



ISA² WORK PROGRAMME

2018

SUMMARY

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1. THE CONTEXT

1.1 THE NEED FOR THE ISA² PROGRAMME

In today's Europe, citizens are free to work in and relocate to any EU country, and companies are free to operate throughout the EU. Both frequently have to interact with Member States' administrations, and are increasingly doing so electronically. Member States are gradually modernising their administrations by improving their business processes and ICT infrastructure; this reduces their administrative burden and costs while increasing the efficiency and effectiveness of public services.

However, there is still a high risk that these changes will give rise to electronic barriers ('e-barriers') due to their national scope and lack of interoperability across the EU at EU level. Such barriers would prevent citizens and companies from interacting electronically with a foreign administration with the same ease as locals. This could hinder the success of the digital single market.

Organisational issues such as the complexity of public administrations and governmental procedures, cultural differences and the lack of cooperation between public administrations are also a major barrier 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 merely create new barriers to the delivery of EU public services in the single market.

An EU programme would best address the need to modernise public administrations by improving electronic interaction among Member State administrations and the way administrations interact with citizens and companies.

The ISA² (pronounced 'ISA squared') programme¹, which builds on the successful ISA programme, has the following objectives:

- a. develop, maintain and promote an integrated approach to interoperability in the EU in order to eliminate fragmentation;
- b. facilitate efficient and effective electronic cross-border or cross-sector interaction among European public administrations and between European public administrations and companies and citizens;
- c. contribute to the development of a more effective, simplified and user-friendly e-administration at national, regional and local levels of public administration;

¹ https://ec.europa.eu/isa2/isa2_en

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- d. identify, create and implement interoperability solutions that support EU policies and activities;
 - e. facilitate the reuse of interoperability solutions by European public administrations.

ISA² builds on the results of the ISA programme, broadening the scope for interaction between public administrations, citizens and companies. Its stakeholders remain broadly the same. It plans to finance both existing and innovative solutions.

1.2 THE POLITICAL CONTEXT

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

- The roadmap linked to the Commission communication *A digital single market strategy for Europe*² recognises that interoperability and standards are key to the successful implementation of the digital single market. The strategy expresses the need to revise and extend the scope of the revised European Interoperability Framework³ (EIF). The revision and implementation of the EIF and the European interoperability strategy are part of ISA².
- The Commission's 2013 annual growth survey⁴ made it clear that it considers the cross-border interoperability of online services and the digitisation of European public administrations to be important contributors to growth and increased efficiency. Interoperability between administrations makes it possible to deliver digital services more effectively and more efficiently, while sharing and reusing existing interoperability solutions could reduce costs.
- The Europe 2020 strategy⁵ 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 directly relate to modernising European public administrations.
- Other initiatives contribute to the modernisation of public administrations, such as Horizon 2020⁶, the Connecting Europe Facility⁷ and networks like the European Public

² https://ec.europa.eu/commission/priorities/digital-single-market_en

³ https://ec.europa.eu/isa2/eif_en

⁴ COM(2012) 750 final, 28.11.2012.

⁵ Commission communication Europe 2020: A strategy for smart, sustainable and inclusive growth, COM(2010) 2020 final, 3.3.2010.

⁶ 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).

Administration Network and the European Structural and Investment Funds (ISA² ties in with the last two by ensuring that funded national projects are aligned with EU-wide interoperability frameworks and specifications).

2. THE ISA² PROGRAMME

The European Parliament and the Council adopted the Decision on interoperability solutions and common frameworks for European public administrations, businesses and citizens (the ISA² programme) on 25 November 2015⁸.

The ISA² programme supports and promotes:

- a) the creation, improvement, operation and reuse of existing cross-border and cross-sector interoperability solutions;
- b) the 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 the areas in which such solutions are still missing;
- e) the assessment and promotion of existing common specifications and standards 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 ISA² programme is implemented by means of projects and accompanying measures. In connection with this, due consideration is given to the policy context, in particular the digital single market, the European interoperability strategy and EIF⁹, but also to ICT standards priorities¹⁰ and the use of public procurement to foster the uptake of standards and interoperability, for example by developing an EU catalogue of ICT standards.

⁷ Regulation (EU) No 1316/2013 1316/2013/EU 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).

