have shown interest or are willing to adopt the Futurium model to support their policy making processes³⁷. The

³⁷ The Futurium will be discussed in several events where current and perspective users will be invited. This includes a networking session in the context of the annual [ICT2015 events in Lisbon](#).

extended platform should build on and extend the generalisation of the existing open source assets which needs to be consolidated to allow customisability as well as extensibility through the plug in of modular generic components, e.g. by adding graphical, ease-to-use configuration editors.

- **Link to social media and other collaborative work environments** in order to be able to explore different sources of information containing scientific evidence, users' perceptions, expectations and opinions.

Modular generic components to be assessed and consolidated into a framework of software solutions, in accordance with the requirements identified during phase 1 and phase 2 – track 1 (see below) of the action. Potential software components include:

- Components for **sentiment analysis techniques** in order to analyse the comments and co-created content posted by users on the platform and decide whether an input is pro or contra the topic/vision/idea discussed. Such techniques will also provide a means to calculate the overall sentiment of participants with regards to a topic debated on the core platform or other social media, thus building further upon the "likelihood", "feasibility" and "desirability" features that already exist in Futurium. Components to debate and analyse likely impacts of the proposed topics/visions/ideas will be added.
- Components for **data analytics**, in order to be able to classify the different topics discussed and establish some figures about them such as: relevance, periodicity, degree of participation, activity etc.
- Components for **data mining techniques** - in collaboration with action nr. 1.22 Big Data and Open Knowledge - to understand the correlations between variables, cluster data, detect hidden patterns in data, perform trend analysis (including time series), extract facts from evidence, link evidence to the other content types according to relevance, etc. This part of the work should re-use as much as possible existing components and data mining tools, possibly available as open source.
- Components for **opinion modelling and text mining techniques** in order to extract from the posts of users, on the core platform or other existing collaborative tools and/or social networking tools, the main topics of interest, the key opinions discussed and also the popularity (strength) of each one. Combined with social network analysis (e.g. types and number of connections, number and popularity of posts), this can also help identify the opinion leaders on the platform. Re-use and adaptation of open source Natural Language Processing (NLP) software will be explored, such as GATE^{iv}, Apache OpenNLP^v, Apache Mahout^{vi} or UIMA^{vii}.
- Components for **visual analytics techniques** for presenting opinions, sentiment or any other type of data in formats which can be understood both by participants but also by decision makers, who can then use them as input to legal, organisational or political decision making processes. This will include the graphical representation of various types of user inputs and their inter-relations (e.g. structuring topics/visions/ideas).
- Components for **reporting (dashboards)** will allow to build a more flexible and adaptable solution, since from the reporting area it is possible to focus on the interested domains (or dimensions for analysis) of the organisation. A multi-layer reporting involving different stakeholders will make it easier the decision making resulting in a more efficient organisation.

Within **phase 1** of this action the above technologies shall be applied in **three specific business contexts** whereby for each business context a proof of concept will be executed and subsequently further elaborations shall be performed in phase 2 of this action.

Business context 1: Improving services through the consumption of citizens' feedback

The analysis of citizens' feedback through data mining and visualisation tools allows for public administrations to **capture trends and knowledge that are able to provide insights** that would otherwise be difficult to obtain if analysis is only performed manually by individuals. Such tools allow the generation of knowledge that could provide an edge over manually generated knowledge.

The State Chancellery of Latvia has developed a leading mobile application called 'Football' that not only provides useful information to citizens on the services offered by public administrations but also allows the citizens to in turn provide feedback on the services received. The purpose of this application is to promote 'good football' which in Latvian terms reference to the provision of good and effective public services without bouncing citizens around different public administrations. The feedback captured through this mobile application is currently processed and analysed manually and this action therefore aims at providing data mining and visualisation tools that can digest the free-text form comments provided by citizens in order to complement the existing functionalities of this mobile application.

Business context 2: Open participation through perception and opinion elicitation

This activity will look into the provision of tools that make use of existing and well established collaborative tools within a public administration in order to **elicit users' and staff members' perceptions, expectations and opinions as a means of influencing internal decision making processes related to different domains such as human resources, service provisions as well as internal procedures**. Through this influencing mechanism the public administration would be allowing open participation for users and staff members without the need to introduce a new platform to which the participants need to be accustomed to or forced to use in order to communicate their opinions.

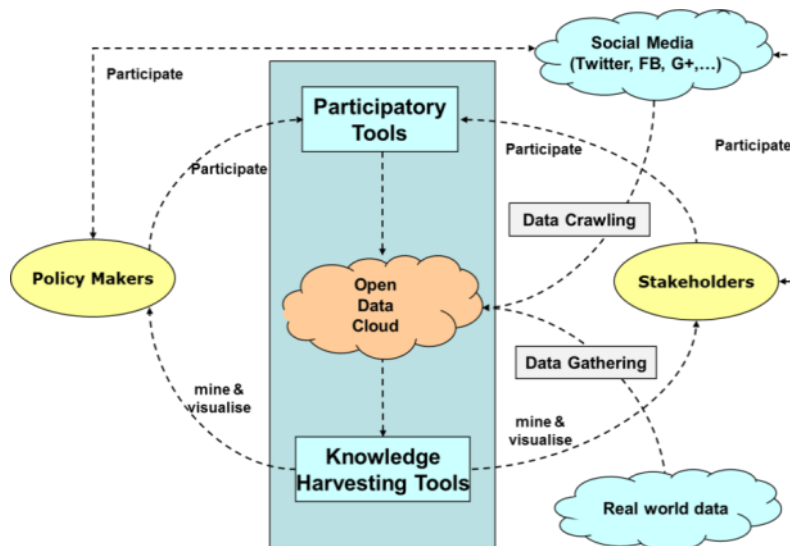
Business context 3: Policy making through participatory knowledge

This activity will reuse and extend Futurium in order to develop a **platform for open government through participatory knowledge combining people's opinions with scientific evidence**. [Futurium](#) was initially developed with the primary purpose of hosting and curating visions and policy ideas to support a participatory foresight project, Digital Futures. However, it has turned into a general platform on which to experiment with new **policy-making models** based on **foresight methodology, scientific evidence and participation**. Futurium is based on the open source content management system **Drupal**. The platform implements a data model that maps and co-relates typical policy making concepts (e.g. 'vision', 'desirability', 'evidence', 'impact', 'challenge', etc.) into Drupal content types and allows users to co-create visions and policies and their inter-relations as well as to provide scientific evidences and organise participatory events, just like popular social networks.

Extending Futurium, as outlined above, will allow platform users (e.g. local governments, NGOs, Unions etc.) to capture explicit knowledge, but also make use of latent knowledge by employing sentiment and text analysis and opinion modelling techniques.

The Futurium is meant to provide a credible response to the need of running structured conversations with stakeholders and making sense of their input. This is currently difficult to achieve in popular social media because of their unstructured and uncontrolled approach vis-à-vis user's inputs. Conversely, traditional stakeholder surveys provide a fully framed approach to gather data but are usually less usable and attractive than social media. Futurium provides an optimal trade-off between the informal, unstructured and uncontrolled social media approach and the formal, structured and more traditional approach of surveys. This allows broadening participation while providing more accurate and cost-effective feedback to policy makers.

By applying the extended Futurium platform to a policy making context, the knowledge generator will result in better decisions leading to improved accuracy and legitimacy of public administration actions particularly for actions involving multiple administrations. The interaction between the different entities in this action is as per the following diagram:



A continuation of such exploratory activities, which were kicked off in phase 1 of this action, shall be continued throughout **phase 2**, to be executed in 2016. Phase 2 shall be composed of **3 tracks** as follows:

- **Track 1:** continue with the further **identification of the requirements** stemming from the public administrations in the different Member States as well as Commission services. In addition this track shall also continue the exploration and assessment of **existing assets, reusable software solutions, standards and vocabularies** that can address the identified needs; inputs from early usages of the Futurium platform will be taken into account (we expect that by the time the new project will be launched we will benefit from the input of at least five Futurium instances).
- **Track 2:** continue the implementation of already identified pilots, details in the 3 business contexts of phase 1, through the **generalisation of the Futurium functionalities** and thus the **extension** of their use to **policy agnostic contexts** in order to maximise the benefit and return on investment of the

proposed solution. Furthermore, this track shall also ensure that the software components developed for these pilots are extended further through new functionality, new user experience contexts (e.g. gamification, interactive and mobile use,...) which shall be driven by the needs identified;

- **Track 3:** launch a **new wave of pilots** in specific domains which hold a **potential** of later being **generalised** and **scaled-up** to be made available to different services **agnostic of their specific policy area**. One potential area of interest could be the **pre-legislative consultations through stakeholder engagement**. The consolidation and integration of different software solutions shall enable the generation of participatory knowledge through the digestion of data coming from sources that are both internal and external to the public service/organisation.

Pre-legislative consultations will be more information-led by better exploiting evidence/data and opinions collected through existing platforms in a way that give a more accurate and wider consideration of stakeholder perceptions and opinions as well as to scientific evidence. Better digestion of feedback received through the **Better Regulation** initiative can also be considered as a new source of citizen participation that will require better analysis of the feedback received. The aim of this initiative is to ensure that policy is prepared, implemented and reviewed in an open, transparent manner and to ensure that the full process is fed with the best available evidence and as well as stakeholders' feedback. For this reason, after better analysis of the Member States' and the Commission's common needs through the activities defined in track 1 above, some reuse of existing software components, particularly those provided by the Futurium platform, will be pursued in this context.

The software solutions to be considered in this context would support the analytics and discovery of knowledge through methods such as automatic clustering based on the evaluation of structured or non-structured data sources. This is considered to be particularly key in policy areas where large number of consultation feedbacks are received and are required to be analysed and digested. Techniques to be used could include analytics and discovery as well as reporting and visualisation methods.

NOTE relevant to all activities - Personal Data Privacy

In this process, privacy and data protection rules will be respected and carefully analysed before implementing a solution. Data anonymisation practices, such as data scrambling will be applied if necessary.

6.1.12 COSTS AND MILESTONES

6.1.12.1 Breakdown of anticipated costs and related milestones

Phase:	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA ² / others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Inception					
Execution					
Operational					

Execution	<u>Phase 2.1</u> D.1.- MS and EC requirements assessment D.2.- Inventory of reusable software solutions, standards and vocabularies	80	ISA ²	Q2/2016	Q1/2017
	<u>Phase 2.2</u> D.3.- Specification definition D.4.- Generalisation of core platform and modular components D.5.- Extension of core and modular components in the context of the pilots	160	ISA ²	Q2/2016	Q1/2017
	<u>Phase 2.3</u> D.6.- Pilot requirements assessment D.7.- Specification definition D.8.- Implementation of core and modular components in the context of the pilots	200	ISA ²	Q3/2016	Q1/2017
Operational					
	Total	440			

6.1.12.2 Breakdown of ISA² funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Execution – Phase 2	440	

6.1.13 ANNEX AND REFERENCES

Description	Reference link	Attached document

A vision for Public Services	http://ec.europa.eu/digital-agenda/en/news/vision-public-services	
The Futurium—a Foresight Platform for Evidence-Based and Participatory Policymaking	http://download.springer.com/static/pdf/620/art%253A10.1007%252Fs13347-013-0108-9.pdf?auth66=1410041623_02c8d634d5b06ca384c1cf468537d06d&ext=.pdf	

6.2 LEGISLATION INTEROPERABILITY TOOLS – LEGIT (2016.38)

Service in charge	SG.A1
Associated Services	DIGIT.B2, DIGIT B.6, Parliament, Council, Publications Office

6.2.1 EXECUTIVE SUMMARY

This action aims specifically at modernising and improving the efficiency and quality of the legislative process across the Union, promoting interoperability between the systems of the different actors of the process. It seeks to facilitate the cooperation between public administrations at EU, national, regional and local levels.

Given the high diversity of legislative traditions encountered across the Union and the different levels of modernisation, it would be extremely difficult to provide a universal single turnkey ICT solution that adapts to each specific context.

Instead, this action proposes an optimal solution based on reusable fundamental building blocks..

The activities covered by this action have been organised in three distinct and complementary clusters.

Cluster A: Development of a web-based legislation editor – Continuation of LEOS

The LEOS project stressed that drafting legislation in an open and standard XML format would pave the way to efficient interoperability between the different actors of the EU legislative process. After a study on tools currently used by EU and MS public administrations to write their legislation, a need for a new generation of authoring tools was raised and the LEOS prototype was released.

This prototype is a web-based authoring tool providing drafting features that enable to easily write legal texts in a controlled WYSIWYG environment, organise it in divisions (articles, chapters, sections...), compare versions, generate printable views, insert comments, highlight some parts of the texts, ... Stakeholders and key users evaluated the prototype, praised the achievements and highlighted incomplete or missing capabilities.

This action allows development activities necessary to make evolve the existing prototype into a stable, complete and mature product enabling users to draft EU legislation in XML.

Cluster B: Interoperable and re-usable independent products (components, services or applications)

The LEOS project and the web-based Editor prototype appeared very interesting to a diversified audience that is facing some common problems. The cluster B would allow development activities necessary to refactor the existing software prototype into more complete and re-usable building blocks released under open source licence. The development of software components or services for the validation and transformation of semantic elements defined and documented by the IFC are also contained in Cluster B.

Cluster C: Realizing the vision of the legislative process landscaping study

In September 2015 the ISA unit of the European Commission launched a study to draw a comprehensive view of the EU legislative IT environment. This study is made of:

- A description of the overall lifecycle of the inter-institutional legislative process (AS-IS), including the business processes, the systems used in each major legislative step by each of the institutions, the specifications used to exchange information, etc.
- Identification of a first set of areas where intervention is considered beneficial (TO-BE). These include areas where there are opportunities for synergies and efficiency gains, for harmonization of existing standards and specifications, for reuse or extension of tools to cover new needs. Missing pieces and solutions to create a rationalised domain are also identified and proposed for further development.

This action, via its cluster C, is funding the development of parts of the missing software components detected and highlighted in the TO-BE vision defined in the study.

Report on activities carried out in 2016

The Commission intends to launch a pilot for drafting legislation with the LEOS tool in June 2017. The scope of this pilot is the drafting of legislative proposals in the Ordinary Legislative Procedure (OLP). By June 2018, the first legislative proposals should go through the whole Commission decision-making process from preparation to adoption and would be transmitted to external partners in XML format.

In 2016, in the context of the preparation of this pilot, the LEOS editor was extended to the drafting of all types of proposals in the OLP, to their annexes and to the explanatory memorandum accompanying each proposal (see report under cluster A).

In order to assure a smooth transition to the new XML format, a module enabling to export XML proposals in the previous inter-institutional format (LegisWrite) had to be developed (see report under Cluster B). Despite a strong interest of some member States in LEOS development activities no clear request for exposing the LEOS code in more independent libraries were expressed so no other activities are reported in Cluster B for 2016.

In the context of the landscaping exercise it appeared that the "TO BE" vision would be defined in the context of the ISA2 action *Interinstitutional framework for digital OLP management (2016.17)*. Therefore in 2016 all activities covered by Cluster C have all been put on hold as long as the TO BE model had not been defined and validated.

Activities planned for 2017

As regards Cluster A, the activities will focus on the development of features enabling the drafting, the revision and the transmission of legislative documents in the Ordinary Legislative Procedure.

For Cluster B, more complete and re-usable components or services of the existing software will be released under open source licence.

For Cluster C, the development of components will depend on the bottlenecks identified in the landscaping exercise and the solutions proposed in the TO-BE scenario.

The progress achieved by this action on legislation interoperability tools will contribute to the Better Regulation objectives set in the recent Interinstitutional Agreement on Better Law-Making. The results of the landscaping exercise will provide an informed basis for the design and implementation of an upcoming joint inter-institutional database of the EU institutions on the status of legislative files.

6.2.2 OBJECTIVES

The objectives of this action are:

- making the legislation process more efficient, proposing new interoperability solutions and replacing repetitive manual tasks at the different actors by automatic processing wherever possible;
- develop solutions for common needs, and make them available for reuse under free licence;
- support the work of inter-institutional committees (e.g. IMMC and IFC), providing reference implementations after publication of their specifications;
- ensure the consistency of different initiatives in the area of the EU decision making process, providing pieces of software necessary for better convergence and efficiency;
- promote the usage of interoperability standards by proposing technical analysis, architecture designs and reference implementations.

6.2.3 SCOPE

This action delivers software implementing specifications and standards defined by other bodies active in the legislation domain (e.g. standardisation committees,...).

In scope:

- Development of software supporting interoperability of the legislation process:
 - tools for drafting legislation in a structured format (XML)
 - tools for providing structured feedback on proposed legislation
 - tools for the transformation of legislation between different structured formats
 - tools supporting the electronic exchange of documents and metadata in the context of the legislative process, containing workflow information

Not in scope:

- semantic assets for the legislative process; the definition of common vocabularies and reference tables remains under the responsibility of existing committees or initiatives (SEMIC, ELI, IMMC, IFC...)

- definition of new standard formats for supporting the legislation process interoperability; the action will propose tools supporting formats already available on the market.

6.2.4 ACTION PRIORITY

6.2.4.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<p><i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>Yes. The action contributes to the Better Regulation policy. One of the Better Regulation's policy goals is to remove bottlenecks and streamline the Commission's policy making processes. The development of a tool for drafting legislation in a structured format will facilitate the electronic exchange of documents and metadata in the context of the legislative process and improve the interoperability of the legislative process.</p> <p>The reusable software solutions delivered through the action can implement the <i>European Interoperability Strategy</i> to ensure that the outputs are shared and re-used with public administrations in Europe. The Joinup collaborative platform is used as a means for sharing the experiences as well as the deliverables of this action with the Member States' public administrations.</p>
<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>Yes. This action is driven by the "landscaping exercise on initiatives in the area of the legislative process", avoiding overlaps with any other solution or project on going.</p>

6.2.4.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i>	The proposal will allow interoperability of the systems supporting EU decision making process and therefore will enable to improve the quality of EU legislation across all EU policy areas.
<i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i>	N/A

6.2.4.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	Public administrations from Greece, France and Spain have already shown their interest in LEOS development activities. According to the Legislation Editing Open Software (LEOS) Perceived Quality and Perceived Utility Report July 2016, issued as part of the execution of the ISA programme monitoring, the LEOS tool received a positive Perceived Utility assessment (4.07/5). According to the respondents, the LEOS tool allows its users to save costs, improve efficiency and transparency and to facilitate the interconnection of legal databases. Also, the standardisation of the format and the ability to control the workflow are key benefits. The demographic profile of the respondents comes from 6 different Member States.
<i>For proposals or their parts already in operational phase: have they been utilised by public</i>	N/A

<i>administrations of three (3) or more EU Members States?</i>	
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6.2.4.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	Yes. As announced in the DSM strategy, the Commission plans to propose a revised European Interoperability Framework (EIF) by the end of 2016 and will support its take-up by national administrations with the aim to strengthen the interoperability of public services in the EU. "(page 5) "In view of its own digital transformation and in order to comply with the legal obligations set out for EU public administrations, the European Commission will also undertake a number of concrete actions. One of these actions is the launch of the pilot phase for drafting legislation in the Ordinary Legislative Procedure using LEOS in 2017.
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	Yes, the implementation of legislation interoperability tools support the interactions between European Public Administrations, Businesses and Citizens and contribute to the implementation of the European Interoperability Framework and strategy, to the DSM and take into account existing results from the ISA programme (LEOS action).

