



ISA² WORK PROGRAMME

2019

SUMMARY

Table of Contents

<u>1.</u>	<u>CONTEXT.....</u>	<u>3</u>
1.1	THE NEED FOR THE ISA ² PROGRAMME.....	3
1.2	POLITICAL CONTEXT	4
<u>2.</u>	<u>THE ISA² PROGRAMME.....</u>	<u>5</u>
<u>3.</u>	<u>STRUCTURE OF WORK PROGRAMME.....</u>	<u>6</u>
3.1	KEY AND GENERIC INTEROPERABILITY ENABLERS.....	7
3.2	SEMANTIC INTEROPERABILITY.....	9
3.3	ACCESS TO DATA / DATA-SHARING / OPEN DATA	11
3.4	GEOSPATIAL SOLUTIONS.....	13
3.5	E-PROCUREMENT / E-INVOICING — SUPPORTING INSTRUMENTS	14
3.6	DECISION-MAKING AND LEGISLATION — SUPPORTING INSTRUMENTS	14
3.7	EU POLICIES – SUPPORTING INSTRUMENTS.....	17
3.8	SUPPORTING INSTRUMENTS FOR PUBLIC ADMINISTRATIONS.....	18
3.9	ACCOMPANYING MEASURES	25
<u>4.</u>	<u>BUDGET.....</u>	<u>26</u>

1. CONTEXT

1.1 THE NEED FOR THE ISA² PROGRAMME

European Union citizens are free to work in and relocate to any Member State and companies are free to operate throughout the EU. They interact frequently with national administrations and are increasingly doing so electronically. Member States are gradually modernising their administrations by improving their business processes and ICT infrastructure, in order to reduce administrative burden and costs while increasing the efficiency and effectiveness of public services.

However, due to their national scope and a lack of interoperability at European level, there is a high risk of such changes giving rise to electronic barriers ('e-barriers'). These would prevent individuals and companies from interacting with a foreign administration with the same ease as locals and this could impede the success of the digital single market.

Organisational issues (such as the complexity of public administrations and official procedures), cultural differences and the lack of cooperation between administrations are also major barriers to interoperability.

At national level, Member States may opt for mutually incompatible solutions to address these barriers. Rather than boosting efficiency and savings, this would only create new barriers to the delivery of European public services in the internal market.

An EU programme is the best means of addressing the need to modernise public administrations, by improving electronic interaction among Member States and between Member States and individuals and companies.

The objectives of the ISA² ('ISA squared') programme, which builds on the successful ISA programme, are the following:

- a. develop, maintain and promote a holistic approach to interoperability in the EU in order to eliminate fragmentation;
- b. facilitate efficient and effective electronic cross-border and cross-sector interaction among European public administrations and between European public administrations and companies and citizens;
- c. contribute to the development of more effective, simplified and user-friendly e-administration at national, regional and local levels;
- d. identify, create and implement interoperability solutions that support EU policies and activities; and
- e. facilitate the reuse of interoperability solutions by European public administrations.

ISA² builds on the results of the ISA programme, extending its scope to interaction between public administrations, citizens and companies. Its stakeholders are broadly the same and it is intended to finance existing and new innovative solutions.

1.2 POLITICAL CONTEXT

The ISA² programme should be seen in the context of a number of other EU initiatives:

- the roadmap linked to the Commission’s Communication *A digital single market strategy for Europe*, which recognises that interoperability and standards are key to the successful implementation of the digital single market. The strategy stresses the need to revise, and extend the scope of, the European interoperability framework (EIF). The revision and implementation of the EIF and the European interoperability strategy are part of ISA²;
- the Commission’s 2013 *Annual growth survey*¹, which identifies the cross-border interoperability of online services and the digitalisation of European public administrations as important contributors to growth and increased efficiency. Interoperability helps administrations deliver digital services more effectively and more efficiently, while sharing and reusing interoperability solutions may reduce costs;
- the Europe 2020 strategy², which seeks to turn the EU into a smart, sustainable and inclusive economy, delivering high levels of employment, productivity and social cohesion. It addresses a number of key challenges that relate directly to the modernisation of European public administrations; and
- other initiatives that contribute to the modernisation of public administrations, e.g. Horizon 2020³, the Connecting Europe Facility (CEF)⁴, the European Public Administration Network (EUPAN) (and other networks) and the European Structural and Investment Funds. ISA² ties in with the last two by ensuring that

¹ 2013 *Annual growth survey* (COM(2012) 750 final, 28.11.2012).

² Commission Communication *Europe 2020: A strategy for smart, sustainable and inclusive growth* (COM(2010) 2020 final, 3.3.2010).

³ Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 — the Framework Programme for Research and Innovation 2014-2020 and repealing Decision No 1982/2006/EC (OJ L 347, 20.12.2013, p. 104).

⁴ Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010 (OJ L 348, 20.12.2013, p. 129).

funded national projects are aligned with EU-wide interoperability frameworks and specifications.

