



ISA Coordination group meeting

Status Update – European Interoperability Architecture (EIA) action of ISA

13 March 2014

Project Officer: Dr. R. Abril

STATEMENT OF CONFIDENTIALITY



The European Interoperability Reference Architecture (EIRA) and the European Interoperability Cartography (EICart) is work-in-progress. **No part of this document should be reproduced or transmitted**, in digital or paper form, without the prior permission of the ISA Programme of the European Commission.

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Introduction to the EIA action

The European Interoperability Architecture action (EIA)



is in the process of developing a reference architecture for classifying and organising the most salient building blocks, relevant to interoperability, used in the delivery of digital public services.

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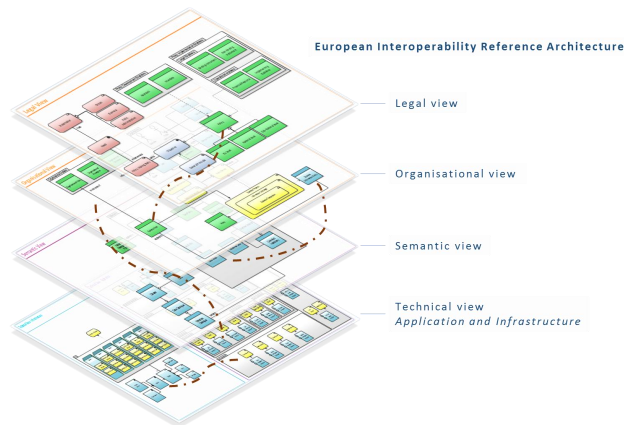
Main work products of the EIA action



EIRA

European Interoperability Reference Architecture

A four-view reference architecture for delivering digital public services (across borders and sectors).



EICart

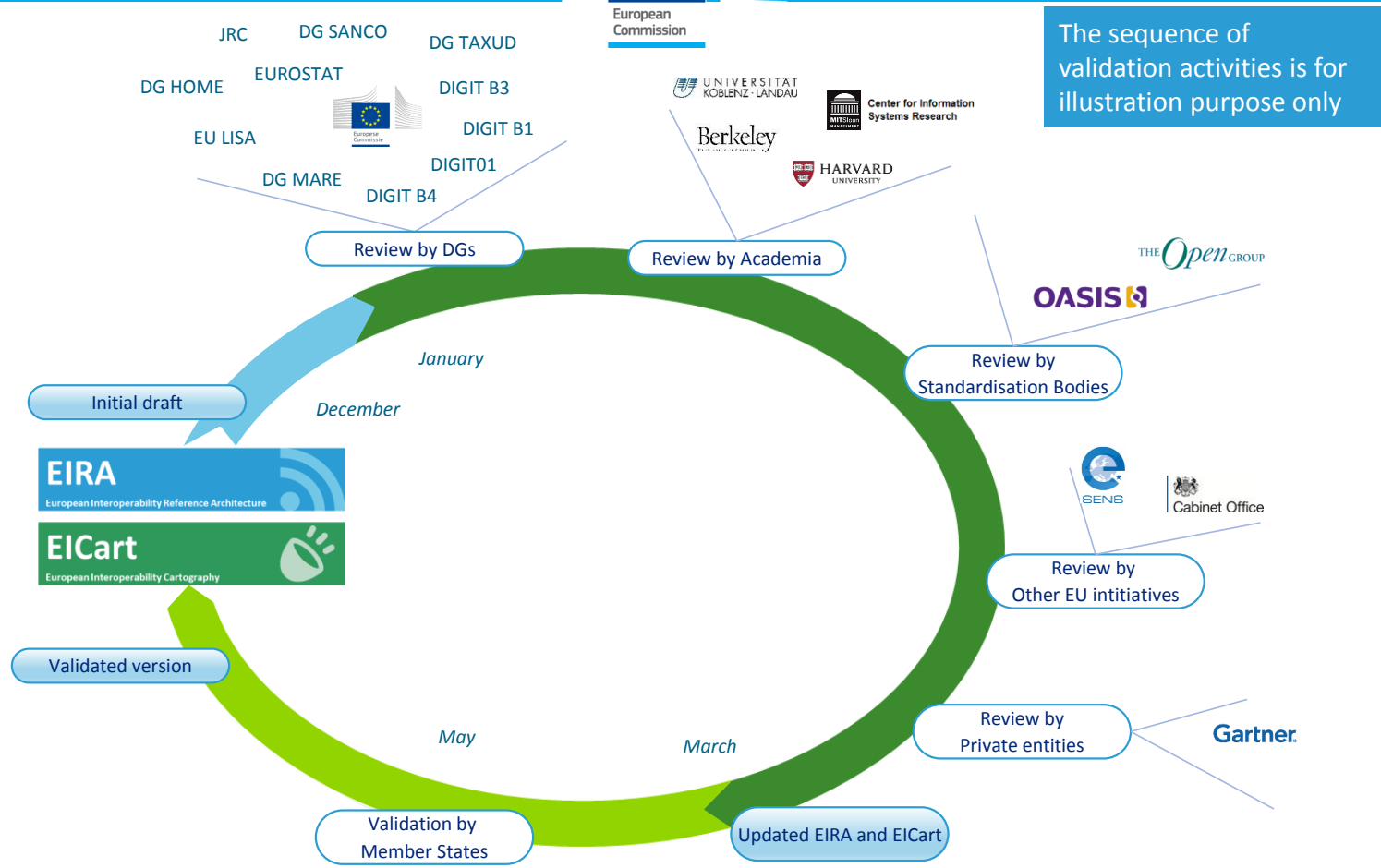
European Interoperability Cartography

A mapping of solutions to the Building Blocks of the EIRA.

Trans-European System	Workflow Enablers		Data Exchange Enablers				Security Service			
	Choreography Service	Orchestration Service	Data Transmission Service	Data Transformation Service	Data Translation Service	Data Validation Service	e-Signature Service	Identity Management Service	Access Management Service	Audit Service
e-PRICR	No	No	Yes	E-PRICR provides data transformation components (XSLT transformations).	No	E-PRICR provides data validation services (XSD validation, Schematron validation).	No	No	No	Capability of e-Pror
GENS IS	No	No	e-TrustEX e-Delivery	No	Multilingual Building Block manages translation of multilingual documents.	No	No	ECAS	No	No
e-Trustex	No	No	Yes	e-Trustex provides data transformation components (XSLT transformations).	No	e-Trustex provides data validation services (XSD validation, Schematron validation).	No	No	No	Capability of e-Trustex
IFESTA	No	No	Yes, digital network infrastructures.	No	No	No	No	No	No	No
CONVO	No	No	Yes, digital network infrastructures.	Yes, electronic exchange of structured and unstructured data (XML).	No	No	No	Yes, authenticate users.	Yes, authorize access.	No

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Crafting the EIRA and the EICart



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Objectives of the EIA action



Designing

Accelerate the design of systems that support the delivery of interoperable digital public services (across borders and sectors).