6.2.4.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Name of reusable solution	LEOS software components
Description	Set of software components supporting the edition, the review, the transformation and the validation of legislation
Reference	https://joinup.ec.europa.eu/software/leos/release/all
Target release date / Status	Ad-hoc deliveries
Critical part of target user base	N/A
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	N/A

6.2.4.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	The proposal is reusing the OASIS standard for legislative and Judiciary documents (Akoma Ntoso, aka LegaldocMI)
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	N/A

6.2.4.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	<p>The action contributes to the Better Regulation policy. One of the Better Regulation's policy goals is to remove bottlenecks and streamline the Commission's policy making processes.</p> <p>The action also contributes to A Digital Single Market for Europe and to Democratic change. The development of legislation interoperability tools is bringing down barriers to unlock online opportunities for stakeholders to participate in the law-making process.</p>

6.2.5 PROBLEM STATEMENT

Drafting a new legislation is a complex process, involving many actors. Usually the process follows this sequence of tasks:

- preparation phase: the "drafting" process is usually performed under the leadership of a specific public department, and the draft text is discussed with stakeholders and modified accordingly. The content and structure of the text can be continuously changed during this phase;
- adoption phase: the draft legislation is submitted to the political entities responsible for its adoption, (Council of the European Union, European Parliament, National parliaments, institutional consultative bodies...) along clearly structured processes. The text is progressively stabilising and the final version is generally emerging under the control of a central body, which takes care of the format, the legal and editorial quality of the text;
- entry into force phase (when applicable): ultimately, the text is adopted and enters into force by its publication or its notification to the concerned parties.

The EU legislation process is similar but yet more complex by two additional factors:

- the EU-level processes interact with 28 independent Member state-level processes (e.g. : The Lisbon Treaty gives a.o. to the National Parliaments a greater ability to scrutinise proposed [European Union law](#) and to comment the draft legislation proposed by the European Commission);
- EU legislation addressed to citizens needs to be translated into the official languages..

The modernisation of the decision making process, taking into account its pan-EU dimension, is beneficial for Member States and citizens as it supports:

- cost saving: decrease the number of repetitive manual tasks, decrease the volume of new text to be translated...

- transparency: better traceability of directives implementation, building of consolidated views of legislation, follow-up of amendments and corrigenda..;
- quality of the legislation: control of the legislative drafting rules from early stages of the legislative process...;
- accessibility to legislation: standard open formats, open data, data mining, long-term preservation...

6.2.6 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Member States, National parliaments, public administrations and EU Institutions	<p>Re-use of best practices, standards and tools, in order to:</p> <ul style="list-style-type: none"> ▪ improve the quality of legislation, preventing drafters to go outside the applicable legislation drafting rules ▪ save costs, replacing manual tasks by automatic processing at different step of the decision making process: <ul style="list-style-type: none"> ○ review/amending phases ○ translation phases ○ consolidations ○ publication/notification ▪ ease interoperability between the actors of the legislative process ▪ facilitate the interconnection of legal databases and the performance of search engines <p>Tools and components developed in the context of this action are designed in a generic way and published under an open source licence in order to ease their reuse by national public administrations and EU Institutions.</p>
Citizens, civil society, businesses	Easier access to legislation, providing standards and good quality data facilitating data analytics

6.2.7 EXPECTED MAJOR OUTPUTS

Output name	Technical analysis
Description	Research activities, feasibility study, conclusions driving solutions' implementation
Reference	N/A
Target release date / Status	Adhoc updates, depending on research activities on the agenda

Output name	Architecture design
Description	Based on the conclusions of the technical analysis, architecture guidelines driving the implementation
Reference	N/A
Target release date / Status	Adhoc updates, accompanying open source release

Output name	LEOS Editor Reference implementation
Description	Software components following the architecture guidelines, released under open licence
Reference	N/A
Target release date / Status	Ad-hoc releases as of 2016

6.2.8 ORGANISATIONAL APPROACH

6.2.8.1 Expected stakeholders and their representatives

Stakeholders	Representatives
IMMC	Inter-institutional Metadata Maintenance Committee
IFC	Inter-institutional Formats Committee
Akoma Ntoso/LegalDocML Oasis Technical Committee	https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=legaldocml
ISA ² Coordination Group (or ISA CG equivalent)	The group assists the Commission in translating priorities into actions and to ensure continuity and consistency in their implementation.
Secretariat-General of the European Commission	Unit SG.A1 (Advice and Development) Unit SG.R3 (Information Technology)
Legal Service of the European Commission	LEG Team (Quality of Legislation) Unit SJ.RHIF.IT (Informatics)
Directorate-General for Translation of the European Commission	DGT.C (Translation) and DGT.S (Customer relations) Unit DGT R3 (Informatics)
Directorate General for Informatics of the European Commission	Unit DIGIT.B.2 (Information systems for document management and corporate decision making processes)
Organisations in Member States	Members States representatives of administrations either working on similar initiatives or interested in using produced software.

6.2.8.2 Identified user groups

- Legislation drafters (Commission services): these people will use the editor for their day-to-day work. They participate to workshops organised by the Secretariat- General of the Commission in order to provide feedback on features.
- Users from EU institutions and Member States involved in EU law-making.

6.2.8.3 Communication plan

The project team will systematically drive development activities after consultation of interested parties. As example, committees like the IMMC and the IFC will be consulted before launching any development activities in the area of transformation between formats or the implementation of new metadata extension. The communication with these committees will be handled during the respective meetings (plenary or working group meetings) in which presentations for information or for discussion will be put on the agenda.

As regards the development activities related to the LEOS drafting tool, the Joinup platform will be used to support the communication and the dissemination of material (software, documents...) between interested stakeholders. In case a community of interest is emerging (made of representatives of some national organisations and Institutions working on similar projects) some workshops could be organised in order to share experiences (lessons learnt, technical issues, change management strategies...) and also to identify and plan development synergies, the Joinup platform being also able to support collaborative development activities.

6.2.8.4 Governance approach

The coordination of the project is handled by 3 different groups:

- The steering committee, including representatives at head of unit level of:
 - Secretariat-General of the Commission (SG.A1 service in charge)
 - DIGIT.B2 and DIGIT.B6 (associated services)
- The project management team, including project officers from:
 - Secretariat-General of the Commission (SG.A1 service in charge)
 - DIGIT.B2 and DIGIT.B6 (associated services)
- The extended project management team, including project officers from:
 - Secretariat-General of the Commission (SG.A1 service in charge)
 - DIGIT.B2 and DIGIT.B6 (associated services)
 - DGT (adviser service)
 - Legal Service of the Commission (adviser service)

The project steering committee meets on a regular basis (2 times a year):

- to ensure the project is progressing satisfactorily
- to take strategic decisions

In case any critical risk or issue is raised, the steering committee may also meet on request of the project managers, in order to decide on actions to be launched.

Project status meetings (review of the project progress) are held between entities of the project management team, to ensure the timely delivery of the project. Project managers of the extended project management team may join the status meeting depending on the agenda.

6.2.9 TECHNICAL APPROACH AND CURRENT STATUS

6.2.9.1 Technical approach

The swift implementation and deployment of complementary, standardised and interoperable ICT solutions is a critical element to drive innovation, ensure sustainability, increase re-usability, reduce fragmentation and avoid duplication of efforts.

This action is driven by an agile, efficient and pragmatic technical approach by combining established and emerging standards, industry best practices and state of the art technologies to empower the delivery of high quality and highly reusable software products that can either be used in isolation or composed together to implement interoperable ICT solutions. Reliable and sound ICT solutions are essentially achieved by composing independent products (components, services and even applications), leading to strong architectures and resilient systems. These are better prepared to deal with failures by providing graceful degradation of the affected capabilities and guaranteeing overall system availability.

Independent products, complying with the principle of single responsibility, translate to sustainable evolution in both business and technical perspectives. Independent teams are masters of their own business specificities. Usually they are focused on a particular business domain inside an organization, easily coping with business changes, able to avoid the barriers and coordination overhead of dealing with a large and complex organizational structure, inevitable when addressing a wider business domain. Independent products are supported by independent teams, which are establishing well-defined boundaries and focusing on contracts, interfaces, communication and data. These are key concepts to achieve unconstrained product evolution, responding to business changes by incorporating new features and capabilities or deprecating obsolete ones, but still maintaining backwards compatibility. Single responsibility products have clearly defined behaviour and are designed to be easy to understand, to test and to validate against predefined key metrics. Each product should be enriched with instrumentation capabilities to report meaningful usage and performance statistics as an added value.

Software components (frameworks or utility libraries) should be implemented at least in one mainstream programming language (e.g. Java), with the possibility to provide bridge application programming interfaces (APIs) for other languages. This strategy ensures sustainable development of a main reference implementation, high re-usability through thin bridge APIs and lower maintenance efforts.

Software services (SOAP web services, RESTful services or micro-services) should exchange data in well-defined open formats. The focus is on the exchange of rich data structures where data, together with its schema, is fully self-describing. Such principle is the strongest foundation to build reliable data exchange and processing systems where producers and consumers can exchange data schemas, facilitating the understanding of the exchanged data and enabling seamless data adaptation to comply with divergent schema versions or even disparate schemas altogether. This strategy ensures easier consumption and flexible composition of services, independently of programming languages and execution platforms.

The LEOS Editor is considered a single responsibility application, reusable in multiple stages of the legislative process workflow, as demonstrated by the delivered prototype implementation. Activities performed under the LEOS action focused on improving the drafting of legislation using open source tools and an open document format. Rapidly we faced several, apparently unrelated, hidden challenges for which solutions were found and implemented. Later we identified these as common problems, in different contexts, waiting for coherent solutions. We realized the opportunity and usefulness of exposing LEOS internal implementations in the form of reusable software components or services to support other efforts. The continuation of the LEOS development activities requires an adaptation of the current architecture to adhere to a design based on reusable components and services. Lessons learned from the LEOS action guide the re-evaluation of some design decisions and applied technologies, leading to the selection of suitable replacements, where needed. Stakeholders and key users evaluated the LEOS Editor prototype and highlighted missing capabilities required to properly support their business and ease adoption. Such capabilities should be delivered in new releases, involving technical analysis, design and implementation. Standards compliance is always a major concern in LEOS and the release of LegalDocML by OASIS (a.k.a Akoma Ntoso 3.0) must be covered by an upcoming release.

6.2.9.2 Current status

The activities covered by this action have been organised in three distinct and complementary clusters:

Cluster A: Development of a web-based legislation editor – Continuation of LEOS

The LEOS project (action 1.13 of the ISA program) stressed that drafting legislation in an open and standard XML format would pave the way to efficient interoperability between the actors of the legislative process and would enable to automate some legislation processing currently performed manually at each step of the process (translation, amendment phases, consolidation, publication...). After a study on tools currently used by EU and MS public administrations to write their legislation, a need for a new generation of authoring tools was raised and the LEOS prototype was released under the EUPL licence at <https://joinup.ec.europa.eu/software/leos/description>. This prototype is a web-based authoring tool providing drafting features that enable to easily write legal texts in a controlled WYSIWYG environment, organise it in divisions (articles, chapters, sections...), compare versions, generate printable views, insert comments, highlight some parts of the texts ... Stakeholders and key users evaluated the prototype, praised the achievements and highlighted incomplete or missing capabilities required to properly support their business and ease adoption. This action is supporting development activities necessary to make evolve the existing prototype into a stable, complete and mature product enabling users to draft EU legislation in XML.

Cluster B: Interoperable and re-usable independent products (components, services or applications)

Exposure of the LEOS project and the web-based Editor prototype revealed substantial interest from a diversified audience that is facing some common problems, in one way or another. LEOS has devised and implemented solutions to those problems that could be extended in a more flexible or generic way, exposed as independent products (components or services) easily re-useable in different business applications or technical contexts. The cluster B is a container for development activities necessary to refactor the existing software prototype into more complete and re-usable building blocks released under open source licence. The

development of software components or services for the validation and transformation of semantic elements defined and documented by the IFC are also contained in Cluster B.

Cluster C: Realizing the vision of the legislative process landscaping study

In September 2015 the ISA unit of the European Commission launched a study to draw a comprehensive view of the EU legislative IT environment, characterized by a high degree of complexity and by recent new initiatives. This study is made of:

- A description of the overall lifecycle of the inter-institutional legislative process (AS-IS), including the business processes and roles, the technologies, tools and systems used in each major legislative step by each of the institutions, the specifications used to facilitate the structuring and exchange of information, the governance bodies and committees involved, and any other relevant information;
- Identification of a first set of areas where intervention is considered beneficial (TO-BE). These include areas where opportunities for synergies and complementarities are present, mapping efforts could harmonise existing standards and specifications or tools could be reused or extended to cover new needs. Missing pieces and solutions to create a rationalised domain are also identified and proposed for further development.

This action, via its cluster C, is funding the development of parts of the missing software components detected and highlighted in the TO-BE vision defined in the study.

Report on activities carried out in 2016

In June 2016, the European Commission decided to plan a pilot for drafting legislation with the LEOS tool. The scope of this pilot is the Ordinary Legislative Procedure, the main legislative process enabling the Commission to propose to co-legislators some Proposals for Directives and Proposals for Regulations. The first phase of this pilot (to be delivered in June 2017) covers the initial drafting of these proposals and a second phase planned for June 2018 will address the various review phases taking place during the whole Commission decision-making process from preparation to adoption of the Proposals and the transmission to external partners in XML format.

In order to achieve the objective of the first phase, the LEOS editor had to be extended to the drafting of all types of Proposals, to their Annexes and to the Explanatory memorandum accompanying each Proposal. These 2016 development activities are reported under Cluster A.

In order to assure a smooth transition to the new XML format, a module enabling to export these XML Proposals in the previous inter-institutional format (LegisWrite) had to be developed. This activity is reported in the context of Cluster B. Despite a strong interest of some member States in LEOS development activities (Greece, France, Spain, ...) no clear request for exposing the LEOS code in more independent libraries were expressed so no other activities are reported in Cluster B for 2016.

In the context of the landscaping exercise it was decided that the "TO BE" vision would be defined in the context of the ISA2 action *Interinstitutional framework for digital OLP management (2016.17)*. Therefore in

2016 all activities covered by Cluster C have all been put on hold as long as the TO BE model had not been defined and validated.

Activities planned for 2017

As regards Cluster A, the activities will focus on the development of features enabling the drafting, the revision and the transmission of legislative documents in the Ordinary Legislative Procedure. For Cluster B, more complete and re-usable components or services of the existing software will be released under open source licence.

For Cluster C, the development of components will depend on the bottlenecks identified in the landscaping exercise and the solutions proposed in the TO-BE scenario.

The progress achieved by this action on legislation interoperability tools will contribute to the Better Regulation objectives set in the recent Interinstitutional Agreement on Better Law-Making. The results of the landscaping exercise will provide an informed basis for the design and implementation of an upcoming joint inter-institutional database of the EU institutions on the status of legislative files.

6.2.10 COSTS AND MILESTONES

6.2.10.1 Breakdown of anticipated costs and related milestones

Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipate d Allocations (KEUR)	Budget line ISA ² / others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Inception	Project charter	100	ISA ²	Q2/2016	Q3/2016
Execution 1	Technical analysis 1.0 Architecture design 1.0 Reference Implementation V1.0	400	ISA ²	Q3/2016	Q3/2017
Execution 2	Technical analysis 2.0 Architecture design 2.0 Reference Implementation V2.0	661	ISA ²	Q3/2017	Q3/2018
Execution 3	Technical analysis 3.0 Architecture design 3.0	240	ISA ²	Q3/2018	Q3/2019
	Reference Implementation V3.0	840	ISA ²	Q3/2018	Q3/2019
Execution 4	Technical analysis 4.0 Architecture design 4.0	240	ISA ²	Q3/2019	Q3/2020
	Reference Implementation V4.0	840	ISA ²	Q3/2019	Q3/2020
Execution 5	Technical analysis 5.0 Architecture design 5.0	240	ISA ²	Q3/2020	Q3/2021
	Reference Implementation V5.0	840	ISA ²	Q3/2020	Q3/2021
	Total	4401			

The governance board of the action will regularly review this allocation based on the decided business priorities.

6.2.10.2 Breakdown of ISA funding per budget year

2016	Inception	100	0
2016	Execution 1	400	500
2017	Execution 2	661	
2018	Execution 3	1080	
2019	Execution 4	1080	
2020	Execution 5	1080	

6.3 ICT IMPLICATIONS OF EU LEGISLATION (2016.23)

6.3.1 IDENTIFICATION OF THE ACTION

Service in charge	DG DIGIT.B6
Associated Services	DG SG and any Commission DG wishing to assess the ICT impact of its legislation, especially those performing Impact Assessments and Evaluations, Parliament, Council, Publications Office

6.3.2 EXECUTIVE SUMMARY

The assessment of ICT implications of EU legislation is directly mentioned as a main activity in the ISA² and ISA decisions and contributes to their main objective notably through ensuring that EU legislation is prepared and evaluated with ICT in mind. The later facilitates cross-border and cross-sector interoperability thus contributing to the realisation of the Digital Single Market (DSM) strategy. Given that ISA² special focus is on interoperability, it is also necessary that a mechanism is developed to measure the costs and benefits of interoperability not only when legislation is produced but also whenever it is necessary to justify new interoperability initiatives or promote existing ones.

The problem of not considering or underestimating ICT impacts when EU legislation is prepared or evaluated results into legislation that does not take advantage of new digital technologies, may impose unrealistic deadlines and be more costly in its implementation. Also the lack of a mechanism to prove the value of interoperability may slow down or undermine investments on interoperability.

The action has succeeded as part of the ISA programme to promote the ICT assessment concept within the Commission and produce the supporting tools (ICT assessment method) necessary for ICT impacts to be well analysed as part of the Impact Assessment and Evaluation process. It has also produced a draft mechanism to allow measuring the costs and benefits of interoperability, still pending testing.

The scope of the action includes that:

- ICT/digital checks apply to all new legislation through screening;
- New legislation is digital minded and ICT impacts are properly assessed in Impact Assessments and Evaluations as part of the policy cycle of the Commission;
- A hook is made with the ICT Governance of the Commission to ensure that an end-to-end governance process is in place;
- Support and training is provided to those involved in the law-making process;
- The ICT assessment method and all related tools are constantly refined as a result of gained experience;

- A proper mechanism to measure the costs and benefits of interoperability is developed and made publicly available.

Beneficiaries are the Commission DGs that will prepare coherent and interoperable ICT based legislation, as well as the legislation stakeholders, namely MS, business and citizens. MS public authorities involved in similar ICT assessments of national legislation could also use the action's ICT assessment method (possibly) refined to fit to their specific needs.

In 2016, the action will update the assessment methodology and conduct a number of assessments in relation to new legislations.

In addition, a method to measure the cost benefit of interoperability will also be developed.

6.3.3 OBJECTIVES

The objective is to ensure that ICT implications are well identified and assessed when EU legislation is prepared or evaluated and are properly and in due course taken into account to support the implementation of the concerned legislation effectively, timely and at reasonable cost. It is also to make available tools that could measure the value of interoperability and provide convincing arguments for its wide application.

The action is meant to support the DSM strategy by ensuring that EU legislation is digital minded, interoperable and fully exploits the benefits of ICT.

6.3.4 SCOPE

In scope:

- Monitoring of the pre-notifications (via Inception Impact Assessments and Evaluation Roadmaps) addressed by the Commission DGs about the preparation of new or evaluation of existing legislation to early identify possible ICT implications;
- Establish a service to support the Impact Assessment and Evaluation process of the Commission in relation to ICT;
- Constant update of an Impact Assessment/Evaluation method (based on an IDABC method published in 2010) used in the delivery of the above service;
- Except from the Commission services, the method could also be used by the MS as a tool to assess the impact of EU and national legislation;
- Promotion within the EU services of the need to produce digital minded legislation in support to the Digital Single Market (DSM) strategy of the Commission;
- Development of a mechanism to measure costs and benefits of interoperability.
- Establish a service to support the use of the mechanism in cases coming both from Commission and Member States;
- Investigate the combination of the mechanism with other measuring and assessment tools and methodologies such as the interoperability maturity model (IMM).

Out of scope:

- It is only the method that is provided to the MS as a tool to help them in their ICT assessment process and not the service.