2. THE ISA² PROGRAMME

The European Parliament and the Council adopted Decision (EU) 2015/2240 on interoperability solutions and common frameworks for European public administrations, businesses and citizens (the ISA² programme) on 25 November 2015. The programme supports and promotes:

- a) the creation, improvement, operation and reuse of existing cross-border and cross-sector interoperability solutions;
- b) assessment of the ICT implications of proposed or adopted EU legislation and the identification of areas in which new legislation could promote interoperability;
- c) the creation of a European interoperability reference architecture (EIRA), to be used as a tool for building and assessing interoperability solutions;
- d) the creation of a tool to facilitate the reuse of existing interoperability solutions and help identify areas in which such solutions are still lacking;
- e) the assessment and promotion of existing, and the development of new, common specifications and standards; and
- f) the introduction of a system to measure and quantify the benefits of interoperability solutions.

The programme is implemented by means of projects and accompanying measures. Due consideration will be given to the policy context (in particular the digital single market, the European interoperability strategy and the EIF⁵), but also to priorities as regards ICT standards and the use of public procurement to foster their uptake and interoperability, e.g. through the development of an EU catalogue of ICT standards.

The ISA² Decision requires the Commission to establish a rolling work programme to implement the programme. This document presents the third revision of the work programme.

⁵ See Annex II to the Communication *Towards interoperability for European public services*; <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0744:FIN:EN:PDF>

3. STRUCTURE OF WORK PROGRAMME

The work programme is set out in this document so as to clarify the links between similar initiatives by grouping them into the following ‘packages’:

- **key and generic interoperability enablers** are actions that develop generic key interoperability solutions to help public administrations provide services;
- the **semantic interoperability** package consists of initiatives to establish and enhance semantic interoperability among public administrations;
- under the **‘access the data’ / data-sharing / open-data** package, the programme funds actions that help open up national data repositories, facilitate the reuse of data across borders and sectors, and widen access to data created by the public sector;
- the **geospatial solutions** package brings together all initiatives linked to the use of geospatial data in the public and private sectors;
- the **e-procurement/e-invoicing** package groups all Commission e-procurement initiatives;
- the **decision-making and legislation** package covers actions supporting the decision-making process, in particular by enhancing interoperability between EU institutions and between them and the Member States. Such actions address various processes, from the collection of feedback from stakeholders and the drafting of new legislation, to monitoring implementation of the legislation;
- the **EU policies — supporting instruments** package covers actions to support the implementation of EU policies;
- **supporting instruments for public administrations** covers actions to develop support solutions that can help public administrations build interoperable services; and
- the **accompanying measures** package consists of activities to do with the promotion of instruments funded under ISA² and the monitoring of actions.

Actions are proposed by the Commission and the Member States. Decisions on actions relevant to particular policy areas are taken in close coordination with the Commission department(s) responsible, in line with the Commission’s IT governance.

Actions under the programme are continuously coordinated and aligned with work under:

- the digital single market strategy (e.g. the priority ICT standards plan and the EU catalogue of ICT standards);

- the 2016-2020 European e-government action plan⁶;
- the single digital gateway;
- CEF-Digital; and
- the Commission’s internal ICT strategy⁷.

Likewise, the programme supports these and similar initiatives where they contribute to interoperability between EU public administrations.

3.1 KEY AND GENERIC INTEROPERABILITY ENABLERS

The following actions funded by the ISA² programme identify, promote, and support the definition and implementation of, key interoperability enablers:

- action 2016.28 — *access to base registers*: This builds on existing solutions for cross-sector interoperability at national level and single-sector cross-border interoperability at EU level. It will identify best practices and requirements for the cross-sector and cross-border interoperability of base registers. It will complete the ‘state of affairs’ study launched under the ISA² programme to collect best practices in implementation and provide recommendations for public administrations.

In 2019, it will focus on:

- an initial **base registry access and interconnection framework**, which will set out a common approach, based on best practices, on interconnecting and giving access to the data in base registries; and
 - preliminary work on a **European registry of registries**, in particular the creation of a specification as to how to describe registries and the datasets contained in them;
- action 2016.29 — *catalogue of services*: There is a need to standardise the descriptions of services offered by national and EU administrations to support the free movement of goods, services and people, and subsequently to catalogue them. Work under this action (in cooperation with representatives of the single points of contact) has already resulted in a standard specification on describing public services covering all life and business events.

In 2019, the action will involve:

⁶ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0179>

⁷ http://ec.europa.eu/dgs/informatics/ecomms/index_en.htm

- further maintenance of the data model specification for describing public services (CPSV-AP) and the software tools;
 - work on the definition of a taxonomy to classify public services, based on best practices at Member State, EU and international level. This will support the future ‘single digital gateway’ initiative;
 - analysis of potential use of the specifications for machine-to-machine interaction;
 - new pilot projects to promote the creation of public services catalogues at different levels and improve user experience. One will help set up an open reference architecture for chatbots allowing citizens/businesses to interact with the catalogue;
- action 2016.02 — *provision of a private secured network (sTESTA)*: This network connects national administrative networks and the internal networks of the EU institutions. A secure way of exchanging information among Member States and with the EU, it is used by many Commission departments (e.g. OLAF, MOVE, EMPL, ESTAT, HOME (SIS II and VIS networks), SANTE, CDT, MARE, TRADE), other EU institutions (e.g. Europol) and agencies.