Assessing

Provide a reference model for comparing existing architectures in different policy domains and thematic areas, to identify focal points for convergence and reuse.



Communicating
and Sharing

Help documenting the most salient interoperability elements of complex systems and facilitate the sharing of reusable solutions.



Discovering and
Reusing

Ease the discovery and reuse of interoperability solutions through the European Interoperability Cartography – EICart in Joinup website.

Use cases of the EIA action



EIRA



EICart



Designing

- Design solution architectures
- Design reference architectures



Communicating and Sharing

- Structure the architectural implications of policy or thematic domains (to the extent of the four views of the EIRA)
- Document interoperability solutions



Assessing

- Compare reference architectures
- Compare solution architectures
- Rationalise portfolio
- Manage portfolio

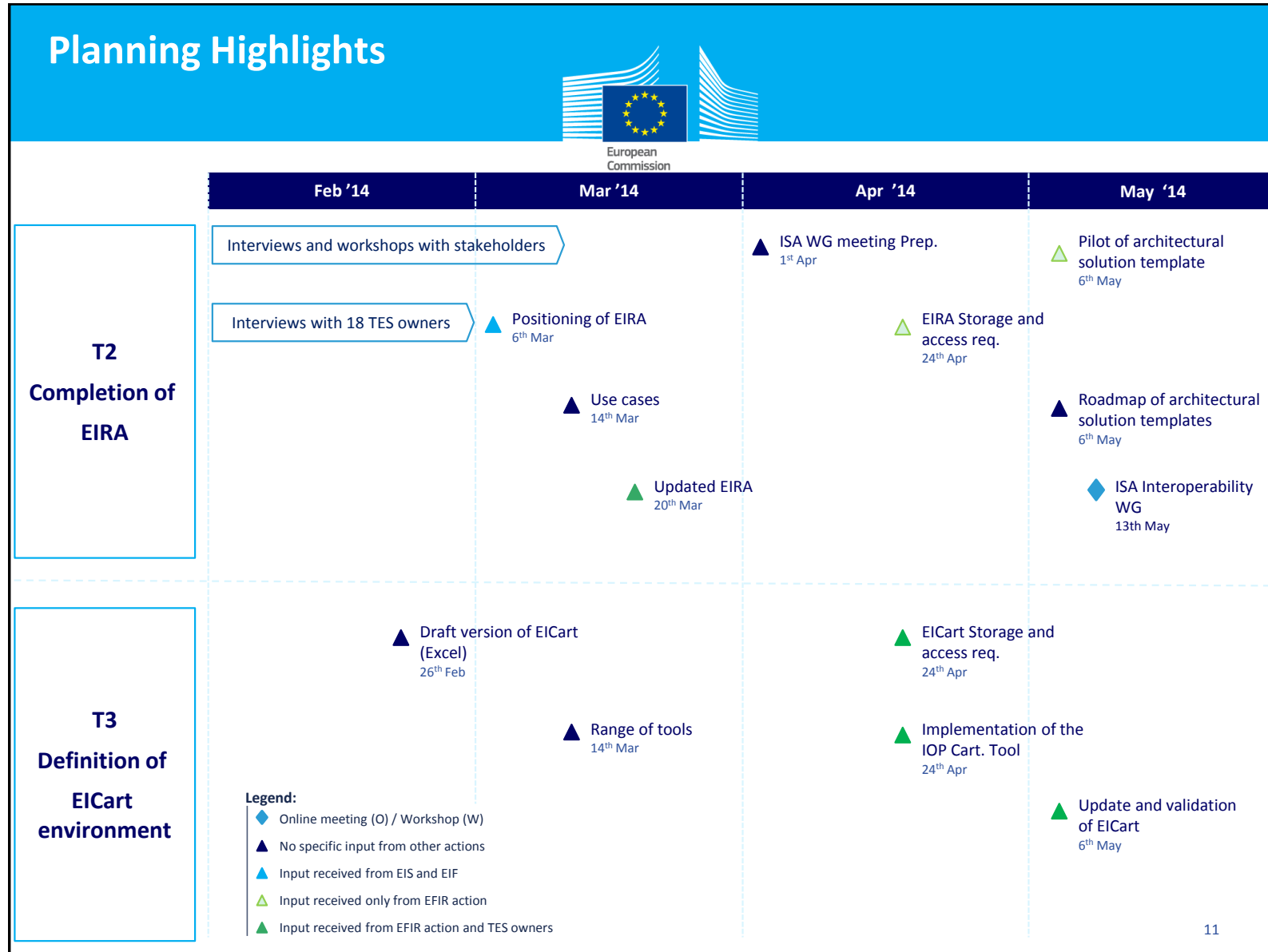


Discovering and Reusing

- Search for interoperability solutions

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Status update on the EIA action



Approach for the endorsement from Member States



Podcast

- 20-minute videocast available to all Member States

Conference Calls

- Conference calls with Member States

Presentation Working Group

- Request for comments on the EIA action - 13 May 2014

Help us validate the EIRA



At this point the EIA action aims at working with key stakeholders (i.e. ISA actions, Public Administrations, Standardisation Bodies, Commission services, other EU bodies and relevant Experts) towards the validation of the [EIRA](#) and its use in the [EICart](#). One of the main goals of the EIA action is to validate and update the [EIRA](#). This will be performed by receiving your input on:

- missing building blocks;
- missing relationships between building blocks;
- superfluous building blocks or relationships;
- other possible 'errors' in the EIRA; and
- any other comment on the positioning of the EIRA and of the EICart.

