

EUROPEAN INTEROPERABILITY ARCHITECTURE (EIA) (2016.32)

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

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..

After a public consultation, EIRA version 1.0.0 was released in March 2016. Since then, it has been downloaded more than 1100 times. The cartography tool, CarTool v1.0.0, based in EIRA v1.0.0, it is expected to be released in September 2016 along several Solution Architecture Templates. In 2016 there have been pilots in Czech Republic, EFSA and it is expected a pilot in Spain.

In 2017, the focus will be to enrich EIRA with interoperability specifications. It is expected to be released EIRA 2.0.0 by December 2017. Intensive efforts will be deployed promoting adoption of EIRA in the Member States, including the implementation of pilot applications, and the Commission.

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.

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 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.

ACTION PRIORITY

Contribution to the interoperability landscape

Question	Answer
<i>Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.</i>	Yes. Furthermore EIRA, one of the products of EIA is a cornerstone in the implementation of EIF as captured in the ISA ² text and in the next communication regarding EIF, EIS and EIRA.
<i>Does the proposal fulfil an interoperability need for which no other alternative solution is available?</i>	Yes. There is no other European reference addressing architecture aspects of interoperability

Cross-sector

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?</i>	Yes. EIRA and the CarTool are policy neutral
<i>For proposals or their parts already in operational phase: have they been utilised in two (2) or more EU policy areas? Which are they?</i>	Yes. EIRA v1.0.0 was released in March 2016. Since then, it has been used documenting 76 TES systems supporting Agriculture, Competition, Employment, Energy, Environment, Justice, Regio, Research and Move

- **Cross-border**

Question	Answer
<i>Will the proposal, once completed be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?</i>	Yes.
<i>For proposals or their parts already in operational phase: have they been utilised by public administrations of three (3) or more EU Members States?</i>	Yes. Denmark, The Netherlands, Estonia, Czeck Republic and (in near future) Spain

Urgency

Question	Answer
<i>Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?</i>	Yes. It is captured in the ISA ² text
<i>Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?</i>	Yes. Interoperability is in the core of the EIRA

Reusability of action outputs

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Name of reusable solution	EIRA
Description	European Interoperability Architecture
Reference	V2.0.0
Target release date / Status	December 2017
Critical part of target user base	Solution architects, business analysts, IT portfolio managers
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	+1100 downloads since March 2016

Name of reusable solution	CarTool
Description	Carography Tool

Reference	V2.0.0
Target release date / Status	December 2017
Critical part of target user base	Solution architects, business analysts, IT portfolio managers
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Name of reusable solution	Solution Architecture Templates for generic needs (e.g. case management)
Description	most salient building blocks of the EIRA and additional building blocks focusing on the needs to build an interoperable solution addressing a particular interoperability challenge.
Reference	
Target release date / Status	December 2017
Critical part of target user base	
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	

Level of reuse by the proposal

Question	Answer
Does the proposal intend to make use of any ISA ² , ISA or other relevant interoperability solution(s)? Which ones?	Yes. Synergies and reuse is expected with SEMIC (core vocabularies and interoperability specifications), TesBed, Base Registres, EFIR and Joinup, ABCDE (case mgmt. SAT), CEF (eID SAT, eDelivery) and CEN e-Procurement SAT
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	SEMIC (core vocabularies and interoperability specifications)

Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If yes, which ones? What is the level of contribution?	Supporting cross-border public services is key for the once-only principle.

PROBLEM STATEMENT

This action addresses the lacking a coherent approach at EU level for elements such as:

- 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

This 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 the problem includes the 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.

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

ORGANISATIONAL APPROACH

Expected stakeholders and their representatives

Stakeholders	Representatives
Member States	The ISA2 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	Representatives of ICT industry, SMEs, ...

bodies	
Local and regional public administrations	Representatives from standardisation organisation for a and consortia

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	DIGIT	As needed
conferences		
Monitoring & Evaluation updates	DIGIT	Monthly

Governance approach

The action will be managed by DIGIT with the support of an external contractor and in close collaboration with the EIRA Specialist Working Group and with the concerned Commission services.

TECHNICAL APPROACH AND CURRENT STATUS

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.

On 2016 were conducted pilots with the Members States (i.e. Czech Republic) and agencies (i.e. EFSA). EIRA v1.0.0 was release in March 2016 and presented to the ISA² in June. The CarTool v1.0.0 will be released in September 2016.

Next steps include:

- Pilots with the Members States
- Intensive deployment in the Commission
- The creation of Solution Architecture Templates for generic needs like case management and eProcurement
- 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;

COSTS AND MILESTONES

Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
	<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 	595	ISA ²	Q2/2016	Q1/2018
	Total	595			

Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
2016		300	
2017		295	