⁸ Decision No 2015/2240.

⁹ 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>

¹⁰ http://ec.europa.eu/growth/industry/policy/ict-standardisation_en

The ISA² decision requires the Commission to establish a rolling work programme to implement the ISA² programme over its entire duration. This document presents the second revision of this work programme.

3. WORK PROGRAMME STRUCTURE

The work programme in this document is designed to help identify links between similar initiatives by grouping them into 'packages'.

Actions are divided into the following packages:

- **Key and generic interoperability enablers** are actions that develop generic key interoperability solutions to support public administrations in providing services.
- The **semantic interoperability** package consists of initiatives to establish and enhance semantic interoperability among public administrations.
- Under the **access to data / data sharing / open data** package, the ISA² 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 brings together all Commission initiatives in the field of e-Procurement.
- The **decision-making and legislation** package covers actions that support the decision-making process, in particular by enhancing interoperability between EU institutions and between them and the Member States. These actions address several processes – from the collection of feedback provided by various stakeholders through to the drafting of new legislation and monitoring that this legislation is implemented.
- The **EU policies — supporting instruments** package covers actions that support the implementation of EU policies.
- **Supporting instruments for public administrations** are actions that develop support solutions – these can help public administrations build interoperable services.
- The **accompanying measures** package consists of activities to do with the promotion of instruments funded under ISA² and monitoring that the measures are implemented.

The actions are decided on the basis of proposals made by the Commission and Member States. Actions relevant to particular policy areas are decided on in close coordination with the Commission department(s) responsible for the policy area, in line with the Commission's IT governance.

Actions under the ISA² programme are continuously coordinated and aligned with work carried out under the digital single market strategy (e.g. the priority ICT standards plan and the EU

catalogue of ICT standards), the European eGovernment action plan 2016-2020¹¹, the ‘Single Digital Gateway’ and CEF-Digital (the Connecting Europe Facility), as well as the Commission’s internal ICT strategy¹². The ISA² programme also supports these and similar initiatives whenever they contribute to interoperability between European 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 to identify best practices and requirements for the cross-sector and cross-border interoperability of base registers. The action will complete the state of affairs study launched under the ISA programme to collect best practices on implementation and provide recommendations for public administration. In 2018, the base registry interconnection and the ‘once-only’ principle¹³ in the individual Member States will be investigated. This is an urgent priority as it is needed in order to develop the right policies at EU level and also to identify missing solutions and collect existing ones into a common repository of reusable solutions, organised in accordance with EIRA.
- **Action 2016.29 — catalogue of services:** There is a need to standardise the descriptions of services offered by national and EU services to support the free movement of goods, services and people, and to catalogue them at a later stage. With ISA funding and in cooperation with representatives of the ‘points of single contact’, work under this action has already resulted in a standard specification to describe services in a consistent way in order to cover all associated life and business events in the context of public services. There are already pilot projects with Member States on how to use the common CPSV-AP data model. In 2018, the focus is on extending CPSV-AP to even more pilot projects involving national and EU points of single contact and digital gateways. This work will support the future ‘Single Digital Gateway’ initiative.
- **Action 2016.02 — provision of a private secured network (TESTA):** This network connects national administrative networks and the internal networks of the EU institutions. It is a secure way for Member States to exchange information with each other and with the EU. It is used by many Commission departments, e.g. the European fraud office OLAF, MOVE, EMPL, ESTAT, HOME (SIS II and VIS networks), SANTE, CDT, MARE, TRADE and other EU institutions (e.g. Europol) and agencies. In 2018, it will focus on making

¹¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0179>

¹² http://ec.europa.eu/dgs/informatics/ecom/index_en.htm

¹³ <https://ec.europa.eu/digital-single-market/en/news/eu-wide-digital-once-only-principle-citizens-and-businesses-policy-options-and-their-impacts>

TESTA the EU's one and only secure network of choice for all data transactions between Member States, EU institutions, EU agencies, EFTA countries, acceding countries and members of community programmes. The emphasis is on investigating the future governance model, architecture and procurement.

