Interoperability in Europe

Lessons learned

FAD
September 7th, 2017
Copenhaguen, DK
Dr. Raul M. Abril
Agenda

• Focus
• Interoperability
  o Definition
  o Public Services
  o Scenarios
  o The IOP challenge
• The EU context
• Business case for IOP in e-Government
• ISA\(^2\) Programme – ISA unit
• EIRA
Focus: Exchange of IOP experiences

Lessons Learned formulated as hypotheses (*)

Interoperability (IOP)

"ability of organisations to interact towards mutually beneficial goals, involving the sharing of information and knowledge between these organisations, through the business processes they support, by means of the exchange of data between their ICT systems" (*)

### Examples of European Public Services

<table>
<thead>
<tr>
<th>Sector/Area</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business development (A2B, A2A)</td>
<td>Start-up of a company, Public procurement, Registration of patents, trademarks, designs, Consumer protection, labelling, packaging</td>
</tr>
<tr>
<td>Certificates and licenses (A2C)</td>
<td>Birth and marriage certificates, Driving licences, Passports, visas, Residence and working permits, Car registration</td>
</tr>
<tr>
<td>Education (A2C)</td>
<td>Enrolment in schools and universities, Study grants</td>
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<td>Taxes for citizens (A2C)</td>
<td>Online Tax</td>
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<tr>
<td>Social security (A2C)</td>
<td>Information service for social security systems, Unemployment benefits, Child allowances, Pensions, Public health insurance</td>
</tr>
<tr>
<td>Supply of statistical data (A2B, A2A)</td>
<td>Tax for businesses, VAT refunding, Information on tax incentives, Declaration of excise goods</td>
</tr>
<tr>
<td>Work (A2C)</td>
<td>Recognition of qualifications and diplomas, Job search</td>
</tr>
<tr>
<td>Customs (A2C, A2B, A2A)</td>
<td>Information on Customs duties, Customs declarations</td>
</tr>
</tbody>
</table>
"Interoperability is a multidimensional intangible construct hard to understand, communicate, measure and manage"
The EU context

1. A New Boost for Jobs, Growth and Investment
2. A Connected Digital Single Market
3. A Resilient Energy Union with a Forward-Looking Climate Change Policy
4. A Deeper and Fairer Internal Market with a Strengthened Industrial Base
5. A Deeper and Fairer Economic and Monetary Union
6. A Reasonable and Balanced Free Trade Agreement with the U.S.
7. An Area of Justice and Fundamental Rights Based on Mutual Trust
8. Towards a New Policy on Migration
9. A Stronger Global Actor
10. A Union of Democratic Change
The EU context

A Connected Digital Single Market
"We must make much better use of the great opportunities offered by digital technologies, which know no borders. To do so, we will need to have the courage to break down national silos in telecoms regulation, in copyright and data protection legislation, in the management of radio waves and in the application of competition law."
Main initiatives

- **Strategy to create a Digital Single Market:** potential contribution to the economy of EUR 415 billion per year and job creation potential
- End of roaming charges
- Open internet
- Reform of personal data protection rules
The EU context

Why the EU needs a Digital Single Market

315 million Europeans use the Internet every day

A Digital Single Market can create up to €415 billion in additional growth, hundreds of thousands of new jobs, and a vibrant knowledge-based society

But obstacles remain to unlock this potential...

The Digital Market today is made up

- 4% (EU cross-border)
- 42% (national - 28 Member States)
- 54% (US)
- 42% online services (42%)
- US-based online services (54%)
- EU cross-border online services represent only 4%

"The European (*) political agenda on Digital Single Market has been a main driver of IOP. Top-down Value proposition of IOP: Break digital barriers"

(*) For the sake of this presentation by "European" it is meant the EC
The EU context

An Area of Justice and Fundamental Rights Based on Mutual Trust
"I intend to make use of the prerogatives of the Commission to uphold, within our field of competence, our shared values, the rule of law and fundamental rights, while taking due account of the diversity of constitutional and cultural traditions of the 28 Member States."
The EU context