In 2019, the action will continue to focus on making TESTA the secure network of choice in the EU for all data transactions between Member States, EU institutions, EU agencies, EFTA countries, acceding countries and members of Community programmes. The emphasis is on preparing and carrying out the tendering procedure for the future pan-European network;

- action 2016.09 — *IPv6 framework for European governments*: Funding for this action has been wound up;
- action 2016.19 — *eTrustEx*: This action supports the secure exchange of documents, e.g. in areas where national parliaments are involved in legislative work at EU level (pursuant to the Lisbon Treaty) or apply EU competition law. The action reuses modules from the e-Prior project and serves as a reusable component for many EU projects that need secure information exchange.

In 2019, it will:

- continue to improve the platform;
- start leveraging the use of the AS4 access point; and

- finalise the migration of the eTrustex adapter to AS4 access points of CEF eDelivery;
- action 2016.26 — *interoperability agreements on electronic documents and electronic files*: This action addresses the need for interoperability agreements on electronic documents and files, and started with an inventory of what already exists.

In previous years, it identified requirements for the various interoperability layers, in particular as regards the sharing of documents, and supported the single digital gateway with a feasibility study on open-source form generators.

In 2019, work will start on the creation of a generic EU form generator, which should help all EU public administrations to digitalise their public procedures; and

- action 2018.01 — *innovative public services*: This proposal intends to identify and assess innovative technologies that are currently entering the market and their potential impact in terms of service delivery, citizen experience and interaction, policy-making, etc.

On the basis of the assessment, activities will be proposed for the remaining years of the ISA² programme and for other financing programmes.

3.2 SEMANTIC INTEROPERABILITY

- action 2016.07 — *promoting semantic interoperability among Member States*: This action promotes interoperability by:
 - ✓ raising awareness of the importance of semantic interoperability and appropriate metadata management policies; and
 - ✓ supporting and promoting the development and dissemination of common specifications, best practices, experiences and lessons learnt in the area of semantic interoperability.

In 2016, the action supported:

- the implementation of the core business vocabulary in DG JUST's business registers interconnection system (BRIS);
- the DCAT-AP specification in DG CNECT's pan-European open data portal (part of the CEF DSIs);
- the core vocabularies for DG COMP's State-aid notification system;
- the introduction of core public service vocabulary in Estonia; and
- the inclusion of that vocabulary in Malta's national data strategy as the starting point for developing national core data standards.

In 2017, further developments included the use of the open-source thesaurus management tool VocBench with the Publications Office.

In 2018, the action focused on pilots with Member States and relevant EU departments, and released a new version of VocBench with new functionalities, including semantic data modelling capabilities.

These efforts will continue in 2019, with a focus on:

- promoting semantic interoperability for policy and projects at Member State and internal Commission levels;
 - further developing VocBench and the ESCO mapping platform; and
 - carrying out an interoperable mapping of supporting actors and instruments in the European innovation ecosystem;
- action 2016.12 — *semantic interoperability of the representation of powers and mandates*: Funding for this action has been wound up;
- action 2016.16 — *public multilingual knowledge management infrastructure (PMKI) for the digital single market*: The objective of this action is to create a PMKI and support companies, in particular in the language technology industry, by implementing the multilingual tools and features needed to improve the cross-border accessibility of e-commerce solutions.

In 2017 and 2018, the action established a core data model for multilingual taxonomies/terminologies and provided them via a PMKI with a first proof of concept.

In 2019, the action will focus on developing an iterative implementation strategy that will make it possible to extend the initial release of the PMKI into a public service at EU level. Endorsement at political level by the EU institutions will help define how the system should be managed and financed, and focus more on community-building to drive further development; and

- action 2018.02 — *interoperable metadata and processing components for open source information*: Many public authorities have to use public information sources in the course of their work, e.g. in support of investigations. The main objective of this action is to develop and select a set of standards for the processing of open source information, in order to facilitate the interoperability and reuse of software and services between Member State authorities.

In 2018, the action:

- developed a register of processing components;

- reviewed existing metadata standards; and
- developed new standards.

In 2019, the focus will be on developing the core components based on previous results.

3.3 ACCESS TO DATA / DATA-SHARING / OPEN DATA

Public administrations produce vast amounts of data, such as geographical information, statistics, weather data, traffic information, and data from publicly funded research projects. They do this to support their own work, but other economic operators use the data when providing services to their customers.