- **Action 2016.09 — IPv6 framework for European governments.** Funding has been suspended for this action
- **Action 2016.19 — e-TrustEx.** This provides support for the secure exchange of documents, for example in areas where national parliaments are involved in legislative work across the EU (as a result of the Lisbon Treaty), or in the application of EU competition law. This action reuses modules from the ePrior project and serves as a reusable component for many EU projects that need to exchange information securely. In 2018, work will continue on improving the platform, and will migrate the eTrustex adapter to CEF eDelivery Access Points (AS4 profile).
- **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 2017, it has identified requirements for the different interoperability layers, in particular for matters related to sharing documents such as integrity, confidentiality and non-repudiation at national and EU level. In 2018, it will maintain the outputs of previous phases and will support the Single Digital Gateway with a feasibility study on Open Source Form generators.
- **Action 2018.01 — innovative public services:** This proposal aims to identify and assess the innovative technologies that are currently entering the market and the impact they could have on e.g. service delivery, citizen experience and interaction, and policy-making. Based on this assessment, the proposal will then offer possible activities for ISA² for the remaining years of the programme but also in conjunction with other financing programmes. A pilot blockchain project will also be launched to furnish the Wifi4EU project¹⁴ with blockchain technology. This will result in the transparent and traceable payment of EU funds to the private companies that install the Wifi4EU infrastructure

3.2 SEMANTIC INTEROPERABILITY

- **Action 2016.07 — promoting semantic interoperability among EU Member States:** This action promotes interoperability by:
 - a) increasing awareness of the importance of semantic interoperability and appropriate metadata management policies; and

¹⁴ <https://ec.europa.eu/digital-single-market/en/policies/wifi4eu-free-wi-fi-europeans>

b) supporting and promoting the development and dissemination of common specifications, best practices, experiences and lessons learned in the area of semantic interoperability.

In 2016, the action supported 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 the DG COMP state aid notification system;
- the introduction of core public service vocabulary in Estonia and its inclusion in the Maltese national data strategy as the starting point for developing national core data standards.

These efforts continued in 2017, together with further development with the Publications Office on using VocBench, the open source thesaurus management tool. In 2018, the action will continue investing in innovative approaches towards achieving application and data integration by applying semantic technologies and linked data. This will take the form of pilots involving the active participation of Member States and relevant Commission departments. The new version of Vocbench will also be released with new functionalities, including semantic data modelling capabilities.

- **Action 2016.12 — semantic interoperability of the representation of powers and mandates:** This action will contribute to the semantic interoperability of the representation of powers and mandates that is necessary for the identification of legal persons as defined under Regulation (EU) No 910/2014 (the eIDAS Regulation). In 2016 and 2017, the action laid down the requirements for the minimum set of personal identification data that uniquely represent a natural or legal person and the implementation of core person and core business vocabularies in the eIDAS interoperability framework. In 2018, pilots will be launched on the basis of previous results.
- **Action 2016.16 — public multilingual knowledge management infrastructure for the digital single market:** The objective is to create a public multilingual knowledge infrastructure that helps companies, in particular in the language technology industry, to implement the multilingual tools and features needed to improve the cross-border accessibility of e-commerce solutions. In 2017, the core data model for multilingual taxonomies/terminologies was established. In 2018, a first proof of concept of the public multilingual knowledge infrastructure will deliver these taxonomies.
- **Action 2018.02 — interoperable metadata and processing components for open source information:** The use of public information sources is crucial for the mission of

many public authorities, i.e. to support investigations. The main objective is to develop and select a set of standards in the domain of processing open source information in order to facilitate interoperability and the reuse of software and services between Member State authorities.. In 2018, the action will define a register of processing components, review existing metadata standards and define the new ones that will be used the development phases of the core components in 2019.

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, although other economic operators also 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***: The European Statistical System (ESS), which consists of Eurostat, the EU statistical office and the public administrations responsible for the production and dissemination of official statistics in each Member State, collects data and compiles statistics for national and EU purposes. The objective is to facilitate the sharing of statistical services and solutions in the ESS, with a particular focus on dissemination of statistics. It has produced a reusable solution for the dissemination of statistical data (using SDMX standards) and a statistical reference architecture V1.0, and on making a multi-tenant version of the ESS service catalogue available. In 2018, it will work on creating an inventory of software components for statistical production, start implementing shared services for the production of statistics and will produce a reusable solution for the dissemination of statistics as a downloadable package.
- **Action 2016.15 — *financial data standardisation***: The financial crisis in Europe underlined the importance of healthy financial systems and the need to monitor them by collecting reliable, high-quality data on a regular basis. Under current 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 in order to support financial stability. There is no common financial language, which increases the costs related to legal reporting requirements 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 this area. It has analysed the requirements for common data reporting standards that will be used in 2018 to help define a common financial data language and study the feasibility of a common financial data repository.