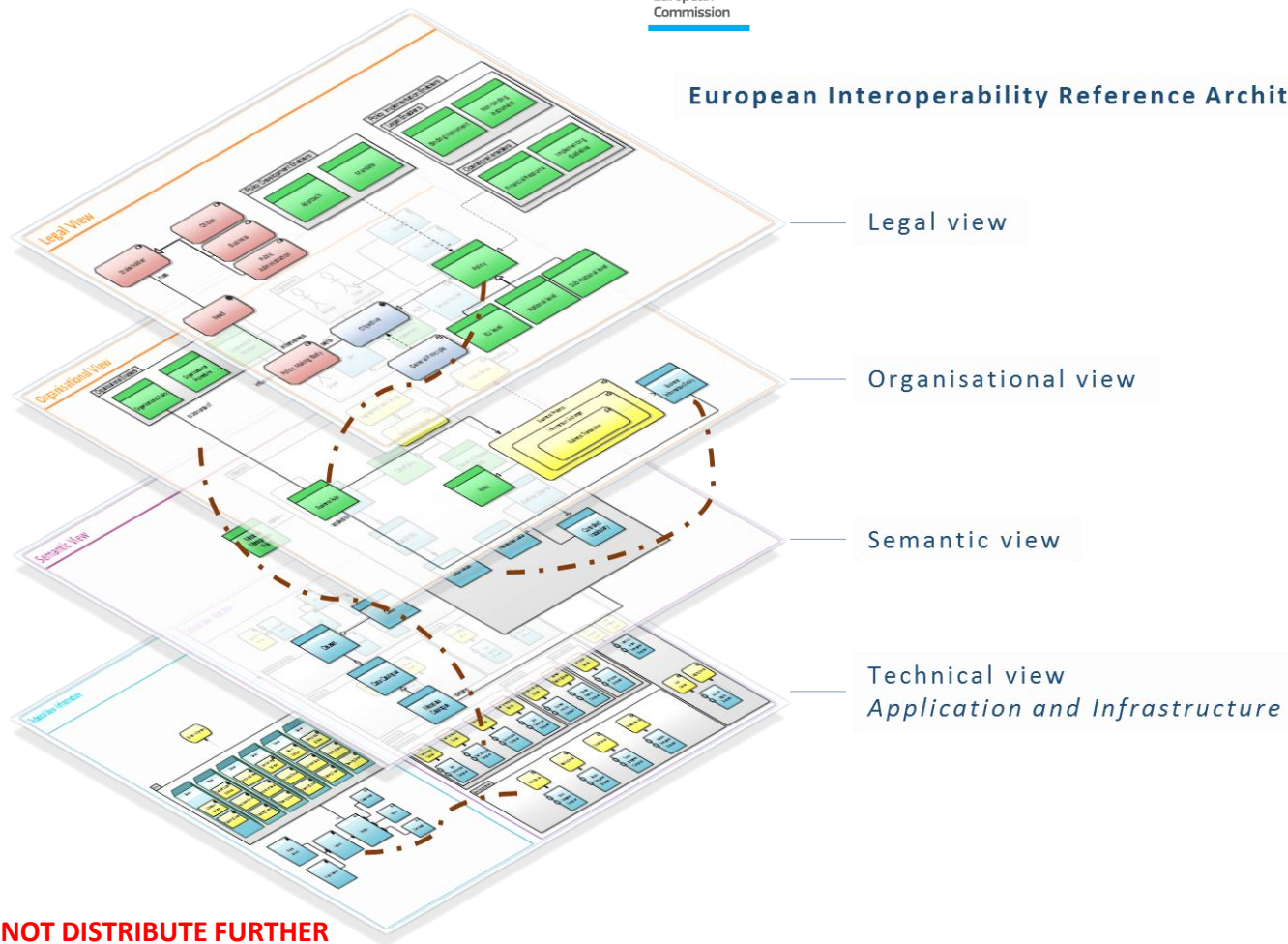
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European Reference Architecture (EIRA) explained

European Interoperability Reference Architecture



European Interoperability Reference Architecture

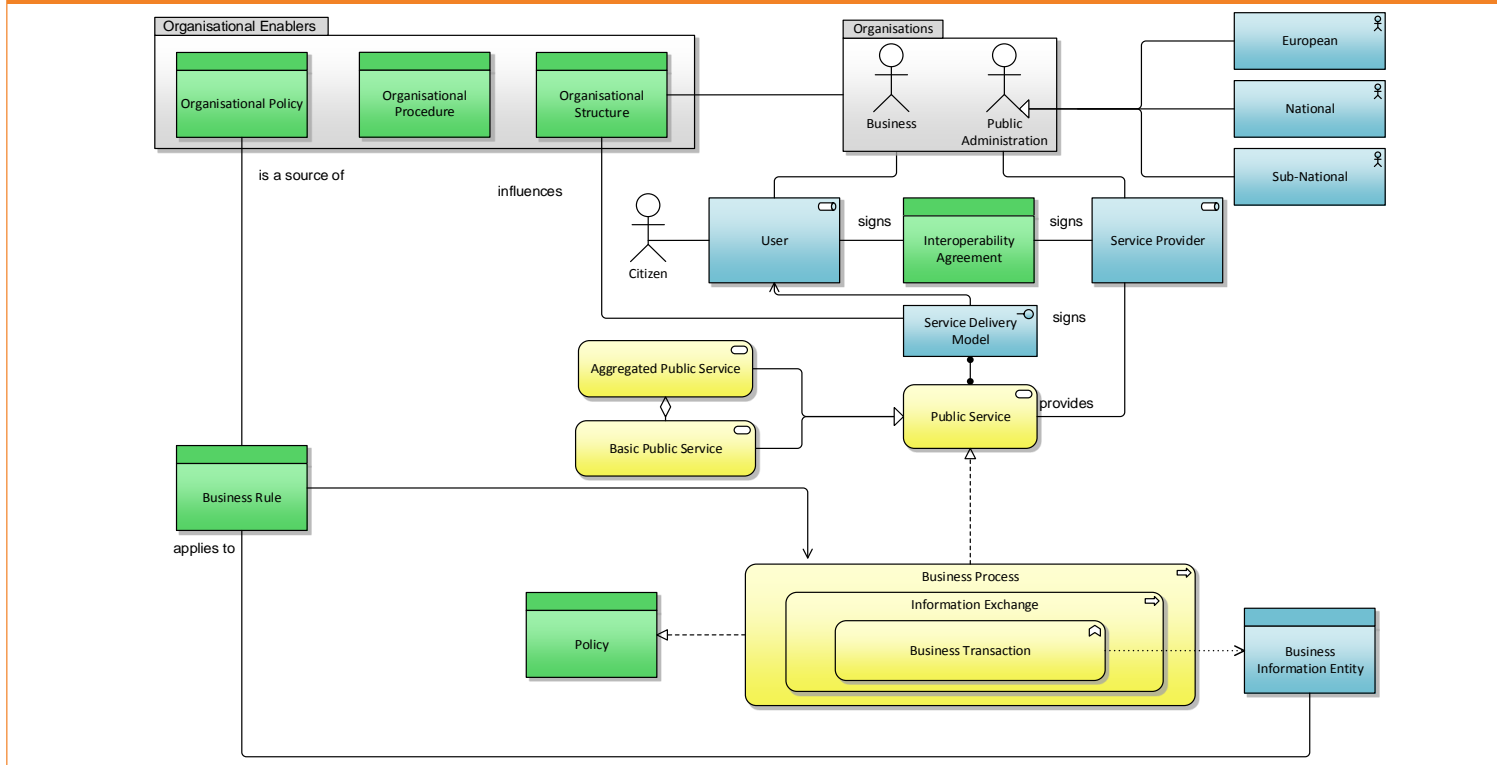


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Generic Organisational View



Organisational View



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Narrative of the Organisational View



Generic

[Organisations] in the role of Service Providers supply [Public Services] to [Public Administrations] and/or [Businesses] and/or [Citizens] in the role of Users according to a [Service Delivery Model], with a defined [sector scope] and [geographic scope]. The delivery of these services is realised through [Business Processes], supporting the implementation of related [Policies]. [Business Processes] contain [Business Collaborations], which enclose [Business Transactions] of defined [Business Information Entities]. All of these are subject to [Business Rules] originating from [Organisational Policies] which echo [Organisational Structures] of the [Organisations] involved.

