



European
Commission

EIRA local workshop – Ministry of Finance (Finland)

16th October 2019

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EUROPEAN COMMISSION

Directorate-General for Informatics (DIGIT)

EIRA© and CarTool© deployment



Disclaimer



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EIRA workshop

16th October - Agenda



1) 08:30 – 09:00 Welcome coffee

2) 09:00 – 09:20 Workshop opening

- Workshop opening
- Introduction of National Goals in Finland

3) 09:20– 09:50 EIRA/CarTool Introduction

- Overview of the EIRA© and Archi/CarTool©

4) 09:50 – 10:20 EIRA/CarTool use case for Finnish Public Administration (Part 1)

- Presentation of the addressed Use Case: “Document the Ecosystem of Digital Death Detailed-level Interoperability Requirements SAT”

BREAK (15 minutes)

5) 10:35 – 12:00 EIRA/CarTool use case for Finnish Public Administration (Part 2)

- Technical interactive session: consolidation and validation of the modelled solution with Archi© - Focus on Legal and Organizational views
- Q&A

LUNCH (1 hour)



6) 13:00 – 14:00 EIRA/CarTool use case for Finnish Public Administration (Part 3)

- Technical interactive session: consolidation and validation of the modelled solution with Archi© - Focus on Semantic view
- Q&A

7) 13:00 – 14:00 EIRA/CarTool use case for Finnish Public Administration (Part 4)

- Technical interactive session: consolidation and validation of the modelled solution with Archi© - Focus on Technical and Infrastructure view
- Q&A

COFFEE BREAK (15 minutes)

8) 15:15 – 15:45 CarTool v3.0.0 hands-on session

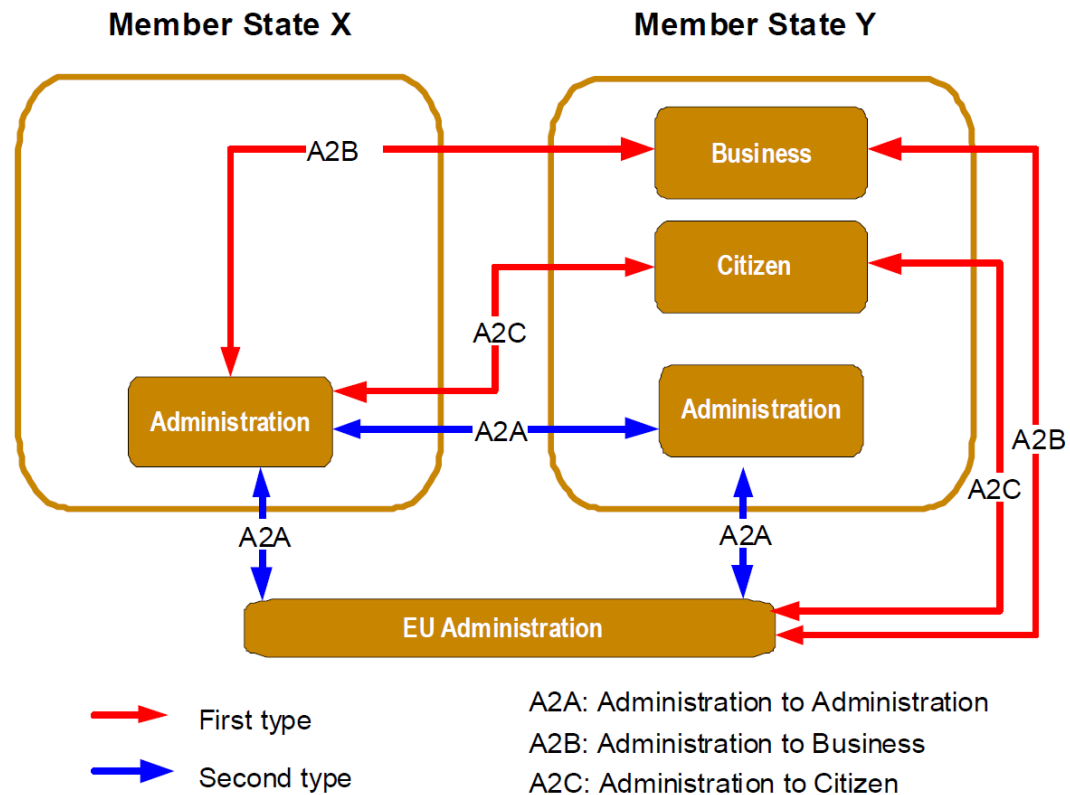
- Hands-on session: how to use the new CarTool release in practice