6.3.5 PROBLEM STATEMENT

In relation to the ICT implications method:

The problem of	not taking into account ICT implications of EU legislation during the legislative proposals' preparation stage or at legislation evaluation
affects	the Commission services involved in the preparation, adoption, implementation and evaluation of the concerned legislation and the legislation's target audience, usually EU Public Administrations, citizens and businesses
the impact of which is	moderate ICT implementation quality, at higher cost, unmet deadlines, lack of interoperability, possible sub-optimal implementation of the legislation due to insufficient ICT support, etc.
a successful solution would be	the early consideration of ICT impacts when EU legislation is prepared or evaluated to allow for efficient use of ICT technologies, timely identification of synergies with other IT systems, reusability and interoperability, provide guarantees of timely implementation and decrease the administrative burden/cost.

In relation to the measurement mechanism for costs and benefits of interoperability:

The problem of	not having tangible means to assess costs and benefits of interoperability
affects	the Commission and the MS wishing to invest on interoperability initiatives
the impact of which is	hesitation to make proper interoperability investments etc.
a successful solution would be	To develop such a mechanism and make it publicly available

6.3.6 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

A monetary benefit of running the specific action cannot be estimated upfront. The expected benefit will be cumulative:

- from all studies (Impact Assessment and Evaluation) that consider an ICT based approach as an integrated part of the EU legislation as opposed to having ignored or underestimated ICT and
- from savings due to applying interoperability principles in ICT developments.

Qualitative benefits can be identified and are listed below:

Beneficiaries	Anticipated benefits
European Commission services	<ul style="list-style-type: none"> • Legislation benefitting from ICT: it means legislation that applies both to the physical and digital worlds and makes ultimate use of ICT means to provide electronic, online and interoperable services; • Wider use of interoperability due to proofs that it can provide benefits (included monetary) <p>This will have positive impact to the modernisation of Public Administrations, will maximise growth through a European digital economy and enable an inclusive e-society.</p>
Public Administrations	
Businesses	
Citizens	

6.3.7 RELATED EU ACTIONS / POLICIES

Action / Policy	Description of relation, inputs / outputs
Communication on "A Digital Single Market Strategy for Europe", COM(2015)192	Legislation to be prepared or evaluated in various domain related to the DSM (e-health, e-government, e-transport, e-energy, etc.) can benefit from the action and the proposed ICT assessment method to assess ICT impacts.
Communication on "Better Regulation for better results", COM(2015) 215	It concerns an update to the Commission's guidelines on how to perform Impact Assessments and Evaluations. This new version requires explicitly the consideration of ICT as part of the process and includes a tool to help such assessment (tool No 23 on "ICT assessment, the digital economy and society" ³⁸). The action will align with the requirements set out by the new guidelines and will put in place a service to help targeted Impact Assessments and Evaluation in the identification and analysis of their ICT impacts.
Any other policy domain the action will be asked to support though Impact Assessments and Evaluations	

³⁸ http://ec.europa.eu/smart-regulation/guidelines/tool_23_en.htm

ISA ² Action 'Participatory knowledge for supporting decision making'	Reusable solutions that allow the electronic participation of stakeholders, the analysis of the captured opinions and the discovery and generation of knowledge will be taken into account for the properly preparation and evaluation of EU legislation regarding the ICT implications.
ISA ² Action 'Interinstitutional framework for digital OLP management'	The proposed interoperable ways of structuring the content of the documents that need to be exchanged between the institutions for the purposes of the ordinary legislative procedure will be taken into account for the properly preparation and evaluation of EU legislation regarding the ICT implications.
ISA ² Action 'Legislation interoperability tools (LEGIT)'	Existing or under development building blocks (i.e. software, tools etc.) that support and improve the electronic exchange of documents and metadata in the context of the legislative process and the transformation between different formats will be taken into account for the properly preparation and evaluation of EU legislation regarding the ICT implications.
ISA ² Action 'European Legislation Identifier (ELI)'	The proposed approach for identifying legislation documents and the supporting assets and solutions will provide input for the properly preparation and evaluation of EU legislation regarding the ICT implications.
ISA ² Action 'Application of EU law: provision of cross-sector communication and problem solving tools (THEMIS)'	Reusable tools and the underlying semantic structures and data standards for monitoring the application of EU law will be taken into account for the properly preparation and evaluation of EU legislation regarding the ICT implications.
Regarding the interoperability measuring mechanism: "all ISA ² actions shall use the mechanism" as it is stated in the programme's legal basis.	

6.3.8 REUSE OF SOLUTIONS DEVELOPED BY ISA, ISA² OR OTHER EU / NATIONAL INITIATIVES

Various ISA² actions such as the EIRA, EIC, EIS, EIF, TES, Semantics, Base Registries, Catalogue of Services, just to name some of them, inter-relate with the action in question. The idea is that whenever ICT implications are analysed, interoperability effects and reusability possibilities are always considered. ISA and ISA² actions provide the means (frameworks, services and tools) to achieve the above.

In case interoperability requirements are to be defined in proposed legislation, EIF should be named as the desired framework. If a high level architecture is to be included, then EIRA as such or a compatible one could be proposed. EIC, TES, Base registries and Catalogue of Services can be used as sources of reusability whereas Semantics can drive the definition of legislations' data models. The cost and benefit model used by the action in question will be enriched with the mechanism to measure costs and benefits of interoperability.

Liaison with the internal Commission ICT Governance is a must to ensure that ICT implications identified during the law-making process are well linked with the internal ICT Governance procedures when the Commission is amongst the concerned stakeholders. This way, reusability possibilities are highly increased.

6.3.9 EXPECTED RE-USABLE OUTPUTS (solutions and instruments)

Output name	ICT Implications Assessment method
Description	It is a method to guide the ICT assessment process. It is based on an older method developed in 2010 by IDABC. The method was updated in Jun 2015 and will be formally published in 2016 following additional testing in a number of cases and consultation with the MS.
Reference	Older IDABC method: http://ec.europa.eu/isa/actions/documents/isa_3.1_description_of_the_method.pdf Draft updated method: http://ec.europa.eu/isa/documents/actions/ks-sc9-d04-03-ict-assessment-method_v5.00.pdf
Target release date / Status	Q2/2016 / Stable release Current status: Draft

Output name	Measurement mechanism for costs and benefits of interoperability
Description	It is a mechanism to allow measuring the exact cost and benefit of interoperability solutions
Reference	
Target release date / Status	Q1/2015 as draft (to pilot with the MS in 2016)

6.3.10 ORGANISATIONAL APPROACH

6.3.10.1 Expected stakeholders and their representatives

Stakeholders	Representatives
European Commission services	The Secretary General and any Commission DG in charge of preparing new or evaluating existing legislation.

Member States	MS representations to the ISA ² Committee and Coordination group and through them MS public administration authorities involved in similar studies at national level that may use the proposed method and/or give feedback on good practices applied nationally.
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6.3.10.2 Communication plan

The communication plan includes:

- Promotion/consultation rounds with the Commission stakeholders namely, the IT heads, the Impact Assessment units and the concerned policy units of the Commission DGs;
- Communication with the ICT Governance of the Commission to better align the law-making and the ICT development processes within the Commission thus ensuring policy coherence and maximising ICT rationalisation effects;
- Active participation to the Impact Assessment Working Group and communication of the benefits resulting from the assessment of the ICT impacts;
- Communication with the MS representatives through the regular ISA² management meetings and through webinars and dedicated workshops.

6.3.10.3 Governance approach

The action will be managed by DIGIT with the support of an external contractor. Whenever major deliverables are to be published, the validation of the MS representatives will be sought.

6.3.11 TECHNICAL APPROACH

A good step forward has been done with the integration of ICT assessment in the policy cycle of the Commission and the update of the ISA assessment method. Also, a measurement mechanism for costs and benefits of interoperability was developed in 2015 and is expected to be tested before the end of 2016.

Next major objective is to ensure that the use of the method is generalised. The method should be constantly maintained and refined with lessons learnt and its benefits should be measured and evaluated with feedback received from the policy makers. The measurement mechanism should also be made part of the method once tested with the MS.

Q2/2016 – Q1/2017:

- The updated method is foreseen to be used in a number of different cases (3–6). Communication activities to promote its use within the Commission DGs will be intensified. A good link should be established with the ICT Governance of the Commission and tested in practise;
- The mechanism to measure costs and benefits of interoperability will be tested in pilots with the Member States and will be supported as a service by the external contractor. It should be noticed that

this mechanism can be used for the 2017 work-programme as a means to assess candidate actions, in accordance with the ISA² decision.

6.3.12 COSTS AND MILESTONES

6.3.12.1 Breakdown of anticipated costs and related milestones

Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA ² / others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
	<ul style="list-style-type: none"> • Screen/Monitor all published Inception Impact Assessments and Roadmaps of the Commission to identify the need of ICT impact analysis; • Assess ICT implications of Impact Assessments and Evaluations as needed through a service provided by DG DIGIT; • Update the method as needed; • Pilot and finalise a measurement mechanism for costs and benefits of interoperability and make it available as a service 	745	ISA ²	Q2/2016	Q2/2018
	Total	745			

6.3.12.2 Breakdown of ISA² funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016		450	
2017		295	
2018			

2019			
2020			

6.3.13 ANNEX AND REFERENCES

Description	Reference link	Attached document
IDABC existing method and Draft updated method	http://ec.europa.eu/isa/actions/documents/isa_3.1_description_of_the_method.pdf http://ec.europa.eu/isa/documents/actions/ks-sc9-d04-03-ict-assessment-method_v5.00.pdf	

6.4 EUROPEAN LEGISLATION IDENTIFIER (2016.08)

6.4.1 IDENTIFICATION OF THE ACTION

Service in charge	Publications Office
Associated Services	Luxembourg, France, United Kingdom, Ireland, Denmark, Council of the EU, e-Law working group (e-law), Parliament, Council

6.4.2 EXECUTIVE SUMMARY

ELI is a basic building block for the interoperability and exchange of legislation data in Europe. It provides a practical and flexible system for naming legislation documents and for sharing metadata that is sufficiently standardised to realise the benefits of interoperable legislative data, while respecting each Member State's unique legislative and legal traditions.

ELI proposes a unique identifier (HTTP URI), which should be recognisable, readable and understandable by both humans and computers. In addition, ELI proposes a set of metadata elements to describe legislation in compliance with a recommended ontology. ELI aims to take into account not only the complexity and specificity of regional, national and European legislative systems, but also changes in legal resources (e.g. consolidations, repealed acts, codes etc.). ELI has been carefully constructed to respect the legal and constitutional differences between Member States.

With the ISA funding received in the frame of ISA work program 2014-2015, a number of assets were developed in view of facilitating the implementation of ELI by Member States. Since the beginning of this initiative, ELI has been deployed by different stakeholders including a growing number of Member States, which are considering ELI as a solution to enrich their legal acts and improve interoperability between systems.

The ELI initiative starts bearing fruits but the work is not finished yet, the present request aims to pursue the effort started in the context of ISA Action 1.21 (2014-2015) and ISA² Action 6.4 (2016).

6.4.3 OBJECTIVES

ELI is a basic building block for the interoperability and exchange of legislation data in Europe. It provides a practical and flexible system for naming legislation documents and for sharing metadata that is sufficiently standardised to realise the benefits of interoperable legislative data, while respecting each Member State's unique legislative and legal traditions.

ELI comes as a response to the problem of not being able to refer in a unique and commonly acceptable way to the EU and national legislation thus hindering the exchange and sharing thereof, although it is at large available in electronic format.

ELI proposes a unique identifier (HTTP URI), which should be recognisable, readable and understandable by both humans and computers. In addition, ELI proposes a set of metadata elements to describe legislation in compliance with a recommended ontology. ELI aims to take into account not only the complexity and specificity of regional, national and European legislative systems, but also changes in legal resources (e.g. consolidations, repealed acts, codes etc.). ELI has been carefully constructed to respect the legal and constitutional differences between Member States.

With the ISA funding received in the frame of ISA work program 2014-2015, a number of assets were developed in view of facilitating the implementation of ELI by Member States. Since the beginning of this initiative, ELI has been deployed by different stakeholders including a growing number of Member States, which are considering ELI as a solution to enrich their legal acts and improve interoperability between systems. As the ELI initiative is bearing fruit, the present request aims to pursue the efforts conducted in the context of ISA Action 1.21 (2014-2015) and ISA² Action 2018.08.

6.4.4 SCOPE

Tasks to be conducted in the scope of the proposed action:

- 1) Provide assistance to Member States in implementing ELI

This task foresees delivering technical and organisational assistance to Member States who are interested in implementing ELI; assistance can be delivered in the form of workshops, trainings, technical meetings, consultancy, etc.

- 2) Maintain ELI knowledge base and facilitate information sharing

As the number of Member States adopting ELI is growing, it is important to take on board the knowledge and expertise acquired by the new ELI implementers and update technical and general documentation

(implementation guide, good practices, technical guidelines, etc.). Facilitating information exchange and peer review exercises via appropriate fora is an asset to share a common goal.

3) Guarantee maintenance and evolution of existing ELI assets and solutions

A number of generic assets have been developed since the beginning of the ELI initiative. Not only must these be maintained, but they must also evolve. This encompasses the adaptation to existing ELI assets to changes in formats, standards or platforms and further evolutions of the Cellar, the content and metadata repository of the Publications Office of the EU. This also includes possible adaptation/ configuration of developed solutions with the objective of making them more easily re-usable by Member States or other stakeholders;

4) Analyse and develop additional added-value services and tools:

Analyse, study and build services and tools to foster interoperability and create added-value between stakeholders and systems. Survey stakeholders in order to identify which services/ tools would best respond to actual user needs; Prospection and analysis of solutions in view of conceiving and deploying tools and services for Member States (ie. mutualisation of systems and resources, RDF transformations, visualisation tools, increased linking granularity...) Development, deployment, testing, hosting and related tasks to ensure the functioning of the services/ tools. Investigation on legal requirements as to licensing/reuse.

The following components have already been identified:

- Visualisations tools
- Editing/annotation tool for semantic metadata
- RDF transformations
- Tools for preparation and conversion of legacy data at Member State Level
- Tools for searching across semantic metadata and full-text of legal publications

5) Standardisation as well as synergies with existing initiatives in the EU and internationally.

This includes continuing to progress ELI as a standard in the EU and internationally as well as engaging with groups and communities working in areas that relate to ELI;

6) Dissemination of results

- Outreach to commercial and non-commercial re-users as well as to the academic community;
- Organisation of events to promote ELI;
- Drafting success stories; best practices, news or other editorial contents about ELI for various dissemination channels in various languages;
- Translation and editing activities;
- Reporting about progress on ELI and presenting ELI project to various types of audiences.

6.4.5 ACTION PRIORITY

The ELI action strongly contributes to the interoperability landscape by enabling the exchange of legislation at EU level and beyond. Its results and outputs are reusable and are effectively being used by a growing number of Member States. By mid 2016, seven Member States had effectively deployed the European Legislation

Identifier, while others are in the process of doing so. The adoption of ELI in the Union relies on the financial support provided via the ISA2 programme, as no other funding is available.

6.4.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<p><i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>The proposed ELI action meets the recommendations included in the European Interoperability Framework as it contributes to improving interoperability within the EU and across Member State borders and sectors. By making legislation available on the web in a structured way, it will be easier to find, share and reuse legislation, as prescribed by the public sector information (PSI) directive.</p>
<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>ELI comes as a response to the problem of not being able to refer in a unique and commonly acceptable way to the EU and national legislation thus hindering the exchange and sharing thereof, although it is at large available in electronic format for which no other solution is available.</p>

6.4.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i></p>	<p>The proposal aims at promoting the access and exchange of legal information within and across borders, thereby contributing to the development of the common area of freedom, security and justice.</p> <p>It is also in line with the European Union commitment to open up legislation as part of the implementation of the G8 Open Data Charter which aims to promote, amongst other things, transparency and government accountability.</p> <p>It also contributes to the re-use of public sector information and is thus in line with Directive 2013/37/EC.</p>
<p><i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i></p>	<p>The ELI initiative is bearing fruit in the policy areas listed above as 7 Member States have deployed ELI in their systems thus enabling the improved exchange of legislation at EU level and beyond. Besides this, ELI is also a tool to facilitate reporting about the transposition process of EU legislation into national legislation and concrete tests are being conducted in cooperation with Member States in this framework.</p>

6.4.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members</i></p>	<p>Out of 18 Member States/candidate countries or EFTA States who have at the time of drafting of the present request, expressed</p>

<i>States?</i>	their interest in the ELI action (participation in studies, trainings, requests or other) 7 Member States have effectively implemented ELI in their national legislation publishing systems.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	7 Member States have effectively implemented ELI in their national legislation publishing systems.

6.4.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	The present request aims to pursue the efforts conducted in the context of ISA Action 1.21 (2014-2015) and ISA Action 6.4 (2016) as the project is starting to bear fruit.
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	No other financial sources are available.

6.4.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Name of reusable solution	ELI ontology
Description	The ELI ontology and specifications to uniquely identify, structure and enrich legal acts. For more information, please refer to the ELI ontology repository on: http://publications.europa.eu/mdr/eli/ The ELI ontology needs to be maintained and evolve. It's evolution is essential to cater for the needs of implementing

	Member States.
Reference	http://publications.europa.eu/mdr/eli/
Target release date / Status	Available
Critical part of target user base	yes
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	Currently 7 Member States base themselves on the ELI ontology but more are working towards integrating ELI in their systems. In 2017, the number of 10-12 ELI implementers should be reached.

Name of reusable solution	Open Source Cellar - content and metadata repository
Description	Source code of Cellar available on Joinup under EUPL licence for possible reuse by interested third parties. System made available to Member States interested in an advanced system that can be configured with ELI ontology
Reference	https://joinup.ec.europa.eu/software/cellar/description
Target release date / Status	Available since 2015
Critical part of target user base	
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	RDFEdit
Description	<p>RDFEdit is a tool to search, display and edit the metadata of legal resources in the Publications Office's Cellar database (an RDF triplestore database).</p> <p>It includes the RForms JavaScript template mechanism, enabling RDF data to be easily displayed or edited.</p> <p>While RDFEdit contains some coding specific to the Cellar API (to load RDF data and generate update instructions, for instance), its architecture is entirely generic and relies on OWL ontology parameters and additional annotations to display and edit templates.</p>
Reference	https://joinup.ec.europa.eu/svn/rdfedit/

Target release date / Status	Available
Critical part of target user base	
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	ELI methodology and technical guide
Description	These are implementation guide covering both general and technical aspects of the ELI implementation. They are an essential resource for interested implementers.
Reference	http://data.europa.eu/doi/10.2830/813167 and http://data.europa.eu/doi/10.2830/74251
Target release date / Status	Available
Critical part of target user base	
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	List of solutions to be developed
Description	<ul style="list-style-type: none"> - Solutions for data visualisations - Validation solutions - Editing/ annotation tools - RDF transformations/MD retrieval - Solutions for processing legacy data - Tools for searching semantic data - 'Elification' of Cellar repository (target 2018)
Reference	
Target release date / Status	
Critical part of target user base	
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	These solutions are foreseen to be developed as OpenSource solutions to be made available via Joinup

6.4.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
<p>Does the proposal intend to make use of any ISA², ISA or other relevant interoperability solution(s)? Which ones?</p>	<ul style="list-style-type: none"> - ISA Action 1.13 LEOS – the Leos editor is an asset on which we could build to develop an ELI editing solution - ISA Action 1.1. Improving semantic interoperability in European eGovernment systems - building on development of Greek e-legislation pilot which relies on ELI URIs to retrieve the metadata
<p>For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?</p>	<ul style="list-style-type: none"> - The ELI deployment at the Publications Office uses persistent URIs under the data.europa.eu domain - The Joinup platform to disseminate our OpenSource developments - CircABC is used as a document exchange platform with the Members of the ELI Taskforce

6.4.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
<p>Does the proposal directly contribute to at least one of the Union's high political priorities such as the</p>	<p>The proposal directly contributes to building bridges between the different national legal</p>

DSM? If yes, which ones? What is the level of contribution?	<p>systems across the EU. As such it directly contributes to the priority</p> <p>https://ec.europa.eu/priorities/justice-and-fundamental-rights_en</p> <p>The ELI initiative allows the reuse of data and thereby creates the opportunity of texts being reused, and new value added services to be developed. As such it contributes to priority:</p> <p>https://ec.europa.eu/priorities/digital-single-market_en</p>
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6.4.6 PROBLEM STATEMENT

ELI comes as a response to the problem of not being able to refer in a unique and commonly acceptable way to the EU and national legislation thus hindering the exchange and sharing thereof, although it is at large available in electronic format.