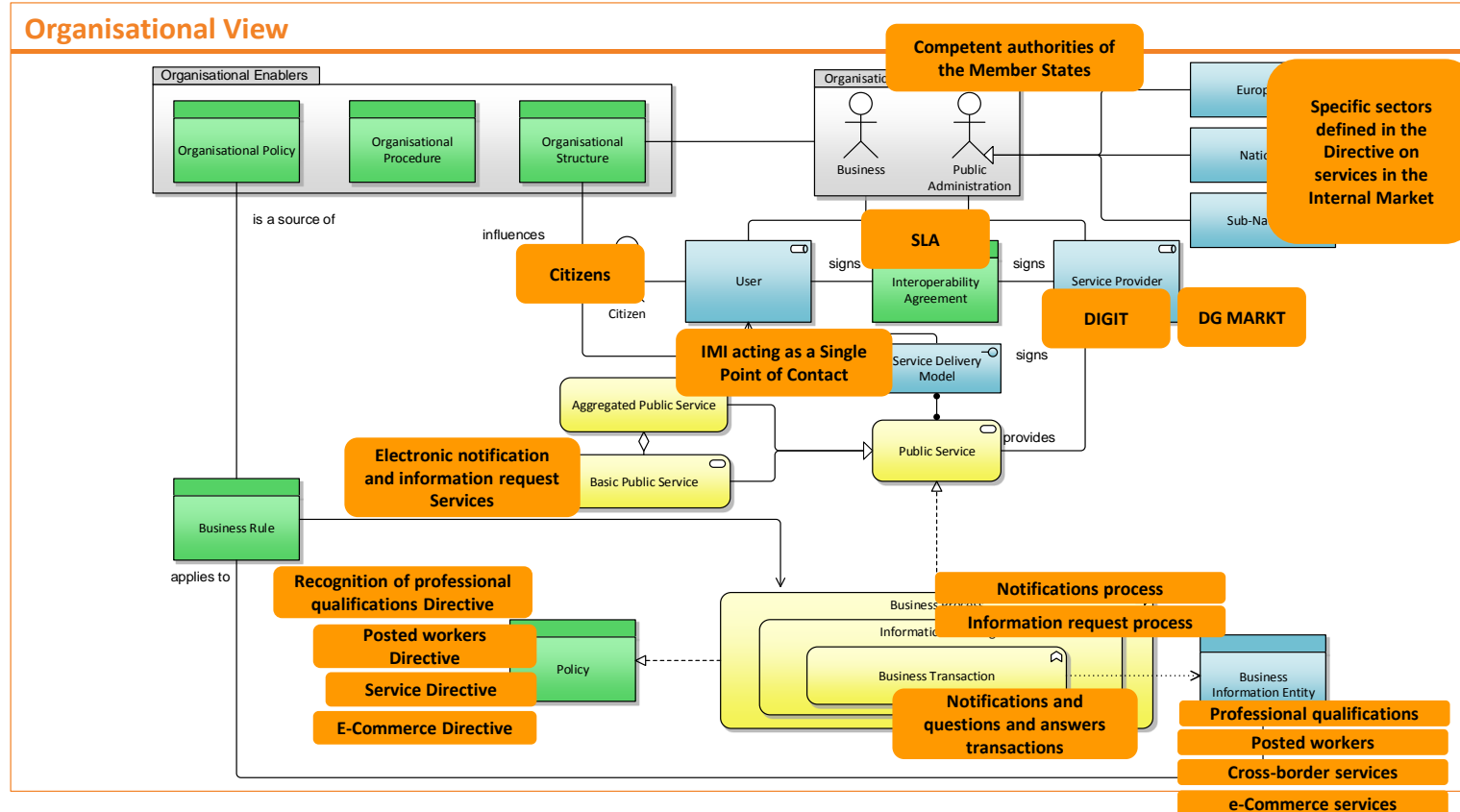
IMI

[DIGIT is the system supplier and DG MARKT the system owner of IMI, both play] the role of Service Provider supplying [electronic notifications and information request services] to the [competent authorities of the Member States] and [citizens] in the role of Users, according to a [Single Point of Contact model]. [Competent authorities] belong to [specific sectors defined in the Directive on services in the Internal Market] and to [every geographic location]. The delivery of this service is realised through the [Notifications and information request processes], which support the [Recognition of professional qualifications Directive, posting of workers Directive, Services directive and e-Commerce Directive]. The business processes enclose [information requests and notifications transactions] of defined [Professional qualifications, posted workers, cross-border and e-commerce services].

