1.7 INNOVATIVE PUBLIC SERVICES (2018.01)

1.7.1 IDENTIFICATION OF THE ACTION

Service in charge	DIGIT B4, D2
Associated Services	TAXUD, GROW, DGT,CONNECT

1.7.2 EXECUTIVE SUMMARY

Morderninsing Public Administration is race against the rapid development of new innovative digital technologies. Although there have been a tremendous increase in the digitilisation of public services, technological innovations (e.g. blockchain and the distributed ledgers, Artificial Intelligence, Mixed reality, Big Data Analytics, etc.) and associated business models are currently under-embraced in the public sphere. The World Economic Forum 2016 Global Information Technology Report[22] even highlights a widening and worrying gap between growth in individual ICT usage and public-sector engagement in the digital economy, as government usage is increasingly falling short of expectations. Governments can do more to invest in innovative digital solutions to drive social impact, pull innovation to the market and foster value creation for example through promoting a European Gov.Tech or Civic.tech sector.

There is a need to support activities that will allow relevant stakeholders to put in practice political priorities take better decisions, improve trust and security for the citizen.

This proposal intends to identify and assess the innovative technologies which are currently entering the market and the impact they could bring, in terms of serivce delivery, citizen experience and interaction, policy making among others. Based on this assessment, the proposal will then propose possible activities for ISA² for the remaining years of the programme but also though other financing programmes.

Furthermore in these emerging technologies, interoperability issues are already a challenge (e.g in IoT, Big Data) and needs to be addressed also to at an early stage in the context of public administration to avoid further fragmentation and aallow an easy and effective sharing and reuse of solutions.

Blockchain technologies offer a resilient distributed architecture for timestamping, recording and executing contracts, transactions and services, able to achieve trust-by-design, with potentially disruptive consequences. The action also proposes a pilot with a number of municipalities to explore a practical implementation.

For a stakeholder to utilize blockchain technology effectively, it must add trust to an untrusted environment and exploit a distributed ledger mechanism. By using blockchain technology and

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[22] See Figures 6 on page 12 - http://www3.weforum.org/docs/GITR2016/WEF_GITR_Full_Report.pdf

providing the explorer tool, these conditions can be satisfied and therefore increase the trust between the different actors.

This proposal is intended to examine existing use-cases where the blockchain technology could be used. Once these use cases are proven valid candidates they will be developed as a proof of concept.

As a starting point, the pilot will aim at underpinning the voucher scheme of the Wifi4EU project with blockchain technology, allowing for transparent and traceable payment of EU funds to the private companies which install the Wifi4EU infrastructure (project from DG CNECT). It will also provide the citizens with the tools to examine the transactions registered in the ledger. It will rely on Open Source software and seek collaboration with Member States for providing blockchain services (also known as Govchains). This proposal will not interfere with the existing Wifi4EU project as such but use the acquired knowledge on the use cases and process flows.

With this initiative the local authorities will be encouraged to develop and promote their own digital services in areas such as e-government, e-health and e-tourism.

1.7.3 OBJECTIVES

The action has the folloing objectives:

- Provide a state of play at EU level of the usage and implementation of new digital technologies, illustrating the benefits and transformative potential
- Identify interoperability hurdles
- Propose recommendations for EU institutions and Public Administration for future pilots and policy measures that could be undertaken.
- Develop a first pilot implementing blockchain technology in a context that could be sclaed and replicated in other contexts.

1.7.4 SCOPE

In scope:

- Assessment of the added-value of adoption of new digital technologies usage in Public Adminstration and their impact in terms of efficiencies gains, trust and security, i.e. societal transformation for the policy actors, citizens and businesses.
- A map of initiatives in Member States (at local, regional or national level) fostering ICT Innovation in Public Services.
- Investigating the feasibility of a blockchain, from a technical, legal and process perspective. This will be done together with Member States willing to cooperate, some of which might already be working with blockchain technology. From the collaboration other use cases might emerge, these will be documented in a separate deliverable.

- Rolling out the blockchain platform (prototype) by implementing business use cases (e.g. wifi4EU) while at the same time providing tool/services to EU citizens and governments to explore the transactions.
- All European citizens will have access to a distributed trusted repository that contains all transactions
- Investigate the legal requirements/restrictions needed for this technology
- A timing to scale up from the prototype to a production ready platform

Not in scope:

- Complete landscape of new technologies and piloting activities except blockchain.
- A production ready platform for blockchain services for interoperability between the EU institutions, The Member States, the local governments and the European citizens.