9) 15:45 – 16:30 Wrap-up

- Wrap-up on the implemented use case
- Q&A

Section 1: **Workshop opening**

Section 2: **EIRA/CarTool Introduction**



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
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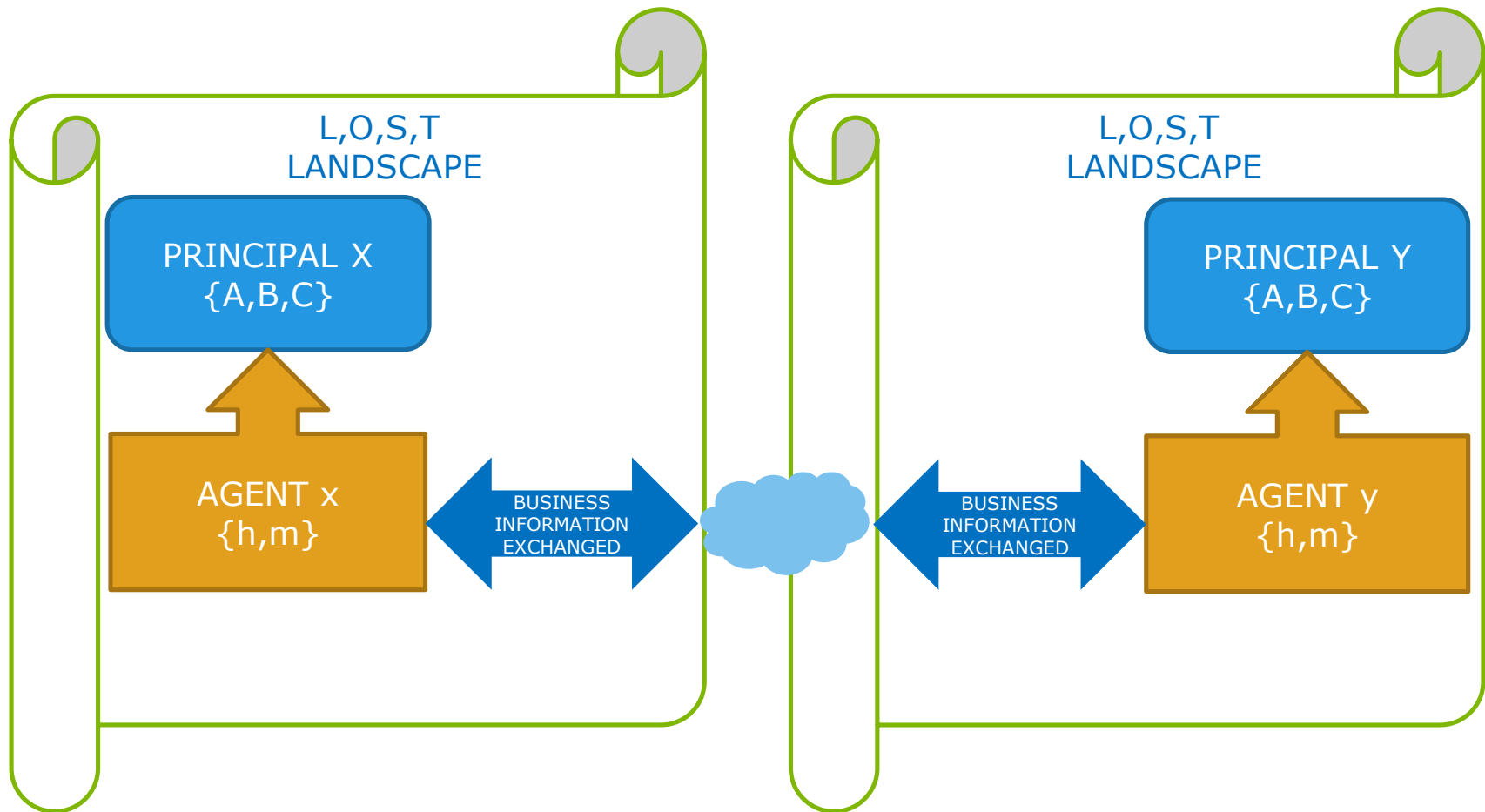
Example of European Public Service



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 IOP challenge: lost landscapes of agents



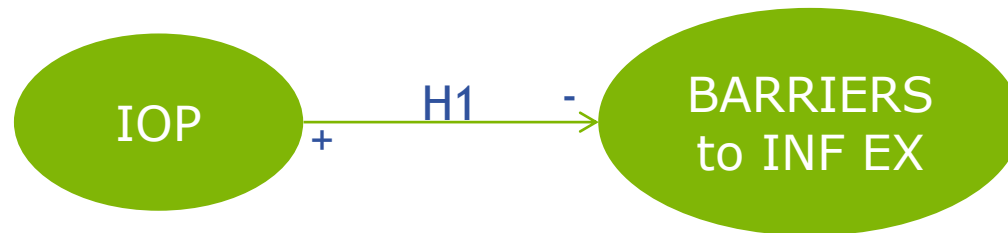
A: Public Administration (local, regional, national, European); B: Business; C: Citizen

Business case for 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"



