



EIRA local workshop – AgID (Italy)

02nd April 2019

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EUROPEAN COMMISSION

Directorate-General for Informatics (DIGIT)

EIRA© and CarTool© deployment



Disclaimer

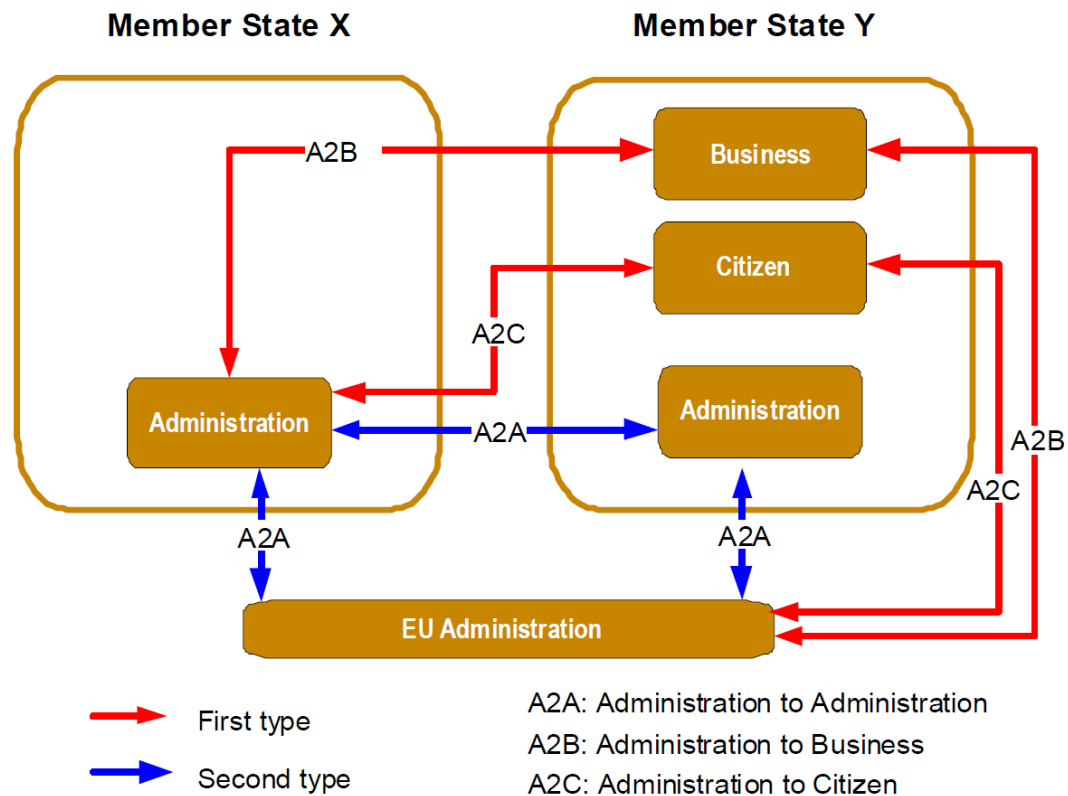


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02nd April 10:00 – 10:30

EIRA Overview



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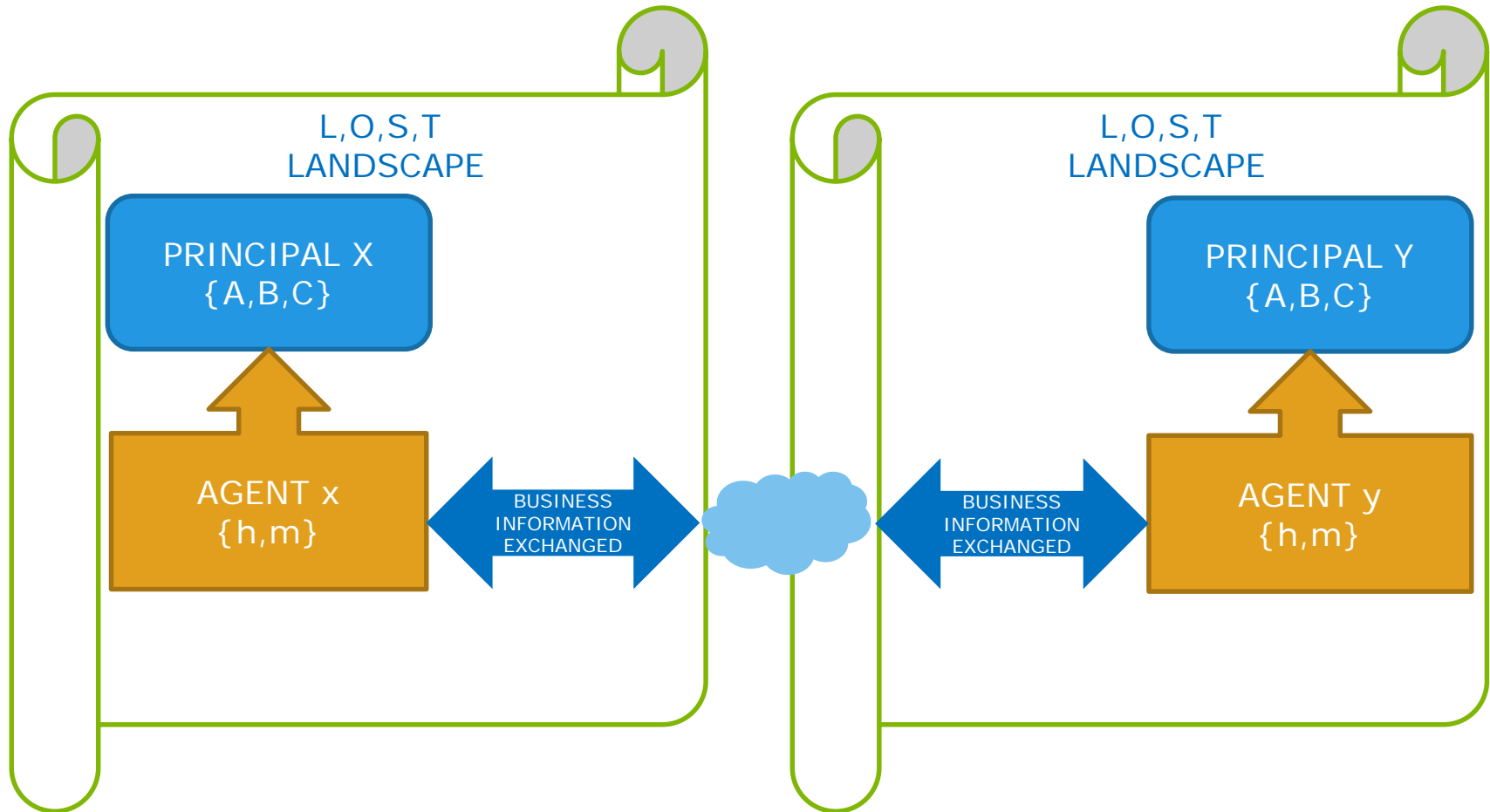
Example of European Public Service