Work will also start on defining a framework and roadmap for financial data standardisation across the EU.

- **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 EU Open Data Portal to make it easier to share and reuse 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 2017, it created a common toolset for data visualisation and reuse-oriented data management and data treatment (in particular linked open data). In 2018, the catalogue of data visualisation will become part of EU Open Data Portal and new functionalities will be incorporated. The action will continue to strengthen the visualisation community with workshops, trainings and regular webinars and enhance interoperability of metadata and datasets harvesting solutions based on DCAT-AP.
- **Action 2016.11 — automatic business reporting:** Funding has been suspended for this action.
- **Action 2016.03 — big data for public administrations:** The amount of data generated worldwide is increasing at a phenomenal rate – by 40 % each year – with a thirty-fold increase expected between 2010 and 2020. Because non-interoperable means are used to describe data generated by the public sector, most of this data cannot be fully exploited. This action aims to address the use of big data by public administrations in order to support better decision-making. In 2016, a study was conducted of big data analytics for policy-making, which is publicly available. In 2017, several software components have been developed by means of pilot projects with the respective communities. In 2018, the data analytics needs will be identified through cooperation with Member States, reusable tools developed or existing ones improved by implementing a new wave of pilots.
- **Action 2018.03 — improving statistical data and metadata discoverability and analysis:** Semantic technologies have created new opportunities and expectations with regard to metadata and data discovery / analysis. National statistical institutes (NSIs) in charge of collecting and disseminating official statistics in the EU must boost their data accessibility, discovery and analytics capabilities. This action aims to improve the semantic interoperability and discoverability of official statistics produced by NSIs and the accessibility of EU statistics and to provide data analytics capabilities. In 2018, the action will set up a common ESS statistical metadata platform to help publishers and users expose their metadata ESS assets. Work will also start on reference ontology for statistics and metadata.
- **Action 2018.07 — COMPARED — Text mining solution to support the evaluation process of research grant applications:** Public funding agencies are investing billions of euros in research and innovation projects each year. Funding mechanisms should be improved by reducing duplication or overlaps between research proposals, increasing the

quality of incoming proposals and decreasing oversubscription. The action proposes to confirm the feasibility of a semantic platform for evaluating proposals. In 2018, the focus will be on designing such a platform as well as building a dataset of research proposals to be used by the platform and made available to funding agencies.

3.4 GEOSPATIAL SOLUTIONS

- **Action 2016.10 — European location interoperability solutions for eGovernment (ELISE):** 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 reuse of this information. The Directives on the reuse of public sector information and the establishment of an infrastructure for spatial information in the European Community (INSPIRE) and ISA have started to remove barriers, and some Member States have introduced important initiatives in this field. However, there is much more 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 consistent 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 2016, ELISE continued to develop geospatial interoperability tools (e.g. the ARE3NA platform, the Re3gistry tool, and web search tools), piloted new activities on energy efficiency and marine spatial data sharing, launched activities to assess digital single market opportunities, started a pilot for an EU gazetteer service, and designed and piloted the Geo Knowledge Base service. In 2018, the action will continue with the execution phase by developing frameworks and solutions, developing and rolling out pilots, and operating the Geospatial Knowledge Base service.

3.5 E-PROCUREMENT / E-INVOICING — SUPPORTING INSTRUMENTS.

- The new public procurement directives (Directives 2014/23/EU, 2014/24/EU and 2014/25/EU) clearly state that tools and devices used for communicating electronically should be non-discriminatory, generally available and interoperable. One of the consequences of these Directives is that e-Procurement will gradually become mandatory in the EU. From April 2016, eNotification and electronic access to tender documents has become mandatory. From April 2017, eSubmission has also become mandatory for central purchasing bodies, and from October 2018 for all contracting authorities. e-Certis (an information system helping companies understand what evidence is requested) and the European Single Procurement Document have also become mandatory from April 2016

onwards. Directive 2014/55/EU on e-Invoicing states that all EU public sector organisations must be able to accept electronic invoices by 2020.