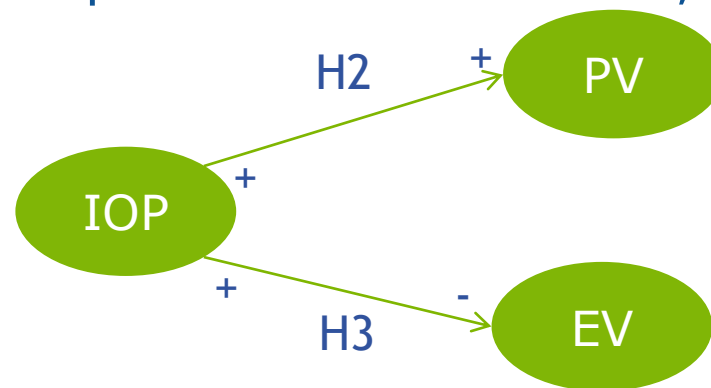
Business case for IOP in e-Government



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

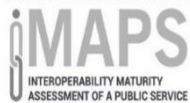
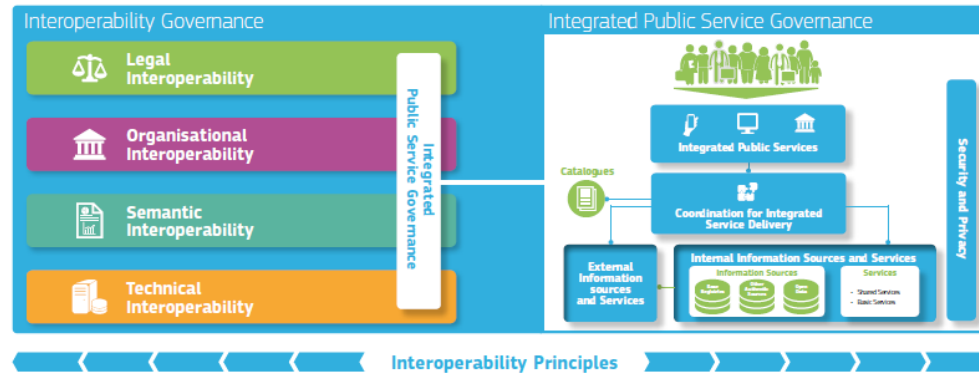
H2: "There is a positive correlation between IOP and [**performance variable**] (i.e. # requests/hr) of public service delivery to public administrations citizens and businesses"

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"





The revised EIF Conceptual Model



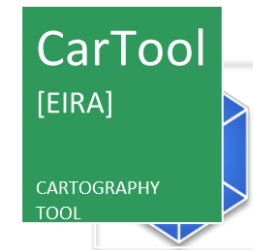
ASSESSING EIF CONFORMANCE IN PUBLIC SERVICE



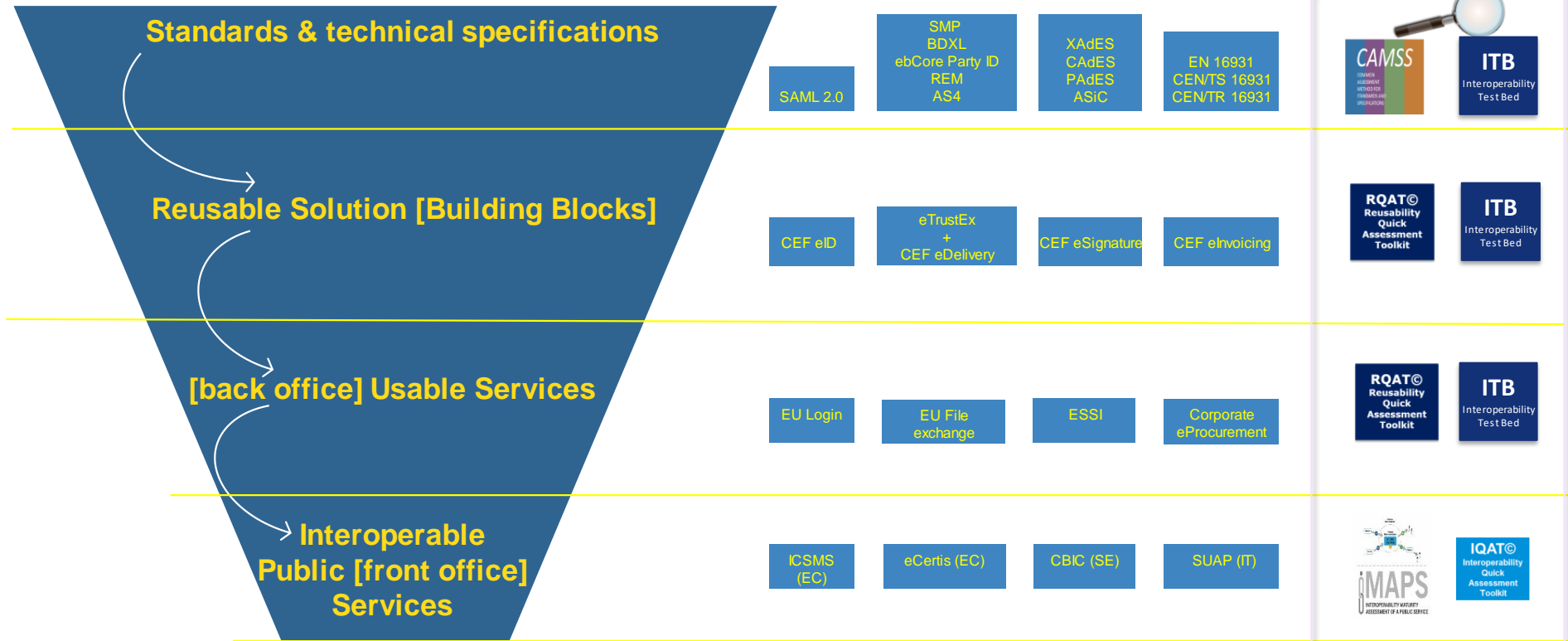
ASSESSING EIF CONFORMANCE IN SW COMPONENT



ASSESSING STANDARDS



EIRA supports EIF implementation (*)



