

8.1 EUROPEAN INTEROPERABILITY ARCHITECTURE (EIA) (2016.32)

8.1.1 IDENTIFICATION OF THE ACTION

Type of Activity	Common frameworks
Service in charge	DG DIGIT.B6
Associated Services	DG JRC, DG CONNECT, DG TAXUD, DG SANCO

8.1.2 EXECUTIVE SUMMARY

Coordination between EU and Member States' public administrations is highly important to avoid digital barriers between administrators, businesses and citizens and increase public administration efficiency.

EIRA (European Interoperability Reference Architecture) plays a crucial in the realisation of such coordination as it provides **a reference model** that describes in a common way digital European public services, making it possible for you to search, share and reuse digital solutions.

EIRA provides a **common terminology** that architects, portfolio managers, and business analysts can use when performing the following tasks:

1. **Design interoperable E-government solutions**
2. **Assess solutions in different areas and identify focal points for convergence and reuse**
3. **Document and Share prominent interoperability solutions**
4. **Discover and reuse solutions through the European Interoperability Cartography:**

Developed through an open and inclusive change management process, the EIRA applies the principles of Service-Oriented Architecture (SOA) as an architectural style..

Under public consultation until September 2015, EIRA version 1.0 is expected to be released in December 2015.

In 2016, the focus will be to enrich EIRA with interoperability specifications, extend it with Solution Architecture Templates (detailed EIRA implementation for some widely used building blocks such as eID, eDelivery, etc.) and promote its use in the Member States and the Commission, including by the implementation of pilot applications in Poland and other Member States.

8.1.3 OBJECTIVES

The objective of this action is to establish, operate, maintain, improve, apply and promote a European Interoperability Reference Architecture (EIRA) for European Public services.

8.1.4 SCOPE

Any possible digital public service is in scope, as far as it concerns its representation of the EIRA action. This includes also Trans European Systems (TES) developed by the Commission and/or the Member States.

More particularly the following activities fall under the action in question:

- Ensure that a mature version of EIRA is well documented, linked with pertinent ISA/ ISA² and other EU programme solutions (European Interoperability Catalogue, Joinup, Trans-European Systems, European Catalogue of Standards, etc.) and well communicated to its potential users;
- Support the use of EIRA, through pilots and an ad-hoc helpdesk, as an enterprise architecture paradigm for systems such as the TES, solutions developed by other Commission initiatives such as eSENS and CEF and other key digital solutions in the MS public sector;
- Improve the EIRA through planned enrichments (i.e. definition of specific interoperability specifications and methodology of applying them on the described solutions) and through feedback received from its application to tangible solutions;
- Ensure alignment between EIRA and other Reference Architectures applied in administrations throughout EU.

8.1.5 PROBLEM STATEMENT

The problem of	<p>lacking a coherent approach at EU level for elements such as:</p> <ul style="list-style-type: none"> • architectural guidelines for cross-border interoperability building blocks; • concrete and reusable, use-case-based interoperability guidelines, rules and principles on standards, architecture, and specifications on how to develop information exchange between ICT systems; • concrete implementation guidelines
affects	Member States and Commission responsible services (architects, portfolio managers, ICT decision makers, etc.) in their endeavour to put in place interoperable digital services
the impact of which is	duplication of effort in the development of solutions at EU and national level due to difficulties in identifying reusable elements and interfacing with existing solutions in an interoperable manner. This in turn results in higher cost and longer development time with no guarantee of openness and interoperability
a successful solution would be	the definition, application and promotion of an European Interoperability Reference Architecture (EIRA) that will provide a generic and unique way of representing any digital public service.

8.1.6 EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
Member States' Public Administrations	Improved efficiency, cost reduction, performance and increased interoperability and cooperation in establishing European Public Services
European Commission Services	Improved efficiency, cost reduction, performance and increased interoperability and cooperation in establishing European Public Services

8.1.7 RELATED EU ACTIONS / POLICIES

Action / Policy	Description of relation, inputs / outputs
Communication on "A Digital Single Market Strategy for Europe", COM(2015)192	The revision of the EIS/EIF is part of the DSM and EIRA is a strategic instrument for their implementation. EIRA should also be used by solutions supporting the DSM in different domains.
Communication "Towards interoperability for European public services"	The EIRA will be used as an extension to the Communication under revision.
ISA ² Decision (COM(2014) 367)	The decision ordains the establishment and maintenance and improvement of the EIRA in Article 3/e.
ISA Action 2.14 – Assessment of Trans-European networks supporting EU policies	The action will provide input for the EU cartography developed by the ISA Action 2.14, by identifying reusable solutions to map into the cartography (i.e. conceptual reference architecture) and by providing information collected on these solutions in order to feed the solution fiche of the EIA.
ISA Action 4.2.6 Test-Bed	This action could play an important role testing interoperability conformance to the interoperability specifications provided by the EIRA.
Other ISA actions	Given the broad nature of EIRA, links with other actions such as Semantics (SEMIC), IMM, Base Registries, Catalogue of Services, etc. will be established.