Main initiatives

• **European Agenda on Security** for cooperation and action in the next 5 years

• New measures to support the **fight against terrorism**

• **EU-US data protection umbrella agreement**

• **EU Passenger Name Record Directive**

• **Reform of Europol and Eurojust**

• Establishment of the **European Public Prosecutor's Office**
The EU context

The European Agenda on Security

"The Member States political agenda on Security has become a driver of IOP. Bottom-up Value proposition of IOP: Enabling access to disperse data"
The EU context

A Union of Democratic Change
"The proposal and election of the President of the European Commission in the light of the outcome of the European Parliament elections is certainly important, but only a first step in making the European Union as a whole more democratic. A European Commission under my leadership will be committed to filling the special partnership with the European Parliament. [...] I am also committed to enhanced transparency when it comes to contact with stakeholders and lobbyists. [...] I also intend to review the legislation applicable to the authorisation of Genetically Modified Organisms."
Main initiatives

- **36 Citizens' Dialogues** in 23 Member States
- **Better Regulation package**
- Increased transparency
- Partnership with the European Parliament and national Parliaments
- Review of the legislation applicable to the authorisation of **Genetically Modified Organisms**
- Proposal of regulation regarding **Genetically Modified Organisms**
The European political agenda on better regulation has become a driver of IOP. Top-down Value proposition of IOP: Support to EU policies
"Digital public services score high where IOP scored high"
"IOP supports Quality of Public Administration"

"User centric Quality metrics shall be used to monitor & evaluate IOP"
Business case for IOP in e-Government


"Knowledge Management best practices (i.e. sharing IOP experiences) increase efficiency"
IOP is the independent variable [of performance/economic cost variables]

H1: “There is a positive correlation between IOP and [performance variable] (i.e. # requests/hr) of public service delivery to public administrations citizens and businesses”

H2: “There is a negative correlation between IOP and [economic cost variable] (i.e. # rejection cost) of public service delivery for public administrations, businesses and citizens”
IOP is a means to eliminating barriers in business information exchange (it is not the goal)

H3: “There is a negative correlation between IOP and barriers to business information exchange”
Related IOP EU initiatives timeline

**EU Directives**
- 1998 Standards Directive (199888/34/EC)
- 2004 Public Procurement (Directive 2004/18/EC)

**1990**
- Interchange of Data between Administrations (IDA) Programme

**1995 – 1999**
- The follow-on Programme IDA II

**2000**
- Strategy for growth and employment
- eGovernment Ministerial Conference in Brussels
- eGovernment Ministerial Conference in Como
- Decision 2004/387/EC Adopting the IDABC Programme

**2005 – 2009**
- Manchester Ministerial Declaration
- ModinisIDM Programme
- eEurope 2005 Action Plan
- eEurope 2005 Initiative
- Commission Communication on Interoperability for Pan-European eGovernment Services
- Lisbon Ministerial Declaration
- i2010 Initiative

**2010**
- Decision 2009/922/EC Adopting the ISA Programme
- Malmo Ministerial Declaration
- Commission Communication (COM(2011) B82 final) on Open Data, an engine for innovation, growth and transparent governance
- Digital Agenda
- Europe 2020 Strategy

**2016 – 2020**
- General Data Protection Regulation (2016/679)
- DSM Strategy
- Decision 2015/2240 establishing the ISA² Programme
- Regulation (1025/2012) on European Standardisation
- Regulation (1316/2013) establishing the Connecting Europe Facility
Interoperability Solutions for European Public Administrations, businesses and citizens (ISA²) ↴ NO GRANTS
• Connected Europe Facility (CEF) ↴ GRANTS
• European Structural Funds (ESF)
• European Regional Development Fund (ERDF)
• Horizon2020

"Portfolio management is the best way of managing European IOP initiatives"
ISA² Programme – ISA unit