<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

SOLUTION/PS IOP DASHBOARD





(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



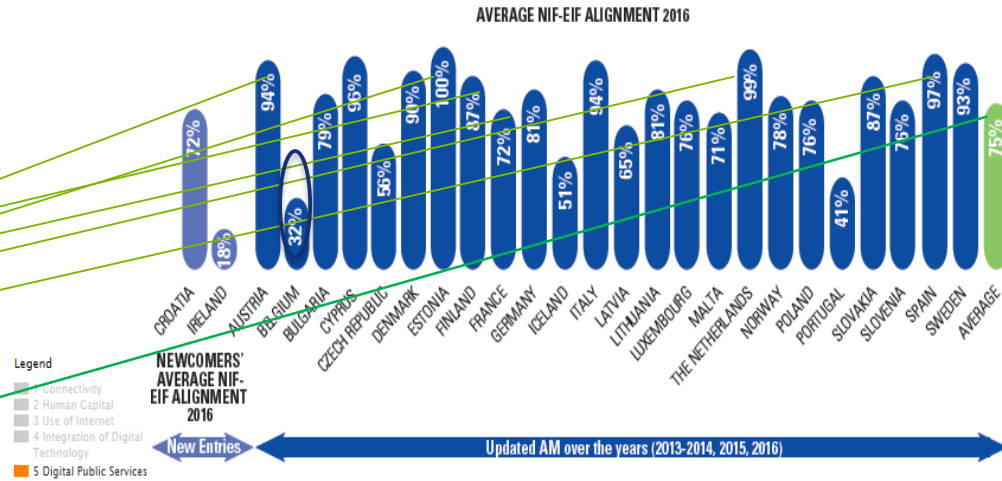
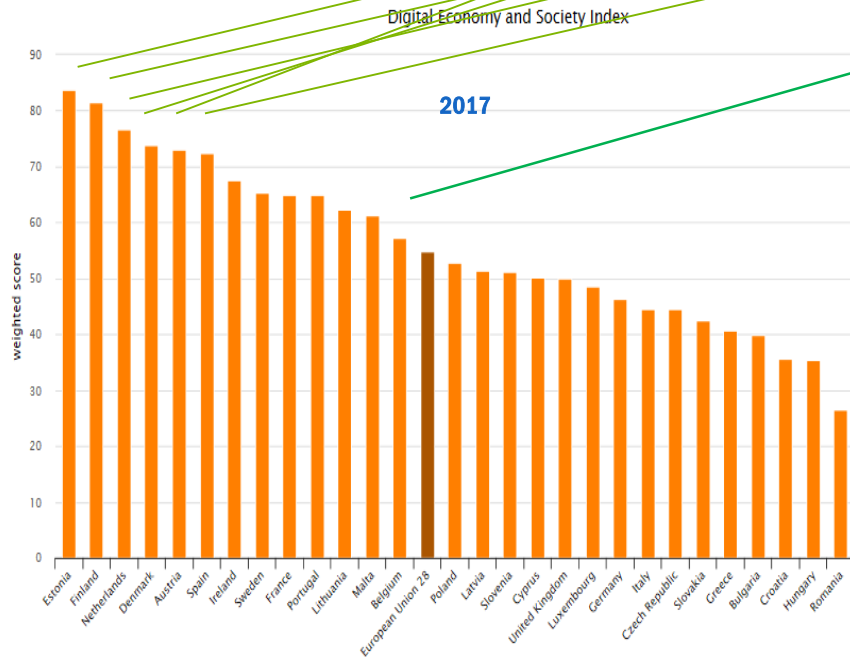


- ✓ **Architecture content metamodel**
- ✓ Defining the most salient **architectural building blocks (ABBs)** needed **to build interoperable solutions** supporting public services
- ✓ Each **ABB models** a decoupled functionality
- ✓ Result of a **collaborative effort of MS**
- ✓ As any RA
 - Has a 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