The ISA² programme funds a number of initiatives that aim to improve the production, exchange, analysis and dissemination of and access to data in various areas:

- action 2016.06 — *sharing statistical production and dissemination services and solutions in the European statistical system*: Funding for this action has been wound up;
- action 2016.15 — *financial data standardisation*: The financial crisis in Europe underlined the importance of robust financial systems and the need to monitor their health via regular collection of reliable, high-quality data. Under EU law, many stakeholders in the financial sector, including banks, public administrations and national regulatory/supervisory agencies, must report or act on financial data. Since 2009, the Commission (first DG MARKT, now DG FISMA) has taken part in international initiatives to improve data reporting to support financial stability. The lack of a common financial language increases the costs of obligatory reporting and makes it difficult to aggregate risk data and ensure that market monitoring is complete. This action aims to increase the reusability and interoperability of financial data by assessing the potential for further standardisation.

In 2018, the requirements for common data reporting standards were used to develop a common financial data language and study the feasibility of a common financial data repository.

In 2019, work will start on the technical preparations for a common financial data language and developing the enterprise architecture for the envisaged solutions;

- action 2016.18 — *development of an open data service, support and training package in the area of linked open data, data visualisation and persistent identification*: In 2012, the Commission launched the European open data portal to facilitate the sharing and reuse of data produced by the EU institutions. This action aims to support public administrations

in publishing their data using various tools, such as a common knowledge base, a catalogue of reusable software tools, and implementation guidelines.

In previous years, the action has created a common toolset for data visualisation and reuse-oriented data management and data treatment (in particular, linked open data).

In 2019, it will focus on:

- setting up a free-of-charge conference on data visualisation for EU public administrations;
 - organising training and webinars on data visualisation, data literacy and data quality; and
 - further developing EU datathon results;
- action 2016.11 — *automatic business reporting*: Funding for this action has been wound up;
 - action 2016.03 — *big data for public administrations*: Funding for this action has been wound up;
 - action 2018.03 — *improving statistical data and metadata discoverability and analysis*: Semantic technologies have created new opportunities and expectations as regards metadata and data discovery and analysis. National statistical institutes (NSIs) in charge of collecting and disseminating official statistics in the EU must upgrade their data accessibility, discovery and analytics capabilities. This action aims to:
 - improve the semantic interoperability and discoverability of official statistics produced by national statistical institutes;
 - improve the accessibility of EU statistics; and
 - provide data analytics capabilities.

In 2018, the action set up a common ESS statistical metadata platform on which publishers and users could expose their ESS metadata assets, and started working on reference ontology for statistics and metadata.

In 2019, the focus will be on upgrading current metadata governance and developing guidelines for using, and publishing on, the shared platform; and

- action 2018.07 — *COMPARED (text-mining solution to support the evaluation of research grant applications)*: Public funding agencies invest billions of euros in R&I projects every year. Funding mechanisms should be improved by reducing duplication or overlaps between research proposals, increasing the quality of incoming proposals and

cutting oversubscription. The action proposes to confirm the feasibility of a semantic platform for the evaluation of proposals.

In 2018, the action worked on the design of such a platform and building a dataset of research proposals to be used by the platform and made available to funding agencies.

In 2019, that work will continue, with a focus on finalising the platform and securing a final decision as to its feasibility.

3.4 GEOSPATIAL SOLUTIONS

- action 2016.10 — *European location interoperability solutions for e-government (ELISE)*: Location-related information underpins a growing proportion of EU and national government 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 its efficient sharing and reuse. Together with ISA, the Directives on the reuse of public sector information (PSI), and on establishing an infrastructure for spatial information in the European Community (INSPIRE) have started to remove barriers and some Member States have launched important initiatives in this field. However, there is much more potential to tap into interoperable location information: implementation of INSPIRE is ongoing and emerging new thematic policies would benefit from a more harmonised approach.

This action is a package of legal/policy, organisational, semantic and technical interoperability solutions that will facilitate efficient and effective electronic cross-border and cross-sector interaction between European public administrations, and between them and citizens and companies, in the field of location information and services.

In previous years, ELISE:

- developed geospatial interoperability tools (e.g. the ARE3NA platform, the Re3gistry and web-search tools);
- piloted new activities on energy efficiency and marine spatial data sharing;
- carried activities to assess digital single market opportunities;
- started a pilot for an EU gazetteer service; and
- designed and operated the Geo-Knowledge Base service.

In 2019, it will focus on the impacts on interoperability in the geospatial domain and continue to enrich the Geo-Knowledge Base with further pilots, studies and applications.

3.5 E-PROCUREMENT / E-INVOICING — SUPPORTING INSTRUMENTS

The new public procurement directives (2014/23/EU, 2014/24/EU and 2014/25/EU) require tools and devices used for communicating electronically to be non-discriminatory, generally available, and interoperable. Under the Directives, e-procurement will gradually become mandatory in the EU; this includes:

- e-notification and electronic access to tender documents from April 2016;
- e-submission for central purchase bodies from April 2017 and for all contracting authorities from October 2018;
- e-Certis (a mapping tool for evidence) from April 2016; and
- the European single procurement document (ESPD) from April 2016.