1.7.5 ACTION PRIORITY

New technologies such as Blockchain will impact the ICT landscape and offer a strong potential to improve the interaction between the EU institutions, the Member States and the citizens. Investigating the feasibility and possibilities by exploring the use cases from the voucher scheme project and rolling out the associated platform represent a concrete opportunity for the Union to offer a higher level of transparency to the European citizens and create a trusted ledger mechanism. The fast evolving market makes it urgent As the market is evolving at a fast pace the European Union needs to be prepared to tackle this urgently.

1.7.5.1 Contribution to the interoperability landscape

Question	Answer
How does the proposal contribute to improving interoperability among public administrations and with their citizens and businesses across borders or policy sectors in Europe? *In particular, how does it contribute to the implementation of:* - *the new European Interoperability Framework (EIF),* - *the Interoperability Action Plan and/or* - *the Connecting European Facility (CEF) Telecom guidelines*	The proposal will identify possible gaps and hurdle to adoption of innovative technologies by public administration as well as identifying possible interoperability issues at an early stage. The Blockchain pilot will bring transparency and trust between all stakeholders across borders

• *any other EU policy/initiative having interoperability requirements?*	
Does the proposal fulfil an interoperability need for which no other alternative action/solution is available?	Blockain Pilot: Yes, at present there is merely any interoperability between the different data sources (the Websites of the EC) where the citizens can retrieve information. With this initiative the information will be transparent and interoperable between all parties

1.7.5.2 Cross-sector

Question	Answer
*Will the proposal, **once completed** be useful, from the interoperability point of view and utilised in two (2) or more EU policy sectors? Detail your answer for each of the concerned sectors.*	The following policy sectors will be addressed by this proposal : • Fraud prevention : as all the transactions will be distributed there will be no fraud possible • Digital economy and society : all players will have access to the same information as the same time • Competition : due to the transparency of the system the competition amongst all players will be fair
*For proposals completely or largely already in **operational phase,** indicate whether and how they have been utilised in two (2) or more EU policy sectors.*	n.a.

1.7.5.3 Cross-border

Question	Answer
*Will the proposal, **once completed,** be useful from the interoperability point of view and used by public administrations of three (3) or more*	The study results will be available to any pubic administration and use to embrace the adoption of new technologies.

EU Members States? Detail your answer for each of the concerned Member State.	The Blockchain solution will be available and used by ALL Member States and more than 100.000 municipalities. The first milestone will be mid of 2018 whereas the prototype will be used for all Member States. The roll-out of the complete solution is foreseen for 2019.
*For proposals completely or largely **already in operational phase**, indicate whether and how they have been utilised by public administrations of three (3) or more EU Members States.*	n.a.

1.7.5.4 Urgency

Question	Answer
Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?	Innovative technologies are currenlty under-embraced and in order to modernise efficiently public administrations. Blockchain is a new technology with a relevant potential for the interaction between the EU institutions, the Member States and the citizens. Investigating the legal feasibility to underpinning the voucher scheme and rolling out the associated platform represent a concrete opportunity to set-up legislation activities. As the market is evolving at a fast pace the European Union needs to be prepared to tackle this urgently.
How does the ISA^2 scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?	In light of the urgency the ISA² programme (where a decision can be expected in September) fits better than any other possible source

1.7.5.5 Reusability of action's outputs

Name of reusable solution to be produced (for new proposals) or	Recommendations on the most promising technologies to be adopted by Public Administration .

produced (for existing actions)	
Description	The study will provide a catalogue of usage of innvoative technologies in terms of impact on public administrations in their interactions with citizens and businesses.
Reference	
Target release date / Status	End of 2018
Critical part of target user base	Any public administration at any level (national, regional, local)
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	n.a.

Name of reusable solution to be produced (for new proposals) or produced (for existing actions)	BLOCKCHAIN4EU services
Description	Blockchain services will be first of all offered as a prototype to implement several business use cases (some of them will be coming from the Wifi4EU project)). These services will consist, amongst others, of storing the vouchers, indicating the status of the implementations, list of the winning municipalities, contracts for the Wifi installations, etc
Reference	
Target release date / Status	End of 2018
Critical part of target user base	All the services from the prototype will be reused by all users of the target base
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	n.a.

1.7.5.6 Level of reuse of existing solutions

Question	Answer
Does the proposal intend to make use of any ISA[2], ISA or other relevant interoperability solution(s)? Which ones?	The study will reuse existing studies performed either by the Commission or other Institutions.