6.4.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

A Member State having implemented ELI, will be able to exchange legislative information more quickly, efficiently and reliably. ELI also facilitates efficient searching of legislation of other jurisdictions with cross border searches. It also enables a more precise investigation and understanding of the transposition of directives. A concrete example thereof is France who successfully implemented in July 2015 a mechanism to link ELI references from <http://data.europa.eu/> ELI and display them on Légifrance: <http://www.legifrance.gouv.fr/>. The implementation of this interoperability feature by France demonstrates a concrete benefit of the ELI system.

ELI is cost effective because it is merely a specialisation of how resources are generally identified on the web. As ELI is targeted as being an extension to existing systems, the initiative can be implemented by Member States at a reasonable cost.

Finally, it is important to note that the approach to ELI benefits from the work that goes into technologies and standards for Linked Open Data and the semantic web.

Beneficiaries	Anticipated benefits
Member States	<p>Facilitating access to legislation reduces burden for public administration.</p> <p>Structuring data and optimisation of production flows can lead to reduction</p>

	of production cost for legal information publishers. Improved transparency
Member States - implementers	Member States can draw on the knowledge base which has been acquired based on the experience of the pioneering implementers to implement ELI. Technical documentation as well as training and assistance can be offered to facilitate the implementation of ELI by future implementers.
European Commission	Improved transparency and better integration and efficient exchange of information, e.g. transposition of Directives. Increased quality and reliability of data. Greater interoperability and improved cooperation.
Citizens and businesses	Effective, user-friendly and faster access to legislation as well as exchange of information between heterogeneous systems for citizens and legal professionals (legislators, judges ...). Improved discoverability of legal data, reducing costs for businesses. Smart use of data allowing the development of new value-added services on existing data. An improvement of metadata, through the ELI ontology, could lead to more informative summaries of legislation, especially for non-legal professionals.
Candidate countries, EFTA and other countries	Better integration and efficient exchange of legal information with the European Union.

6.4.8 ORGANISATIONAL APPROACH

6.4.8.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Project Manager	Publications Office of the European Union
Chair	Valeria Sciarrino Head of Unit Official Journals and Case-law production Publications Office of the European Union valeria.sciarrino@publications.europa.eu www.publications.europa.eu
Co-chairs	Luxembourg John Dann Chargé de la direction adjoint Ministère d'État Service central de législation john.dann@scl.etat.lu www.legilux.public.lu France

	<p>Jean-Michel Thivel Chef du service Administration générale, documentation et informatique Premier ministre Secrétariat général des affaires européennes jean-michel.thivel@sgae.gouv.fr</p> <p>United Kingdom John Sheridan Head of Legislation Services The National Archives john.sheridan@nationalarchives.gsi.gov.uk</p> <p>Denmark Nina Koch Director Ministry of Justice civilstyrelsen@civilstyrelsen.dk www.civilstyrelsen.dk</p> <p>Ireland Gerry Matthews eISB Project team - electronic Irish Statute Book (eISB) Office of the Attorney General gerry_matthews@ag.irlgov.ie www.irishstatutebook.ie</p> <p>Italy Antonio Antetomaso Ingegn. e Industrializzazione progetti Sviluppo Business e Solutions Istituto Poligrafico e Zecca dello Stato S.p.A. a.antetomaso@ipzs.it</p> <p>Finland Aki Hietanen Chief of Information Services Ministry of Justice Finland aki.hietanen@om.fi</p>
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6.4.8.2 Identified user groups

- Member States

- Member States - implementers
- European Commission
- Citizens and businesses
- Candidate countries, EFTA and other countries

6.4.8.3 Communication plan

e-Law group of the EU Council	EU e-Law members	Twice a year during each Presidency, June and December.
Promote and share the work on ELI	National/ International community	Specific events to be organised
Steering Committee	Publications Office, Luxembourg, France, Finland, Denmark, Ireland, United Kingdom, Italy	Quarterly
Stakeholders interested in ELI	ELI website published on EUR-Lex	Regular updates

6.4.8.4 Governance approach

A Task Force was set-up under the auspices of the EU Council Working Party e-Law (e-Law) to study the future developments of the ELI standard. The Task Force is made up of Denmark, France, Luxembourg (chair), Ireland, Italy, Finland, the United-Kingdom and the Publications Office of the EU.

The approach is characterized by helping other Member States adopt ELI, by sharing knowledge/expertise, without imposing a strict given schema and by taking into account their national specificities.

The project is followed by a Steering Committee, chaired by the Publications Office of the EU and co-chaired by Denmark, Ireland, Italy, Finland, France, Luxembourg and United-Kingdom.

The Taskforce and Steering Committee meet at regular intervals in order to review the ongoing activities and collectively decide on the developments to be conducted in line with the adopted strategy.

6.4.9 TECHNICAL APPROACH AND CURRENT STATUS

ELI is based on a gradual three-step approach defined as follows:

- uniform rules governing the identification and designation of and access to national and European legislation (URI: Uniform Resource Identifiers),
- metadata describing the legislative resources,
- ontology - information exchange format - describing the properties of the legislative texts and their relationship with other concepts or legislation.

Currently ELI is implemented in 7 Member States and at the Publications Office with more Member States, candidate countries and EFTA States interested in implementing it in their publishing systems.

Note: A financing request under work programme ISA 2 was submitted in August 2016. This financing request set objectives covering a period of two years, ie. 2016 and 2017.

Those objectives remain the same under the present financing request, however, since the ISA2 funding was only made available in May 2016, a number of activities foreseen in 2016 have not been started at the time of drafting of the present request.

Therefore, the financial estimation for 2017 is being scaled down in comparison with last year's estimate, in order to realistically reflect the number of activities that can still be conducted by the end of the financial year 2017. An estimate of the resources needed for 2018 will be submitted in 2017.

6.4.10 COSTS AND MILESTONES

6.4.10.1 Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Assist Member States in ELI adoption:	Assistance workshops; Trainings; Technical meetings; Consultancy (cost/benefit analysis; impact assessment, technical solutions); Assistance with mass transformation of existing data	190		Q2/2016	Q4/2017
Maintain	Update of technical and	80		Q2/2016	Q4/2017

knowledge base and facilitate information sharing	<p>general documentation (review and translation into French) ;</p> <p>Management of peer reviews and information exchange with stakeholders</p>				
Guarantee maintenance and evolution of existing ELI assets and solutions	<p>Update of technical tools to changes in formats, standards, platforms (documentation review and translation into French);</p> <p>Open-sourcing of solutions, including their hosting;</p> <p>Adaptations in context of re-use by MSs or other stakeholders</p>	92		Q2/2016	Q4/2017
Develop added-value services	<p>Analyse, study and build added-value services and tools</p> <p>Prospection and analysis activities</p>	190		Q2/2016	Q4/2017
Standards	<p>Progressing ELI as a standard</p> <p>Participation in groups and communities working in areas that relate to ELI</p>	55		Q2/2016	Q4/2017
Dissemination of results	<p>Reporting in English and in French, Drafting news, best practices, updates on ELI, news items, Translation</p> <p>Presenting ELI to</p>	138		Q2/2016	Q4/2017

	appropriate audiences				
	Half year report to the Council's eLaw group in English and French				
	Organisation of events to promote ELI				
	Total	745			

6.4.10.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016		400	
2017		295	
2018			
2019			
2020			

6.4.11 ANNEX AND REFERENCES

description	Reference link	Attached document
Conclusions of the Council of the European Union on the European Legislation Identifier (ELI) 2012/C 325/02	http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:325:0003:0011:EN:PDF	
Report on the introduction of the ELI	9922/13 Jurinfo 25 28 May 2013	
Website informing on the progress of ELI in France	http://www.eli.fr	
Letters of support from Taskforce members		4

6.5 THEMIS - APPLICATION OF EU LAW: PROVISION OF CROSS SECTOR COMMUNICATION AND PROBLEM SOLVING TOOLS (2016.01) – FUNDING CONCLUDED

6.5.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common Services
Service in charge	SG.C.3
Associated Services	SG.R.3, EU Publications Office , DG CONNECT, Parliament, Council

6.5.2 EXECUTIVE SUMMARY

The Commission's Decide project, currently under development, has a substantial impact on the scope of THEMIS, directly affecting the original ISA proposal for action 1.20 – funded under the ISA work programme during the period 2013-2015 - specifically with regards to the infringements management process. The objective of Decide is to streamline and harmonise the Commission's decision-making procedures and to consolidate the existing applications into one integrated system (“Decide”), supporting the whole workflow from programming to adoption (planning, consultation and decision)planning to dissemination, across all types of documents.

THEMIS needs to be integrated as much as possible with Decide in order to make use of Decide's inter-service consultation functionality and its adoption module, including all decision-making related functionalities.

The alignment of THEMIS and Decide is still an on-going task, to be completed during Q4 2015/Q1 2016. Therefore it has not been possible to progress with the work on the infringements management related web services, in scope of the original ISA action 1.20 proposal, during 2015 as initially planned.

In this respect, this new proposal for the ISA² Work Programme is a continuation of the original ISA action 1.20, taking over the non-accomplished work on infringements management related web services.

Context

Under article 17 TUE, the Commission shall oversee the application of EU law under the control of the Court of Justice of the EU. This monitoring task is entrusted to the Commission in its exclusive role as “guardian of the Treaty”.

The monitoring of the application of EU law is a complex task, involving a number of steps and specific rules which are inter alia provided for by article 258 TFUE (Treaty on the Functioning of the European Union). The cooperation between the Commission and the Member States through the whole process remains a crucial element in the effective monitoring of the application of EU law. The structural dialogue before opening formal proceedings contributes to the resolution of a high percentage of possible breaches of EU law (EU Pilot).

Problem statement

The facilities to assist Commission staff in this task are currently provided by a series of EU-LAW applications (CHAP, EU-PILOT, MNE, NIF) covering – partially - different phases of the overall process for the adoption of an

infringement decision (complaint handling, pre-infringement phase, transposition of directives, and infringements proceedings).

All these applications, even though they provide the basic needs for the management of the day-to-day activities for the above-mentioned process, have gradually become inadequate to comprehensively provide the functionalities corresponding to the evolving business requirements.

Therefore, to comply with current needs, major evolutive evolutionary development is necessary. However, given the underlying technologies and the state of the existing applications, which have already undergone a series of enhancements since 2004 (production date of the current NIF application, the first application from the EU law family to be released), taking this approach would be extremely costly due to their instability, limitations, lack of flexibility to incorporate advanced and/or new functionalities, lack of common methods of operation, different interaction patterns and limited inter-operability.

Proposed solution

The proposed approach towards a new solution, aligned with the requirements of the on-going IT governance and rationalisation efforts within the "Legislative Lifecycle" domain being currently fostered across the SG and the Commission as a whole, will have a significant impact to overcome the above-mentioned deficiencies.

THEMIS – as the envisaged solution – will enhance the execution of the fundamental task of the Commission in monitoring EU law implementation and its application by Member States by providing an end-to-end management of the full inherent life-cycle of EU-LAW processes, exposing one single, usable and coherent point of access - both for the Commission and the Member States - improving the efficiency and transparency of reporting and monitoring of Member States' implementation and application of EU law.

In essence, THEMIS aims at improving inter-operability of the tools to manage complaint, pre-infringement and infringement handling. Integration with Decide will ensure mainstreaming the phases of inter-service consultation and Commission decision-taking processes. This integration aims at simplifying working methods and avoiding data inconsistencies and duplication. THEMIS includes a set of cross-sector interest web services to be consumed by in-house applications of the Member States.

6.5.3 OBJECTIVES

Better and more efficiently managed application of EU law involves both the European Commission and the Member States, working in close partnership. Member States are responsible for the timely and correct implementation and application of EU law while the Commission's responsibility is to ensure that EU law is applied consistently. To this end the Commission works in partnership with Member States via EU Pilot and launches, if necessary, formal infringement procedures.

The specific objective of this action is to identify and implement common web services of interest that can support this. The project will analyse, design and develop or implement services to manage and support the exchange of information between Member States and the Commission during all phases of infringement proceedings.

All these web services are to be integrated into THEMIS, the central Commission IT application which will provide a one-stop solution for Commission services and Member States' administrations with regard to all aspects of the application of EU law; starting from the transposition process of directives into national

legislation and the notification of the corresponding legal acts to the Commission, through dialogue based problem resolution triggered either by complaints or own-initiative of the Commission, onto the full bi-directional flow of information in the context of infringement proceedings.

In detail, this action aims at:

- Providing a single point of access for Member States as regards to application of EU law.
- Reducing administrative burden of the Member States and of the Commission.
- Enhancing efficiency and transparency of reporting and monitoring of EU law application.
- Improving statistical tools to simplify the gathering of information, its dissemination and reporting.

6.5.4 SCOPE

The scope of this action can be summarised as follows:

- Better integration between Commission and national IT tools:

Thanks to improved interoperability, national IT tools should be able to connect and interact easily and automatically with Commission systems.

This is becoming increasingly important as the national administrations are developing more and more in-house IT applications and online services managing EU legislative work, in particular for infringement proceedings.

- Management of infringement proceedings through a modern workflow system:

The need to speed up procedures and rationalise the decision-taking process makes it necessary to use advanced technologies for workflow management. Commission services and Member States should be able to work in a system, which allows a complete follow up of infringement procedures, from the creation to the final closing of the case, including any attendant communication and publication of information.

- Statistical facilities and search tools

There is need for more elaborated reporting and statistical tools to facilitate overall reporting on the application of Union law, including for the purpose of preparing the Annual Report on monitoring the application of EU Law and the publication of other information.

Deliverables covered under this proposal will include both web-services and their corresponding backend services, providing for bi-directional data and document exchange facilities for the infringements proceedings domain³⁹.

The Commission offers the deliverables as a service to Member States, developing the required application and interfaces and hosting the computing infrastructure.

This will be accompanied by technical documentation detailing the interfaces to be used. Furthermore, on request, the Commission will provide assistance to Member States, in order to ensure correct and reliable interconnection between Member States' system and THEMIS.

6.5.5 PROBLEM/OPPORTUNITY STATEMENT

The monitoring of the application of EU Law is a complex task, involving a number of steps and very specific rules. Currently, this task is only partially supported by a family of old information systems that are technologically obsolete and lack interoperability amongst them.

Even though these applications fulfil the basic needs for the management of the day-to-day activities for the above-mentioned process, they have gradually become inadequate to comprehensively cover the evolving business requirements.

To comply with current needs, the largely outdated systems in operation today need to be replaced by a modern, well performing system, which is built on a sound technological platform and offers the required interoperability.

6.5.6 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Member States and European Commission	<p>Security, rapidity and privacy, preservation of information:</p> <p>The service dedicated to the communication of infringement notifications will guarantee the information exchange system providing:</p> <ul style="list-style-type: none"> - immediate transmission (MS are required to respect deadlines), - secure transmission with acknowledgement of receipt (high level of trust); <p>and</p> <ul style="list-style-type: none"> - secure data preservation (legal security for both MS and the EC).

³⁹ The underlying principle is that public authorities responsible for implementing and ensuring compliance with EU legislation should not be presented with a proliferation of different information systems but rather a single interface in the form of the future THEMIS system and its externally accessible interfaces, thus ensuring that information existing in Member States own system(s) need not be re-encoded.

Member States and European Commission	<p>Data quality</p> <p>THEMIS external services will improve data quality, integrity and preservation of information by implementing a state-of-the-art user interface and interoperability to back-office and by using reliable and trusted data transfer. Search and statistics retrieval will be also improved.</p>
Member States and European Commission	<p>Better cooperation</p> <p>THEMIS external services will improve the transparency and openness of data exchange between Commission and MS by developing/adapting and using a component to share case/project related data.</p>
Member States	<p>Administrative simplification, effectiveness and efficiency, data quality</p> <p>THEMIS external services will increase efficiency and data quality by implementing state-of-the-art user interface and interoperability (system-to-system) for the transmission of replies and prolongation of deadline requests in the matter of infringement proceedings.</p>
European Commission	<p>Efficient management of infringements</p> <p>THEMIS external services will provide data quality, efficient and secure data dissemination among services and will be the basis of the decision making process in matter of infringements.</p>
European Commission	<p>Efficient IT development and evolution, flexibility, scalability, adaptability to legislation change</p> <p>THEMIS external services will be flexible, scalable and adaptable by being developed as a service and component oriented IT architecture.</p>

6.5.7 RELATED EU ACTIONS / POLICIES

Action / Policy	Description of relation, inputs / outputs
Communication "Towards interoperability for European public services" COM(2010) 744 final	This Communication introduces European Interoperability Strategy (EIS) and the European Interoperability Framework (EIF) for European public services, being part of the Digital Agenda, focusing on interoperability.
eGovernment Action – Plan 2011 -2015	Reducing administrative burden by horizontal integration of processes across administrative authorities.
ISA ² Action	Reusable solutions that allow the electronic participation of stakeholders, the

'Participatory knowledge for supporting decision making'	analysis of the captured opinions and the discovery and generation of knowledge will be taken into account for enhancing the monitoring of EU law implementation and its application by Member States.
ISA ² Action 'Legislation interoperability tools (LEGIT)'	Existing or under development building blocks (i.e. software, tools etc.) that support and improve the electronic exchange of documents and metadata in the context of the legislative process and the transformation between different formats will be taken into account for enhancing the monitoring of EU law implementation and its application by Member States.
'ISA ² Action ICT implications of EU legislation'	Results and conclusions related with the properly preparation and evaluation of EU legislation regarding the ICT implications will be taken into account for enhancing the monitoring of EU law implementation and its application by Member States.
ISA ² Action 'European Legislation Identifier (ELI)'	The proposed approach for identifying legislation documents and the supporting assets and solutions will be taken into account for enhancing the monitoring of EU law implementation and its application by Member States.
ISA ² Action 'Interinstitutional framework for digital OLP management'	The proposed interoperable ways of structuring the content of the documents that need to be exchanged between the institutions for the purposes of the ordinary legislative procedure will be taken into account for enhancing the monitoring of EU law implementation and its application by Member States.

6.5.8 REUSE OF SOLUTIONS DEVELOPED BY ISA, ISA² OR OTHER EU / NATIONAL INITIATIVES

THEMIS will assess the feasibility of re-using solutions and/or results outcome of other ISA, ISA² or EU / National initiatives, specifically ISA Action 1.8, ISA Action 1.11, ISA Action 1.14, ISA Action 1.18 and ISA Action 1.21.

Action / Policy	Description of relation, inputs / outputs
ISA Action 1.8 – Trusted Information Exchange Platform	THEMIS will develop the future Infringement (INFR) service as a single exchange platform and repository of all official infringement documents exchanged between Member States and the Commission (by using the eTrustEx platform for the transmission of official documents to the Member States and reception of acknowledgement from them), mainly in legislation and competition policy areas.
ISA Action 1.11 – Interoperable and generic notification services.	THEMIS will assess the feasibility of re-using the results of ISA Action 1.11 in relation to the notification services developed within the scope of this action.
ISA Action 1.18 – Federated	THEMIS will assess the feasibility of re-using the results of ISA Action 1.18 in relation to its outcome web services interfaces developed.

Managed Authentication Services for ECAS	
ISA Action 1.21 – European Legislation Identifier	ISA Action 1.21 will provide input to this action.