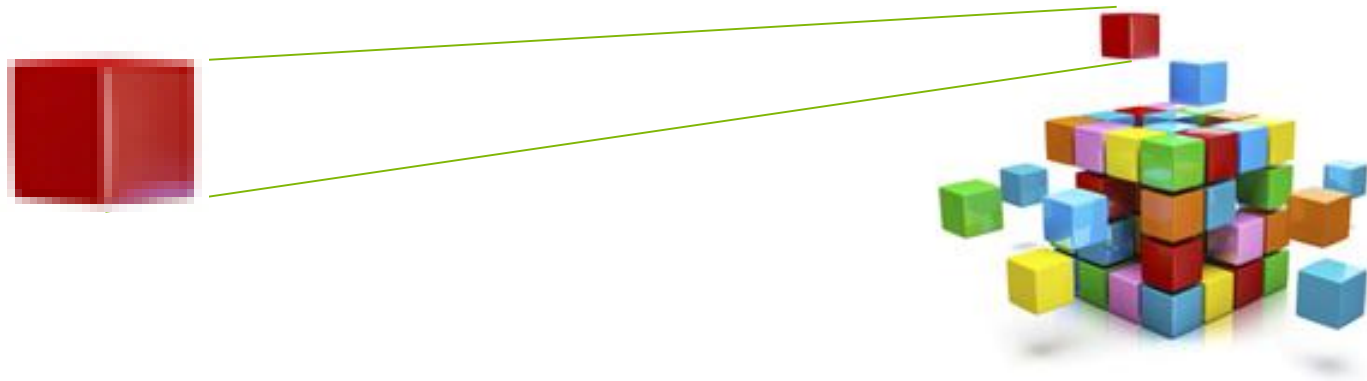
 **AgID** Agenzia per
l'Italia Digitale

 **MYNDIGHETEN FÖR
DIGITAL FÖRVALTNING**
Agency for Digital Government



ABB salient for the interoperability

Public service interoperable



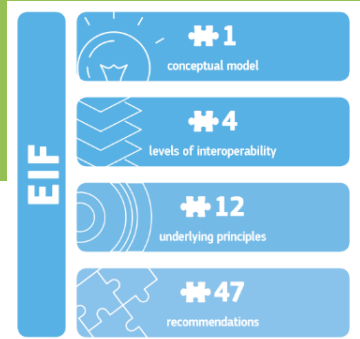
Interoperability saliency in an ABB means

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

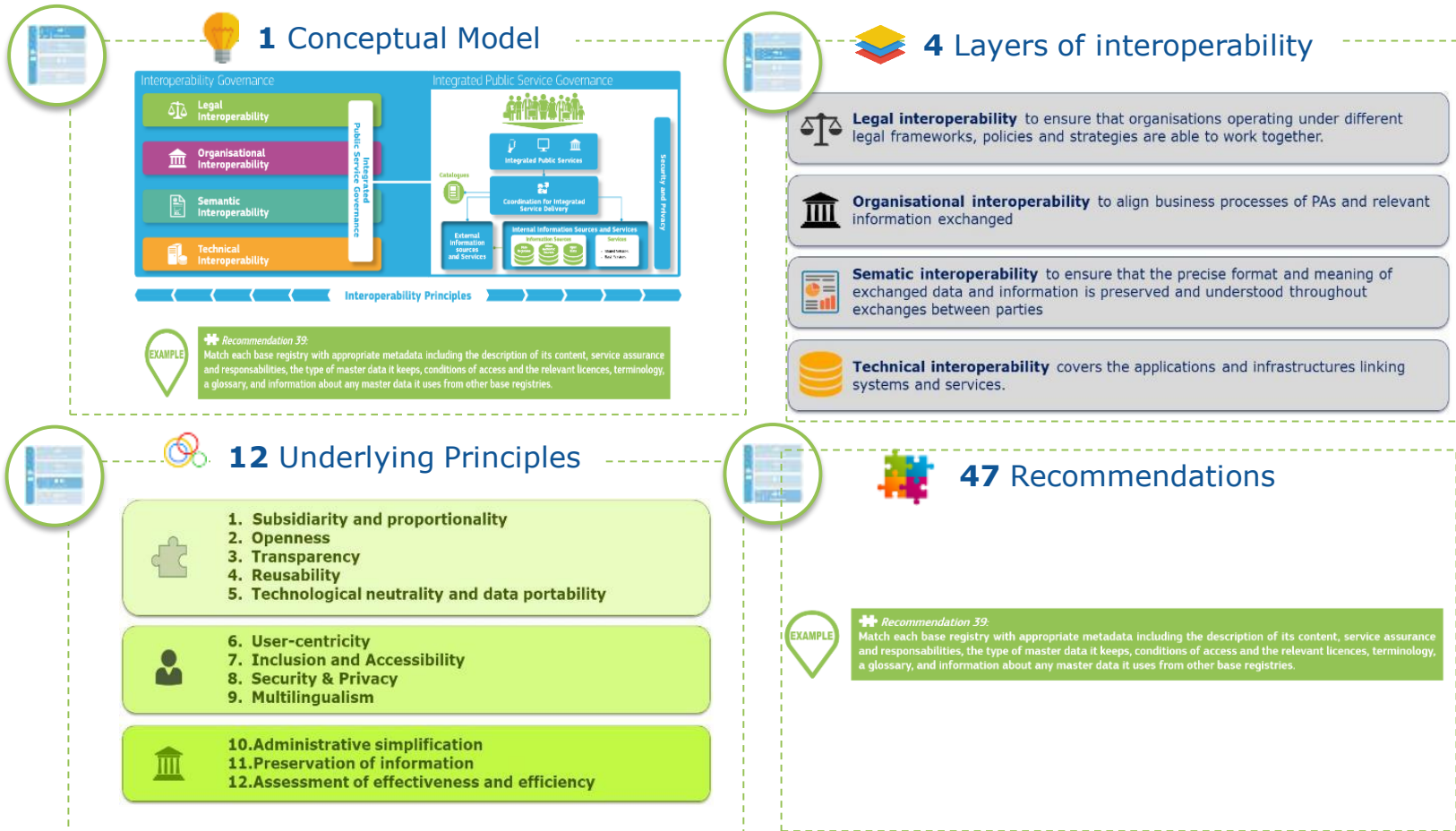
and/or

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

Presentation of the European Interoperability Framework (EIF)