Organisational View of IMI



Organisational View

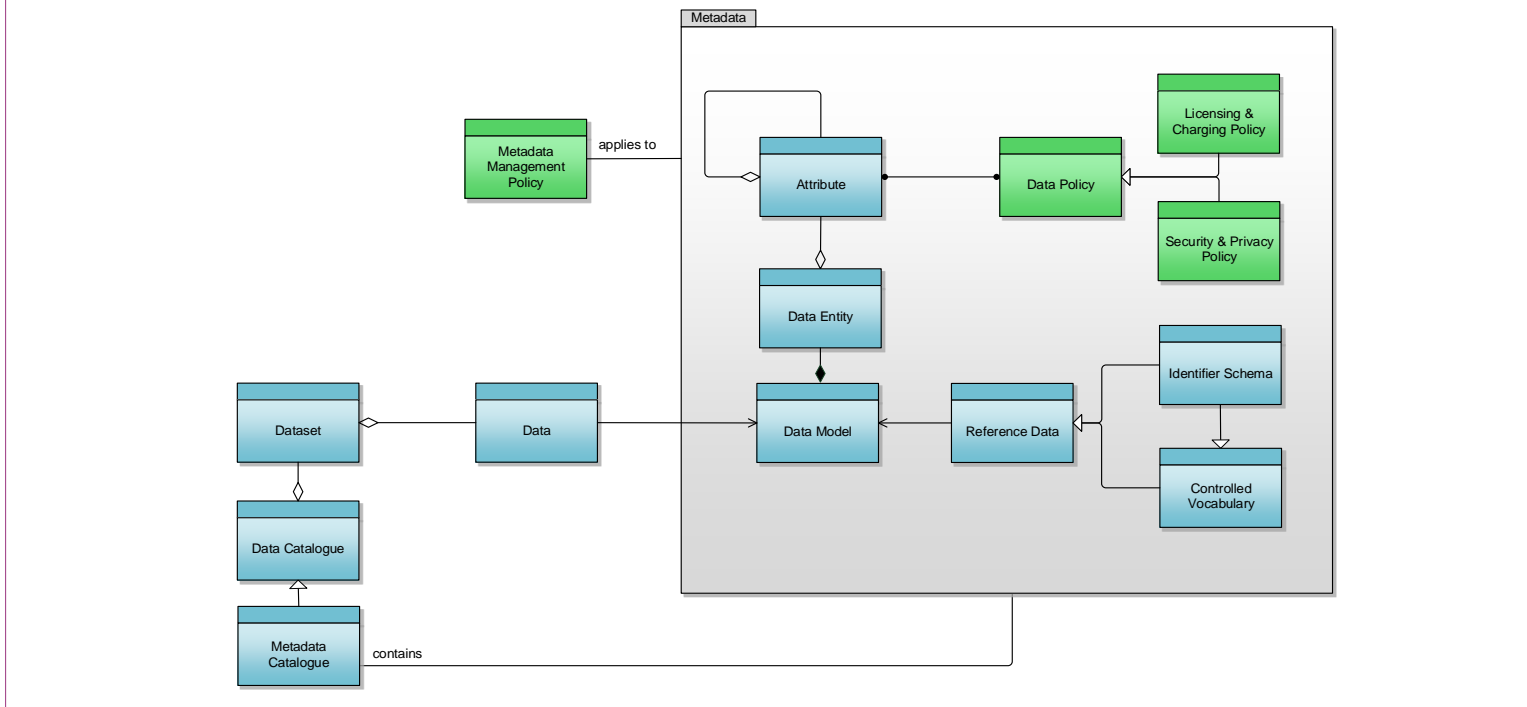


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Generic Semantic View



Semantic View



Narrative of the Semantic View



Generic

The [Data Entities] are described according to the [Data Model] and [Reference Data]. These are managed according to the [Metadata Management Policy]. This data is classified according to the [Security & Privacy Policy], in terms of Confidentiality the data is [Level] in terms of Integrity and Availability the data is [Level]. A [Licensing & Charging Policy] is applied/ not applied. The data is published/ not published in a [Data Catalogue] and its metadata is available/ not available in a [Metadata Catalogue].

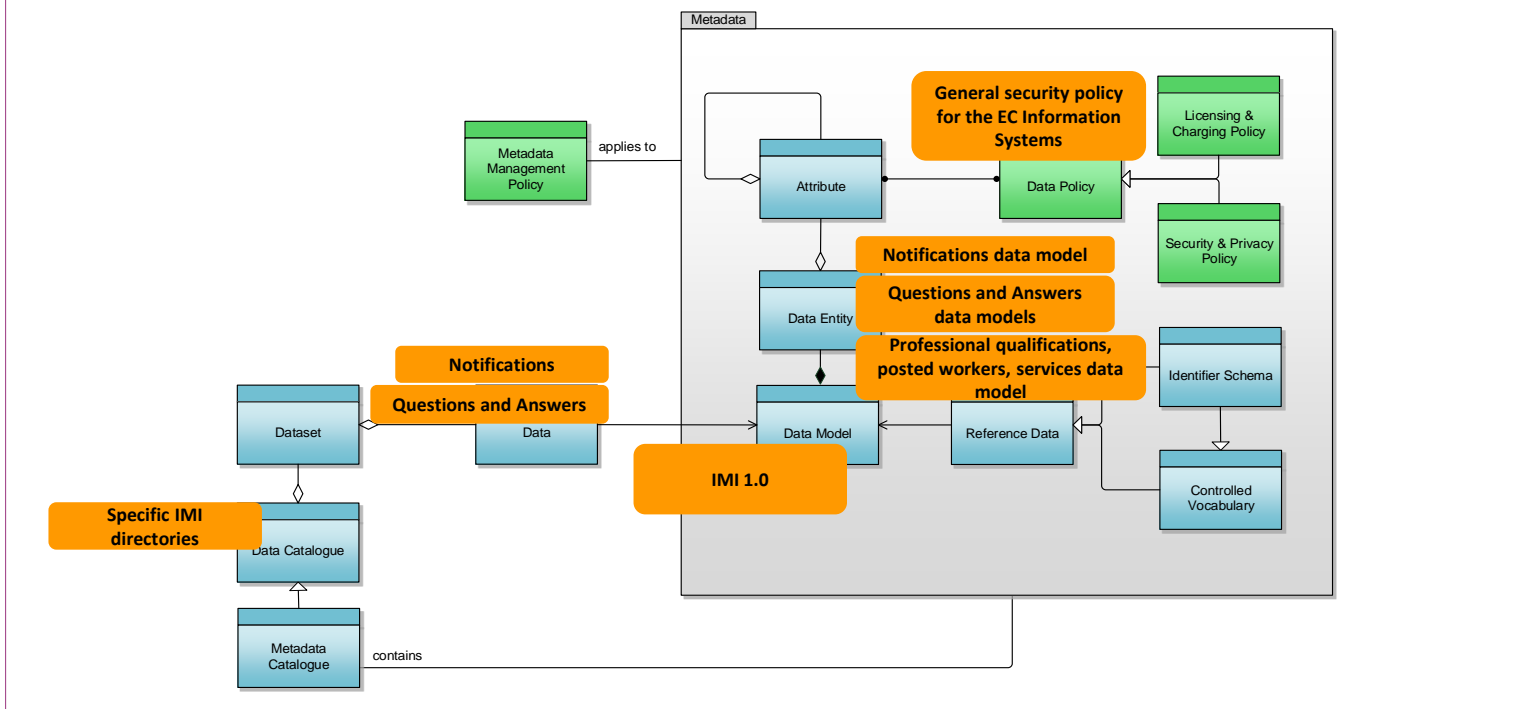
IMI

The [notifications and the questions and answers], along with the specific business entities treated by IMI ([professional qualifications, posted workers, services]), are described according to the [IMI 1.0 data model]. This data is classified according to the [general security policy for the EC Information Systems]. The data are published in [specific IMI directories] and the metadata of its services are formalised according to [WSDLs].