- **Action 2016.05 — *European public procurement interoperability initiative***: This action will help public administrations to fully meet the requirements of the e-Invoicing Directive by:

providing a set of reusable tools and services in the area of e-Procurement (e-Certis and the European Single Procurement Document) that are already available as services and rolling out the service to Member States, which will continue in 2018;

helping set interoperability standards and support interoperability initiatives like eSens¹⁵ and TOOP¹⁶ in bringing software components to the maturity level required by the Connecting Europe Facility, with delivery of the core procurement vocabulary in 2017;

reducing the administrative burden and simplifying procedures for buyers and suppliers to encourage cross-border public procurement procedures.

3.6 DECISION-MAKING AND LEGISLATION — SUPPORTING INSTRUMENTS

This package aims to create a fully automated legislative process in the EU – one 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 that cover various steps in the overall lifecycle of the legislative process. These will increase the efficiency of the regulatory process, reduce the 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 ended.
- **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 within the legislative process and their conversion into different formats. For 2018, the action will continue to support the collaborative drafting, revision and transmission of legislative documents in the ‘ordinary legislative procedure’ by further enhancing the LEOS software. It will continue to develop solutions to address the bottlenecks identified in the landscaping exercise and will implement a new tool called Ref2link, a multi-purpose text mining web component that detects EU legal references in text in order to create hyperlinks.
- **Action 2016.23 — *legal interoperability (formerly ICT implications of EU legislation)***: This action ensures that ICT implications are identified and assessed when EU legislation is

¹⁵ <https://www.esens.eu/>

¹⁶ <http://www.toop.eu/>

drafted or evaluated, and that they are properly taken into account in due course. This ensures that legislation is implemented effectively, on time and at a reasonable cost. In 2018, new EU legislative acts will continue to be screened and relevant ones assessed. The action will also continue to perform a cost-benefit analysis of selected cases in the Commission and Member States using a methodology it developed in 2016.

- **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 EU level, while meeting the specific requirements of national legal systems. In 2017, the focus is on solutions for data visualisation, data validation, editing and annotation tools, RDF transformation and MD retrieval. The action has also provided solutions for processing legacy data and tools for searching semantic data. In 2018, it will focus on promoting and assisting ELI adoption in Member States as well as maintaining existing assets and leveraging ELI by developing integrated reusable solutions.
- **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 of this action has ended.
- **Action 2016.01 — application of EU law: provision of cross-sector communication and problem solving tools (THEMIS):** Funding of this action has ended.
- **Action 2016.17 — interinstitutional framework for digital management of the ordinary legislative procedure:** To rationalise the underlying IT environment of the EU legislative process, a study was launched to gain an overview of the overall life cycle of the interinstitutional legislative process (AS IS). In 2017, the focus is on the necessary specifications and transformation/mapping to make it easier to exchange documents. In 2018, these specifications and mappings will be extended and complemented by additional tools (validation framework, converter for legacy data) to facilitate first exchanges.
- **Action 2017.03 — REFIT platform (IT tool):** Funding of this action has ended
- **Action 2017.04 — interinstitutional register of delegated acts (REGDEL):** The objective is to set up a joint register for delegated acts that meets the needs of the three institutions (the Commission, European Parliament and Council) and makes drafting and adoption of delegated acts more transparent. This will give the Member States and the public a better view of the full life cycle of delegated acts, from planning to entry into force.
- **Action 2018.04 — Study on the future Comitology Register:** The Comitology Register (RegCom) contains background information and documents relating to the work of the committees assisting the implementation of EU legislation. It allows tracing different stages of an implementing measure throughout its entire lifecycle. The current version of the Register dates back to 2008 and it is necessary to rethink the Register from an IT, inter-

operability as well as financial perspective. This action aims to prepare the grounds for the building of a RegCom2 in 2019, by analysing the integration with other corporate tools, how to streamline transmissions to the other institutions and how to improve transparency and access to information for the users.