6.5.9 EXPECTED RE-USABLE OUTPUTS (solutions and instruments)

Output name	Web services tailored to infringement management processes
Description	The web services in scope to develop as part of this proposal are tailored to infringement management processes. Nevertheless, there may be possibilities to reuse/apply certain outputs to other purposes
Reference	
Target release date / Status	2017

6.5.10 ORGANISATIONAL APPROACH

6.5.10.1 Expected stakeholders and their representatives

Stakeholders	Representatives
European Commission – administrator	Unit SG C.3 of the Secretariat General administrating the application, providing policy guidance on its use.
Project Owner	Unit SG.C.3 of the Secretariat General responsible to coordinate the Commission's actions as guardian of the Treaties.
Solution Provider	Unit SG R.3 (Information Technology) responsible for the development of THEMIS.
End users – Commission Services	Infringement correspondents and infringements case handlers in all Commission services.
End users - Member States authorities	Current MNE/INFR end users (various national administrations in all Member States) and Central Managers in the Member States represented in the EU Law Network.

6.5.10.2 Communication plan

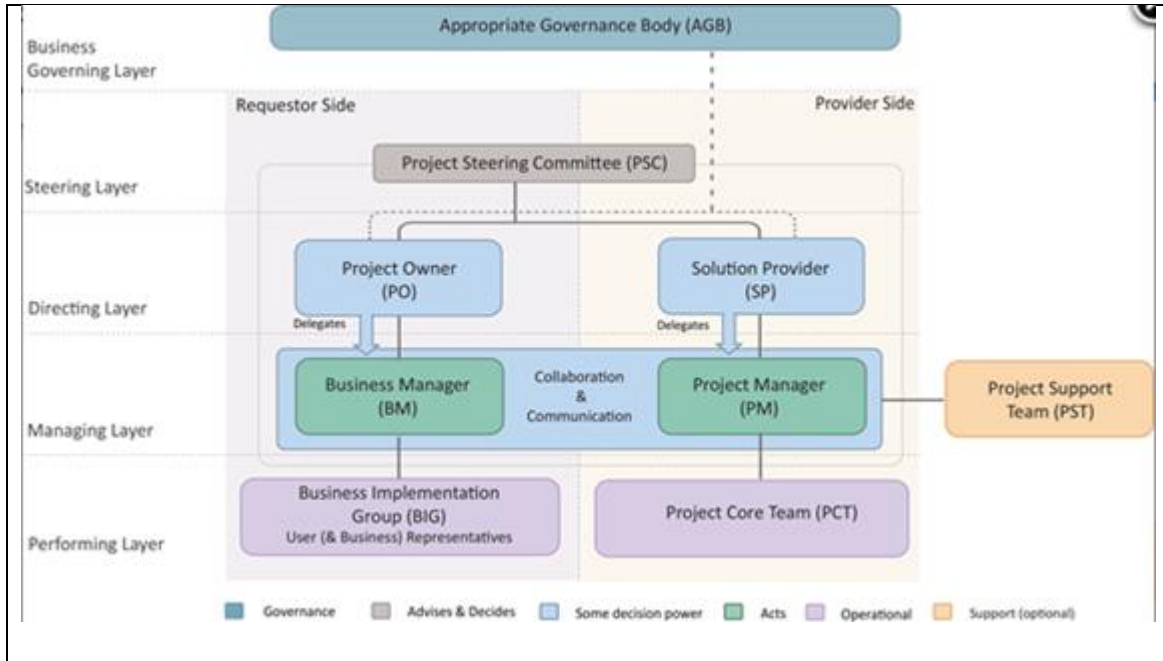
The main communication actions are described next:

- Written communication, both to internal and external stakeholders (newsletter via e-mail).
- Awareness sessions – 1 with MSs representatives and 1 with DGs representatives – to present the project.
- Dissemination material for all relevant stakeholders:
 - o DGs: Leaflets, posters and a quick-start guide.
 - o MSs: Quick start guide.
- Meetings:
 - o With external stakeholders, once a year, in the frame of the EU Law Network meetings, to provide status and recollect feedback.
 - o With internal stakeholders, twice a year, as part of the DGs infringement correspondents meeting, to provide status and recollect feedback.
- First-line support: The Project Support Team will help users through the change and collecting feedback.
- CIRCABC group of interest on "Implementation and application of EU law", members of which are MS representatives.

Event	Representatives	Frequency of meetings / absolute dates of meetings
EU Law Network	All Member States	Normally, once or twice a year
Infringement correspondents meetings	Representatives from all DGs	Once or twice a year
Directors network	Representatives from all DGs	Once or twice a year
Project owner/System supplier	SG.C.3/SG.R.3	Quarterly reporting using PM ² methodology

6.5.10.3 Governance approach

This project will follow the standard PM2 project governance structure.



Project Owner: Mr. VON KEMPIS, Karl (SG.C3)

Solution Provider: Mr. GRITSCH, Martin (SG.R3)

Project Manager: Mr. BLAZQUEZ DE MIGUEL, Víctor (SG.C3)

Business Manager: Mrs. GROCHOWIAK, Elzbieta

Project Support Team (PST): To be appointed.

Project Core Team (PCT): To be appointed.

Business Implementation Group (BIG): 1 representative per DG and 1 representative per MS. To be appointed at a later stage.

The governance approach has established weekly coordination meetings between SG.C.3 (project owner) and SG.R.3 (solution provider). In addition, this action will respect the general ISA Governance under the supervision of the ISA Coordination Group inside the cluster "Trusted Information Exchange".

The governance of this action project is set up in the vision document for NIF2 (renamed later as "THEMIS"). According to this document, the Steering Committee monitors completion of the project phases; sets project requirements, objectives and outcomes, validates project deliverables, tests activities and disseminates information about the project to the Commission services. It is composed of members from Units C.3, R.2 and R.3 of the Secretariat General and representatives of those services which manage complaints and infringement procedures (DG AGRI, DG CLIMA, DG CNECT, DG EMPL, DG ENER, DG GROW, DG ENV, DG FISMA, GROW, HOME, DG JUST, Legal Service, DG MOVE, DG SANCO and TAXUD).

In parallel, Member States are participating in THEMIS work through the EU Law Network. Tests and feedback can be submitted to the functional mailbox SG-THEMIS-FEEDBACK@ec.europa.eu.

6.5.11 TECHNICAL APPROACH

The services in scope of this proposal will represent the common future external module of the THEMIS system, providing a reliable, robust and secure mechanism to connect to systems in Member States' public authorities (existing or under development).

System-to-system data exchanges between the national administrations and the Commission will reduce extra manual data encoding. This will allow Member States to transmit data directly from their back-office systems in respect of the following principles of the European Interoperability Framework: security and privacy, multilingualism, administrative simplification, transparency, preservation of information, openness, reusability, effectiveness and efficiency. History of all data exchanges with the Member States' administrations should be accessible to either party.

All services will be strongly integrated to ensure a consistent and reliable workflow.

The technical implementation of the proposed data-exchange services has the following requirements:

- State of the art secure web services allowing for the exchange of meta-data for confidential (official notification of infringements and MS replies to those notifications) dossiers; these services should permit uploading such information from MS systems into the Commission system.
- Non-repudiation for official notifications of infringements.
- Legally binding electronic signature for official notification of infringements and transmission of the corresponding MS replies (explicit requests by Spain and Germany). To be checked if this can be covered by the eTrustEx platform.
- A transfer mechanism allowing for highly reliable exchange of documents, including very large documents if needed (electronic transmission should be the unique notification mechanism). To be checked if this can be covered by the eTrustEx platform.
- A publishing service allowing MS to 'pull' information accessible to them in a format compliant with open government publication standards, allowing them to integrate the extracted information into their own IT systems.
- A notification service which will inform the concerned parties that new tasks/data are available in the system, allowing either for specific action in the external interface, or automated download procedures for available data.

-
- A reporting and statistics service which will allow Member States to retrieve, at any time, different sets of statistics and historical data of EU-LAW proceedings they are / have been involved in.

Backwards compatibility with the current basic web services used by MS needs to be ensured for an initial length of time (6-12 months), since often MS have out-sourced IT developments and any changes on our side will have a non-negligible impact for them.

By the same token, it is imperative to involve MS in order to ascertain that current and future MS requirements are met. The Commission will inform Member States at an early stage of the projected developments and collect feed-back from them. This will be channelled through the existing EU Law Network, with regular coordination meetings in Brussels.

6.5.12 COSTS AND MILESTONES

6.5.12.1 List of use cases identified: 10 use cases

- *ISA1 Submit reply to infringement notification*: This technical use case describes the required actions, associated data and the web-service call structure to correctly upload meta-data and associated documents for the reply by a MS to an official infringement notification.
- *ISA² Request an extension of deadline for a reply to an infringement*: This technical use case describes the required actions, associated data and the web-service call structure to correctly upload a meta-data and associated documents with regards to a request for an extension of deadline to reply to an infringement case.
- *ISA3 Retrieve reply*: This technical use case describes the required actions and the web-service call structure to retrieve all meta-data and documents associated with a reply to an infringement notification in a machine-readable format (XML).
- *ISA4 Retrieve infringement notification*: This technical use case describes the required actions and the web-service call structure to retrieve all meta-data and documents associated with a given dossier and accessible to a MS in a machine-readable format (XML).
- *ISA5 Retrieve infringement dossier*: This technical use case describes the required actions and the web-service call structure to retrieve all meta-data and associated documents accessible to a MS for an entire infringement dossier in a machine-readable format (XML).
- *ISA 6 Communication of additional information*: This technical use case describes the mechanism and web-service structure to provide additional information to on-going infringement cases at any time during their life-cycle.

- *ISA 7 User management*: This technical use case describes the mechanism and web-service structure to manage Member States users. Add, delete or update users, define roles and rights, or re-assign / delegate cases are actions to be supported by this web-service. As part of this use case, feasibility of re-using the results of ISA Action 1.18 (Federated Authentication Action) will be checked.
- *ISA 8 Notifications and Alerts*: This use case describes the mechanism and web-service structure to retrieve new tasks/data available in the system, allowing either for specific action in the external interface, or automated download procedures for available data. As part of this use case, feasibility of re-using the results of ISA Action 1.11 (Interoperable and generic notification services) will be checked.
- *ISA 9 Statistics and reporting – Infringement cases*: This technical use case describes the mechanism and web service structure to retrieve different reporting and statistics related to infringement cases, from the Member State perspective.
- *ISA 10 Statistics and reporting – EU-LAW proceedings life-cycle*: This technical use case describes the mechanism and web service structure to retrieve different reporting and statistics throughout the whole life cycle of EU-LAW proceedings, from the Member State perspective.

The following table summarises the scope of the identified use cases.

Use case	Name	Release	Scope
ISA 1	Submit reply to infringement notification	V1	Infringements management
ISA 2	Request an extension of deadline for a reply to an infringement	V1	Infringements management
ISA 3	Retrieve reply	V1	Infringements management
ISA 4	Retrieve infringement notification	V1	Infringements management
ISA 5	Retrieve infringement dossier	V1	Infringements management
ISA 6	Communication of additional information	V1	Common services
ISA 7	User management	V1	Common services
ISA 8	Notifications and Alerts	V1	Common services
ISA 9	Statistics and reporting – Infringement Cases	V1	Statistics and Reporting
ISA 10	Statistics and reporting – EU-LAW proceedings life-cycle	V1	Statistics and Reporting

6.5.12.2 Breakdown of anticipated costs and related milestones

Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Planning	Requirements gathering, assuring alignment with Decide's scope.	30	ISA ²	Q1/2016	Q2/2016
Planning	Detailed formal (technical use cases) of the in scope identified business services and their exposure through web services. Validation of the proposal by all actors.	60	ISA ²	Q1/2016	Q2/2016
Executing	Development of 'in/out' web services and their correspondent backend business services.	220	ISA ²	Q2/2016	Q4/2016
Executing	Testing and training; updated technical documentation for Member States to allow them to integrate their systems with the new services.	30	ISA ²	Q1/2017	Q1/2017
Closing	Roll-out V1	30	ISA ²	Q1/2017	Q1/2017
Monitor & Control	Monitor and report on on- going project activities and project performance, planning and implementing corrective actions in case of need.	30	ISA ²	Q1/2016	Q1/2017
	Total	400	ISA ²		

6.5.12.3 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Planning	90	
2016	Executing	250	
2016	Closing	30	
2017	Monitor & Control	30	

6.5.13 ANNEX AND REFERENCES

Description	Reference link
Articles 4 and 17 TEU	http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:083:0013:0046:EN:PDF
Articles 258 and 260 TFEU	http://eur-lex.europa.eu/JOHtml.do?uri=OJ:C:2010:083:SOM:EN:HTML
Decision 2002/47/CE, CECA, Euratom for document management rules	OJ L 21, 24.1.2002, p. 23–27
Annual Reports on monitoring the application of Community law	http://ec.europa.eu/eu_law/infringements/infringements_annual_report_en.htm
Communication 'A Europe of results – Applying Community law' (the 2007 Communication)	COM (2007) 502
Communication on the application of Article 260 (3) TFEU	http://ec.europa.eu/eu_law/infringements/infringements_260_en.htm
Framework Agreement between the Commission and the European Parliament (Section on 'Monitoring the application of Community law')	http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:304:0047:0062:EN:PDF
Public access to documents relating to infringement proceedings	SEC(2003)260/3 http://www.cc.cec/sg_vista/cgi-bin/repository/getdoc/COMM_PDF_SEC_2003_0260_3_EN.pdf
Monitoring the application of community law: manual of procedures	SEC(2005)254/5 http://www.cc.cec/sg_vista/cgi-bin/repository/getdoc/COMM_PDF_SEC_2005_0254_5_EN.pdf

6.6 INTERINSTITUTIONAL FRAMEWORK FOR DIGITAL OLP MANAGEMENT (2016.17)

6.6.1 Identification of the action

Service in charge	Publications Office of the European Union, Directorate A
Associated services	Parliament, Council, Commission

6.6.2 EXECUTIVE SUMMARY

This action concerns the rationalisation of the EU law-making process. The vision is to facilitate the process for law-making at European Union level through the harmonisation of the document exchange, at first between institutions. This will boost the efficiency of the regulatory process and unleash unprecedented speed. It will also reduce the administrative and financial burden, improve the quality of legislation and help to facilitate accessibility, reuse and preservation. This activity also has a direct effect on the Member States. For the purposes of transposition and notification of EU law it would be advantageous if Member States were to apply the same standard for documents that are exchanged during the law-making process as intended here for use at the level of the EU institutions.

The implementation of this proposal is a multiannual activity. The proposal consists of an interinstitutional framework for the management of document flows pertaining to the ordinary legislative procedure (OLP) and delegated acts (DAs).

For the year 2016 the action is built on the ISA AS-IS landscaping exercise⁴⁰ and it contributes to the continuation of that effort, i.e. the elaboration and the preparation of the implementation of the TO-BE scenario, to be agreed by the players involved, in particular EP, the Council and the Commission.

Subsequently, for the year 2017 the focus is on the necessary specifications and transformations/mappings to facilitate the exchange of documents. The application of commonly agreed standards will allow for automated validation and quality control.

If successful, this project will represent a major 'digital' contribution towards the 'better legislation' policy objective.

6.6.3 OBJECTIVES

The overall objective is a seamless, fully interoperable end-to-end document exchange for the production of multilingual EU laws across the EU Institutions. The focus is on the ordinary legislative procedure and delegated acts. The approach thus supports the legislative process as the EU institutions' core business across all fields of policy, activities and institutions.

⁴⁰Objectives of the ISA AS-IS landscaping exercise: 1) Document the AS-IS landscape of IT applications, data standards and specifications involved in the exchanges of documents and information between EU institutions and between EU institutions and Member States in the context of OLP and delegated acts; 2) Identify bottlenecks in the exchanges of legislative information

The Member States will benefit from the re-use of the agreed standards and solutions when adapting their document exchanges with the EU Institutions.

6.6.4 SCOPE

With regard to the overall objective, and for the year 2017, the focus has to be on selected deliverables.

In scope:

Based on the results of ISA "AS-IS" exercise and in collaboration with the Interinstitutional Formats Committee (IFC), the activities for 2017 are of preparatory nature. They comprise the elaboration of specifications for the document exchange and related activities like the definition of a validation framework. This necessarily requires the respective consensus between the EU Institutions.

Out of scope:

- Proposals for improvements in the areas indicated as a deliverable of the ISA AS-IS landscaping
- Proposals for tools
- Development of an implementation plan.

6.6.5 ACTION PRIORITY

The vision of a seamless, fully interoperable end-to-end document exchange for the production of multilingual EU laws across the institutions, and even with the Member States, matches the current Commission's explicit commitment to improving the quality of EU policy- and law-making. This is contributing directly to a Better regulation in the context of President Juncker's "Democratic change" target. It is in the nature of the action that it will contribute to all the Commission's priorities as soon as legislative procedures come into play.

Consequently the impact will be across all fields of policies and activities of the EU Institutions. It will be the benefit of all players involved in legislative procedures, including delegated acts, at EU level.

The re-use of the results of the action by the Member States extends the intended geographical reach to all 28 Member States equally.

6.6.5.1 Contribution to the interoperability landscape

Question	Answer
<i>Does the proposal directly contribute to implementing the European Interoperability</i>	Yes: An improved document exchange between the EU institutions, and between EU

<p><i>Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>institutions and Member States, is necessarily based on increased interoperability. As such, it meets the requirements of the European Interoperability Framework. In addition, it directly contributes to the European Interoperability Strategy and has an immediate impact on the interaction, exchange and cooperation between European public administrations for their legislative activity (as a delivery of public service).</p>
<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>Yes: The EU institutions agree that they would widely benefit from the application of agreed standards, and are thus contributing to the preparatory work done in the context of the Interinstitutional Formats Committee⁴¹ (IFC).</p>

6.6.5.2 Cross-sector

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i></p>	<p>By its nature, the action will impact, once completed, all EU policy areas and all EU Institutions..</p>
<p><i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i></p>	<p>This proposal is not yet in an operational phase.</p>

6.6.5.3 Cross-border

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members</i></p>	<p>The proposal involves the EU Institutions, but its geographical reach aims at covering all Member States. Once completed the national</p>

⁴¹ s. Annex: Mandate for the Interinstitutional Formats Committee (IFC)

<i>States?</i>	public administrations will benefit when exchanging documents with the EU Institutions.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	This proposal is not yet in an operational phase.

6.6.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	There is no explicit mentioning of the action in an EU policy or legislation, but the proposal addresses directly and exclusively interoperability. In addition an implicit urgency has to be assumed due to its impact on the majority of legislative activity in all policy fields.
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	Yes, because interoperability is at the very core of the action. In addition, the overall project is of multiannual nature and will produce re-usable results along the way.

6.6.5.5 Reusability of action outputs

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Name of reusable solution	Common Exchange Model (CEM)
Description	Formal specification for the exchange of OLP and DA document types, based on the IFC Common Vocabulary's structural components
Reference	IFC_CEM
Target release date / Status	Ongoing

Critical part of target user base	n/a
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	This proposal is not yet in an operational phase.

Name of reusable solution	CEM business validation rules
Description	Definition in a human readable way of the business rules need for the CEM
Reference	IFC_CEM_BR
Target release date / Status	Ongoing
Critical part of target user base	n/a
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	This proposal is not yet in an operational phase.

Name of reusable solution	CEM technical validation rules
Description	Definition of validation mechanisms for the CEM business validation rules and also of technical validation rules beyond the business validation, e.g. checking of file naming conventions).
Reference	IFC_CEM_TR
Target release date / Status	Ongoing
Critical part of target user base	n/a
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	This proposal is not yet in an operational phase.
Name of reusable solution	Examples
Description	Demonstrate the application of the CEM by the elaboration of a representative set of examples.
Reference	IFC_CEM_EXA
Target release date / Status	Ongoing
Critical part of target user base	n/a

For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	This proposal is not yet in an operational phase.
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6.6.5.6 Level of reuse by the proposal

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	Yes, the proposal is built on the re-use of the Common Vocabulary defined by the IFC and supported by ISA. In addition, the action is based on the results of the ISA "AS-IS" landscaping exercise.
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	This proposal is not yet in an operational phase.
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	n/a

6.6.5.7 Interlinked

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	Yes, the proposal directly contributes to the high political priority of "Democratic change", and more specifically fosters better regulation (https://ec.europa.eu/priorities/democratic-change_en): it aims at improving the Ordinary Legislative Procedure by facilitating the EU Institutions' document exchange, and provides a basis for making the processes

	more transparent.
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6.6.6 PROBLEM STATEMENT

The institutions' current implementations for the management of the production of EU law are not always aligned and hence not interoperable per se.