Semantic View of IMI



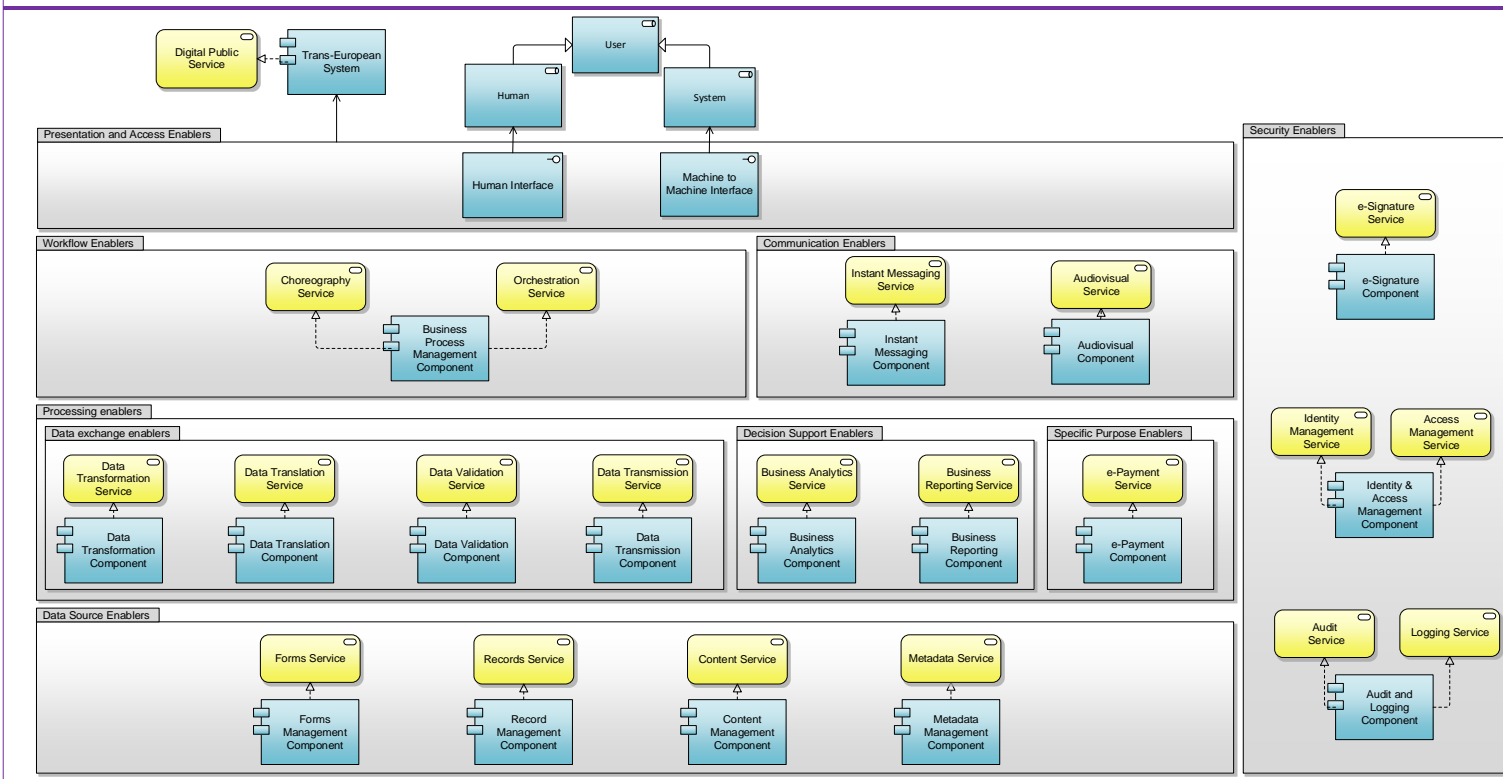
Semantic View



Generic Technical View – Application



Technical view - Application



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Narrative of the Technical View - Application



Generic

[Trans-European Systems (TES)] implement [Digital Public Services]. They can be accessed by [Users], which can be [humans] or [systems], through [Presentation and Access enablers]. TES provide access to data through [data source enablers]. Data can be exchanged cross-border and cross-sector with the support of [data exchange enablers], can be processed to make informed decisions with the help of [decision support enablers] or can be used in custom ways, for which [specific purposes enablers] are built. TES can execute complex business processes through [workflow enablers] and can support interaction among humans through [communication enablers]. Access control and data security are managed through the services offered by [security enablers].

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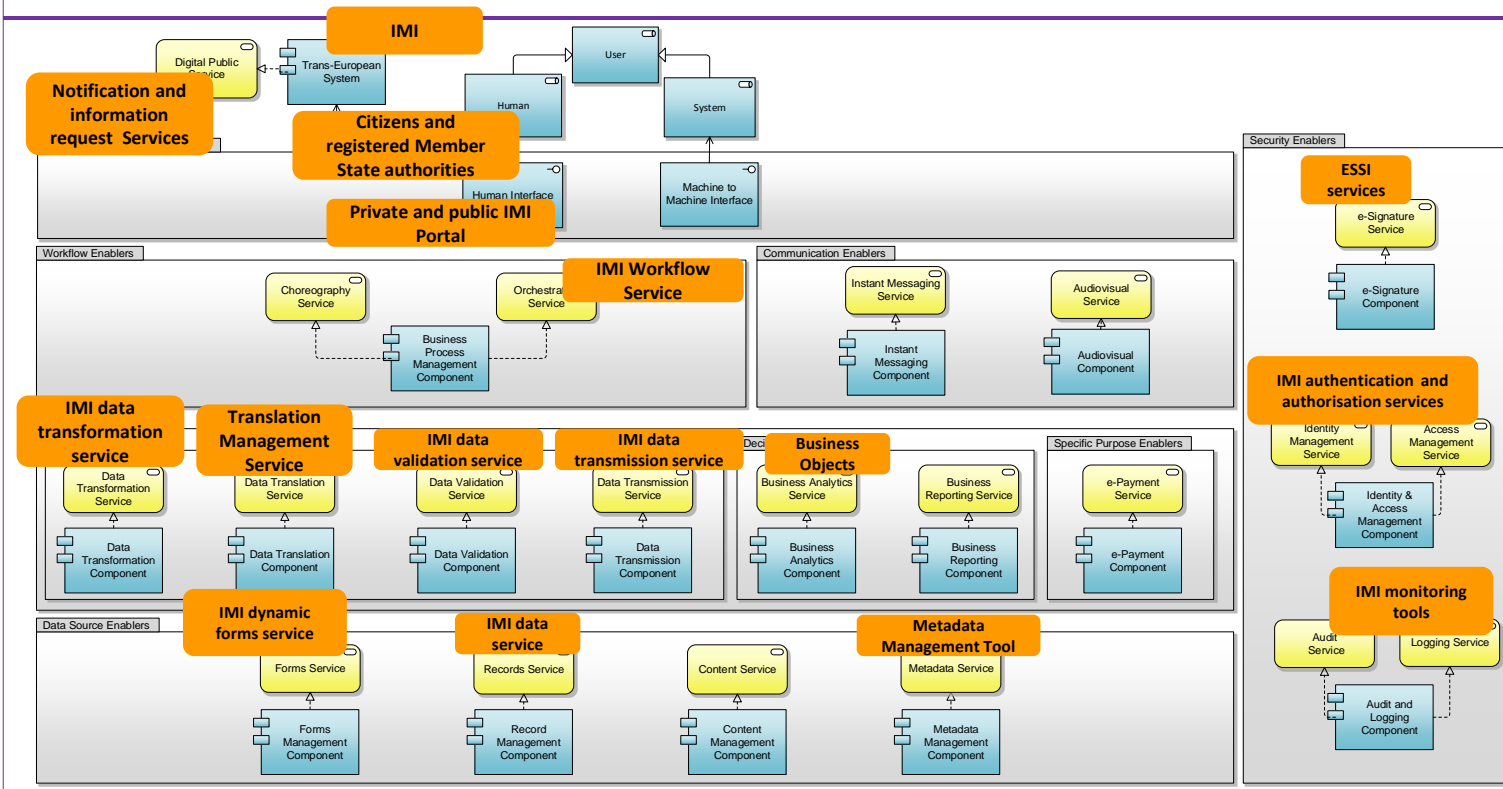
IMI

[IMI] implements [notification and information request services], and can be accessed by [citizens and Member State authorities via a web Portal]. IMI provides access to data through [IMI data service and a Metadata Management Tool]. Data can be exchanged across-border with the support of [IMI data validation, transformation, translation and workflow services]. IMI can send out the notifications and data with the support of [IMI data transmission services]. IMI supports the dynamic creation of forms through the [IMI dynamic forms service]. IMI facilitates internal logging and log processing through the [IMI monitoring tools]. E-Signature is supported through the use of [ESSI services]. Access control is managed through the [IMI authentication and authorisation services].