3.7 EU POLICIES – SUPPORTING INSTRUMENTS

- **Action 2016.13 CISE — development of the information sharing environment for the surveillance of the EU maritime domain:** The initiative to develop a Common Information Sharing Environment - CISE for the EU maritime domain was launched in 2009. It has been supported by several Commission communications and Council conclusions. Since 2014, it is implemented as a part of the EU maritime security strategy. The action is expected to help the Commission implement CISE interoperability solutions mainly at Member State level by further exploiting the results of the current pre-operational phase undertaken by EUCISE2020¹⁷. In 2018, the action will continue to develop and maintain a new version of CISE technical specifications and components.

- **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 that support citizens' initiatives in the following areas:

- improvements for citizens using the online software for collecting statements of support;

- improvements for organisers of European citizens' initiatives;

- interoperability improvements.

The action will also provide technical advice on the development of the legislative framework (risk analysis and impact assessment). In 2017, the action delivered a cryptographic tool to encrypt XML files exchanged by Member States at each European Parliament election. In 2018, it will focus on implementing the changes that support revision of the Regulation.

- **Action 2016.24 ABCDE — administrations, business and citizens' data exchanges in the domain of case management:** This action aims to provide interoperable solutions to support cross-border and cross-sector data exchanges between the European Commission, Member State administrations, companies and citizens on EU competition policy cases (i.e. enforcement of antitrust/cartel rules, merger control and State aid control). In 2017 the action further continued the evolution of GENIS and ECN2 common e-services following Member States requests, started the development of the new common services (eRFI, eLeniency, eConfidentiality) and defined a common ABCDE architectural framework. In

¹⁷ www.eucise2020.eu/

2018, the actions will continue the evolution of GENIS and ECN2 and the implementation of eRFI, eLeniency and eConfidentiality projects.

- **Action 2018.05 — *electronic access to European Commission documents***: The purpose of this action is to conduct a study to analyse and propose an efficient solution for electronic access to European Commission documents. The analysis will cover the entire flow – from requests by EU citizens or stakeholders through to answers by the European Commission, in which it provides access to the requested documents or (partially) refuses access to them. The study will also investigate the existing IT tools and identify components that could be reused in order to propose an integrated and fully electronic solution.
- **Action 2017.05 — *interoperability requirements for implementation of the Single Digital Gateway***: The proposal for a Regulation on a Single Digital Gateway of 2 May 2017 (COM(2017) 256)¹⁸ aims to make it easier for citizens and companies who need to navigate regulatory and administrative requirements to access the necessary information, procedures and assistance services online. It provides for the development of IT support tools: a search facility for information and procedures, a common assistance service finder, user feedback tools, a tool for gathering feedback on obstacles to the single market, a back-office dashboard, and tools for supporting the acceptance and exchange of digital evidence as part of administrative procedures. This action aims to provide the technical basis for implementation of the future Regulation by detailing the IT architecture of the Single Digital Gateway and by ensuring functional, technical and semantic interoperability for the development of the IT tools and their interconnection with Member States' IT tools and EU tools.

3.8 SUPPORTING INSTRUMENTS FOR PUBLIC ADMINISTRATIONS

- **Action 2016.32 — *European interoperability reference architecture (EIRA)***: EIRA provides an overview of cross-border and cross-sector interoperability needs at EU level. It provides a structure for mapping existing operational interoperability solutions (covering different types of interoperability assets, including infrastructure services, information systems, applications, software components, semantic assets, organisational assets and legal interoperability assets) and identifying missing parts. Trans-European software solutions developed and operated by the European Commission have already been assessed, described and organised in accordance with EIRA (see Action 2016.36). The Commission released a new version of EIRA at the end of 2016. In 2017, it has added interoperability specifications to EIRA. In 2018, the action will continue to promote the adoption of EIRA in Member States, including the implementation of pilot applications.