	The study will also liaise with existing activities in research such as the Next Generation Internet initiative. The PM² methodology will be applied to the project
*For proposals completely or largely **already in operational phase**: has the action reused existing interoperability solutions? If yes, which ones and how?*	n.a.

1.7.5.7 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?	The proposal will contribute highly to the principles of the DSM (see before) as all relevant documents (deliverables, contract, CFT, proposals, invoices, etc) of DSM can be using the blockchain technology by enhancing the use of digital technologies to improve citizens' access to information and culture, improve their job opportunities. It can promote modern open trustworthy government.

1.7.6 PROBLEM STATEMENT

The problem of	under uptake of innovative technologies by Public Administration
affects	the modernisation of Public Administrations
the impact of which is	unefficient delivery of Public Services to citizens and Businesses
a successful solution would be	identification of the critical technologies that would have the most impactful.

The problem of	Currently the European citizens experience a lack of simplicity in the processes when they need to check information coming from the administrations.
affects	This problem affects first of all the European citizens and as a consequence all Member States and administrations
the impact of which is	For the European citizens the impact is that they hardly find their way in the administration and due to this lack of simplicity also auditing is very time consuming and difficult
a successful solution would be	A successful solution would be that the blockchain technology can be used to simplify the administration and the transparency. The aim of this proposal is to build a prototype that fulfils most of the business requirements of all stakeholders be it legal, technical, social,…

The problem of	The problem is that currently a lot of initiatives are setup around blockchain technology to see what business needs can be fulfilled by it. as a consequence no check is done regarding the operability of these possible solutions or business needs
affects	This problem affects first of all the European citizens and as a consequence all Member States and governments
the impact of which is	The impact is that several different blockchain services will be used depending on which government has created the service. So for the MS and EU citizens is will look like a labyrinth
a successful solution would be	A successful solution would be that all these initiatives are gathered in one proposal (this one) and that a prototype is build that fulfils most of the business requirements of all stakeholders be it legal, technical, social,…

1.7.7 IMPACT OF THE ACTION

1.7.7.1 Main impact list

Impact	Why will this impact occur?	By when?	Beneficiaries
(+) Savings in money	As there will be more transparency on contracts, documents etc there will be less questions to be answered and most likely less court cases	Probably 2019	All administrations (EU, National, local) that work with contracts, grants, legal policies,…
(+) Savings in time	Because of previous gain less time needs to be spend by Member States, municipalities, local administrations and European citizens in finding the relevant information. Auditing the transactions will be much easier and bring huge time savings	Probably 2019	All administrations (EU, National, local) and European citizens that work with contracts, grants, legal policies,…
(+) Better interoperability and quality of digital public service	As all European citizens will have access to the same information and can follow up all initiatives/contracts there will be	Probably 2020	All European Citizens and local administration as well.
(-) Integration or usage cost	Local Infrastructure needs to set-up (depending if EU takes care of this). The maintenance of the system needs to be foreseen but will be lower than the gains	Probably 2020	Local administrations of EU
(+) Fraud and trust	Due to the solution there will be less fraud possible and the trust on the information will increase	Probably 2020	All European citizens

1.7.7.2 User-centricity

It is known that the that the new technologies will allow better, more intuitive and simplified interaction with the user, for this reason the study will will contribute to further improve user-centricity.

In addition, the blockchain prototype will be directly tested by the municipalities and suppliers of wifi material, the feedback will be taken into account for the production platform. Currently several municipalities and suppliers already confirmed their involvement in the proposal.

1.7.8 EXPECTED MAJOR OUTPUTS

Output name	BLOCKCHAIN4EU services
Description	A proof of concept platform that offers blockchain services to all European administrations and citizens
Reference	
Target release date / Status	End of 2018/in preparation

Output name	BLOCKCHAIN4EU legal investigations
Description	The proposal will create a possible transition path for the implementation of blockchain services from a legal, social and technical point of view
Reference	
Target release date / Status	End of 2018

1.7.9 ORGANISATIONAL APPROACH

1.7.9.1 Expected stakeholders and their representatives

Stakeholders	Representatives	Involvement in the action
Municipalities	Specific Mayors or representatives	Business users
Suppliers	Several network/telecom suppliers	Business users
Local Administrations	Libraries, museums,…	Beneficiaries
All citizens	A group of citizens	Beneficiaries
Member States	MS representatives	Product owner
European Commission	DIGIT	Project owner
European Commission	CONNECT (eGovernment Unit, Next Generation Internet Unit)	Associated

1.7.9.2 Identified user groups

The end-user group will contain:

- Members States
- Municipalities (local authorities)
- Suppliers
- European citizens….