- 2016-2020
- 131 M€

1. **Submission:**
   - Call for proposals to the Commission services and the MS representatives in the ISA² Committee

2. **Evaluation:**
   - Criteria-based selection of proposals to be funded as actions

3. **Adoption:**
   - Commission adopts and budget is released

4. **Implementation:**
   - By the Commission on the basis of public procurement rules

- Public Administrations
- Business
- Citizens
"Lack of understanding on Legal and Organizational IOP implied low spending in favour of Semantic and Technical IOP"
Overview of packages and actions

32 ongoing actions updated
10 new proposals received
7 actions discontinued / funding paused

9 packages

• Key and generic interoperability enablers (5 actions)
• Information interoperability (3 actions)
• Access to data / data sharing / open data (4 actions)
• Geospatial solutions (1 action)
• Eprocurement / eInvoicing (1 action)

"Clustering/packaging is difficult and key for allocating budget"

• Decision making and legislation (4 actions)
• EU policies (2 actions)
• Supporting instruments for public administrations (10 actions)
• Accompanying measures (2 actions)
EIF revision
"Outcomes of actions shall include product solutions (i.e. solution releases, value propositions, use cases)"

"Requirements mgmt (formulation/validation) for IOP Solutions is a critical success factor"

"Deployment of IOP solutions require campaigns and product management experience"

"Adoption of IOP solutions has a slow pace"
IEEE's COMPUTER vol 47 issue 10
"Promoting Interoperability in Europe’s e-Government"
What is EIRA?

✓ Architecture content metamodel
✓ Defining the most salient architectural building blocks (ABBs) needed to build interoperable solutions supporting public services
✓ Each ABB models a decoupled functionality
✓ Result of a collaborative effort of MS
✓ As any RA
   ✓ Has a focus: Interoperability
   ✓ Has an Reference Model/Ontology: ArchiMate ©
   ✓ Has an Architecture Style: SOA
Why EIRA?. ISA² legal bases (*)

"... The ISA² programme shall support and promote:

f) the mapping and analysis of the overall interoperability landscape in the Union through the establishment, maintenance and improvement of the EIRA and the EIC as instruments to facilitate the re-use of existing interoperability solutions and to identify the areas where such solutions are still lacking;

(g) the maintenance, updating, promotion and monitoring of the implementation of the EIS, the EIF and the EIRA"

Why EIRA? Alignment

European Interoperability Framework (EIF) Framework and principles

European Interoperability Reference Architecture (EIRA) Implementation Guidelines and Specifications

COM(2017) 134 & ANNEX 1

Focus areas? Objectives? When?

Interoperability Implementation Strategy Governance and strategy

What?

ANNEX 2

How?

http://eur-lex.europa.eu/resource.html?uri=cellar:2c2f2554-0faf-11e7-8a35-01aa75ed71a1.0017.02/DOC_1&format=PDF
http://eur-lex.europa.eu/resource.html?uri=cellar:2c2f2554-0faf-11e7-8a35-01aa75ed71a1.0017.02/DOC_2&format=PDF
http://eur-lex.europa.eu/resource.html?uri=cellar:2c2f2554-0faf-11e7-8a35-01aa75ed71a1.0017.02/DOC_3&format=PDF
Why EIRA? Alignment

EIF
Framework and principles

EIRA 2.0.0
Implementation guidelines and specifications

- Legal Interoperability
- Organisational Interoperability
- Semantic Interoperability
- Technical Interoperability
"Key enablers ABBs of sharing & reuse and of exchange are orthogonal factors of IOP"
### How EIRA supports IOP in e-Government?