Technical View of IMI – Application



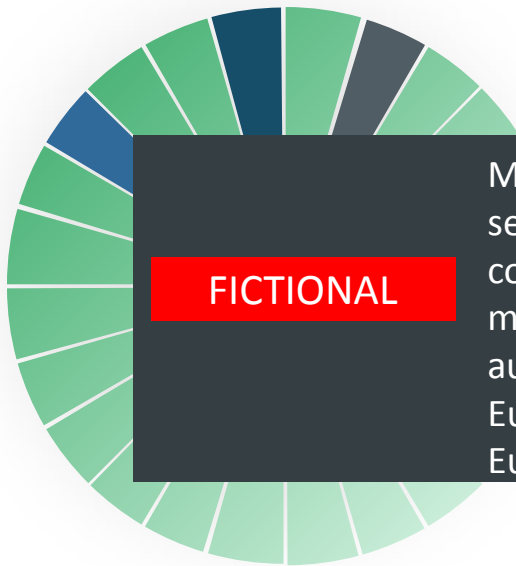
Technical view - Application



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User stories

Scenario 1 – Context



FICTIONAL

Marco Rinaldi is an Enterprise Architect, working in the social security sector for a public administration in Italy. In order to be compliant with a new EU directive, his organisation has the mandate to build a new information system that enables automatic exchange of social security information with the European Commission and other public administrations in Europe.

Scenario 1 – Use cases



CHALLENGE

How to ensure interoperability between a national system and the systems of the EC and of other MSs.

EIA in PRACTICE

Marco can use the **technical view - application** of the **EIRA** to find the building blocks that are relevant for interoperable message exchange.

Design solution architecture

Marco can use the **EICart** to find reusable solutions for the building blocks he needs.

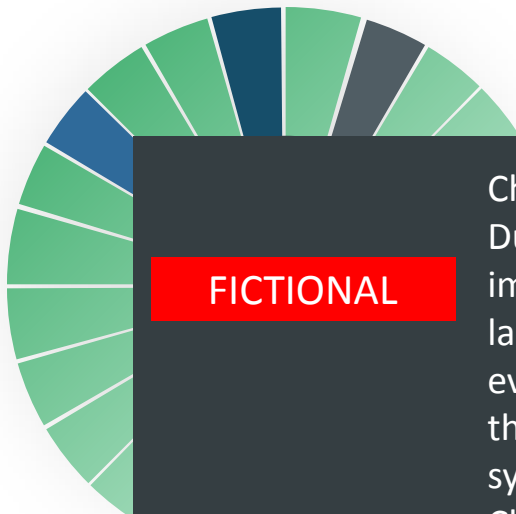
Search for interoperability solutions

KEY BENEFITS

- Strong focus on cross-border interoperability from the outset
- Faster access to reusable solutions
- Alignment to a common reference model

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Scenario 2 – Context



FICTIONAL

Christine Dupont is working for DG AGRI, European Commission. Due to a change in the business processes supporting the implementation of rural development policies, her DG has launched an assessment of the current application landscape to evaluate the impact of the change. The DG has found out that there is an overlap between the functionalities of different systems, and the cost of implementing a change are significant. Christine has been asked to evaluate a strategy for rationalising application landscape and implement the new business process.

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Scenario 2 – Use cases



PROBLEM

How to rationalise the application landscape to support efficient business process implementation.

EIA in PRACTICE

Christine can use the **organisational view** of the EIRA to organise the key business processes and related business rules, and explain this relationship to stakeholders.

Structure the architectural implications of a policy

Christine can use the **EIRA** to understand her DG's architecture and identify missing building blocks.

Compare reference architectures

Christine can map the current applications to the EIRA building blocks, and plan which ones have to be dismissed, merged or replaced.

Rationalise portfolio

KEY BENEFITS

- Structured communication with stakeholders
- Accelerated assessment of architectures
- Simplified decision-making process for application portfolio rationalisation

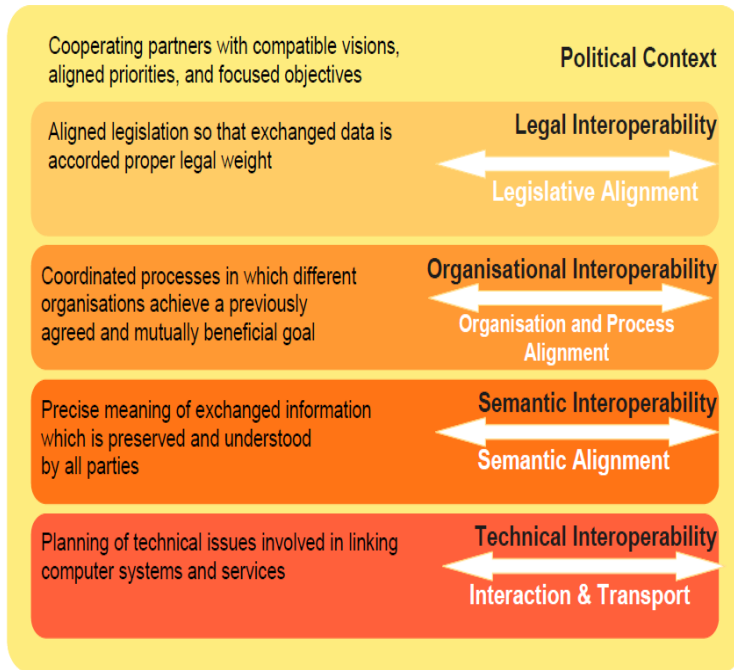
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Positioning towards other architecture development resources