1.7.9.3 Communication and dissemination plan

The project will use the ISA² channel for disseminating and engaging with users, results of the study will be published on Joinup and by the Publication Office.

1.7.9.4 Key Performance indicators

Description of the KPI	Target to achieve	Expected time for target
Number of municipalities testing the prototype	20	End of 2018
Number of suppliers testing the prototype	10	End of 2018
Number of registered transactions	500	End of 2018

1.7.9.5 Governance approach

Blockains4EU

According to the guidelines of the European Commission the project will be managed following the PM^2 methodology. Hereafter you will find the governance model.
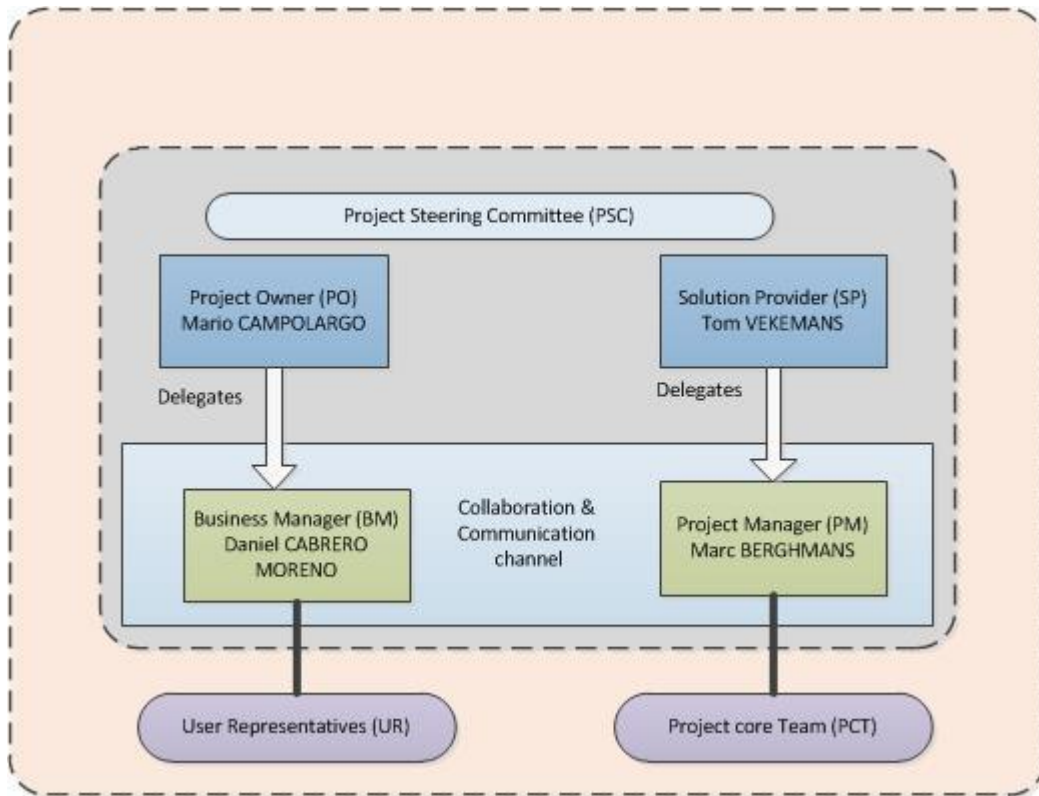
1.7.10 TECHNICAL APPROACH AND CURRENT STATUS

The study should identify, reuse and compile existing studies having explored any particular innovative technology as well as a compilation of research and innovation projects (e.g. Horizon 2020).

1.7.11 COSTS AND MILESTONES

1.7.11.1 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	Study on Innovation Technologies for	100	ISA²	Q2/2018	Q4/2018

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)
	Public Administration				
Initiation	Creation of the project charter	10	ISA²	Q1/2018	Q1/2018
Planning	Create the WBS and project plans	20	ISA²/Other	Q1/2018	Q1/2018
Execution	Design and creation of the prototype	500	ISA²/Other	Q2/2018	Q3/2018
	Integration with the Wifi4EU voucher scheme	340	ISA²/Other	Q3/2018	Q4/2018
	Dissemination of results	80	ISA²	Q4/2018	Q4/2018
Closing	Final evaluation	25	ISA²	Q1/2019	Q1/2019

1.7.11.2 Breakdown of ISA^2 funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2018	Initiation, planning and Execution	500	
2019	Closing	25	