The institutions generally agree that they would widely benefit from applying agreed standards, automated validation and quality control to become quicker, far less error prone and cheaper. However, there is no consensus yet on how to achieve this.

As a first step, an ISA landscaping exercise describes in detail the AS-IS of this interinstitutional set-up, which will be followed by a TO-BE landscaping exercise in 2016. The latter covers the necessary implementations from a system as well as from a process perspective for every institution.

6.6.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
European institutions	<ul style="list-style-type: none"> • Legislative procedures become quicker by substantially decreasing manual interventions on the level of the technical processing (e.g. document validation) • Legislative procedures become less error prone through facilitated automatic validation and quality control • Legislative procedures become cheaper: the smoother document exchange will save time and resources if it comes to legislative drafting itself. • Considerable savings could be made on the costs for document conversions.
EU Member States	<ul style="list-style-type: none"> • Facilitated contributing to legislative procedures at EU level (automated validation and quality control; less error prone exchanges with the EU Institutions)
Legal information industry	<ul style="list-style-type: none"> • Facilitated re-use and dissemination (multiplier ; added-value services) of EU legislative information

6.6.8 ORGANISATIONAL APPROACH

6.6.8.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Project lead	Publications Office
Parliament	Secretary-General
Council	Secretary-General
Commission	Secretary-General, DG Informatics
Member States	Technical experts on interoperability in the public sector
Legal information industry	For example companies providing added-value information services in the context of EU law

6.6.8.2 Identified user groups

Expert teams in the EU Institutions and in all Member States participating in the legislative procedures at EU level and any third party re-using documents pertaining to EU legislative procedures, including delegated acts.

6.6.8.3 Communication plan

As the Publications Office is an interinstitutional body, there are strong and long-established organisation and communication structures which ensure the flow of information between the Publications Office and the Parliament, Council and Commission.

With the governance structure including the secretaries-general of the institutions as part of the Steering Committee and the directors responsible for IT developments as members of the Technical Steering Committee, this project management structure ensures that the pertinent information is communicated in a precise, concise and timely manner to the relevant representatives of the stakeholders. This will be done through the standard management reporting procedures, complemented by ad hoc presentations in the relevant meetings or working groups.

Upon the successful completion of the main technical components, a knowledge-transfer process will be offered for technical experts from Member States and international organisations.

The public at large will be informed in a non-technical manner to explain the relevance of improving the legislative process.

6.6.8.4 Governance approach

Coordinated by the Publications Office the action will be implemented in close collaboration with and the support of the Parliament, the Council, the Commission and other Institutions that are represented in the Interinstitutional Formats Committee (IFC).

The IFC, gathering representatives from all EU Institutions as stakeholders of the action, will supervise the execution in the IFC's subgroup *Formats Guidelines*. This guarantees also a proper co-ordination with the IFC subgroup *Common Vocabulary* and the Interinstitutional Metadata Maintenance Committee (which is observer to the IFC plenary meetings).

In addition, supervision by the Steering Committee of the TO-BE landscaping exercise has to be ensured. As an interinstitutional body the Publications Office has the necessary infrastructure in place to manage a complex, multilateral project involving itself and the aforementioned institutions. The project will be included in the annual work programme and will therefore be subject to the standard interinstitutional management and reporting requirements of the Publications Office.

6.6.9 TECHNICAL APPROACH AND CURRENT STATUS

Work packages

- Specifications
- Validation rules
- Documentation,
- Examples

All work packages are based on the working plan elaborated by the IFC *Format Guidelines* subgroup (see Annex: IFC subgroup format guidelines – work plan (draft version)).

6.6.10 COSTS AND MILESTONES

6.6.10.1 Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Inception,	Project management and	20	ISA	Q3 2016	Q4 2016

execution, operational	execution				
Inception, execution, operational	Project management and execution	78	ISA	Q1 2017	Q4 2017
	Total	98			

6.6.10.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016	Execution	20	
2017	Execution	78	
2018			
2019			
2020			

6.7 ELI@EULAW - INTEGRATION OF THE RETRIEVAL OF LEGISLATIVE DATA COMPLIANT WITH THE EUROPEAN LEGISLATIVE IDENTIFIER WITH THE INFORMATION SYSTEMS FOR MONITORING THE APPLICATION OF EU LAW (2017.02).

6.7.1 IDENTIFICATION OF THE ACTION

Service in charge	SG.C.3 (Project Owner)
Associated Services	SG.R.3 (Solution Provider)

6.7.2 EXECUTIVE SUMMARY

Context

Under article 17 TEU, the Commission shall oversee the application of Union law under the control of the Court of Justice of the EU. This monitoring task is entrusted to the Commission in its exclusive role as "guardian of the Treaties".

The monitoring of the application of Union law is a challenging task, involving several services at various stages and specific rules to be followed. The cooperation between the Commission and the Member States is a crucial element in the effective monitoring of the application of EU Law.

Adopted legislative acts setting up the goals that all EU countries must achieve, when coming into force, require Member States to communicate their national transposition measures to the Commission by strict given deadlines.

Current situation

The exchange of data relating to legislation has grown considerably at EU level. These data originate from regional, national and EU bodies. However, the exchange of data is hindered by disparities between legal systems at country and EU level.

Within the context of EU Law, transposition of adopted directives implies national legislative changes which are currently notified to the Commission via filling in a form and attaching all relevant legislative texts sustaining the transposition within an existing IT system (currently MNE, future THEMIS).

This method of notification is tedious and leads to inefficiencies and discrepancies as the notified information is duplicated (at Member State and Commission databases), not necessarily up to date, forcing Member States to further notify as their national legislation evolves.

As of the 1st of October 2016, Member States can elect to have their national transposition measures published on EUR-Lex. These issues will be then further propagated once these measures are transmitted from the Commission's internal application (MNE, future THEMIS) to Eur-Lex in order to be published.

Proposed solution

The European Council conclusions⁴² foster for the introduction of a European Legislation Identifier (ELI), aimed at providing simple access to information relating to EU and EU countries' national legislation.

⁴² <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV:i0068>

The adoption of ELI enables EU and national legislation to be referenced in a harmonised and stable way, resulting in a faster and more efficient search and data exchange system which is accessible to citizens or specific users such as legislators, judges and legal professionals.

The outcome of this proposal will be a solution which enhances and simplifies the transmission and dissemination of legislation related data, within the context of EU Law proceedings, by integrating the ELI link within notifications, aiming at simplifying working methods and avoiding data inconsistencies and duplication.

6.7.3 OBJECTIVES

Better and more efficiently managed application of EU law involves both the European Commission and the Member States, working in close partnership. Member States are responsible for the timely and correct implementation and application of EU law while the Commission's responsibility is to ensure that EU law is applied consistently.

The specific objective of this action is to identify and implement common web services of interest aimed at improving communication and information exchange between Commission services and Member States. The project will analyse, design and develop services to manage and support the exchange and dissemination of data relating to legislation, via the adoption of the ELI link, between Member States and the Commission whenever needed through the lifecycle of an infringement proceeding.

These services will become part of the catalogue of existing services developed within the scope of ISA Action 1.20, "Application of EU Law: Provision of cross-sector communication and problem solving tools", which have been integrated into THEMIS. THEMIS is the central Commission IT application which will provide a one-stop solution for Commission services and Member States' administrations with regard to all aspects of the application of EU law; starting from the transposition process of directives into national legislation and the notification of the corresponding legal acts to the Commission, through dialogue based problem resolution triggered either by complaints or own-initiative of the Commission, onto the full bi-directional flow of information in the context of infringement proceedings.

6.7.4 SCOPE

The scope of this action can be summarised as follows:

- Guidelines on the implementation of ELI within the context of EU Law proceedings

The introduction of ELI is optional. EU countries and the European Union can decide to introduce this identifier on a voluntary and gradual basis. Some countries (i.e. France and Luxembourg) have already developed solutions to comply with ELI. However, we have detected inconsistencies in how the solutions from the different countries have addressed the support of ELI.

In this respect, an initial work in scope of this action is focused on defining guidelines to determine how ELI should be addressed, within the context of EU Law proceedings, ensuring that system-to-system communication can be achieved in a harmonised way and that legislation related data can be inter-exchanged easily regardless of its source.

These guidelines will also help other Member States to adopt ELI in a much faster and reliable way.

- Common web services to improve inter-exchange and dissemination of legislation related data

Design and develop services – and the underlying back-end infrastructure - to manage and support the exchange and dissemination of data relating to legislation, via the adoption of the ELI link, between Member States and the Commission whenever needed through the lifecycle of an infringement proceeding.

The proposed services will provide a reliable, robust and secure mechanism to inter-exchange data in an ELI compliant data structure.

The new services in scope of this proposal will be added to the catalogue of existing ones developed within the scope of ISA Action 1.20, "Application of EU Law: Provision of cross-sector communication and problem solving tools", which have been integrated into THEMIS.

In particular, the following web services have already been identified:

- ELI data retrieval: Receives as input an ELI link, identifies and establishes a connection with the source system – Member State's or Commission's – from where the service retrieves the related meta-data and documents for the specific legislation and returns such data and documents in a standard format.
- ELI transmission: Transmits the meta-data and documents of a specific legislation received from the ELI data retrieval web service to EUR-Lex for publication.
- ELI measure notification: Adaptation of the existing web service, part of the THEMIS catalogue, Member States use to notify on transposition measures, to incorporate the possibility to add the ELI link (which will be read and decoded by the ELI data retrieval web service).

- Integrated approach to national IT tools

Interoperability between THEMIS and national IT tools will be supported. The identified web services will allow for a seamless system-to-system exchange of data related to legislation between Member States and the Commission wherever needed within the lifecycle of an infringement procedure.

The European Commission offers the deliverables output of this proposal as a service to Member States and hosting the computing infrastructure. This will be accompanied by technical documentation detailing the interfaces to be used.

Furthermore the Commission will provide assistance to Member States, in order to ensure correct and reliable interconnection between Commission's and Member States' systems.

6.7.5 ACTION PRIORITY

The proposed action complies with the following prioritisation criteria listed in art 7 of the ISA² Decision⁴³, as follows:

(a) the contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union;

Interoperability between Commission's and national IT tools so as to support the inter-exchange and transmission of data related to legislation.

(b) the scope of the action, measured by its horizontal impact, once completed, across the sectors concerned;

National legislation transposing EU directives and notified by Member States to the Commission cover all sectors of EU activity.

(c) the geographical reach of the action, measured by the number of Member States and of European public administrations involved;

The geographical reach of this action covers all Member States which either have already adopted ELI or will do so in the future, as they will have the possibility to choose whether to notify national legislation complying with EU directives via ELI links or following the standard existing approach (which all Member States are currently using).

Moreover, the Publications Office will be closely associated to the work, as they are also an actor within infringement proceedings (they will need to publish in EUR-Lex the notified transposition measures of those Member States who decide to do so).

(d) the urgency of the action, measured by its potential impact, taking into account the lack of other funding sources;

As of the 1st of October 2016, Member States can elect to have their national transposition measures published on EUR-Lex for which the ELI support within infringement proceedings must be provided as soon as possible.

(e) the re-usability of the action, measured by the extent to which its results can be re-used;

Even though the web services in scope to develop as part of this proposal are tailored to infringement management processes, particularly the ELI data retrieval web service could potentially be provided as a general service for initiatives where legislation data needs to be inter-exchanged.

(f) the re-use by the action of existing common frameworks and elements of interoperability solutions;

- The IMMC Core Metadata exchange protocol will be used to ensure a good understanding between the different systems involved.

⁴³ DECISION (EU) 2015/2240 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

- Transmission to EUR-Lex, for publication, of national legislation transposing EU directives notified by Member States.

(g) the link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

The Commission, as "Guardian of the Treaties", is required to monitor the correct application of Union Law by Member States. This proposal has a link with the 'democratic change' priority of the Juncker Commission and addresses several objectives of the Digital Single Market initiative.

6.7.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<p><i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>Yes. The proposal will allow the exchange of legislative information in a standardised format between Commission services and Member State administrations. It will make the notification and publication process of National measures more efficient and will avoid re-encoding of data that already resides in other systems.</p>
<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>Yes. There is no other current alternative other than THEMIS to notify to the Commission national legislation which transposes Union Law.</p>

6.7.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i></p>	<p>Yes. Union Law adopted by the Commission, which Member States need to comply with, covers all EU policy areas. The proposal will improve the interoperability of systems supporting the EU Law domain both Commission's and Member states. It will improve the notification process, making it more efficient, the quality of the data and its publication.</p>
<p><i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i></p>	<p>N/A</p>

6.7.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<p><i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i></p>	<p>Yes. All Member States are required to notify on their national legislation transposing adopted EU Law. As the introduction of ELI is voluntary, not all Member States will make use of the output of this proposal at first, but it is probable that they will join at a later stage. One of the key parts of this proposal is to define guidelines on how to use ELI within the context of infringement proceedings. These guidelines will ease transition for Member States towards ELI.</p> <p>As of today, public administrations from France and Luxembourg already provide</p>

	support for ELI – to some extent – while other like Austria and Italy are in the process.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	N/A

6.7.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	Yes. As of the 1 st of October 2016, Member States can elect to have their national transposition measures published on EUR-Lex. As the publication of measures is triggered from THEMIS, the services in-scope of this proposal, providing support for ELI, must be ready as soon as possible.
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	Yes. We believe that this action perfectly aligns with the scope of ISA ² .

6.7.5.5 Reusability of action outputs

The web services in scope to develop as part of this proposal are tailored to infringement management processes. Nevertheless, there may be possibilities to reuse/apply certain outputs to other purposes – to be explored during the Planning phase of this action.

The following output of this proposal has already been identified as perfect candidate for re-usability purposes:

Name of reusable solution	ELI data retrieval services
Description	A set of services that will allow other Information systems to retrieve and display the metadata and documents from the systems in the Member states.
Reference	
Target release date / Status	Q4 2017

Critical part of target user base	
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	N/A

6.7.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	Yes. The proposed solution will be based on the results of the ELI ISA action. Additionally, the proposed solution will use the eTrustEx platform for the secure exchange of information between the Commission and the Member states.
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	N/A

6.7.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	Yes. This proposal has a link with the 'democratic change' priority of the Juncker Commission and the Digital Single Market initiative.

6.7.6 PROBLEM STATEMENT

The exchange of data relating to legislation has grown considerably at EU level. These data originate from regional, national and EU bodies. However, the exchange of data is hindered by disparities between legal systems at country and EU level.

Within the context of EU Law, transposition of adopted directives implies national legislative changes which are currently notified to the Commission via filling in a form and attaching all relevant legislative texts sustaining the transposition within an existing IT system (currently MNE, future THEMIS).

This method of notification is tedious and leads to inefficiencies and discrepancies as the notified information is duplicated (at Member State and Commission databases), not necessarily up to date, forcing Member States to further notify as their national legislation evolves.

As of the 1st of October 2016, Member States can elect to have their national transposition measures published on EUR-Lex. These issues will be then further propagated once these measures are transmitted from the Commission's internal application (MNE, future THEMIS) to Eur-Lex in order to be published.

6.7.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Member States and European Commission	<p>Security, rapidity and privacy, preservation of information.</p> <p>The facilitation of structured data exchange between Member States and the Commission via application interfaces and web-services in the domain of the notification of transposition measures in the form of national legislative acts, as well as their subsequent transmission to the Publications Office and their publication on the EUR-Lex web site.</p> <p>Reduction of administrative burden of the Member States who have already implemented ELI.</p> <p>The service dedicated to the communication of transposition measures will guarantee the information exchange system providing:</p> <ul style="list-style-type: none"> - Immediate transmission (MS are required to respect deadlines). - Secure transmission with acknowledgement of receipt (high level of trust). - Secure data preservation (legal security for both MS and the

	EC).
European Commission	Efficient IT development and evolution, flexibility, scalability, adaptability to legislation change. When further Member states adopt ELI, use by these MS of ELI in THEMIS will be transparent.
Citizens and businesses	Transparency and openness through efficient interoperability with Eur-Lex . Greater transparency by making the national transposition measures available to the general public on EUR-Lex.

6.7.8 EXPECTED MAJOR OUTPUTS

Output name	ELI guidelines
Description	Guidelines to determine how ELI should be addressed, within the context of EU Law proceedings, ensuring that system-to-system communication can be achieved in a harmonised way and that legislation related data can be inter-exchanged easily regardless of its source. These guidelines will also help other Member States to adopt ELI in a much faster and reliable way.
Reference	
Target release date / Status	Q4 2017

Output name	ELI data retrieval
Description	A service that will allow other Information systems to retrieve and display the metadata and documents from the systems in the Member states.
Reference	
Target release date / Status	Q4 2017

Output name	ELI transmission
Description	A service to transmit the meta-data and documents of a specific legislation received from the ELI data retrieval web service to EUR-Lex for publication.
Reference	
Target release date / Status	Q4 2017

Output name	ELI measure notification
Description	Adaptation of the existing web service, part of the THEMIS catalogue, Member States use to notify on transposition measures, to incorporate the possibility to add the ELI link (which will be read and decoded by the ELI data retrieval web service).
Reference	
Target release date / Status	Q4 2017

6.7.9 ORGANISATIONAL APPROACH

6.7.9.1 Expected stakeholders and their representatives

Stakeholders	Representatives
European Commission – administrator	Unit SG C.3 of the Secretariat General administrating the application, providing policy guidance on its use.
Project Owner	Unit SG. C.3 of the Secretariat General responsible for application of the EU law.
Solution Provider	Unit SG R.3 (Information Technology) responsible for THEMIS.
End users - Commission	Infringement correspondents and case handlers in all Commission services.
End users - Member States authorities	Infringement correspondents and case handlers in all Member States (various national administrations in all Member States) and Member States Central Managers (Ministry of Foreign Affairs).
End users – citizens and businesses	Persons and entities which would like to have easy access to updated national legislation texts and national measures notified by Member States transposing adopted Union Law.

6.7.9.2 Identified user groups

Commission infringement correspondents and case handlers, Member states infringement correspondents and case handlers, European Commission and the public at large.

6.7.9.3 Communication plan

The main communication actions are described next:

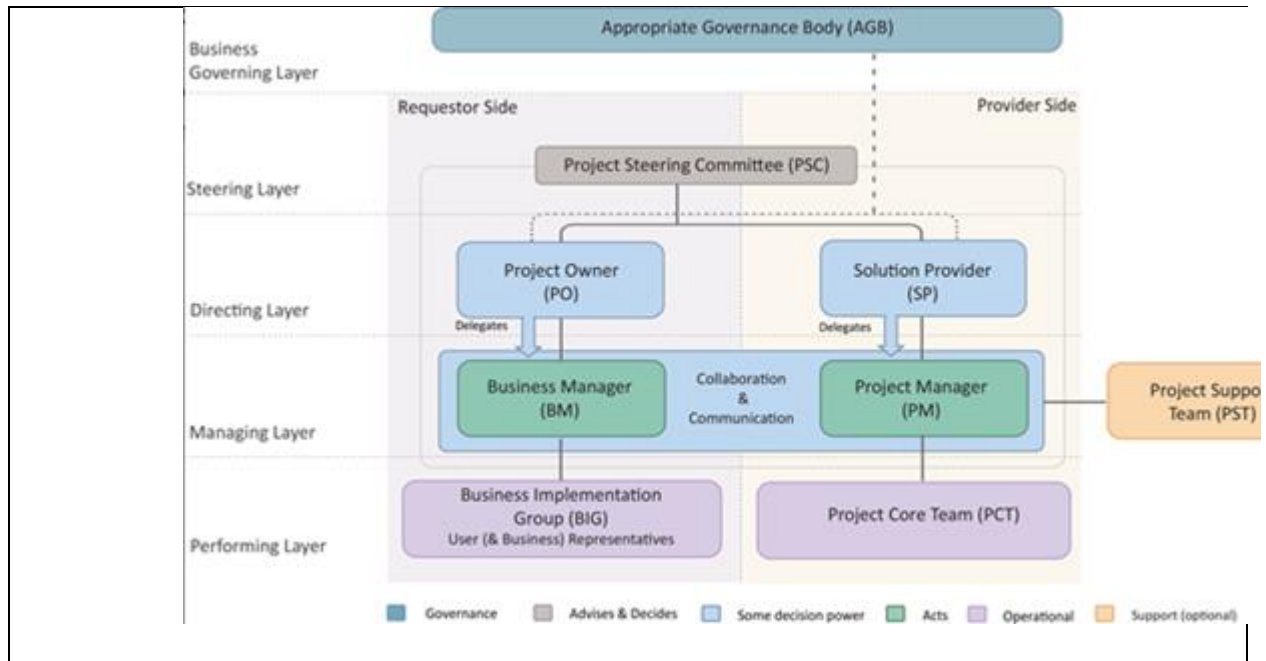
- Written communication, both to internal and external stakeholders (newsletter via e-mail).