The e-Invoice Directive (2014/55/EU) makes the reception and processing of electronic invoices mandatory by 2020.

- action 2016.05 — *European public procurement interoperability initiative*: This action will help public administrations to comply fully with the e-Invoice Directive by:
 - providing and maintaining a set of reusable tools and services in the area of e-procurement (e-Certis and ESPD); support for the roll-out of the service to Member States will continue in 2019;
 - helping to set interoperability standards and supporting interoperability initiatives such as eSens and TOOP by bringing software components to the maturity level required by the CEF (as with the core procurement vocabulary that was delivered in 2017); and
 - reducing administrative burden and simplifying procedures for buyers and suppliers to encourage cross-border public procurement.

3.6 DECISION-MAKING AND LEGISLATION — SUPPORTING INSTRUMENTS

This package aims to create a fully automated legislative process in the EU that ensures effective, open and transparent access to legislation and facilitates active and collaborative participation by citizens, companies and other stakeholders. It includes a number of actions relating to various steps in the overall lifecycle of the legislative process. These will:

- increase the efficiency of the regulatory process;
- reduce administrative and financial burden;
- improve the quality of legislation; and

- facilitate accessibility to and the reuse and preservation of legislation.
- action 2016.04 — *participatory knowledge for supporting decision making*: Funding for this action has been wound up;
- action 2016.38 — *legislation interoperability tools (LEGIT)*: This action proposes a set of reusable, fundamental, web-based building blocks that support and improve the electronic exchange of documents and metadata in the context of the legislative process and their conversion into different formats.

In 2019, the action will continue to:

- support collaborative drafting, revision and the transmission of legislative documents in the ‘ordinary legislative procedure’ by further enhancing the LEOS software;
- develop solutions to improve interoperability and compliance with IFC standards based on the findings from the internal pilots;
- release the first version of Ref2link on JoinUp; and
- improve multilingual support.

There will also be reinforced support for Member States seeking to move to XML legislation editors and an open-source community will be created around LEOS;

- action 2016.23 — *legal interoperability (ex-ICT implications of EU legislation)*: This action ensures that ICT implications are identified and assessed when EU legislation is drafted or evaluated, and that they are properly taken into account in due course. This ensures that legislation is implemented effectively, in a timely manner and at a reasonable cost.

In 2019, the action will:

- screen all new EU legislative acts;
- assess relevant ones; and
- investigate how to ensure the sustainability of its deliverables, taking into account the transition from the ISA² programme to its successor under the next EU budget;
- action 2016.08 — *the European legislation identifier (ELI)*: The ELI is a flexible, consistent and reliable way of uniquely identifying legislative documents from different jurisdictions. It makes the documents readable and understandable by both humans and

computers, and makes it easier to reference and share them at European level, while meeting the specific requirements of national legal systems.

In previous years, the action focused on solutions for data visualisation, data validation, editing and annotation tools, RDF transformation and MD retrieval. It also provided solutions for processing legacy data and tools for searching semantic data.

In 2019, it will focus on:

- promoting and assisting ELI adoption in Member States; and
 - maintaining existing assets and leveraging ELI by developing integrated reusable solutions;
- action 2016.01 — *application of EU law: provision of cross-sector communication and problem solving tools (THEMIS)*: Funding for this action has been wound up;
- action 2016.17 — *interinstitutional framework for digital management of the ordinary legislative procedure*: With a view to rationalising the IT environment for the EU legislative process, a study was launched to provide an overview of the lifecycle of the interinstitutional legislative process (AS IS), including:
- business processes and roles;
 - the technologies, tools and systems used in each major legislative step by each of the institutions; and
 - the specifications used to structure and exchange information.

In previous years, the focus was on the specifications and transformation/mapping needed to facilitate the exchange of documents.

In 2019, the action will work on the continuous improvement of the assets created previously.

- action 2017.02 — *integration of the retrieval of legislative data compliant with the European legislative identifier with the information systems for monitoring the application of EU law (ELI@EULAW)*: Funding for this action has been wound up;
- action 2017.03 — *RefIT PLATFORM (IT TOOL)*: Funding for this action has been wound up;
- action 2017.04 — *interinstitutional register of delegated acts (REGDEL)*: The objective of this action is to set up a joint register for delegated acts that meets the needs of the Commission, the European Parliament and the Council, and makes drafting and adoption

of delegated acts more transparent. This will give Member States and the public a better overview of the full lifecycle of delegated acts, from planning to entry into force.

In 2019, the main aim will be to build on the experience gained and the analysis on the future comitology register (action 2018.04) and create a single register of delegated and implementing acts. This will offer a ‘one-stop shop’ for all regulatory measures adopted by the Commission on the basis of empowerments given by the Parliament and the Council in legislative acts; and

- action 2018.04 — *study on the future comitology register*: Funding for this action has been wound up.