Sector/Area	Service
Business development (A2B, A2A)	Start-up of a company Public procurement Registration of patents, trademarks, designs Consumer protection, labelling, packaging
Certificates and licenses (A2C)	Birth and marriage certificates Driving licences Passports, visas Residence and working permits Car registration
Education (A2C)	Enrolment in schools and universities Study grants
Taxes for citizens (A2C)	Online Tax

Sector/Area	Service
Social security (A2C)	Information service for social security systems Unemployment benefits Child allowances Pensions Public health insurance
Supply of statistical data (A2B, A2A)	Tax for businesses VAT refunding Information on tax incentives Declaration of excise goods
Work (A2C)	Recognition of qualifications and diplomas Job search
Customs (A2C, A2B, A2A)	Information on Customs duties Customs declarations

The Interoperability challenge: lost landscapes of agents



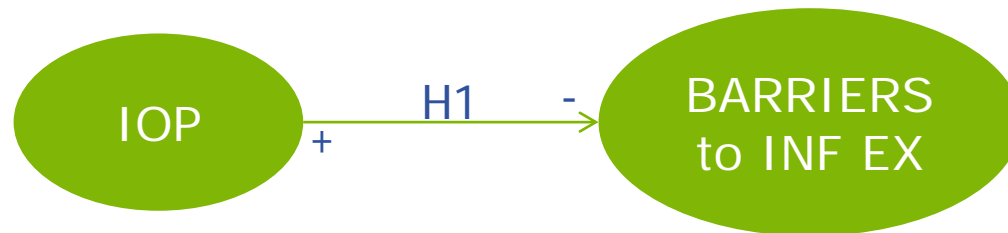
A: Public Administration (local, regional, national, European); B: Business; C: Citizen

Business case for Interoperability (IOP) in e-Government



IOP is a mean to eliminate barriers in business information exchange (it is not the goal)

H1: "There is a negative correlation between IOP and barriers to business information exchange"



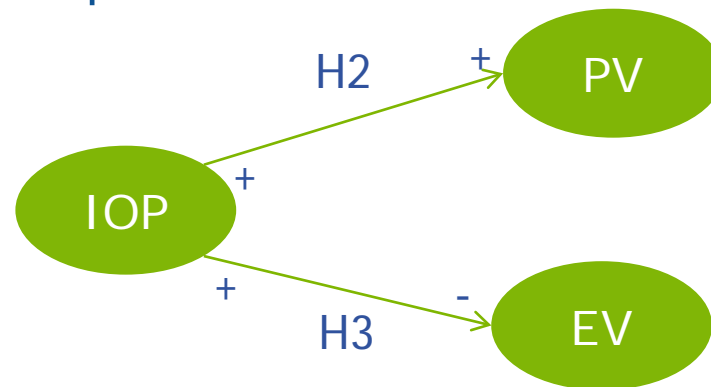
Business case for IOP in e-Government



IOP is the independent variable [of performance/economic cost variables]

H2: "There is a positive correlation between IOP and [**performance variable**] (i.e. # requests/hr) of public service delivery to public administrations citizens and businesses"

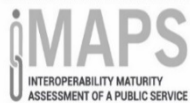
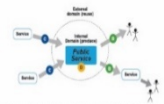
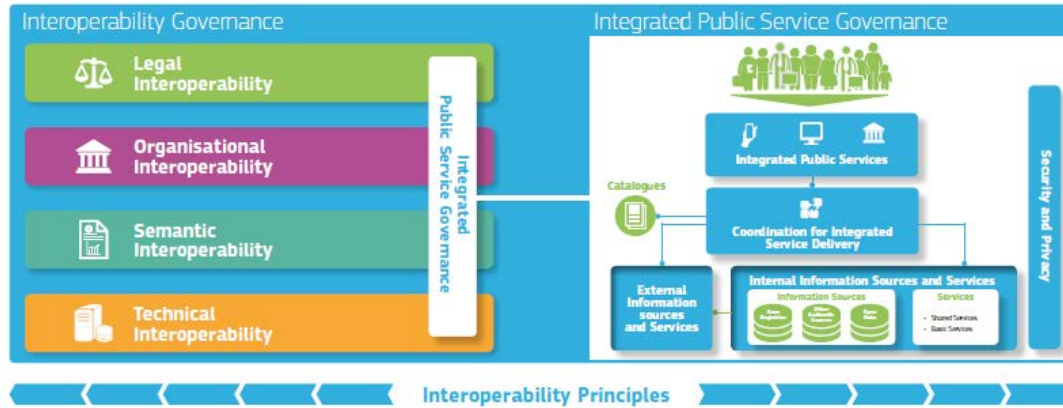
H3: "There is a negative correlation between IOP and [**economic cost variable**] (i.e. # rejection cost) of public service delivery for public administrations, businesses and citizens"