**Example:** Focus on the IOP role of a national PA as Operational Enabler (EIRA) including references to TOGAF v 9.1

<table>
<thead>
<tr>
<th>PUBLIC POLICY IMPLEMENTATION</th>
<th>TOP/CENTRALISED</th>
<th>DOWN/DELEGATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>SETTING THE PUBLIC POLICY KEY IMPLEMENTATION IOP INSTRUMENTS (i.e. focus on data architecture like a <strong>base registry solution</strong>)</td>
<td>SETTING PUBLIC POLICY IMPLEMENTATION STANDARDS AND RULES (i.e. focus on technology architecture like <strong>eID tech specifications</strong>)</td>
<td></td>
</tr>
<tr>
<td>SETTING PUBLIC POLICY IMPLEMENTATION OBJECTIVES (i.e. focus on business architecture like a <strong>national interoperability strategy</strong>)</td>
<td>SETTING PUBLIC POLICY IMPLEMENTATION FRAMEWORKS AND COLLABORATION PROTOCOLS CROSS THE DIFFERENT DELEGATION LEVELS (i.e. focus on application architecture like a <strong>national reference architecture</strong>)</td>
<td></td>
</tr>
</tbody>
</table>

**Example:** Focus on the IOP role of a national PA as Operational Enabler (EIRA) including references to TOGAF v 9.1
Benefits of the EIRA & CarTool

<table>
<thead>
<tr>
<th>Designing</th>
<th>Accelerate the design of systems that support the delivery of interoperable digital public services (across borders and sectors).</th>
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</thead>
<tbody>
<tr>
<td>Assessing</td>
<td>Provide a reference model for comparing existing architectures in different policy domains and thematic areas, to identify focal points for convergence and reuse.</td>
</tr>
<tr>
<td>Communicating and Sharing</td>
<td>Help documenting the most salient interoperability elements of complex systems and facilitate the sharing of reusable solutions.</td>
</tr>
<tr>
<td>Discovering and Reusing</td>
<td>Ease the discovery and reuse of interoperability solutions through the TES Cartography using the CarTool.</td>
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</tbody>
</table>
How EIRA & CarTool support IOP in e-Government?

- Providing a controlled vocabulary
- Decoupling functionalities in Architectural Building Blocks
- Facilitating the identification of IOP specifications
- Holistique L,O,S,T IOP guidance
- Accelerating development cycle
- Enabling cartographies
- Promoting discovery/reusability
- Supporting Portfolio Mgmt Decision Making
- Supporting Public Policy formulation

"We know what we do not know. For example, in the IOP specifications area: We do not understand well Legal IOP specifications nor Organizational IOP specifications"
How EIRA supports IOP in e-Government?. Facilitating the identification of IOP specs

Common Assessment Method for Standards and Technical Specifications

- **CAMSS brings**
  - Criteria fully aligned with the principles of the European Standardisation Regulation 1025/2012
  - A (growing) collection of assessments ready for reuse by the Standardisation Community;
  - An up-to-date List of Standards recommended by the Member States (input for the European Catalogue of Standards)
  - Continuous support to users

- **In progress**
  - Support to the Multi-Stakeholder Platform on the identification process (ongoing pilot)
  - CAMSS as a Service (provision of assessment on demand)
  - Improved tools (usability, formatting and open source)
  - Training resources

How EIRA supports IOP in e-Government?
Promoting discovery/reusability

The ISA² Interoperability Maturity Model (IMM)

- The Interoperability Maturity Model (IMM) is an Online Self-assessment tool that allows public service owners to measure the Interoperability Maturity of their Digital Public Services

- The IMM’s 23 assessment questions are based on the 2017 version of the European Interoperability Framework

The 2017 IMM Benchmark showed that Public Services are on average at the level of Essential Interoperability (level 3 on a scale of 5)

- 68 qualified submissions within the 2-month survey timeframe
- Responses from nearly all EU countries, as well as non-EU like Japan
- Broad coverage of government activity domains: from open data portals, to eVoting platforms, to public procurement services

https://joinup.ec.europa.eu/community/communityimm/description
**How EIRA supports IOP in e-Government?**

**Promoting discovery/reusability**

"SW solutions is THE unit of analysis for IOP from a bottom-up perspective"