¹⁸ https://ec.europa.eu/info/law/better-regulation/initiatives/com-2017-256-0_en

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- **Action 2016.37 — interoperability maturity model (IMM):** This is a method for verifying the level of interoperability of public services. To date, more than 30 public services at EU and national level have been evaluated using the method. IMM is being updated in 2017 based on the revised EIF and the feedback collected during real-life applications. In 2018, the action will also develop an IMM checklist and provide IMM as a service.
 - **Action 2016.21 — maintenance and further development of the national interoperability framework observatory (NIFO):** NIFO plays a crucial role in ensuring that national interoperability frameworks are aligned with the European Interoperability Framework (EIF). It also helps Member States achieve alignment by providing an analytical model and gap analysis tools. NIFO will be updated to better align it with the revised EIF and European interoperability Action Plan. In 2017, the observatory has strengthened its role as a respected and authoritative source of information on the state of play of interoperability and digital public services in the EU. This will help link the observatory with initiatives that contribute to public sector modernisation such the digital single market, Member States' national digital strategies, the European semester economic coordination process, and the eGovernment action plan 2016-2020. In 2018, NIFO will also start to monitor the EIF Action Plan.
 - **Action 2016.27 CAMSS — common assessment method of standards and specifications:** Standardisation is key to achieving interoperability and avoiding vendor lock-in when developing digital public services. The Common Assessment Method for Standards and Specifications (CAMSS) was developed under the IDABC and ISA programmes. It helps public administrations assess and select 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 helps assessments to be reused. In 2018, the action will maintain and extend the existing tools and the list of standards endorsed by Member States. It will also work closely with other Commission departments 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 (former European Interoperability Strategy governance):** This action builds on the previous European Interoperability Strategy. Since a revised European Interoperability Framework Action Plan (EIF-AP) was adopted in 2017 as part of the Communication 'European Interoperability Framework — Implementation Strategy'¹⁹, the new EIF provides organisational, financial and operational guidance on how to implement the revised recommendations. It defines a set of focus areas and an Interoperability Action Plan (IOP-AP) to guide Member States and EU institutions up to 2020. In 2018, the action will continue to seek reference models for governance and organisational interoperability structures in accordance with the different structures and models within the EU. It will support Member States in their national interoperability activities and start the evaluation of EIF implementation.

¹⁹ https://ec.europa.eu/isa2/eif_en

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- **Action 2016.34 — CIRCABC (Communication and Information Resource Centre for Administrations, Businesses and Citizens):** The ISA² 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 that assist the Commission in its work.
 - **Action 2016.35 — EUSurvey:** This action provides a multilingual tool that makes it easier to create surveys and collect information in order to support the Commission's policy initiatives. Both CIRCABC and EUSurvey are published under an open licence and can be used by other organisations with similar needs. In 2017, EUSurvey has been 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.
 - **Action 2016.25 — interoperability test bed:** This action will develop and host reference implementations of a test bed. It will also 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 2018, the action will continue to help develop and improve the test bed software and hosting.
 - **Action 2016.20 — Joinup, the European collaborative platform and catalogue:** Joinup is a common platform that helps administrations share and learn from best practices as well as reuse interoperability solutions from a central catalogue. In 2016, this work:
 - a) further improved the Joinup platform to provide a better user experience;
 - b) finished redefining the scope of the catalogue of solutions;
 - c) will implement the European Interoperability Cartography to provide a highly structured set of building blocks and solutions to support administrations in providing interoperable public services;
 - d) supported the 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 has been updated so that it can be easily searched and adapted to new device types. In 2018, the new platform will continue to be improved, including integration with the GitHub platform for hosting OSS source code.

- **Action 2016.22 — Community building and effective use of collaborative platforms:** Funding of this action has ended. Activities will be continued under actions 2016.20, 2016.30 and 2016.31.
- **Action 2016.36 — assessment of trans-European systems that support EU policies:** The identification, collection, documentation and assessment of trans-European systems (TES) managed by the Commission on behalf of or jointly with the Member States is

needed. The systems are described in a common way and registered in a single cartography (TESCart). In 2018, the next steps include updating and extending TESCart to all trans-European Systems in the EU as well as applying and assessing the reusability and interoperability criteria in order to increase the reusability potential of TES. The action will also deploy a semantic wiki, which will enable comparisons between EIRA and national reference architectures.