EIRA Value proposition



The revised EIF Conceptual Model



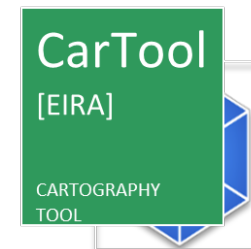
ASSESSING "EIF CONFORMANCE" IN PUBLIC SERVICE



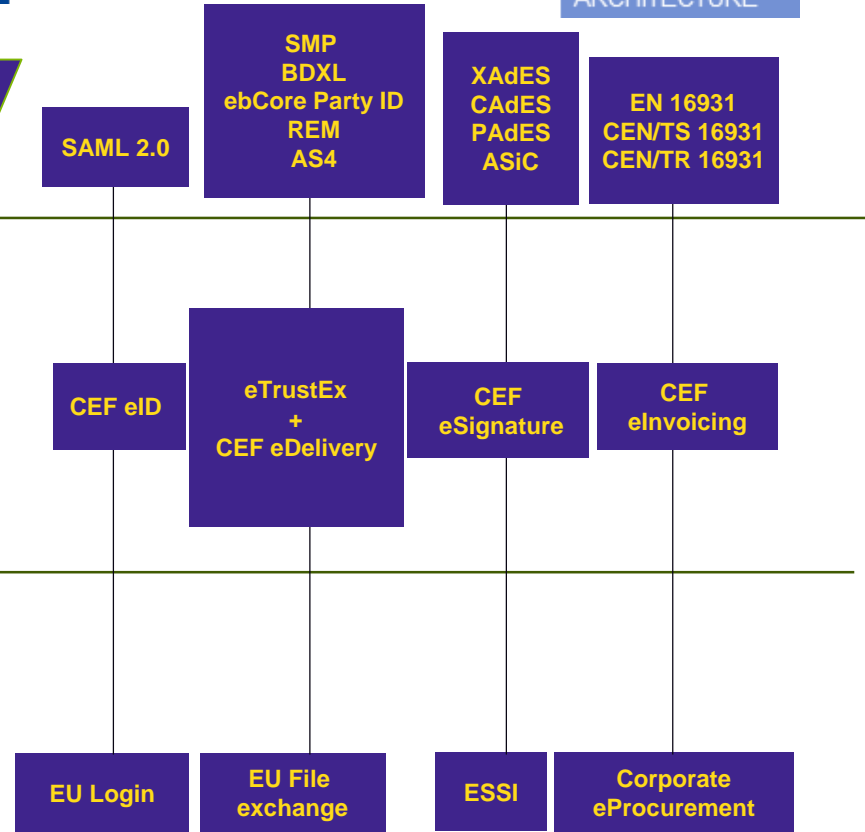
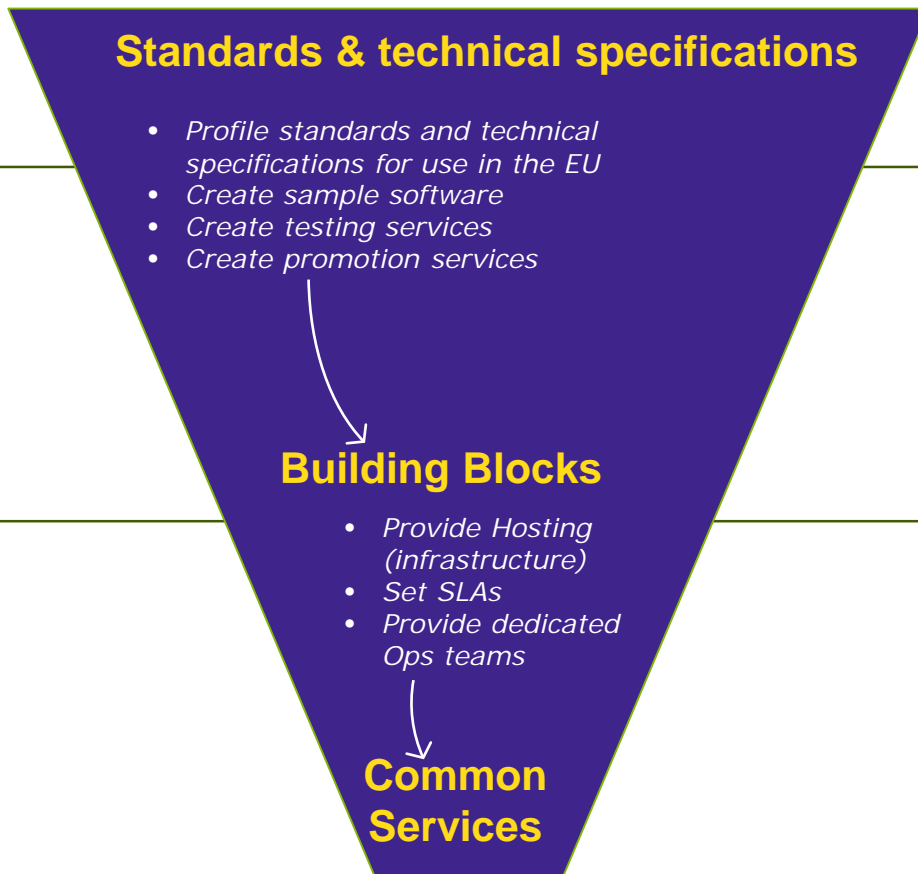
ASSESSING "EIF CONFORMANCE" IN SOFTWARE COMPONENT



ASSESSING STANDARDS



EIRA supports EIF implementation (*)



Available at:

<https://www.youtube.com/watch?v=RWhoy3iiYEA>

<https://joinup.ec.europa.eu/collection/european-interoperability-reference-architecture-eira/about>

(*) DECISION (EU) 2015/2240 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL





(art 3)

"... The ISA²programme 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"

(*) DECISION (EU) 2015/2240 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 November 2015