- Awareness sessions – 1 with MSs representatives and 1 with DGs representatives – to present the project.
- Dissemination material for all relevant stakeholders:
 - o DGs: Leaflets, posters and a quick-start guide.
 - o MSs: Quick start guide.
- Meetings:
 - o With external stakeholders, once a year, in the frame of the EU Law Network meetings, to provide status and recollect feedback.
 - o With internal stakeholders, twice a year, as part of the DGs infringement correspondents meeting, to provide status and recollect feedback.
- First-line support: The Project Support Team will help users through the change and collecting feedback.
- CIRCABC group of interest on "Implementation and application of EU law", members of which are MS representatives.

Event	Representatives	Frequency of meetings / absolute dates of meetings
EU Law Network	All Member States	Normally, once or twice a year
Infringement correspondents meetings	Representatives from all DGs	Once or twice a year
Directors network	Representatives from all DGs	Once or twice a year
Project owner/System supplier	SG.C.3/SG.R.3	Quarterly reporting using PM ² methodology

6.7.9.4 Governance approach

This project will follow the standard PM² project governance structure.



Project Owner: Mr. VON KEMPIS, Karl (SG.C3)

Solution Provider: Mr. GRITSCH, Martin (SG.R3)

Project Manager: Mr. WILLANDSEN, Oliver (SG.C3)

Business Manager: Mrs. GROCHOWIAK, Elzbieta

Project Support Team (PST): To be appointed.

Project Core Team (PCT): To be appointed.

Business Implementation Group (BIG): 1 representative per MS. To be appointed at a later stage.

The governance approach has established weekly coordination meetings between SG.C.3 (project owner) and SG.R.3 (solution provider). In addition, this action will respect the general ISA² Governance under the supervision of the ISA² Coordination Group.

The governance of this action project is set up in the vision document for THEMIS. According to this document, the Steering Committee monitors completion of the project phases; sets project requirements, objectives and outcomes, validates project deliverables, tests activities and disseminates information about the project to the relevant stakeholders.

6.7.10 TECHNICAL APPROACH AND CURRENT STATUS

The services in scope of this proposal will extend the common external module of the THEMIS system, providing a reliable, robust and secure mechanism to provide system-to-system connectivity between in Member States public authorities' and Commission's (existing or under development).

System-to-system data exchanges between the national administrations and the Commission will reduce extra manual data encoding. This will allow Member States to transmit data directly from their back-office systems in respect of the following principles of the European Interoperability Framework: security and privacy, multilingualism, administrative simplification, transparency, preservation of information, openness, reusability, effectiveness and efficiency. History of all data exchanges with the Member States' administrations should be accessible to either party.

All services will be strongly integrated to ensure a consistent and reliable workflow.

The technical implementation of the proposed data-exchange services has the following requirements:

- State of the art secure web services allowing for the inter-exchange of meta-data and documents related to national or EU legislation.
- A transfer mechanism allowing for highly reliable exchange of documents, including very large documents if needed (electronic transmission should be the unique notification mechanism). To be checked if this can be covered by the eTrustEx platform.
- Legally binding electronic signature for official notification of infringements and transmission of the corresponding MS replies (explicit requests by Spain and Germany). Here we see a potential to leverage the eTrustEx platform.
- A publishing service allowing THEMIS to 'push' legislation related information to EUR-Lex, making the actual transmission of the corresponding document representing the national legislative act obsolete.

It is imperative to involve Member States in order to ascertain that compliance with ELI is achieved in a transparent and homogeneous way, within the scope of infringements proceedings. This will be channelled through the existing EU Law Network, with regular coordination meetings in Brussels.

6.7.11 COSTS AND MILESTONES

6.7.11.1 Breakdown of anticipated costs and related milestones

Phase:	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Initiation					
Planning					
Execution					
Closing/Final evaluation					

	Implemented solution	128	ISA2	Q1/2017	Q1/2018

6.7.11.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2017	Initiating	128	
2017	Planning		
2017	Executing		
2017	Closing		
2017	Monitor & Control		

6.7.11.3 Planning for the tendering procedures to be launched for the action

No tendering procedures planned to be launched for this action.

6.7.12 ANNEX AND REFERENCES

Description	Reference link	Attached document
Articles 4 and 17 TEU	http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:083:0013:0046:EN:PDF	
Articles 258 and 260 TFEU	http://eur-lex.europa.eu/JOHtml.do?uri=OJ:C:2010:083:SOM:EN:HTML	
Decision 2002/47/CE, CECA, Euratom for document management rules	OJ L 21, 24.1.2002, p. 23–27	
Annual Reports on monitoring the	http://ec.europa.eu/eu_law/infringements/infringements_annual_report_en.htm	

application of Community law		
Communication 'A Europe of results – Applying Community law' (the 2007 Communication)	COM (2007) 502	
Communication on the application of Article 260 (3) TFEU	http://ec.europa.eu/eu_law/infringements/infringements_260_en.htm	
Framework Agreement between the Commission and the European Parliament (Section on 'Monitoring the application of Community law')	http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:304:0047:0062:EN:PDF	
Public access to documents relating to infringement proceedings	SEC(2003)260/3 http://www.cc.cec/sg_vista/cgi-bin/repository/getdoc/COMM_PDF_SEC_2003_0260_3_EN.pdf	
Monitoring the application of community law: manual of procedures	SEC(2005)254/5 http://www.cc.cec/sg_vista/cgi-bin/repository/getdoc/COMM_PDF_SEC_2005_0254_5_EN.pdf	

6.8 REFIT PLATFORM (2017.03)

6.8.1 IDENTIFICATION OF THE ACTION

Service in charge	Unit C1 Evaluation, Regulatory Fitness and Performance, Directorate Smart Regulation and Work Programme Secretariat-General
Associated Services	

6.8.2 EXECUTIVE SUMMARY

The REFIT Platform was established as part of the Commission's Better regulation policy. The platform consists of 48 Members from all Member States, including High level experts from national authorities of all Member States and the private sector. They have been appointed to submit opinions to the Commission on suggestions on EU law and its implementation by Member States coming from citizens, businesses, public authorities and other stakeholders with a view to the Commission or Member States concerned responding, indicating the actions intended to be taken on those subjects. The Platform is therefore designed to play an important role in the development of the work programme of the Commission and therefore also the EU agenda and to improve the coherence and efficiency of the EU and Member State regulatory environment.

Since its start several hundred suggestions have come in to the Platform from government authorities, stakeholders and other interested parties. Managing this workload requires a new IT tool to support the process. The current IT infrastructure does not satisfy the needs and ensure the success of the REFIT Platform which is central to EU policy-making, the development of EU and Member State regulation as well as for the policy on Better regulation.

This application concerns a project on developing an IT tool that facilitates smarter cooperation by a large number of Commission officials, Member State government ministries and other experts in managing incoming suggestions and preparing positions on a high number of suggestions within a reasonable timeframe. The IT tool should enable multiple external users to work on the same document, avoid document down- and uploads and serve as a repository for all in-coming suggestions. The proposal meets in particular with ISA Article 7 priorities (b), (c) and (d).

6.8.3 OBJECTIVES

The expected outcomes would have to include:

- Development of a user-friendly, interactive web-based application (IT tool) to serve the REFIT Platform to be used by the REFIT Platform members comprising Member State administrations and stakeholder members, the Secretariat (SG), the Directorate Generals (DGs) in charge of files being handled by the REFIT Platform;

- The application should be able to manage each suggestion coming in, each work-step of developing an opinion including adding up-to-date background information through-out to the adoption of the opinion with a view to:
 - Significantly enhance the active contributions of the 48 platform members leading to better and inclusive opinions of the platform. Positive impact on platform members' satisfaction with and readiness to contribute to the process.
 - Reduce workload related to the preparation and publication of suggestions in the form of 'Assessment Sheets' (AS) (a burden both on SG and DGs)
 - More timely production of AS with more up-to-date information
 - Better and more reliable storage and classification of suggestions and ASs allowing for a smarter use of information (once only) already received
 - Greater DGs buy-in and a more positive approach towards the platform process

6.8.4 SCOPE

To replace the current use of CircaBC, emails, Collaborative Workspace and the Europa website, the scope of the project is to develop an IT tool facilitating the participation of all 48 REFIT Platform members in developing opinions on a broad array of subject matters based on hundreds of suggestions.

The IT tool needs are:

- Two separate 'channels' with the same functionalities, one for all users, one for Commission internal.
- Automatic generation of an Assessment Sheet when a suggestion is introduced via the website 'Lighten the load...' and notification to relevant Commission services requesting contributions.
- When the Assessment Sheet is available on the 'external channel' it should allow the 48 members to indicate their interest in leading the work; entitlements to fill-in their contribution to the opinion in predetermined boxes and enable a pre-set sequence of input; initiation of formal 'written adoption' where relevant; availability of each opinion-document with all changes visible and clean version.
- The IT tool should support a single, shared document on which several members can work simultaneously (no down- and upload of documents)
- Authorised Members (or their assistant) entitled to edit documents in the IT tool but delegation only based on prior approval by the Secretariat.

The Better Regulation Portal and the 'Lighten the load – Have your say' are not within the scope of this project, but appropriate alignment with these is required.

6.8.5 ACTION PRIORITY

The proposal for a REFIT Platform IT tool is important for the success of the REFIT Platform, which is one of the flagship actions in the May 2015 Better regulation agenda⁴⁴ of the European Commission and one of the 10

⁴⁴ See: http://ec.europa.eu/info/files/better-regulation-better-results-eu-agenda-0_en

Juncker priorities. The action will therefore make an important contribution to EU and Member State cooperation and responses to suggestions from citizens, businesses and local and national authorities with on-the-ground experience with application of the EU law.

The IT tool will significantly help the geographical reach of the Platform so as to ensure equal and inter-active engagement of all Member States and of European public administrations involved, stakeholder members based in various parts of Europe and between the different Commission Directorates General and Secretariat-General because all sectors / EU policies are involved.

The proposal will facilitate cooperation between the Commission, Member States and stakeholders by supporting cross-border and cross-sector exchanges of information that will enable more efficient, secure and collaborative public services.

This interoperability solution will facilitate successful implementation of policies and offers great potential to overcome cross-border electronic barriers, further securing the emergence of new, or the consolidation of developing, higher quality and more coherent public services at Union level.

6.8.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<p><i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i></p>	<p>Yes, It helps to elaborate the better regulation agenda of the European Commission and to efficiently and effectively improve electronic cross-border and sector interaction between Commission and the members of the REFIT platform (Member States and stakeholders) and between the members of the Platform supporting the implementation of Union policies and activities.</p> <p>More efficient use of reported data is a key area of work for the REFIT Platform.</p>
<p><i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i></p>	<p>Other solutions (CIRCA BC and a collaborative workspace) are available but they are not user-friendly for the REFIT platform members. The CIRCA BC is used to distribute documents to the REFIT platform members. There is no online collaboration between platform</p>

	<p>members through CIRCA BC as it does not allow for a simultaneous collaboration on word documents.</p> <p>The newsgroup option is not used, as it is considered not to be particularly user friendly.</p>
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6.8.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i>	The REFIT Platform covers all EU policy areas where suggestions from citizens, businesses, stakeholders and public authorities are made. Once completed the IT tool will vastly increase the speed with which the Platform works and thus help the Platform to cope with the high and diverse work load covering the whole EU regulatory acquis across all policy areas.
<i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i>	N/A

6.8.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	Yes. The REFIT Platform consists of two Commission expert groups. A Government group in which all member states are represented. And a Stakeholder group with

	representatives of businesses, social partners, civil society organisations in various member states, the Economic and Social Committee and the Committee of the Regions
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	N/A

6.8.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	Better regulation is one of the 10 Commission Juncker priorities. The REFIT Platform is one of the key new developments in the Commission May 2015 Better regulation package. The Platform started its work in January 2016 offering a dialogue between all relevant actors (EC, MS and stakeholders). It is urgent to ensure the efficient functioning of the Platform within the mandate of this Commission.
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	Yes, the ISA scope and conditions fits well with the objective and scope of the REFIT Platform. Other resources are not available.

6.8.5.5 Reusability of action outputs

The proposed IT tool is tailored to the needs of the REFIT Platform. Nevertheless, there may be possibilities to reuse / apply certain or even major outputs to other Commission expert groups – to be explored during the Planning phase of the project.

6.8.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	Yes. REFIT intends to make use of the e-TrustEx platform for the secure exchange of documents amongst Member States' representatives and the Commission. Additionally, REFIT will make use of the MT@EC translation service for working documents.
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	N/A

6.8.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	Better Regulation is priority 10 of the Juncker Commission. The work of the Platform potentially contributes to all Union priorities dependent on the issues sent in to and taken up by the Platform.

6.8.6 PROBLEM STATEMENT

Collaborative Workspace, ordinary emails and CIRCABC are used to prepare documents internally in the commission and to share documents with the Platform members. Combing these tools is inefficient, been criticized by the external members and do not meet all the needs. The main problems identified include:

- Commission services are reluctant to use Collaborative workspace when preparing the Assessment Sheets. It has no workflow management (including validation), no tracking of progress and no effective storage and classification of documents,
- The CIRCABC newsgroup is not user-friendly; does not allow for a simultaneous collaboration on documents and its user-interface is archaic resulting in little use and extra work when email distribution is required.

6.8.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

The IT tool will be tailor-made to the needs of an effectively managed REFIT Platform. Those involved with the REFIT Platform work will be the immediate beneficiaries of an IT tool that will reduce the current administration and document handling.

In a wider sense a more productive and inclusive REFIT Platform process will enhance the chances of success for the 'Better regulation' agenda which is seen as critical to revitalise European cooperation based on policies and laws that are responsive to the citizens and businesses directly affected.

Beneficiaries	Anticipated benefits
REFIT Platform members	Greater online interaction of platform members leading to better cooperation and more inclusive opinions of the platform, increased commitment to the work of the Platform and enhanced productivity. Positive impact on platform members' satisfaction with the process.
Platform members and EC (SG and DG's)	Better storage and classification of suggestions and Assessment Sheets allowing for a smarter use of information already received, time and resources saved.
EC (SG and DGs)	Reduced workload related to the preparation and publication of Assessment Sheets Significant reduction in potential for mistakes or incoherent documents
EC (SG and DGs)	More transparency throughout the process leading to greater DGs buy-in and a more positive approach towards the platform process

6.8.8 ORGANISATIONAL APPROACH

6.8.8.1 Expected stakeholders and their representatives

Stakeholders	Representatives
European Commission	CAB Timmermans, the Secretariat General, concerned DG's
Refit Platform	Stakeholder members and Member State authorities

6.8.8.2 Identified user groups

Everyone involved with the REFIT Platform either in general or in specific cases. These are typically the experts in European Commission services; the cabinet of the FVP, the Secretariat General in its capacity as Secretariat. Externally the users will be the 48 members of the REFIT Platform i.e. the stakeholder group members and Member State authorities.

6.8.8.3 Communication plan

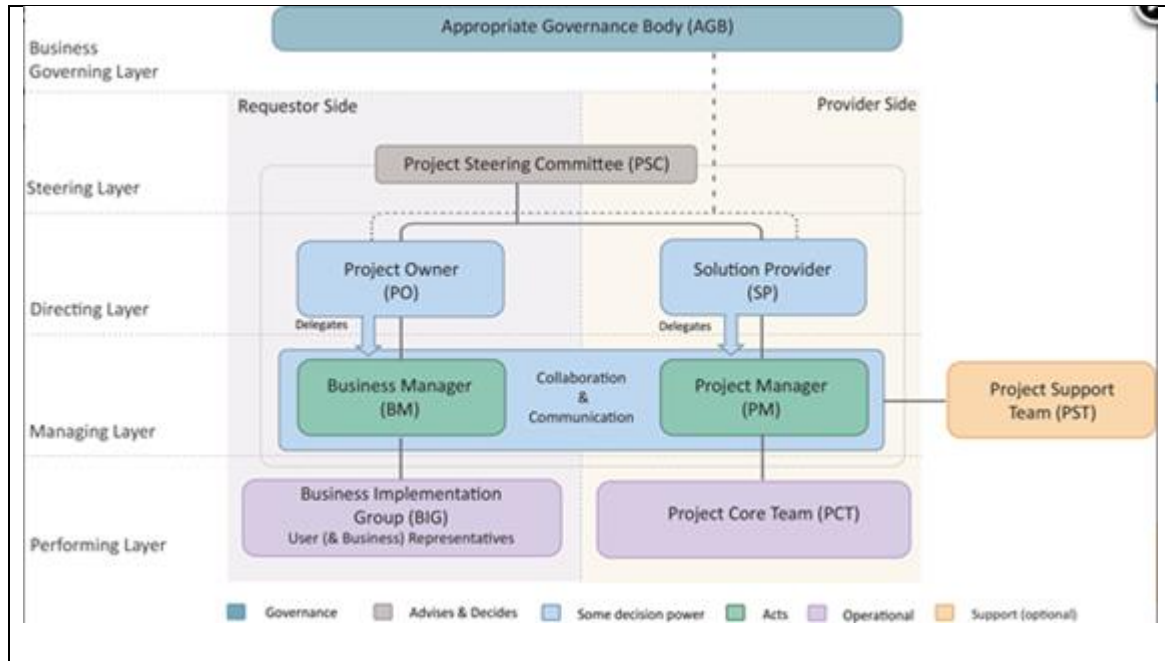
The main communication actions are:

- Written communication, both to internal and external parties involved with the REFIT Platform and its activities (e-mail).
- 'Hands-on' awareness sessions – One with all the members of the REFIT Platform and one with the DGs 'Better regulation' representatives – to present the project.
- Dissemination material for all relevant stakeholders:
 - DGs: a quick-start guide.
 - MSs: a quick start guide.
- Meetings:
 - With external stakeholders, the REFIT Platform meets every 2 - 3 months and will continuously be provided with status and given the opportunity to provide feedback.
 - With internal stakeholders, twice a year, as part of the regular DGs 'Better regulation correspondents meeting, to provide status and receive feedback.
- First-line support: The Project Support Team will help users through the change and collecting feedback.

Event	Representatives	Frequency of meetings / absolute dates of meetings
REFIT Platform group meetings	All Member States and all Stakeholder group members	Meetings every 2 -3 months
Better regulation correspondents meetings	Representatives from all DGs	Once or twice a year
Directors network	Representatives from all DGs	Once or twice a year
Project owner/System supplier	SG.C.1/SG.R.3	Quarterly reporting using PM ² methodology

6.8.8.4 Governance approach

This project will follow the standard PM2 project governance structure.



Project Owner: Mr. STOODLEY, Jonathon (SG.C1)

Solution Provider: Mr. GRITSCH, Martin (SG.R3)

Project Manager: Mr. SAGSTETTER, Norbert (SG.C1)

Business Manager: Ms. GEROLYMATOU Maria

Project Support Team (PST): To be appointed.

Project Core Team (PCT): To be appointed.

Business Implementation Group (BIG): 1 representative per interested DG and 3 representatives from the REFIT Platform Government group and 3 from the Stakeholder group. To be appointed at a later stage.