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

The EIRA is an ISA/ ISA² instrument of transversal nature and is linked with many ISA/ ISA² actions, more specifically with:

- The European Interoperability Catalogue (EIC) that will use EIRA to describe all solutions included in its repository;
- The Interoperability Maturity Model (IMM) that will be kept aligned with the EIRA as far as the description of a public service is concerned and will be used for the definition of interoperability specifications;

The EIRA should also be used for the description of the CEF (and potentially the eSENS) Digital Service Infrastructures (DSI). Pilots will be organised for this purpose, notably the definition of Solution Architecture Templates (SAT) that will further deepen the EIRA in their respective domains i.e. eID, eDelivery, etc.

8.1.9 EXPECTED RE-USABLE OUTPUTS (solutions and instruments)

Output name	Solution Architecture Templates for generic needs (e.g. eID, eDelivery and data management)
Description	sub-set of the building blocks of the EIRA, which focuses on the most salient building blocks needed to build an interoperable solution addressing a particular interoperability need.
Reference	
Target release date / Status	2016

Output name	Query CarTool and Cartography services
Description	<ul style="list-style-type: none"> Set of functional requirements documented in JIRA for the implementation of the EU cartography, national cartographies and the European Interoperability Cartography in Joinup and A tool developed from the proof-of-concept CarTool to support queries to cartographies
Reference	https://webgate.ec.europa.eu/CITnet/jira/secure/Dashboard.jspa https://eia-project.eu/qlikview/
Target release date / Status	Q1 2016

8.1.10 ORGANISATIONAL APPROACH

8.1.10.1 Expected stakeholders and their representatives

Stakeholders	Representatives
Member States	The ISA ² Committee/Coordination/working Groups
European Commission Services	IT Governance of the Commission and a representative from each concerned Commission service
ICT Industry	Representatives of ICT industry, SMEs, ...
Standardisation bodies	Representatives of ICT industry, SMEs, ...
Local and regional public administrations	Representatives from standardisation organisation for a and consortia

8.1.10.2 Communication plan

Event	Representatives	Frequency of meetings / absolute dates of meetings?
ISA ² Committee/Coordination/work group meetings	Member States representatives	At least yearly.
EIRA web page conferences	DIGIT	As needed
Monitoring & Evaluation updates	DIGIT	Monthly

8.1.10.3 Governance approach

The action will be managed by DIGIT with the support of an external contractor and in close collaboration with the relevant ISA² working group and with the concerned Commission services.

8.1.11 TECHNICAL APPROACH

In 2013 the EIRA described a common architectural view based on a service-oriented reference architecture to cover cross-border cross-sectorial interoperability needs at European level. This first beta version of the European Interoperability Reference Architecture (EIRA) was delivered along with the European Union Cartography (EUCart) which was the result of mapping existing Trans-European Solutions (TES) contained in the Commission's systems portfolio onto the EIRA. The mapping exercise was implemented in a proof-of-concept, the Cartography Tool (CarTool).

On the 12th of June 2014, the ISA coordination group endorsed the current versions of the EIRA and CarTool stating that they are mature enough to go to public consultation and to be used in pilots. In 2015 the EIRA action has produced a final beta version of the EIRA and validated it in pilots with some Members States and Commission DGs.

On the 2nd of June 2015 the results were presented to the ISA Coordination Group obtaining endorsement for i) a public consultation and, after implementing potential updates, ii) the release of version 1.0 by December 2015.

Next steps include:

- Pilots with the Members States (Poland, Spain and Czech Republic [have so far expressed an interest](#)) and the Commission promoting the use of EIRA. Each pilot experience has the following profile/activities:
 - Limited duration (2-4 days) including a local workshop
 - Planning the pilot experience

- Identifying one or several use cases of EIRA of interest to the stakeholder
 - Identify the success criteria with stakeholders
 - Identify deliverables including advice for EIRA re-use
 - Remote support before and after the local workshop for not more than 6 days
 - Overall allocated time for one pilot is 30 working days
- The creation of Solution Architecture Templates for generic needs like eID, eDelivery and data management through pilots – the pertinent CEF DSI will be considered in the frame of this activity;
 - The definition of precise interoperability specifications to facilitate solutions' mapping to EIRA building blocks and of an overall methodology of applying those specifications on mapped solutions;
 - Improvements to the EIRA and definition/follow-up of a change management process for the governance of new releases of EIRA;

8.1.12 COSTS AND MILESTONES

8.1.12.1 Breakdown of anticipated costs and related milestones

Phase: Inception Execution Operational	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA ² / others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
	<ul style="list-style-type: none"> • EIRA pilots in the Member States and the Commission DGs • EIRA pilots on Solution Architecture Templates • Definition of interoperability specifications and of the accompanied methodology of applying them • Enhancements to the EIRA 	300	ISA ²	Q2/2016	Q1/2017
	Total	300			

8.1.12.2 Breakdown of ISA² funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016		300	

8.1.12.3 Planning for the tendering procedures to be launched for the action

None. The action will be financed by an existing Commission's Framework Contract.

8.1.13 ANNEX AND REFERENCES

Description	Reference link	Attached document
Current release of EIRA	https://joinup.ec.europa.eu/asset/eia/description	