3.7 EU POLICIES – SUPPORTING INSTRUMENTS

- action 2016.13 — *development of a common information sharing environment for the surveillance of the EU maritime domain (CISE)*: The initiative to develop a CISE for the EU maritime domain was launched in 2009 and has been supported by several Commission Communications and Council Conclusions. Since 2014, it has been implemented as part of the EU maritime security strategy. The action is designed to help the Commission implement CISE interoperability solutions, mainly at Member State level, by exploiting the results of the current pre-operational phase under EUCISE2020.

In 2019, the action will:

- continue development and maintenance of a new version of CISE common technical specifications and components; and
- assess the feasibility of implementing CEF interoperability solutions in CISE;
- action 2016.14 — *implementation of tools supporting European citizens’ initiatives*: Following the revision of Regulation (EU) No 211/2011, this action aims to strengthen the tools supporting citizens’ initiatives through:
 - improvements for citizens using the online software for collecting statements of support;
 - improvements for organisers of European citizens’ initiatives; and
 - interoperability improvements.

The action will also provide technical advice on the development of the legislative framework (risk analysis and impact assessment).

In previous years, it has delivered a cryptographic tool to encrypt XML files exchanged by Member States at every European Parliament election and focused on the implementation of changes supporting the revision of the Regulation.

In 2019, the online collection systems will be improved in line with the findings of the 2018 accessibility study and changes will be made to take account of the withdrawal of the United Kingdom from the EU and the new distribution of seats in the Parliament. The latest security standards will be included in the cryptographic tool in view of the elections;

- action 2016.24 — *administration, business and citizens' data exchange in the domain of case management (ABCDE)*: This action aims to provide interoperable solutions to support data exchange between the Commission, Member State administrations, companies and citizens on EU competition policy cases (e.g. enforcement of antitrust/cartel rules, merger control and State-aid control). Data exchange involves various organisations, such as Member State administrations and others (including law firms) in the EU or elsewhere.

In previous years, the action developed a set of common services (eRFI, eLeniency, eConfidentiality) and a common ABCDE architecture/framework.

In 2019, work will continue on the development of the eRFI, eLeniency and eConfidentiality projects;

- action 2018.05 — *electronic access to Commission documents*: The purpose of the action is to propose an efficient solution for electronic handling of applications for access to Commission documents. The solution will cover the entire flow from the EU citizen's/stakeholder's requests to the Commission's provision of access to documents or (partial) refusal. It will identify existing IT tools and identify components that could be reused as part of an integrated, fully electronic solution.

In 2019, the action will focus on delivering the first version of the request management system; and

- action 2017.05 – *interoperability requirements for single digital gateway implementation*: Funding for this action has been wound up.

3.8 SUPPORTING INSTRUMENTS FOR PUBLIC ADMINISTRATIONS

- action 2016.32 — *European interoperability reference architecture (EIRA)*: The EIRA gives an overview of cross-border and cross-sector interoperability needs at EU level. It provides a structure for mapping existing operational solutions (covering different types of interoperability assets, including infrastructure services, information systems,

applications, software components, and semantic, organisational and legal assets) and identifying missing parts. Trans-European software solutions developed and operated by the Commission have already been assessed, described and organised according to the EIRA (see action 2016.36).

In 2017, it added interoperability specifications to the EIRA.

In 2019, the action will continue to promote the adoption of the EIRA in Member States, including the implementation of pilot applications;

- action 2016.37 — *interoperability maturity model (IMM)*: This is a method for gauging the level of interoperability of public services. To date, it has been used to evaluate more than 30 public services at European and national level.

In 2017-2018, significant uptake was ensured and the IMAPS report (2018 edition) was released.

In 2019, in parallel with increasing usage, the action will investigate how to transfer IMAPS capabilities/knowledge to Member States, replicating the successful experience in Greece;

- action 2016.21 — *maintenance and further development of the national interoperability framework observatory (NIFO)*: The NIFO plays a crucial role in ensuring that national interoperability frameworks are aligned with the European interoperability framework. It also provides an analytical model and gap analysis tools to help Member States achieve alignment. It will be updated to align it more closely to the revised EIF and European interoperability strategy.

In 2017, the observatory consolidated its status as a respected and authoritative source of information on the state of play of interoperability and digital public services in Europe. This will allow the observatory to be linked with initiatives contributing to public sector modernisation, such as:

- the digital single market;
- Member States' national digital strategies;
- the European Semester economic coordination process; and
- the 2016-2020 e-government action plan.

In 2018, the NIFO started monitoring the EIF action plan.

In 2019, a new consolidated observatory will be set up on JoinUp to show the monitoring results of the EIF, and the e-government factsheets will be updated and published as linked open data;

- action 2016.27 *CAMSS — common assessment method of standards and specifications (CAMSS)*: Standardisation is key to interoperability and avoiding vendor lock-in when developing digital public services. CAMSS was developed under the IDABC and ISA programmes to support public administrations in assessing and selecting the most relevant interoperability standards for their needs in a transparent and trusted manner. It is based on the methods used in Member States and enables the reuse of assessments.