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**Interoperability Quick Assessment Toolkit (IQAT©)**

The Interoperability Quick Assessment Toolkit© is an Excel tool that allows Solution Owners to **assess the Potential Interoperability of their software solutions supporting Public Services.**

### Features

- **Fully compliant with the 2017 version of the European Interoperability Framework (EIF) recommendations**
- Based on a specific **conceptual model** for the interoperability assessment of software solutions
- Based on the automatically computed **Interoperability Assessment Score**, delivering a **4 stage maturity level** model

### Expected Benefits

- Supporting **portfolio management decisions**:
  - by spotting areas for **improving the interoperability in a given solution**
  - by suggesting solutions that could be published in the European Interoperability Cartography (EIC)
  - by clustering solutions with regard to interoperability Maturity
- **Applicable to any software solution** supporting public services (not only for TES)
- **Saving time and resources** in IOP peer-to-peer tests by acting as a gateway to it
- **Supporting end users of the EIC** in verifying the overall interoperability score of any published solution

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Conformance claims can be made for anything the EIRA© can be used to define

- A solution
- A SAT
- A reference architecture

Conformance is measured using rules applied on the target’s ArchiMate© model
How EIRA supports IOP in e-Government?

Impact on ICT

Chapter VIII
The content of the Better Regulation Toolbox

The different chapters in this Better Regulation guideline are complemented by the following tools[^17] which provide more detailed information.

<table>
<thead>
<tr>
<th>General principles of Better Regulation</th>
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<tbody>
<tr>
<td>1 Principles of Better regulation</td>
</tr>
<tr>
<td>2 Evidence gathering</td>
</tr>
<tr>
<td>3 Subsidiarity and proportionality</td>
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</tbody>
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<table>
<thead>
<tr>
<th>How to carry out an impact assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 When is an impact necessary?</td>
</tr>
<tr>
<td>5 What steps should I follow for an IA?</td>
</tr>
<tr>
<td>6 IA for spending programmes and financial instruments</td>
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<tr>
<td>7 IA requirements for social partner agreements</td>
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<tr>
<td>8 Format of the IA report</td>
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<tr>
<td>9 How to undertake a proportionate IA?</td>
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<tr>
<td>10 Stakeholder consultation in the context of an IA</td>
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<tr>
<td>11 How to analyse problems</td>
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<tr>
<td>12 Risk assessment and management</td>
</tr>
<tr>
<td>13 How to set objectives</td>
</tr>
<tr>
<td>14 How to identify policy options</td>
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<tr>
<td>15 The choice of policy instrument</td>
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<table>
<thead>
<tr>
<th>How to identify impacts in Impact Assessments, evaluations and Fitness Checks</th>
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<tbody>
<tr>
<td>16 Identification/Screening of Impacts</td>
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<tr>
<td>17 Impacts on sectoral competitiveness</td>
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<tr>
<td>18 Impacts on Research and Innovation</td>
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<tr>
<td>19 The SME test</td>
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<tr>
<td>20 Impacts on Competition</td>
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<tr>
<td>21 Impacts on the Internal market</td>
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<tr>
<td>22 Impacts on external trade and investment</td>
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<tr>
<td>23 Impacts on ICT, the digital economy and society</td>
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<tr>
<td>24 Fundamental Rights &amp; Human Rights</td>
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How EIRA supports IOP in e-Government? Impact on ICT

https://www.youtube.com/watch?v=RWhoy3iLYEA
Webinar on Base Registries:
19th September at 10:30 AM

Agenda

• Introduction to the ‘Access to Base Registries’ initiative;
• Presentation of the four artefacts under the ‘Access to Base Registries’ action;
• Community actions and the presentation of related projects (SCOOP4C, TOOP, etc.);
• High-level presentation of the ‘Base Registries Interoperability Framework’
• Q&A session
• Collection of suggestions on the type of support that the European Commission should offer to the Member States in this area