Detailed view of the EIF structure



EIF

Framework and principles



Legal
Interoperability



Organisational
Interoperability



Semantic
Interoperability

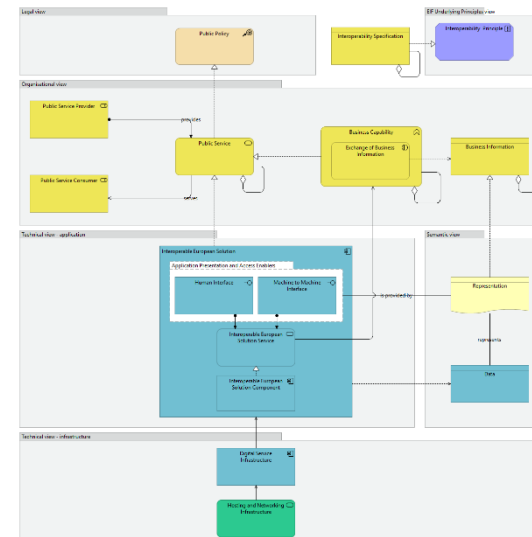


Technical
Interoperability

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

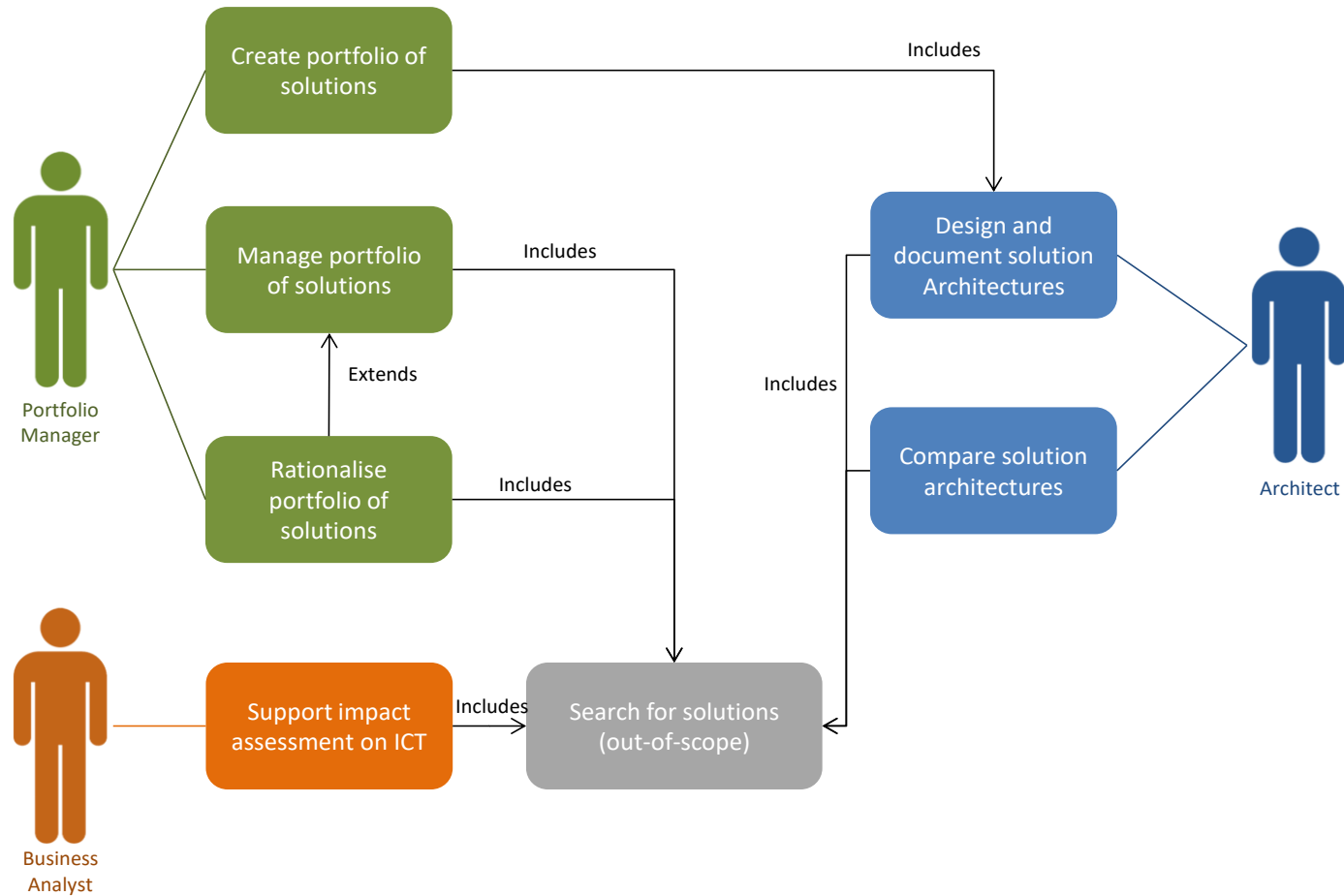


Discovering and Reusing

- ● Search for interoperability solutions

Value of EIRA from different viewpoint

Target users and their use cases within the EIRA©



What is the CarTool

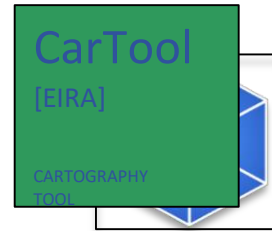


A solution owner or an service acting on his/her behalf uses the CarTool in any of the use cases. He/She might work on the basis on the documentation on an existing solution



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 lis 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	Entity Name	Entity Role	Entity Measurement Component	Entity	Entity Measurement Component
000001	000001	000001	000001	000001	000001
000002	000002	000002	000002	000002	000002
000003	000003	000003	000003	000003	000003
000004	000004	000004	000004	000004	000004
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CarTool Overview



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

- 1:** EIRA v3.0.0 Library structure in the left sidebar, including folders for EIRA Extension Library, European Interoperability Cartography, EIRA Library of Interoperability Specifications, Solutions, Solution Architecture Templates (SATs), Detailed-level Interoperability Requirements SAT, High-level Interoperability Requirements SAT, My Library, My Cartographies, My Reference Architectures, and TES Library.
- 2:** The top menu bar containing File, Edit, View, Tools, Window, Help, and EIRA.
- 3:** The Models tree on the left, showing a hierarchy under ADNS including Strategy, Business, Application, Technology & Physical, Motivation, Implementation & Migration, Other, Views, and Viewpoints.
- 4:** A text box in the main workspace containing text about interoperability principles and a list of 12 underlying principles of the EIF grouped into four categories.
- 5:** The Palette on the right side of the workspace, containing various tool icons for editing and navigation.
- 6:** A complex diagram in the main workspace showing relationships between entities like Public Policy Implementation Approach, Public Policy Cycle, Public Policy, Binding Instrument, Legal Act, Public Service, Interoperable European Solution, and Representation across different views (Legal, Organisational, Technical, Semantic).
- 7:** The Query Items panel on the right, showing Building Blocks and Attributes sections.
- 8:** The top right corner of the workspace, including a search bar and navigation 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