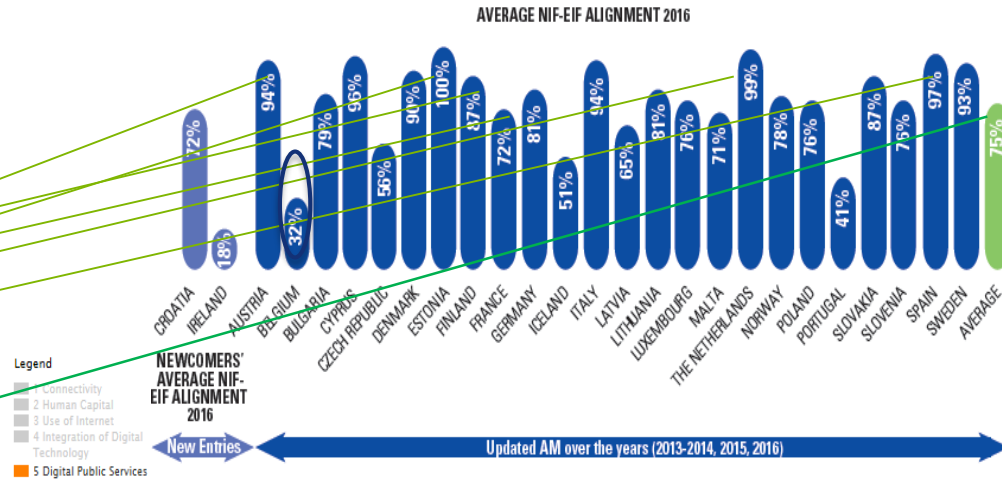
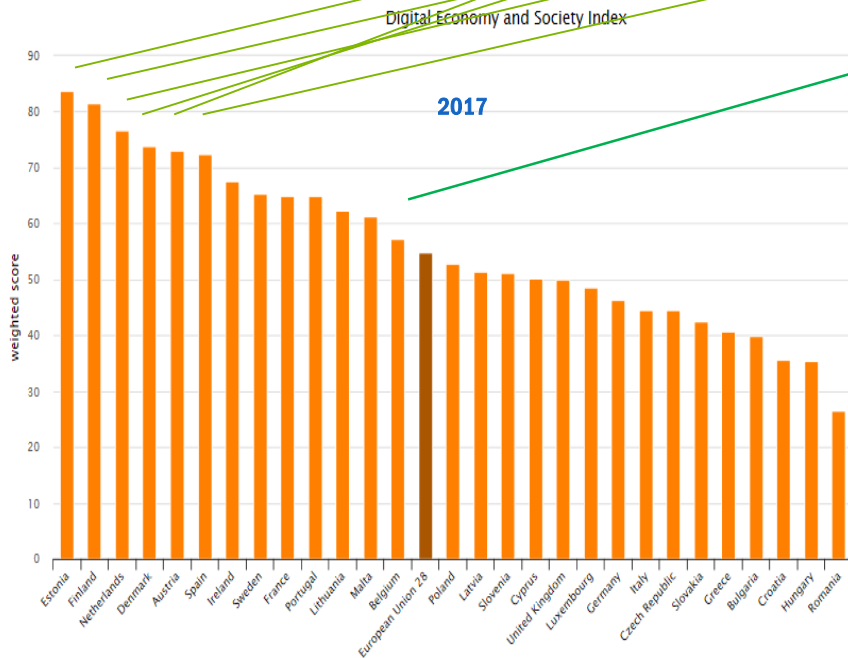


- ✓ **Architecture content metamodel**
- ✓ Defining the most salient **architectural building blocks (ABBs)** needed **to build interoperable solutions** supporting public services
- ✓ Each **ABB models** a decoupled functionality
- ✓ Result of a **collaborative effort of MS**
- ✓ As any RA
 - Has a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

Digital public services - Current landscape



where interoperability scores high ...



...digital public services score high



NORA

Nederlandse Overheid
Referentie Architectuur



DIGITALISERINGSSTYRELSEN



RIIGI INFOSÜSTEEMI AMET

BO DG Digitale Transformatie
FOD Beleid en Ondersteuning
SA DG Transformation digitale
SPF Stratégie et Appui