Further info at https://ec.europa.eu/isa2/events/access-base-registries-webinar_en
Questions?
ISA² programme
You click, we link.
Stay in touch
ec.europa.eu/isa2

@EU_isa2  isa@ec.europa.eu

Run by the ISA Unit at DIGIT (European Commission) with 131€M budget, the ISA² programme provides public administrations, businesses and citizens with specifications and standards, software and services to reduce administrative burdens.
Contact us

Project Officer
Raul Abril
DIGIT-EIRA@ec.europa.eu

For more information


<table>
<thead>
<tr>
<th>EIA Joinup community</th>
<th><a href="https://joinup.ec.europa.eu/asset/eia/description">https://joinup.ec.europa.eu/asset/eia/description</a></th>
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</thead>
<tbody>
<tr>
<td>ISA website</td>
<td><a href="http://ec.europa.eu/isa/index_en.htm">http://ec.europa.eu/isa/index_en.htm</a></td>
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<td>ISA FAQ</td>
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</table>
What is the CarTool?

A solution owner or an service acting on his/her behalf uses the CarTool in any of the use cases. He/She might work on the basis on the documentation on an existing solution.

The CarTool is the response of the EC to a request of the MS in order to allow them to document solutions in compliance to EIRA. It is an open SW plugin developed for the ARCHI SW.

The CarTool supports 1) to design, document and search solutions according to EIRA and 2) to export descriptions of solutions in MEF standard format.

A cartography is the outcome of mapping/decomposing existing solutions or documenting new ones against a taxonomy (EIRA in our case).
"Operational enabler ABB is influenced by the Public Policy Implementation Approach and the Public Policy Implementation Mandate"
"Business Capabilities orientation gives more flexibility than Business Processes orientation"
Roadmap key milestones

- **EIRA V2.0.0 beta**
  - EUROPEAN INTEROPERABILITY REFERENCE ARCHITECTURE

- **CarTool V2.0.0 beta**
  - CARTOGRAPHY TOOL

- **ARIS v10SR1**
  - ArchiMate 3.0 Modelling
  - AM 2.1 FEF Import/Export

- **CarTool V2.0.0**
  - CARTOGRAPHY TOOL

- **EIRA V2.0.0**
  - EUROPEAN INTEROPERABILITY REFERENCE ARCHITECTURE

- **CarTool V2.1.0**
  - CARTOGRAPHY TOOL

- **EIRA V2.1.0**
  - EUROPEAN INTEROPERABILITY REFERENCE ARCHITECTURE

- **ARIS v10SR2**
  - ArchiMate 3.0 Modelling
  - AM 2.1&3 FEF Import/Export
### Key and generic interoperability enablers

| Access to base registries | ・Update and maintenance of the Base Registries Dashboard on Joinup (Cartography of Reusable Solutions, Guidelines, MS Factsheets)  
・Create a comprehensive framework on Base Registry Access  
・Exchange of best practices between MS |
| --- | --- |
| Catalogue of services | ・Update and maintain the CPSV-AP and open source tools  
・Support DSM action Single Digital Gateways  
・Real life implementations of Catalogue of Public Services at the PSCs and other Portals  
・Raise awareness activities |
| Interoperability agreements on eDoc, eFile | ・Overview of current solutions, categorisation of requirements, solutions. Recommendations |
| TESTA – Data communication network service (02) | ・Operation of the NG network  
・Support DG taxud in migrating to sTesta NG |
| eTrustEx | ・Adoption of development quality assurance and quality control best practices  
・Adaptations to the e-TrustEx adapter taking into account the results of the gap analysis between the e-TrustEx adapter and the CEF eDelivery AP.  
・Mobile support, eIDAS compliance, other improvements |
Semantic interoperability

- Includes the Evolution of VocBench subaction
- SEMIC conference - Malta
- Supporting other actions to ensure alignment of initiatives in the semantic interoperability area
- Development and promotion of core vocabularies

- Publish Generic technical specification for the interoperability of powers and mandates