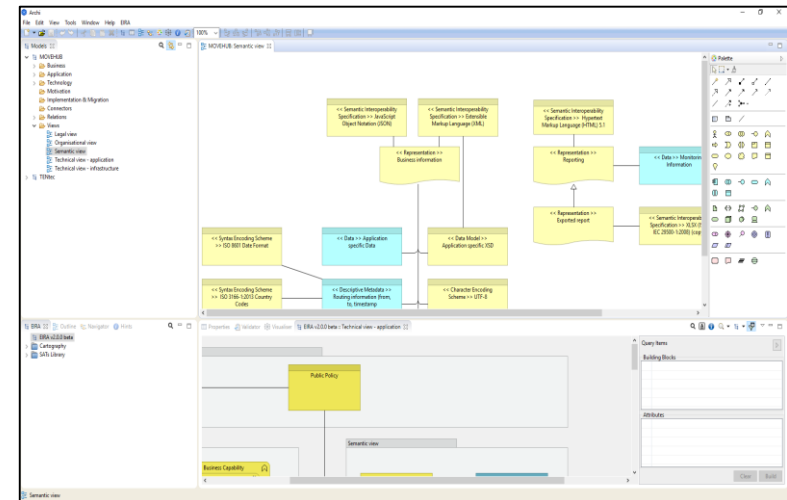
Search

- 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



EIRA
EUROPEAN
INTEROPERABILITY
REFERENCE
ARCHITECTURE

CarTool
[EIRA]
CARTOGRAPHY
TOOL



Design

Assess

**Communicate
& Share**

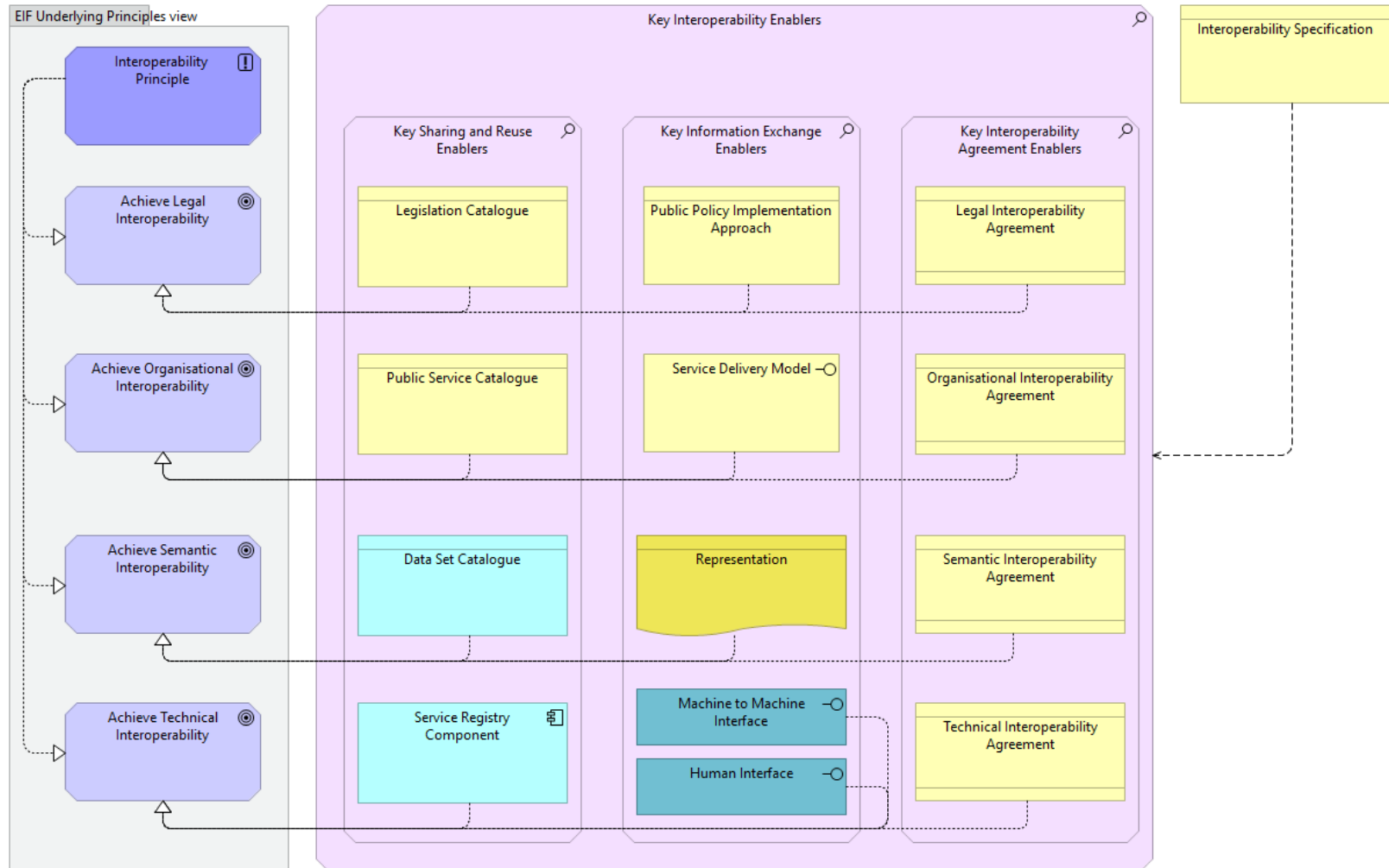
**Discover &
Reuse**

- 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

	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

REGULATORY STATE

DETAIL-LEVEL

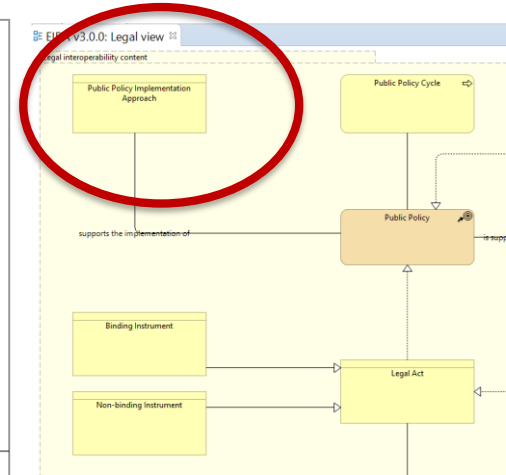
HIGH-LEVEL

THE INFORMATIONAL SCENARIO	THE STRUCTURAL SCENARIO
PP IMPLEMENTATION APPROACH: FOCUS ON SEMANTIC INTEROPERABILITY (i.e. data architectures, base registries)	PP IMPLEMENTATION APPROACH: FOCUS ON TECHNOLOGY INTEROPERABILITY (i.e. interoperability specifications, reusable building blocks, common [back-office] services, networks)
THE GOVERNANCE SCENARIO	THE SUBSIDIARITY SCENARIO
PP IMPLEMENTATION APPROACH: FOCUS ON ORGANIZATIONAL INTEROPERABILITY (i.e. organizational interoperability agreements, governance structures)	PP IMPLEMENTATION APPROACH: FOCUS ON LEGAL INTEROPERABILITY (i.e. interoperability frameworks, interoperability reference architectures)

CENTRALISED

DELEGATED

DELEGATION OF POWERS



Section 3: EIRA/CarTool use case for Finnish Public Administration

("Document the Ecosystem of Digital Death Detailed-level Interoperability Requirements SAT")

Section 4: CarTool v3.0.0 hands-on session

Section 5: Wrap-up



Questions?



**It's your time:
Please fill the
satisfaction survey**