The governance approach has established regular coordination meetings between SG.C.1 (project owner) and SG.R.3 (solution provider). In addition, this action will respect the general ISA Governance under the supervision of the ISA Coordination Group inside the cluster "Trusted Information Exchange".

A Steering Committee will monitor completion of the project phases; set project requirements, objectives and outcomes, validate project deliverables, test activities and disseminate information about the project to the Commission services. It will be composed of members from Units C.1, R.2 and R.3 of the Secretariat General and representatives of those services who have been most involved with REFIT Platform suggestions (DG AGRI, DG GROW, DG ENV, DG FISMA, DG SANTE and DG TAXUD).

6.8.9 TECHNICAL APPROACH AND CURRENT STATUS

The Platform is composed of two groups, one for Member State experts ("Government group") and one for representatives of the Economic and Social Committee and the Committee of the Regions, business, social partners and civil society organisations having direct experience in the application of Union legislation ("Stakeholder group").

The task of the Platform is to invite and collect suggestions on regulatory and administrative burden reduction, to assess the merits of these suggestions, to forward for comment those suggestions considered to merit most attention to the Commission services or to the Member State concerned and to respond to each suggestion and publish the response. This means that altogether 48 experts are involved and are supposed to actively contribute to preparation of the opinions to be adopted. Unlike other Commission expert groups, the Commission (SG.C1) acts as Secretariat, but the active opinion formulation is the responsibility of the members.

Currently a Collaborative Workspace and CIRCABC are used to prepare and share documents with the Platform members. The suggested IT tool should be developed separate from but compatible with the development of the Better Regulation portal (BRP). The primary objective of the IT tool is to manage the preparation and publication of ASs as part of the development of the new "lighten the load" phase.

The technical implementation of the IT tool has the following requirements:

- Two separate 'channels' with the same functionalities, but one dedicated strictly to Commission-internal document preparations and another one open to all 48 members and the Commission.
- The 'internal channel' should enable automatic generation of an Assessment Sheet when a suggestion is introduced via the website 'Lighten the load...' with the functionality that SG.C1 can quality control before notifying the relevant services that a new Assessment Sheet needs input. The approved Assessment Sheet should automatically be available in the 'external channel' with notification to the 48 Members.
- The 'external channel' should allow Members to indicate their interest in leading the work so it is visible who is in charge of a file.
- Each of the two Platform groups should have unique entitlements to fill-in their contribution to the opinion in a dedicated box in the document. The box should be visible and open for editing to all members of the specific group, with clear indication of who has made what changes. This box should only be visible to the other group once the lead member has verified that the document is ready to be shared. Once both groups have verified that their box have been filled-in (including the option of not having any opinion) both groups should have access to and editing-rights to draft a joint summary opinion.
- The leaders from both groups are entitled to sign-off the joint summary opinion indicating that the opinion is ready for 'written adoption' whereby it automatically notifies all members of the time they have to react or the conclusion that the draft opinion will need to be discussed at a meeting.
- The IT tool should automatically make available both a version with all the individual contributions / comments and a clean version, which is the basis for adoption.
- In the 'external channel' only SG.C1 should have editing rights in the entire document while other Commission services should have continuous access to edit their own contribution only.
- The IT tool should support a single, shared document on which several members can work simultaneously (and avoid down- and upload of documents)

- Members must be able to download documents for internal coordination. However, only authorised Members (or their assistant) must be entitled to edit documents in the IT tool and delegation of that right should not be possible without prior approval by SG.C1.

Due to the scope and complexity, the project will be divided in two versions where learnings from version 1 will be used to calibrate version 2.

6.8.10 COSTS AND MILESTONES

6.8.10.1 Breakdown of anticipated costs and related milestones

Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Planning	Requirements gathering, assuring alignment with scope of the Better Regulation Portal and existing 'Lighten the load – Have your say'.	45	ISA ²	Q2/2017	Q3/2017
Planning	Detailed format (technical use cases) of the in-scope identified business services and their exposure through web services. Validation of version 1 proposal by all actors.	90	ISA ²	Q2/2017	Q3/2017
Executing	System architecture and system core implementation. Development of 'in/out' web services and their correspondent backend business services, version 1.	193	ISA ²	Q3/2017	Q4/2017
Executing	Testing and training; updated technical documentation for Platform members to	45	ISA ²	Q4/2017	Q4/2017

	allow them to integrate their systems with the new services, version 1.				
Closing	Roll-out Version 1	45	ISA ²	Q4/2017	Q4/2017
Monitor & Control	Monitor and report on ongoing project activities and project performance, planning and implementing corrective actions in case of need.	45	ISA ²	Q2/2017	Q4/2017
Executing	System architecture and system core implementation. Development of 'in/out' web services and their correspondent backend business services, version 2.	200	ISA2	Q1/2018	Q2/2018
Executing	Testing and training; updated technical documentation for Member States to allow them to integrate their systems with the new services, version 2.	45	ISA2	Q1/2018	Q2/2018
Closing	Roll-out version 2	45	ISA2	Q2/2018	Q2/2018
Monitor & Control	Monitor and report on ongoing project activities and project performance, planning and implementing corrective actions in case of need.	45	ISA2	Q1/2018	Q2/2018
	Total	797	ISA ²		

6.8.10.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2017	Planning, executing, closing, monitoring and control, version 1	462	

2018	Planning, executing, closing, monitoring and control, version 2	335	
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6.9 INTER-INSTITUTIONAL REGISTER OF DELEGATED ACTS (2017.04)

6.9.1 IDENTIFICATION OF THE ACTION

Service in charge	European Commission, SG
Associated Services	European Parliament, Council, DIGIT

6.9.2 EXECUTIVE SUMMARY

Delegated acts are acts adopted by the Commission in order to amend or supplement non-essential elements of basic acts, on the basis of empowerments given by the legislator (European Parliament and Council) in the basic acts themselves⁴⁵. The Commission adopts around 100 such acts per year, across quasi all policy areas.

Delegated acts are planned, prepared by the Commission with the help of expert groups, adopted by the College and then subject to an objection period by the legislator. During this scrutiny period, the European Parliament and the Council can each decide to tacitly agree, to object the act, to extend the objection period or to express its early non-objection to the act. Should no objection be raised, the act is then published in the Official Journal and enters into force. Several documents can be produced during the lifecycle of delegated acts, and there is currently no system allowing for an integrated view. Moreover, there is also no inter-institutional working tool allowing for a smooth communication and interaction between the three institutions around such acts, despite them having become a reality more than five years ago (with the entry into force of the Lisbon Treaty).

That is why the three institutions decided, in the Inter-Institutional Agreement on Better Law-Making of 13 April 2016, to jointly set up and manage a dedicated Register for Delegated Acts. This Register would allow an integrated view over the full life-cycle of delegated acts and related documents, including the relevant actions taken on the delegated acts within each Institution, in addition to serving as a transmission tool between the three institutions for all exchanges related to such acts. It will be built on the basis of existing tools, reusing as much as possible from what has already been implemented in other projects and acting mainly as an information aggregator, avoiding information duplication. Also, it will be built with future inter-operability in mind, in order to allow its evolution towards increased inter-connectivity in the future.

6.9.3 OBJECTIVES

The objective of this action is to set-up an inter-institutional Register for Delegated Acts, that both responds to the needs of the three institutions (Commission, European Parliament, Council) and increases the transparency of the preparation and adoption of delegated acts, so that the institutions, the Member States and the public at large have a better view of the full life-cycle of delegated acts, from planning to entry into force. As such, the Register complies with the objectives of the ISA2 programme of increasing interoperability (given that it is

⁴⁵ See art. 290 TEU and the Common Understanding on Delegated Acts annexed to the Inter-Institutional Agreement on Better Law-Making of 13 April 2016.

designed to be an inter-institutional tool), of facilitating electronic cross-sector interactions (given that delegated acts are adopted in all policy areas) and of promoting reuse of interoperability solutions by European public administrations (by heavily relying on already existing solutions).

6.9.4 SCOPE

The Register should cover the entirety of the lifecycle of a delegated act, from planning and preparation down to adoption and entry into force, including revocation/tacit renewal of the empowerment. The Register should allow a timeline view of all the relevant documents with the focus being on every individual delegated act. Also, it would also be useful to be able to search the different delegated acts adopted (or under preparation) on the basis of the same basic act and delegated acts adopted linked to the different expert groups.

The scope of the project also includes the new functionalities needed in already existing systems to allow the inter-operability of those with this new Register (and potentially with any other future system that might be interested in re-using the available information).

6.9.5 ACTION PRIORITY

The proposed action complies with all the prioritisation criteria listed in art 7 of the ISA2 Decision (Decision (EU)2015/2240), as follows:

(a) the contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union;

The Register responds to a pressing need for interoperability between the Commission, the European Parliament, the Council and the Publications Office as far as the preparation, adoption and follow-up of delegated acts is concerned. While the various stages of the lifecycle of a delegated act are in principle already accessible through various websites or information systems, there is no integrated view available. Moreover, the IT tools of the three institutions do not currently interoperate, with official exchanges still taking place over e-mail or paper transmissions. This also applies to exchanges with the Member States, currently via e-mail. The proposed system will try to fill this gap, acting on top of existing ones, retrieving the information from its original source and acting as an information aggregators.

(b) the scope of the action, measured by its horizontal impact, once completed, across the sectors concerned;

Albeit only dealing with delegated acts, the Register will have an important cross-sector effect, as delegated acts are adopted in virtually all sectors of EU activity. The table in Annex II provides an overview of the number of acts per year and per DG (as a proxy of the policy field). These numbers are expected to grow in the following years, once the alignment of the Regulatory Procedure with Scrutiny to the regime of delegated and implementing acts is completed.

(c) the geographical reach of the action, measured by the number of Member States and of European public administrations involved;

The Register will be a joint tool, designed and managed together by the Commission, the European Parliament and the Council. It is the first inter-institutional tool involving the three institutions. Moreover, the Publications Office will

be involved, as they publish in the Official Journal both the basic act, containing the empowerment for the Commission to adopt delegated acts, as well as the delegated acts themselves. Also, as all Member States participate in the works of the expert groups preparing delegated acts, they could benefit from the improved transparency. Moreover, the services implemented to share the information between the institutions could also be used by the Member States should they be interested.

(d) the urgency of the action, measured by its potential impact, taking into account the lack of other funding sources;

The Inter-Institutional Agreement on Better Law-Making of 13 April 2016 contains an explicit requirement for the Register to be set up by the end of 2017. It is therefore imperative for the development work to take place during 2017, on the basis of the analysis already carried out in 2016 (both within the framework of the landscaping exercise⁴⁶ and with additional resources from the Commission, 100K under Heading 5).

(e) the re-usability of the action, measured by the extent to which its results can be re-used;

As the Register will be the first inter-institutional tool managed by the three institutions, it will create a precedent for interoperability and joint management of common databases/tools. As such, it could be reused for further inter-institutional projects, such as a modernisation of the Commission's Comitology Register (dating back to 2002) and its interoperability with Parliament, Council and Member State tools. The services to be built in existing systems to allow the inter-operability with the Register could also be used in the future by any other system, either by the institutions or by any public administration in the Member States. Also, there are other tools (such as the Comitology Register) that could benefit from inter-institutional data exchanges, so any functionality implemented for this purpose could eventually be re-used.

(f) the re-use by the action of existing common frameworks and elements of interoperability solutions;

- CEF building blocks – eTrustEx and/or eDelivery - will be used for the exchange of information between the Commission, the Council, and the Parliament.

- The IMMC Core Metadata exchange protocol will be used to ensure a good understanding between the different systems involved

- The Register will get information from Eur-Lex (via the already existing web services provided by this system) and documents from Decide (that will be retrieved from the Hermes External Repository). Also, European Parliament and Council back-end systems will be interfaced.

(g) the link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

This project has a clear link with one of the ten priorities of the Juncker Commission, namely "democratic change". Increased transparency over the decision-making process and facilitating stakeholder participation in the policy-making process are elements of this strategic objective. The Register, by allowing an integrated view over the lifecycle of delegated acts, will greatly facilitate both stakeholders' and institutional players' participation.

⁴⁶ Action 2016.17 in the 2016 ISA2 Work Programme

6.9.5.1 Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
<i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i>	This Register is a clear example of interoperability between the Commission, EP and Council, being the first true joint interinstitutional tool, across policy areas.
<i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i>	There is currently no structured exchange of documents/information between the three institutions as regards the preparation and post-adoption treatment of delegated acts. The creation of the Register is therefore seen as the best solution, given the business workflows it needs to support.

6.9.5.2 Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i>	The Register will be used in all policy area, see annex II for an overview (using the DGs as proxy)
<i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i>	NA

6.9.5.3 Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	Although the use of the inter-operability solutions by Member States administrations is not in the scope of the projects, the solutions built for the exchange of information between the European institutions could be used by Member States too.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	NA

6.9.5.4 Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	Yes, the requirement to deliver the Register by the end of 2017 comes from the Inter-Institutional Agreement on Better Law-Making of 13 April 2016.
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	As this is by definition a multi-institution, cross-border and cross-sector project, ISA2 seems to offer the best framework for its development.

6.9.5.5 Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Name of reusable solution	Register of Expert Groups REST Services
Description	A set of REST services that would allow other Information systems to get information from the Register. It could be useful for systems such as Decide or the Better Regulation Portal, which would be able to get a list of existing groups and information about them in real-time. It could also eventually be re-used by Member States administration, who might be interested on getting information regarding groups which they are part of.
Reference	
Target release date / Status	Q4/2017
Critical part of target user base	
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	NA

6.9.5.6 Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	The proposed system will use CEF building blocks (eTrustEx and/or eDelivery) for the exchange of information between the institutions, and the IMMC schema will be used to simplify the understanding and re-use of the information (both by the parties included in the proposal and by any other future stakeholder)
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	NA

6.9.5.7 Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	This project has a clear link with one of the ten priorities of the Juncker Commission, namely "democratic change". Increased transparency over the decision-making process and facilitating stakeholder participation in the policy-making process are elements of this strategic objective. The Register, by allowing an integrated view over the lifecycle of delegated acts, will greatly facilitate both stakeholders' and institutional players' participation.

6.9.6 PROBLEM STATEMENT

Delegated acts are prepared by Commission services with the help of expert groups. They are then adopted by the College, normally through written procedure, and sent to the EP and Council for their scrutiny during the objection period. Once the objection period is over, they are published in the Official Journal and enter into force. The table in Annex I provides the full list of documents produced in the lifecycle of a delegated acts and the IT applications/websites where they are available today. It shows that information, while in general publicly available, is dispersed. Also, there is currently no standard practice/unified transmission channel at the preparatory stage (expert groups), DGs using e-mail, CIRCABC, own websites, etc. in order to document the discussions in the expert groups. At the other end of the process, there is no centralized repository of documents after the adoption stage, documenting the position of and the actions taken by the other institutions (objections, extensions of deadlines, early non-objections, revocation of empowerments). The Joint Register aims to remedy these shortcomings, by offering an integrated access to all the stages in the lifecycle of a delegated act and by serving as an aggregator of information between the three institutions.

6.9.7 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

[please write maximum 200 words. Please also include a preliminary assessment of the financial benefits and cost-savings resulting from implementing the action.]

Beneficiaries	Anticipated benefits
Stakeholders and the public at large Member States European Institutions	Increased transparency The system will allow for a better follow-up on the development of delegated acts, which is a strong demand from stakeholders, institutions and Member States alike. Contacts with the Council Presidencies (The Netherlands, Slovakia, Malta) indicate strong Member State support for this project.
European Institutions (Commission, Parliament and Council)	Improved communication By implementing the means for the different institutions' systems to inter-operate, the communication between the parties will improve both in terms of efficiency and reliability. This same means could potentially be re-used by the Member States as well

6.9.8 EXPECTED MAJOR OUTPUTS

Output name	Register of Delegated acts public interface
Description	A public system hosted in the Europa site, which will allow anyone (European institutions, member state authorities and the public at large) to get the information regarding the lifecycle of a delegated act
Reference	
Target release date / Status	Q4/2017

Output name	Register of Delegated acts joint database
Description	A joint database fed by the three institutions with all the relevant events/documents and a UI for the EC/EP/GSC staff.
Reference	
Target release date / Status	Q4/2017

6.9.9 ORGANISATIONAL APPROACH

6.9.9.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Commission	SG.B2 will act as the system owner of the Register and will closely associate the system supplier (DIGIT.B2) and the relevant networks of DG users (expert group coordinators, comitology coordinators, legislative coordinators).
European Parliament	DG IPOL (CODE), DG ITEC
Council	GIP (DRI Legislation Unit), DGA 5

6.9.9.2 Identified user groups

DG coordinators for expert groups and comitology, EP and Council coordinators (both active contributors and users of the system), Member State administrations and the public at large.

6.9.9.3 Communication plan

Dedicated trainings will be organized in the three institutions targeting the main user groups of the future Register (for the Commission that would be the expert group coordinators and the comitology coordinators). In terms of external communication, the necessary communication strategy will be put in place, involving a press release, launch statements on social media, communication via the representations in the Member States.

6.9.9.4 Governance approach

The project will follow the standard PM2 governance structure:

Project Owner: Mr. KLAUS, Henning (SG.B2)

System Supplier: Mr. BARCELLAN, Roberto (DIGIT.B2)

Project Manager: Mr. TORRECILLA SALINAS, Carlos (DIGIT.B2)

Business Manager: Ms. TANASESCU, Irina (SG.B2)

Business Implementation Group (BIG): Representatives from the Institutional Affairs Unit in the Commission, and the Codecision Units in the EP and the Council.

The Heads of Unit of the Codecision Units in the EP and the Council will be part of the Project Steering Committee together with the standard members (Project Owner, System Supplier, Business Manager and Project Manager). It is left to each institution to organize itself internally for the link between business and IT and to decide on the participation to the coordination meetings of other colleagues, according to the topics on the agenda. A formal inter-institutional project team structure will be established in September 2016 and may be formalised through an exchange of letters.

This structure could refer, as necessary, to the Interinstitutional Coordination Group which is responsible for monitoring the overall implementation of the Interinstitutional Agreement on Better Law-Making.

6.9.10 TECHNICAL APPROACH AND CURRENT STATUS

During the analysis phase, the specific technology to be used will be determined. The expected usage of the system will also have to be estimated in order to define the infrastructure requirements to ensure the correct performance of the system.

Phase I of the System will include:

- The public interface: It will be hosted in the Commission Data Centre and available in the Europa site. This interface is the main entry point for the public to view the details on the delegated acts.
- The inter-institutional interface: it will provide privileged access to information that is not made public. Each institution will determine who has access to the restricted area.
- A back office system, accessible to users of the institutions (with an ECAS-based authentication system) to manage the information available
- The services to retrieve information and/or documents from systems which already provide interoperability capabilities.
- The data exchange services in the systems that do not currently provide them. These services must provide a secure and reliable mechanism. They should also be conceived in a way that could allow the potential re-use in the future (hence the use of standards such as the IMMC ones to improve compatibility both now and in the future).

Phase II will include:

- The counterpart to the services mentioned in the last point, to integrate the information/documents from these systems in the overall view.
- A reporting and statistics service to allow the interested parties to retrieve different sets of historical information.

6.9.11 COSTS AND MILESTONES

6.9.11.1 Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Execution	Register of Delegated Acts Phase 1	689	ISA	Q1/2017	Q4/2017

	Total	689			

6.9.11.2 Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016			
2017	Execution	689	
2019			
2020			

6.9.12 ANNEX AND REFERENCES

Description	Reference link	Attached document
IIA BL	http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2016:123:TOC	

ⁱ <http://eupan.eu/>

ⁱⁱ http://ec.europa.eu/yourvoice/index_en.htm

ⁱⁱⁱ <http://ec.europa.eu/eusurvey/>

^{iv} <https://gate.ac.uk/>

^v <https://opennlp.apache.org/>

^{vi} <https://mahout.apache.org/>

^{vii} <https://uima.apache.org/>