- Publish Core data model for Multilingual taxonomies/terminologies
- Establish semantic links with external vocabularies
Access to data / shared data / open data

- Big data for public administrations
- Sharing statistical production ...
- Financial data standardisation
- Development of open data portal service

- Identify further opportunities and areas of interest in big data
- Implementation identified pilots through generalising the developed functionalities
- Launch a new wave of pilots in specific domains

- Reusable solution for the dissemination of statistics – available for all DGs within the Commission in 2017.
- Create common architecture (aligned with EIRA) – first release in Q1
- Multi-tenant version of the ESS Service Catalogue
- Provide support to ESS members to reuse common instruments

- Assess the feasibility of selecting / developing common standards in the area of financial data reporting
- Develop standardisation roadmap
- Methodology and Analysis of Data Reporting Requirements

- Interinstitutional knowledge base on open data publishing, open data treatment and processing, data visualisation
- First version of common toolset in the domains data visualization and the reuse-oriented data management and data treatment (in particular LOD) to be released in 2017
- Governance structure, implementation guidelines
Geospatial

• Continue developing a package of guidance, technology and activities to facilitate the free flow of location-related information between public authorities, businesses and citizens in support of Digital Single Market and Better Regulation goals
• Output 2017: Open EU mapping feasibility study
• Output 2017: Supporting better uses of geodata and statistics
• Output 2017: Geospatial Knowledge Base service
• collaborate with stakeholders to determine priorities, develop and test solutions, and demonstrate benefits
• act as the geo knowledge base for ISA²
eProcurement, eInvoicing

- Maintain and enhance the ePrior service and enhance the OSS solution
- Contribute to definition of standards and support interoperability initiatives like eSens to bring software components to the level of maturity required by the (CEF).

- Maintaining and enhancement of current ESPD, eCertis solutions
- Output Q2 2018: Specifications about the interfaces for the Once-Only principle in European Public Procurement (OOEPP)
- Pilots.

- Output Q1 2018 Create public procurement ontology
- Output Q4 2017 Improve the current common procurement vocabulary
- Output Q2 2018 - Public procurement conceptual data model
Decision making and legislation – supporting instruments

- **Interinst. Framework for OLP mgmt**
  - focus is on specifications and transformations/mappings to facilitate the exchange of documents based on the outcome of the landscaping exercise

- **ICT implications of new legislations**
  - Assessments of new EU legislations, pilot assessments in MS(s)
  - Cost benefit of interoperability – supporting assessments

- **Legislation interoperability tools**
  - development of features enabling the drafting, the revision and the transmission of legislative documents in the Ordinary Legislative Procedure.
  - complete and re-usable components or services of the existing software will be released as OSS.
  - development of components based on the outcome of the landscaping exercise

- **ELI**
  - Support ELI implementations
  - Maintain and evolve ELI assets and solutions
  - Standardisation activities
  - Knowledge centre, dissemination
EU policies – supporting instruments

- cross-border and cross-sector data exchange processes in the domain of Case Management
- develop common services based on a common architecture
- 2017: Maintain IT solutions used by COMP, AGRI, MARE and MS administrations, ECN2, COMP eTrustEx, eQuestionnaire
- Execution phase 2017: develop new services (eRFI – common service to support requests for information, eLinency (supporting leniency programme in cartel investigations), eConfidentiality (confidentiality negotiation of case files with investigated businesses)

- Improvements for European citizens, users of the Online Collection Software (e.g. OCS for mobile devices, better user interface, accessibility improvements)
- Improvements for ECI Organisers (e.g. ISO 27K compliance, OCS Administration Interface improvements, better analytical and statistical tools, more integration with social media platforms, more support)
- Interoperability improvements (better interconnection between the ECI Register, OCS and the Validation Tool)
- Technical advice in relation to development of legislative framework (studies, risk analysis, impact assessment)
### ISA² Programme – ISA unit