difi Direktoratet for
forvaltning og IKT

DIGG MYNDIGHETEN FÖR
DIGITAL FÖRVALTNING
Agency for Digital Government

 **AgID** Agenzia per
l'Italia Digitale

EIRA v3.0.0 High-Level viewpoint

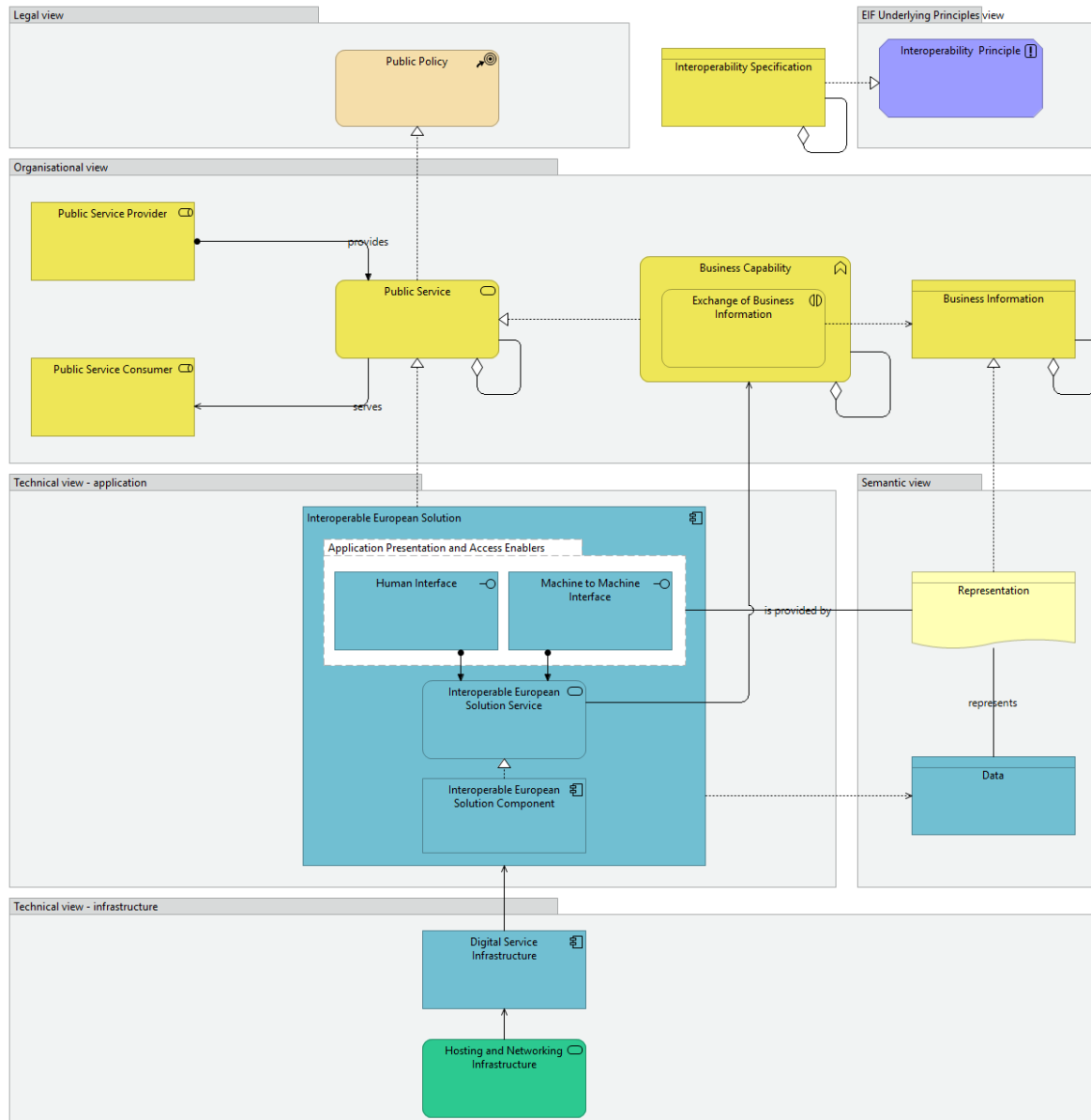
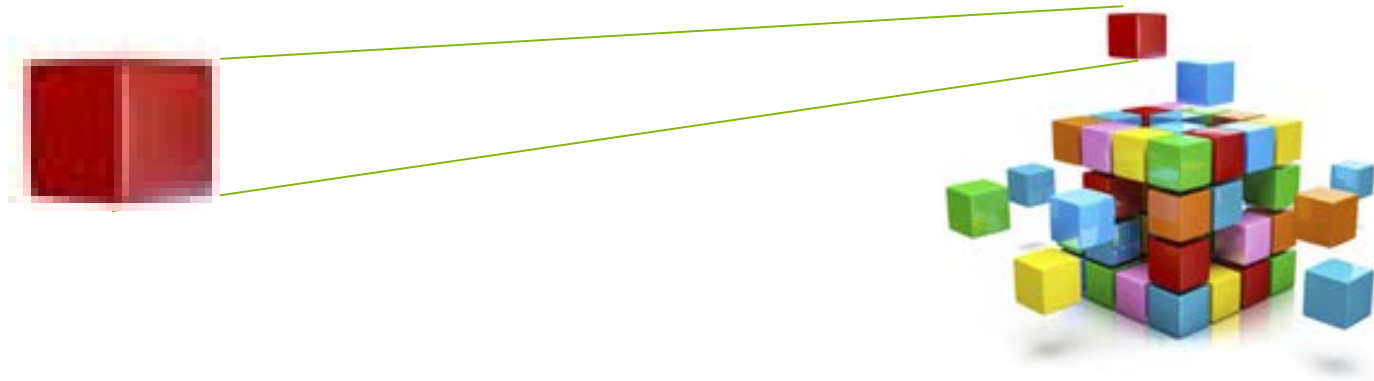




ABB salient for the interoperability

Public service interoperable



Interoperability saliency in an ABB means

- ✓ The ABB is a [key] interoperability enabler because [...]

and/or

- ✓ The ABB is salient for [legal | org | semantic | tech] interoperability because [...]

EIF

Framework and principles



Legal
Interoperability



Organisational
Interoperability



Semantic
Interoperability

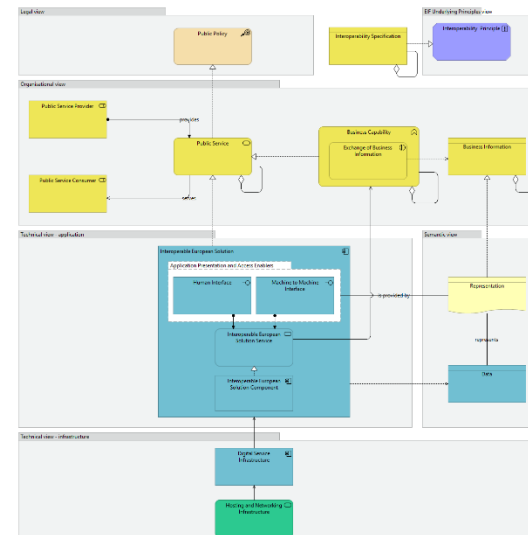


Technical
Interoperability

Integrated
Public Service Governance

EIRA© v3.0.0

Implementation guidelines and specifications





The European Interoperability Reference Architecture (EIRA) is an architecture content metamodel defining the most salient architectural building blocks (ABBs) needed to build interoperable eGovernment systems. The EIRA provides a common terminology that can be used by people working for public administrations in various architecture and system development tasks.

EIRA use cases

Design

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

Assess

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

Communicate & Share

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

Discover & Reuse

Ease the discovery and reuse of interoperability solutions through the TES Cartography using the CarTool

Potential use cases



EIRA



Cart



Designing

- ● Design solution architectures
- ● Create portfolio



Assessing

- ● Compare solution architectures
- ● Rationalise portfolio
- ● Manage portfolio