In 2019, the action will:

- maintain and extend the existing tools and list of standards endorsed by Member States; and
 - work closely with other Commission services in charge of the European catalogue of standards initiative to ensure that CAMSS is taken into account as much as possible and that overlaps are avoided;
- action 2016.33 — *EIF implementation and governance models (ex-European interoperability strategy)*: This action builds on the previous European interoperability strategy. A revised EIF action plan (EIF-AP) was adopted in 2017 in line with the *European interoperability framework — implementation strategy* Communication. The new EIF provides organisational, financial and operational directions for implementing the revised recommendations. It defines a set of focus areas and an interoperability action plan to guide Member States and EU institutions in the period to 2020.

In 2019, the action will:

- continue to develop a reference model for governance and organisational interoperability structures in accordance with the various structures and models in the EU;
- support Member States in their national interoperability activities; and
- start the evaluation of EIF implementation. Particular attention will be paid to identifying possible gaps in the EU, in close collaboration with the NIFO action (2016.21), in order to prepare the ground for the evaluation.

The action will also support two specific actions from the interoperability action plan (EIF-AP): on governance models and public administrations’ organisational relationships;

- action 2016.34 — *Communication and information resource centre for administrations, businesses and citizens (CIRCABC)*: The programme continues to cover the maintenance, development and, where relevant, operation of generic services. This

action supports the activities of the many committees and expert groups assisting the Commission in its work;

- action 2016.35 — *EUSurvey*: This action provides a multilingual tool that facilitates the creation of surveys and the collection of information to support the Commission’s policy initiatives. Both CIRCABC and EUSurvey are published under an open licence and can be reused by other organisations with similar needs.

In 2017, EUSurvey was added to the Better Regulation portal to support the portal’s objective of becoming the one-stop shop for all Commission consultations of citizens and other stakeholders. The programme continues to cover the maintenance, development and, where relevant, operation of the portal, as it is used by most Member States and use of its services is constantly increasing;

- action 2016.25 — *interoperability test-bed*: This action will develop and host reference implementations of a test-bed. In addition, it will address the sharing and reuse of test assets (through a dedicated test registry and repository on Joinup, and a community of test-bed owners and testers).

In 2019, the action will continue to support the development and improvement of the test-bed software and the hosting;

- action 2016.20 — *Joinup (European collaborative platform and catalogue)*: Joinup is a common platform that allows administrations to share and learn from best practices, and reuse interoperability solutions from a central catalogue.

In 2016, this work:

- further improved the Joinup platform to provide a better user experience;
- finished redefining the scope of the catalogue of solutions;
- implemented the European interoperability cartography to provide a highly structured set of building blocks and solutions to support administrations in providing interoperable public services; and
- supported implementation of the EU catalogue of ICT standards for public procurement and provided an exchange platform for stakeholders to contribute to it.

In 2017, the platform was revamped so as to make it easily searchable and suited to the new types of device.

In 2018, improvement of the new platform continued, including integration with the GitHub platform to host OSS source code.

In 2019, the action will focus on:

- engaging more with users;
 - increasing the visibility of the platform; and
 - promoting it as an authentic source of information around e-government and ICT in the public sector and as the one-stop shop for sharing and reusing IT solutions for public administrations in the EU;
- action 2016.22 — *Community building and effective use of collaborative platforms*: Funding for this action has been wound up. Activities will continue under actions 2016.20, 2016.30 and 2016.31;
- action 2016.36 — *assessment of trans-European systems supporting EU policies*: The trans-European systems (TESs) managed by the Commission on behalf of or jointly with the Member States have to be identified, collected, documented and assessed. The systems are described in a common way and registered in a single cartography (TESCart).

In 2019, the next steps will include:

- updating the European interoperability cartography;
- updating and extending TESCart to the Commission's entire TES base; and
- updating the 2018 TES report.

The action will also support the development of targeted TESs, by identifying and documenting requirements;

- action 2016.31 — *sharing and reuse*: The sharing and reuse of IT solutions used to provide digital public services could deliver much-needed savings. At the same time, reusing solutions will improve the harmonisation and coherence of services across the EU and make it easier for public administrations to interact and cooperate. This action has already produced a number of tools that can help public administrations develop common and reusable solutions.

In 2016, the action published a common framework on the sharing and reuse of solutions.

In 2017, shared and reused IT solutions were given awards at the 'Sharing & Reuse' conference. The action also supported Open.PM², a Commission initiative to bring the PM² methodology and its benefits closer to stakeholders and user groups beyond the

original target group of Commission project managers. Finally, it took over the operation of the open source observatory (the OSOR community) from action 2016.22.

In 2018, in addition to the above, work was done to prepare the next ‘Sharing & Reuse’ conference and awards ceremony.