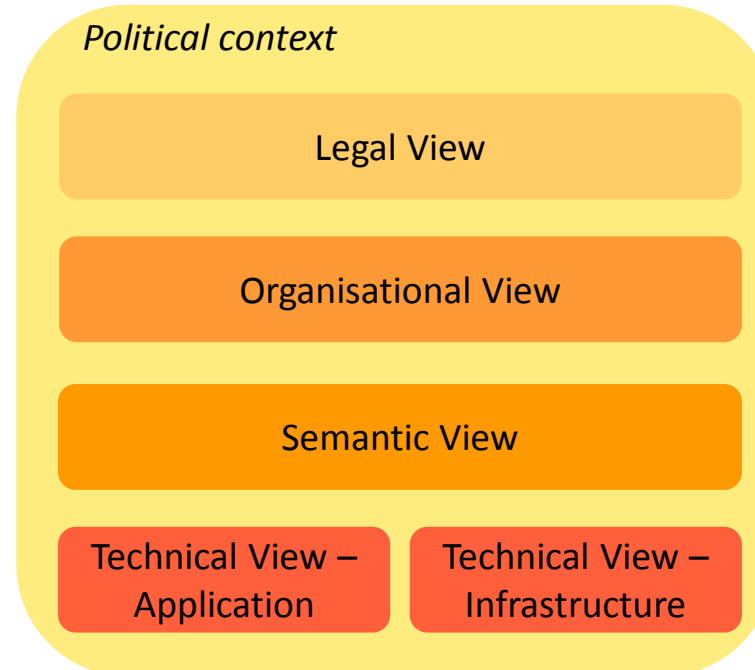
From the EIF to the EIA



European Interoperability Framework

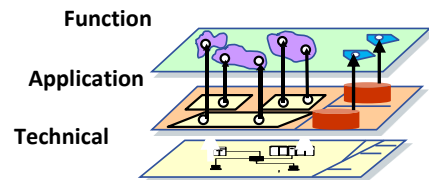


European Interoperability Architecture *European Reference Architecture*



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Zoom in the architectural resources of the Commission



CEAF



DIGIT 01

EIRA

European Interoperability Reference Architecture



EICart

European Interoperability Cartography



DIGIT B2 - ISA

**Reference
Architecture Project**

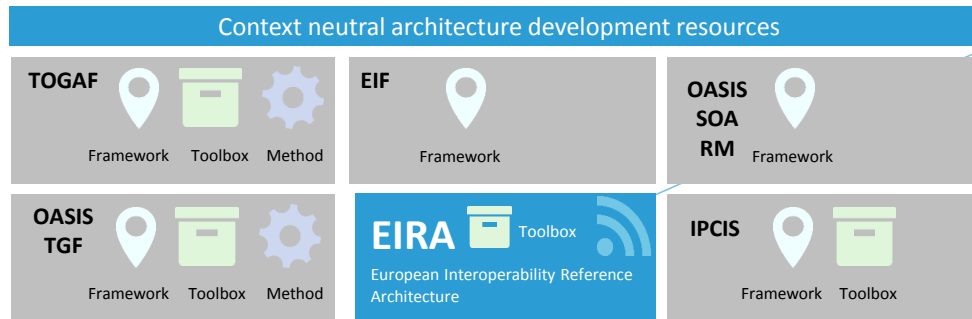
DIGIT B

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EIA bridges EA and System Architecture



ENTERPRISE ARCHITECTURE **INTEROPERABILITY ARCHITECTURE** **SYSTEM ARCHITECTURE**
 How to go from As-Is to To-Be How to organise & discover BBs How to implement BBs
 Assess & communicate architectures

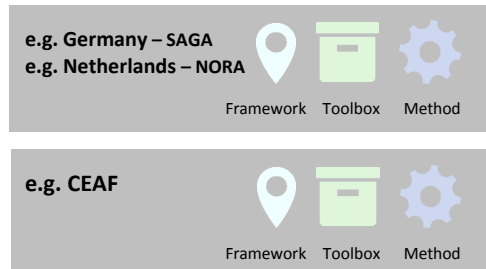


✓ **Focus on Building Blocks (BBs)** and how they relate to one another



✓ **Mapping** of existing solutions to the BBs of the EIRA

Policy Domain
Member State
Organisation



For example:



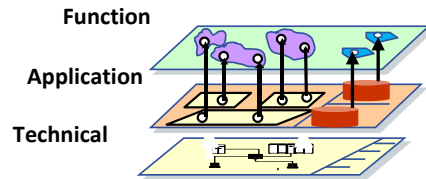
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Architecture Space

Solution Space

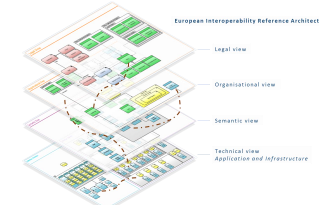
Annex

Example of complementarity with CEAF

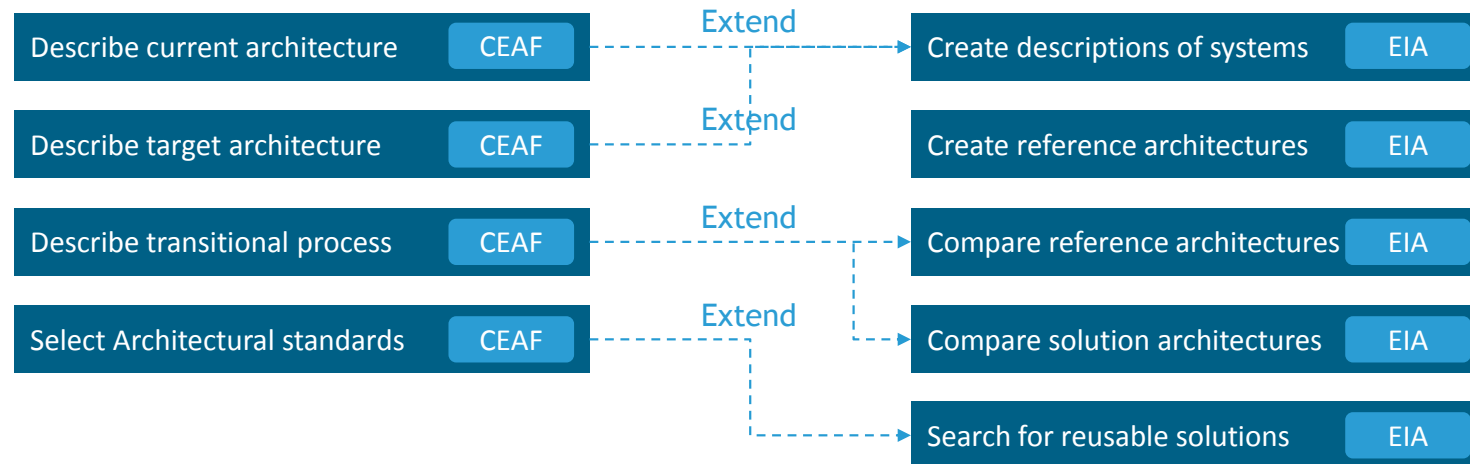


CEAF

Architecture lifecycle



EIRA



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Acronyms



<i>CEAF</i>	Commission Enterprise IT Architecture Framework
<i>CIO</i>	Chief Information Officer
<i>EIA</i>	European Interoperability Architecture
<i>EICart</i>	European Interoperability Cartography
<i>EIRA</i>	European Interoperability Reference Architecture
<i>ISA</i>	Interoperability Solutions for European Public Administrations
<i>SOA</i>	Service Oriented Architecture
<i>TES</i>	Trans-European System
<i>TOGAF</i>	The Open Group Architecture Framework