Communicating and Sharing

- ● Support Impact Assessment on ICT
- ● Document interoperability solutions

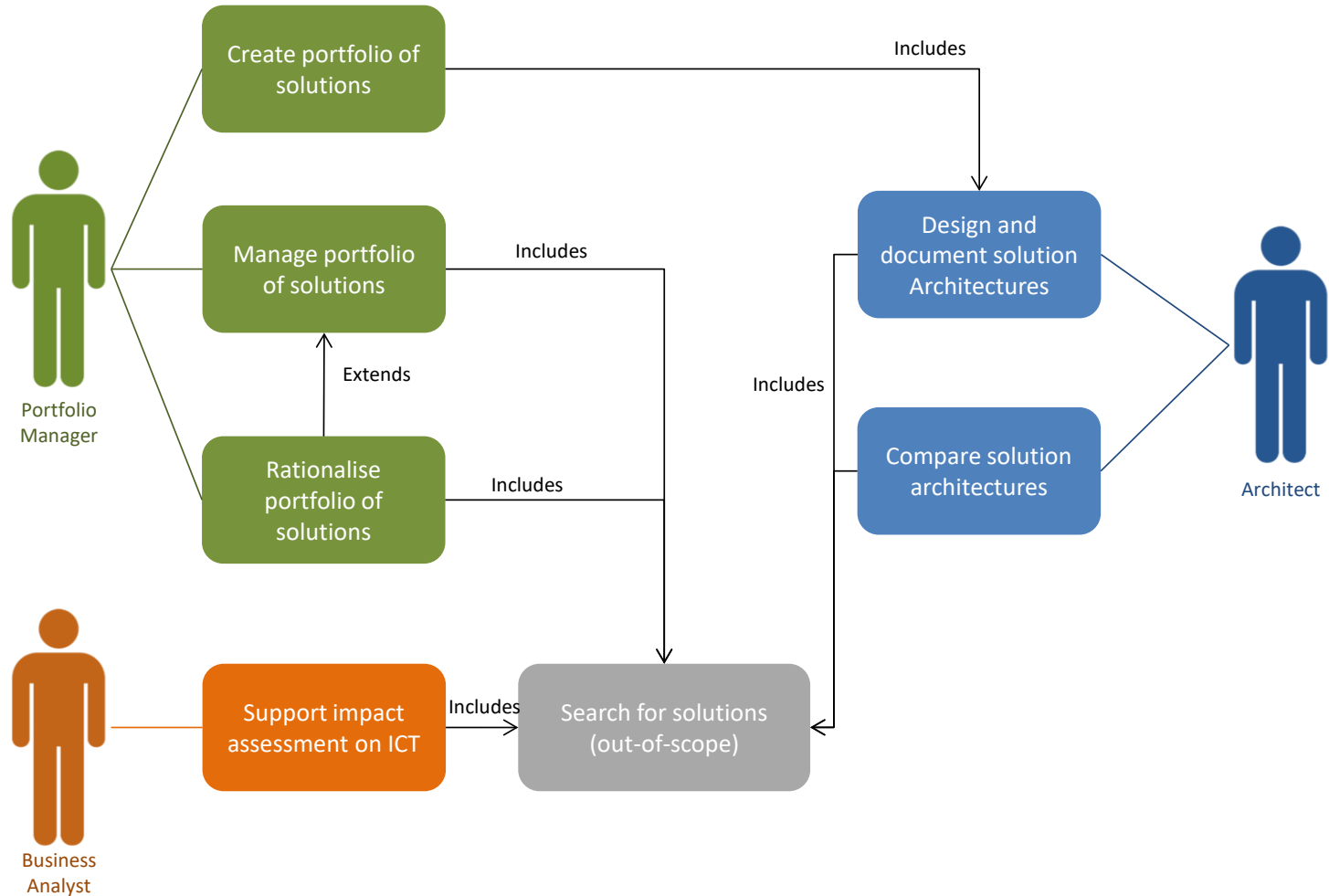


Discovering and Reusing

- ● Search for interoperability solutions

Value of EIRA from different viewpoints

Target users and their use cases within the EIRA©



What is the CarTool

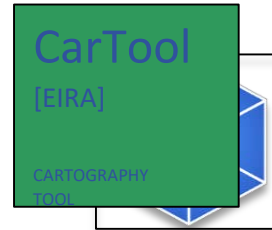


A solution owner or an service acting on his/her behalf uses the CarTool in any of the use cases. He/She might work on the basis on the documentation on an existing solution



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 Iis an open SW plugin developed for the ARCHI SW

Documentation on a Solution in production



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



Cartography

A cartography is the outcome of mapping/decomposing existing solutions or documenting new ones against a taxonomy (EIRA in our case)

ID	Activity Name	Activity Role	Activity Measurement Component	Activity	Activity Measurement Component
00000	UC 0000	Other	0000	Activity Measurement Component	0000
00001	UC 0001	Operational, Technical and Other	0001	Activity Measurement Component	0001
00002	UC 0002	Operational and Other	0002	Activity Measurement Component	0002
00003	UC 0003	Operational and Other	0003	Activity Measurement Component	0003
00004	UC 0004	Operational and Other	0004	Activity Measurement Component	0004
00005	UC 0005	Operational and Other	0005	Activity Measurement Component	0005
00006	UC 0006	Operational and Other	0006	Activity Measurement Component	0006
00007	UC 0007	Operational and Other	0007	Activity Measurement Component	0007
00008	UC 0008	Operational and Other	0008	Activity Measurement Component	0008
00009	UC 0009	Operational and Other	0009	Activity Measurement Component	0009
00010	UC 0010	Operational and Other	0010	Activity Measurement Component	0010
00011	UC 0011	Operational and Other	0011	Activity Measurement Component	0011
00012	UC 0012	Operational and Other	0012	Activity Measurement Component	0012
00013	UC 0013	Operational and Other	0013	Activity Measurement Component	0013
00014	UC 0014	Operational and Other	0014	Activity Measurement Component	0014
00015	UC 0015	Operational and Other	0015	Activity Measurement Component	0015
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00071	UC 0071	Operational and Other	0071	Activity Measurement Component	0071
00072	UC 0072	Operational and Other	0072	Activity Measurement Component	0072
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00097	UC 0097	Operational and Other	0097	Activity Measurement Component	0097
00098	UC 0098	Operational and Other	0098	Activity Measurement Component	0098
00099	UC 0099	Operational and Other	0099	Activity Measurement Component	0099
00100	UC 0100	Operational and Other	0100	Activity Measurement Component	0100

CarTool Overview



The screenshot displays the CarTool interface with several components highlighted by red boxes and numbered callouts:

- 1:** EIRA v3.0.0 Library structure in the left sidebar, including folders for European Interoperability Cartography, Solutions, and My Library.
- 2:** The main menu bar at the top, containing File, Edit, View, Tools, Window, Help, and EIRA.
- 3:** The Models tree on the left, showing the ADNS hierarchy with sub-items like Strategy, Business, Application, and Views.
- 4:** A text box in the main workspace containing the text: "The interoperability principles are fundamental behavioural aspects to drive interoperability actions. They describe the context in which European public services are designed and implemented. The twelve underlying principles of the EIF are grouped into four categories: 1. Principle setting the context for EU actions on interoperability (No 1); 2. Core interoperability principles (Nos 2 to 5); 3. Principles related to generic user needs and expectations (Nos 6 to 9); 4. Foundation principles for cooperation among public administrations (Nos 10 to 12)."
- 5:** The Palette window on the right, which contains various tool icons for editing and navigation.
- 6:** A complex diagram in the main workspace titled "Legal interoperability content", showing relationships between entities like Public Policy, Public Service, Interoperable European Solution, and Legal Act across different views (Organisational, Technical, Semantic).
- 7:** The Query Items and Attributes panels on the right, used for defining search criteria and data attributes.
- 8:** A toolbar at the bottom right of the workspace, including a "Link to EIRA" button and other utility icons.



The **Cartography Tool (CarTool)** brings together high level support for the EIRA as a **plug-in** for the popular **ArchiMate modelling tool Archi®**. It includes both editing features, to model solutions using the EIRA, and querying features to query an **EIRA-based Cartography of solutions**.

CarTool use cases

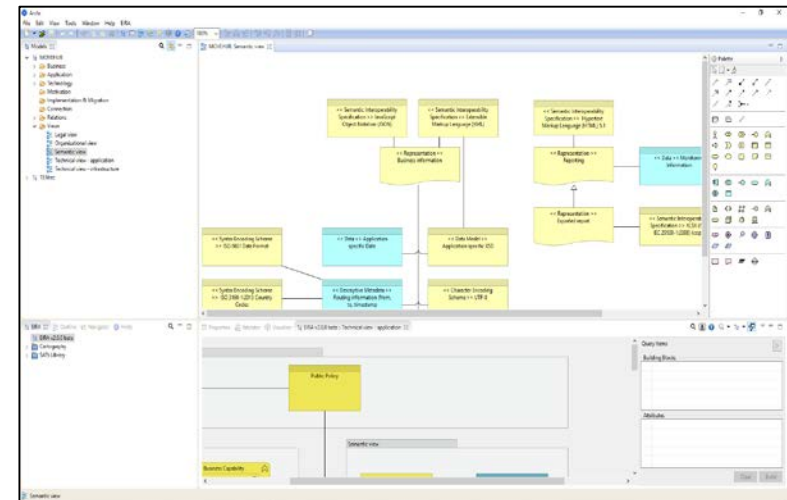
Search

- Query Cartographies, such as the EIC and the TESCART for used solutions
- Consult a list of proposed IoP Specifications

Model

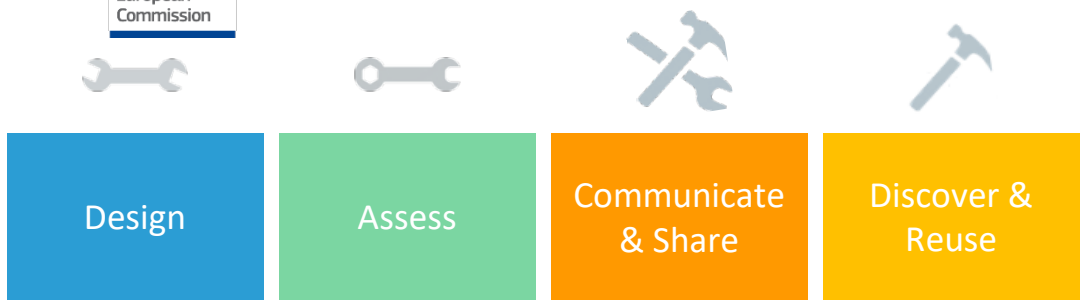
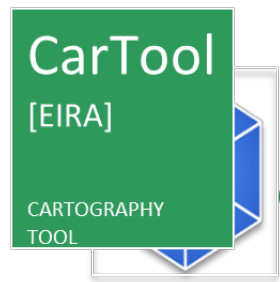
- Model new solutions based on either the EIRA, SATs or existing TES
- Model SATs based on the EIRA