In 2019:

- a ‘Sharing & Reuse’ conference and awards ceremony will be organised in Romania;
 - further work will be done to identify the best solutions suitable for reuse in the light of Member States’ needs;
 - the first draft of the 2016–2020 OSOR report will be produced; and
 - guidelines for creating OSS communities will be developed;
- action 2017.01 — *standard-based archival data management, exchange and publication*:
This action is to involve:
- a study to identify existing data standards in archival information management and explore IT tools and services supporting them. The results will help to show how the standards are applied in different contexts;
 - analysis of requirements for interoperability between Archives Portal Europe, Europeana and the EU historical archives (run by the European University Institute), on the one hand, and the Commission’s historical archives, on the other; and
 - an assessment of options for publishing the relevant content of EU archives in open data format on platforms such as the open data and European data portals, so that Member States, citizens and researchers can interact with and reuse it.

In 2019, the action will pilot solutions on archive management systems, the exchange of archival data and turning archival data into (linked) open data;

- action 2018.06 — *FAIR data maturity model*: The action intends to develop a self-assessment methodology that any public sector or research organisation can use to measure the maturity level of its datasets, projects or data infrastructures from the following perspectives:
- data findability, i.e. how well an organisation describes the data it produces or manages with rich metadata and globally unique persistent identifiers;

- data accessibility, i.e. how well an organisation allows the retrieval of its data/metadata;
 - data interoperability, i.e. how well an organisation ensures that the precise format and meaning of exchanged and shared data/metadata are preserved and understood; and
 - data reusability, i.e. how well an organisation releases data/metadata with a clear and accessible data usage licence;
- action 2018.08 — *EU-Captcha*: The objective of this action is to provide Member States with an open-source CAPTCHA⁸ released under the EU public licence (EURL) that is maintained, secure, user-friendly and multilingual. A CAPTCHA with such characteristics does not currently exist on the market. The solution will be delivered as a component that can be operated as a service and published on GitHub, so that it can be reviewed and maintained by the open-source community.

In addition, the action will conduct a study on how to extend the CAPTCHA with features improving the user experience by replacing scrambled letters and numbers with more innovative and less intrusive approaches (e.g. gesture analysis, animations, images). The intention is to implement the conclusions of the study in the following years;

- action 2018.09 — *GOVSEC (secure governance)*: This action intends to provide stakeholders with risk assessment guidance and implement a governance policy when using cloud services. It will enable business stakeholders and security experts to standardise their security approach and build up collective knowledge using common security ‘language’ (reference data, control implementations, security patterns). It will provide a checklist of technical and process-related controls to ensure that the proper security level is implemented;
- action 2019.01 — *interoperability academy*: Most jobs require (or will soon require) some level of digital skills. To address this challenge, the Commission has brought Member States and education, employment and industry stakeholders together in a ‘digital skills and job coalition’⁹. The objective is to develop a large digital talent pool and ensure that individuals and the labour force in Europe are equipped with adequate digital skills. Civil servants also need at least basic ICT skills in their day-to-day work; some need more advanced skills for data analytics and data-mining to support policy, service delivery and impact evaluation.

⁸ Completely automated public Turing test to tell computers and humans apart.

⁹ <https://ec.europa.eu/digital-single-market/en/digital-skills-jobs-coalition>

This action seeks to:

- develop digital skills in the area of interoperability (particularly EIF and ISA² solutions) for public administrations;
- draw up a comprehensive syllabus and different learning paths according to user status (covering a broad range of professions and backgrounds, e.g. IT, legal, policy); and
- set up an online platform to help users learn (providing material, tracking progress, constantly improving based on users' feedback).

3.9 ACCOMPANYING MEASURES

- action 2016.30: Communicating the solutions developed under ISA² is a prerequisite for their widespread use. A comprehensive communication strategy and campaign needs to be set up and maintained.

In 2016, communication activities included drafting a communication strategy and plan, setting up a website and social media accounts, and holding an ISA² conference.

In 2019, the Commission will:

- continue to hold workshops and participate in conferences in Member States to inform stakeholders about the reusable instruments developed under ISA and ISA²;
 - organise a semantic interoperability conference (SEMIC) and support a number of workshops; and
 - propose a user-centricity assessment framework; and
- action 2016.39 — *monitoring and evaluation*: This action will support the monitoring and evaluation of the ISA² programme by:
 - establishing relevant processes;
 - creating an appropriate set of tools; and
 - implementing and reporting on a monitoring programme.

Close monitoring of the implementation and impact of actions funded under ISA² makes it possible to adjust the programme in time and maximise its impact with the greatest efficiency.

In 2019, the action will continue to monitor the actions funded by ISA² and to disseminate information.

4. BUDGET

Annex II contains a tabular breakdown of the ISA² budget by action.

In order to optimise the use of the budget, appropriations for work programme entries for a given year may be brought forward to the preceding year in full or in part, if overall programme expenditure in the preceding year allows. Article 10(4) of the ISA² Decision (flexibility clause) still applies.

As Article 9(2) of the ISA² Decision requires that the work programme be revised at least once a year, all budget requests for future years are estimates based on present knowledge of the scope and timing of the actions. The estimates may need to be revised in the light of new information or changing priorities and are not to be regarded as final decisions on the fundability of future phases of specific actions or on the future ISA² budget to be made available for them.