- **Action 2016.31 — *sharing and reuse***: The sharing and reuse of IT solutions used to provide digital public services has the potential to achieve much-needed savings. At the same time, reusing solutions will contribute to improve the consistency and coherence of services across the EU, and will make it easier for public administrations to interact and cooperate. This action has already generated a number of tools that can help public administrations develop common and reusable solutions. In 2016, a common framework was published on the sharing and reuse of solutions. In 2017, shared and reused IT solutions garnered awards at the Sharing and Reuse Conference. The action will also support 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 will take over the operation of the Open Source Observatory (the OSOR community) from action 2016.22. In addition to these activities, preparations will get underway in 2018 on the next Sharing²Reuse awards.

- **Action 2017.01 — *standard-based archival data management, exchange and publication***: This action will start with a study aimed at identifying existing data standards in archival information management and exploring IT tools and services that support them. The results will also help show how these standards are applied in different contexts. The second part of the action will deal with the analysis of requirements for interoperability on the one hand between the Archives Portal Europe, Europeana and the Historical Archives of the European Union (run by the European University Institute), and the Historical Archives of the European Commission on the other. The action will also assess the options available for publishing the relevant part of the content of EU archived content in open data format on the different platforms (like the Open Data Portal and the European Data Portal). This will help Member States, citizens and researchers interact with them and reuse them in different contexts. In 2018, the action will launch two pilots on open data publication and archive management data exchange.

- **Action 2018.06 — *FAIR Data Maturity Model***: This action aims to develop a self-assessment methodology that any public sector or research organisation can use in order to measure the maturity level of its datasets, projects or data infrastructures from the following perspectives:
 - a) data findability, i.e. how well an organisation describes the data it generates or manages with rich metadata and globally unique persistent identifiers;

 - b) data accessibility, i.e. how well an organisation allows its data/metadata to be retrieved;

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- c) data interoperability, i.e. how well an organisation ensures that the precise format and meaning of exchanged and shared data/metadata is preserved and understood;
 - d) 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 is to offer the Member States an open source CAPTCHA released under the European Union Public License (EUPL) that is maintained by the Commission, secure, user-friendly and multilingual. It will be delivered as a component that can be operated as a service. A CAPTCHA with such characteristics does not exist on the market.
The solution delivered will be published on the GitHub platform so that it can be reviewed and maintained by the open source community. The action will also conduct a study investigating how to further extend the CAPTCHA with features that improve the user experience by replacing scrambled letters and numbers with more innovative and less intrusive approaches (e.g. gesture analysis, animations, images). The aim is to implement the conclusions of the study in the coming years.
 - **Action 2018.09 — *GOVSEC — secure governance***: This action aims to guide stakeholders in risk assessment and implement a governance policy when using cloud services. It will help 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). In practice, it will provide a checklist of both technical and process-related controls to ensure that the proper security level is implemented.

3.9 ACCOMPANYING MEASURES

- **Action 2016.30 Communication activities**— Communicating the solutions developed under ISA² is a prerequisite for their widespread use. To this end, a comprehensive communications strategy and campaign needs to be set up and maintained once the programme starts.
Under the new programme, communication activities in 2016 included drafting an overall communications strategy and plan, creating the programme’s website and social accounts, and holding an ISA² conference.
In 2018, the Commission will continue to hold workshops and participate in conferences in Member States in order to inform stakeholders about the reusable instruments developed under the ISA and ISA² programmes. It will also organise the SEMIC conference as well as support a number of workshops. It will also propose a user centricity assessment framework.

- **Action 2016.36 — *monitoring and evaluation***: This action will support the monitoring and evaluation of the ISA² programme by establishing relevant processes, setting up 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 ensure that it achieves the highest impact with the greatest efficiency. In addition to its usual activities, the action will start the ISA² interim evaluation in 2018, as defined in the ISA² legal decision.

4. BUDGET

A breakdown of the budget by action is given in Annex II together with a tabular overview.

To optimise how the ISA² budget is used, appropriations for work programme entries for a given year may be brought forward to the preceding year in full or in part if the overall expenditure under the ISA² programme in the preceding year allows this. Article 10(2) of the ISA² Decision (the 'flexibility clause') still applies.

As Article 9(1) 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 current knowledge of the scope and timing of the actions. These budget estimates may need to be revised in the light of new information or changing priorities. They should not 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.