## Supporting instruments for public administrations

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Sharing and re-use</strong></td>
<td>- Promotion of the sharing and re-use framework - richer online version. Evaluation of the awards - Open PM2 – community building an support - OSS Community maintenance on Joinup</td>
</tr>
<tr>
<td><strong>EIS Governance support</strong></td>
<td>- Orientations for ISA² to implement new objectives - Legal and Organisational interoperability - Governance structures survey</td>
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<tr>
<td><strong>EIA</strong></td>
<td>- enrich EIRA with interoperability specifications - Output 2017: EIRA 2.0. - promote adoption of EIRA in the Member States.</td>
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<tr>
<td><strong>IMM</strong></td>
<td>- Updated IMM versions (full and lite) - IMM as a service - IMM training module</td>
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<tr>
<td><strong>NIFO</strong></td>
<td>- update and align the methodology and serviced with the revised EIF, as needed. - Update the NIFO implementation on Joinup - continue the monitoring of EIF implementation in Member States.</td>
</tr>
</tbody>
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Supporting instruments for public administrations

- Interoperability testbed
  - Operation of interoperability testbed service and catalogue of test assets on Joinup

- Circabc
  - Provide circabc as a service as well as a reusable tool.
  - Performance and service packs
  - Support and modern training materials

- EUSurvey
  - Provide eusurvey as a service as well as a reusable tool.
  - Performance and service packs
  - Support and modern training materials

- Joinup
  - Maintain and promote the European Interoperability Cartography
  - Operate Joinup
  - Maintain the Joinup catalogue and the CAMSS community

- TES (Trans-European Solutions)
  - Maintain a catalogue of trans-European systems described according to the EIRA
  - Output 2017: TESCart for Member States
  - Output 2017: rationalisation recommendations for TESs
Accompanying measures

• Monitoring and evaluation
  - Monitor – prepare midterm evaluation methodology
  - *Using administrative budget*

• Raising interoperability awareness
  - Implement ISA² Communication strategy
  - Conferences
  - Roadshows
Building block Digital Service Infrastructures provide basic functionality and are reusable by sector-specific DSIs

Examples are:

- **eID**: Secure cross-border authentication
- **eDelivery**: Secure message exchange of documents and data
- **eInvoicing**: Compliance with EU eInvoicing standards
- **eSignature**: Create and validate electronically signed documents
- **eTranslation**: Secure automated translation of text
EIRA IOP Governance viewpoint

Interoperability Governance viewpoint

Legal view
- Public Policy Cycle
- Public Policy
- Public Policy Formulation and Implementation Instrument
- Public Policy Implementation Mandate
- Public Policy Implementation Approach
- Operational Enabler

Organisational View
- Organisational Policy
- Organisational Interoperability Enabler
- Security and Privacy Policy

Semantic view
- Data Policy

Technical view
- Configuration Management
- Operational Procedure
- Configuration and Solution Cartography Service Component

EIR Underlying Principles view
- Interoperability Specification
- Interoperability Principle
EIRA IOP specification underpinning viewpoint

Interoperability Specification

- Legal view
  - Legal Interoperability Specification
    - Binding Instrument
      - Public Policy Formulation and Implementation Instrument
    - Legislation Catalogue
  - Interoperability Agreement
  - Exchange of Business Information

- Organisational view
  - Organisational Interoperability Specification
  - Interoperability Agreement
  - Exchange of Business Information
  - Public Service Catalogue

- Semantic view
  - Semantic Interoperability Specification
    - Data Set Catalogue
  - Representation

- Technical View
  - Technical Interoperability Specification
    - Technical Specification
      - Machine to Machine Interface
      - Human Interface Component
      - Network
    - Service Registry Component

Interoperability Principle
How EIRA supports IOP in e-Government?.

Reusability analyses
How EIRA supports IOP in e-Government?. Portfolio mgmt support

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<th>Handling statistical information</th>
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Handling of statistical information and cross-border access to authentic data sources.