CarTool view



Available at: <https://joinup.ec.europa.eu/solution/cartography-tool/about>

EIRA & CarTool key areas of support

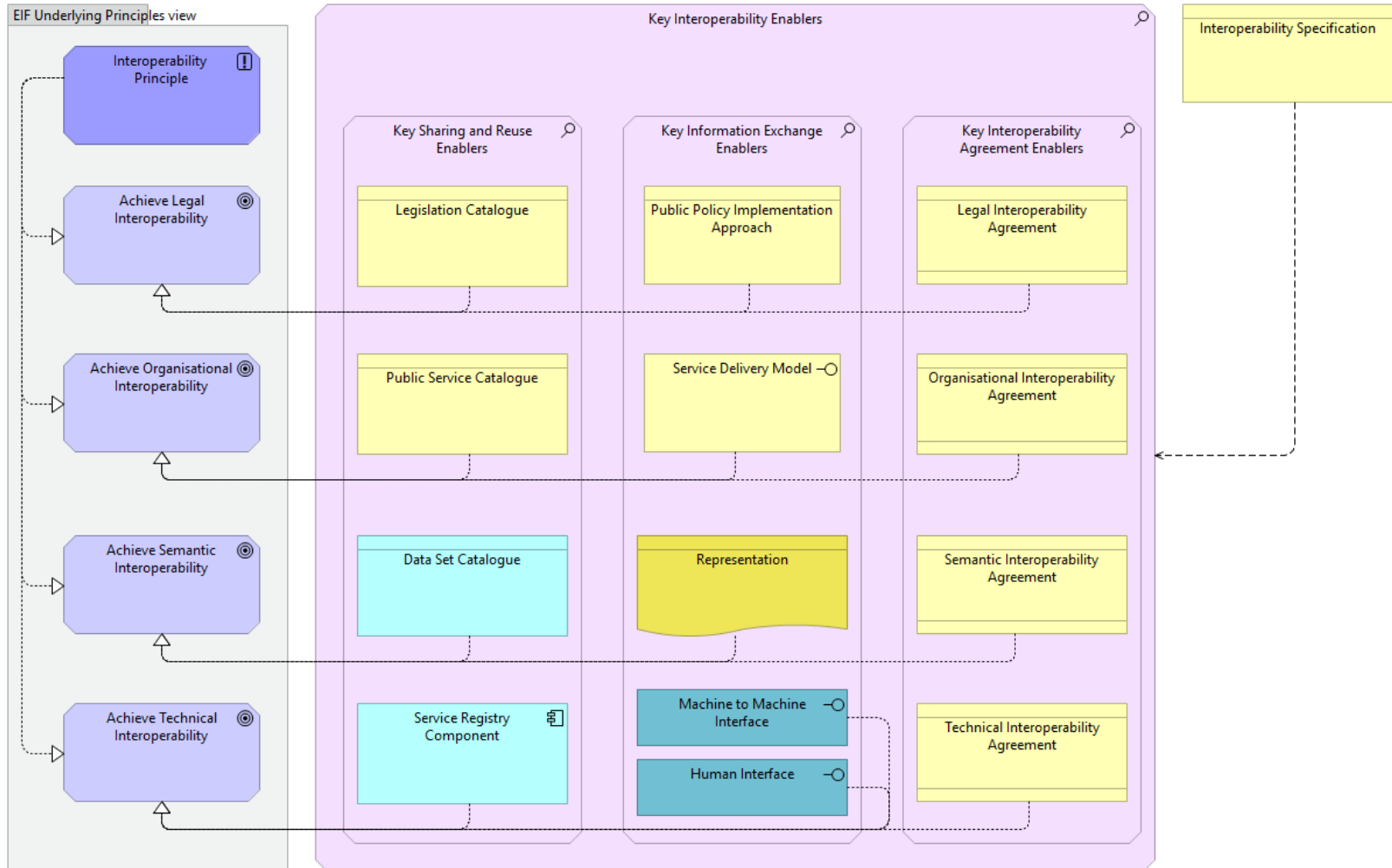


- Providing a controlled vocabulary
- Decoupling functionalities in Architectural Building Blocks
- Facilitating the identification of IOP specifications
- Providing the key Interoperability enablers ABBs
- Accelerating development cycle
- Enabling cartographies
- Promoting discovery/reusability
- Supporting Portfolio Mgmt Decision Making
- Supporting Public Policy formulation

	Design	Assess	Communicate & Share	Discover & Reuse
Providing a controlled vocabulary	● ●	● ●	● ●	● ●
Decoupling functionalities in Architectural Building Blocks	● ●	● ●	● ●	● ●
Facilitating the identification of IOP specifications	● ●	● ●	● ●	● ●
Providing the key Interoperability enablers ABBs	● ●	● ●	● ●	● ●
Accelerating development cycle	● ●	○ ○	○ ○	● ●
Enabling cartographies	○ ●	○ ●	○ ●	○ ●
Promoting discovery/reusability	● ●	● ●	● ●	● ●
Supporting Portfolio Mgmt Decision Making	○ ●	○ ●	○ ●	○ ●
Supporting Public Policy formulation	○ ●	○ ●	○ ●	○ ●

How the EIRA© & CarTool© support IoP in e-Government?

Key Interoperability enablers ABBs



How EIRA supports IOP in e-Government?

LOST IOP support



"Public Policy Implementation Approach ABB is influenced by the regulatory state and the delegation of powers"

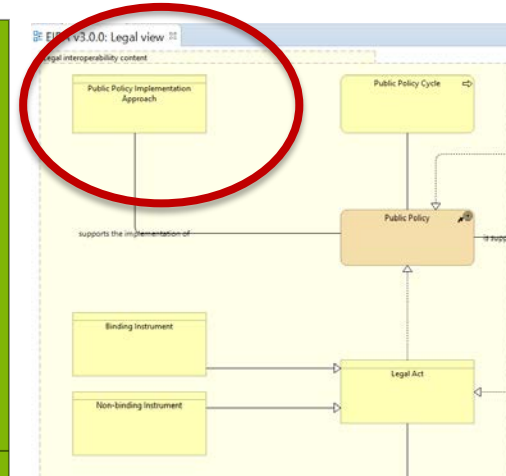
Example: Focus on the public policy implementation approach of a national PA including references to TOGAF v 9.1

PUB POLICY IMPL REGULATORY STATE
STRONGLY/
LOW LEVEL
REGULATED

SOFTLY/HIGHL
LEVEL
REGULATED

<p>THE CONTROLLED SCENARIO</p> <p>FOCUS ON SEMANTIC INTEROPERABILITY (i.e. data architecture, base registries)</p>	<p>THE NORMATIVE SCENARIO</p> <p>FOCUS ON TECHNOLOGY INTEROPERABILITY (i.e. interoperability specifications)</p>
<p>THE FEDERATED SCENARIO</p> <p>FOCUS ON ORGANIZATIONAL INTEROPERABILITY (i.e. interoperability governance)</p>	<p>THE SUBSIDIARITY SCENARIO</p> <p>FOCUS ON LEGAL INTEROPERABILITY (i.e. interoperability frameworks, interoperability reference architecture)</p>

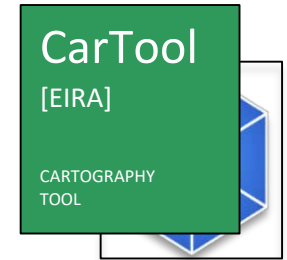
TOP/CENTRALISED PUBLIC POLICY IMPL **DOWN/DELEGATED DELEGATION OF POWERS**





Questions?





Contact us

Project Officer

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DIGIT-EIRA@ec.europa.eu

For more information

[A Reference Architecture for Interoperability in the European Union: A Conversation with Raul Abril](#)

EIRA community on
Joinup.eu

<https://joinup.ec.europa.eu/solution/eira/about>

ISA website

https://ec.europa.eu/isa2/home_en