WINTER SCHOOL

European Interoperability Framework (EIF)

Present and future

European Commission

AGENDA

1. Presentation of the participants — 10 min
2. A use case in ISAland — 5 min
3. Brainstorming on challenges (small groups) — 10 min
4. How EIF supports Interoperability and digitalisation of public services:
   An ideal use case — 10 min
5. How challenges can be addressed by EIF — 10 min
6. Monitoring of the EIF:
   NIFO and other major solutions — 15 min
7. Evolution of the EIF Triggering the discussion Brainstorming on posible
   evolution of EIF (small groups) Summary — 20 min
8. Q&A — 5 min

WHO ARE YOU?

Please present yourself

A use case in ISAlandia

The central government of ISAlandia wishes to establish a new project to ease the paperwork that parents are confronting with when having a **recently born child**. This is part of the new digital strategy of the country to **transform public administration** and offer better public services.

The idea is to improve citizen's life by helping parents to undergo all sort of administrative procedures on one-go and through one-click related to having a new child.

Therefore, a new digital service will be developed, where the parents can fill-in a basic **New born registration on-line form**, ask for the registration of the child in the **population registry**, and check whether the family is entitled to a **subsidy or social aid** to raise the child.
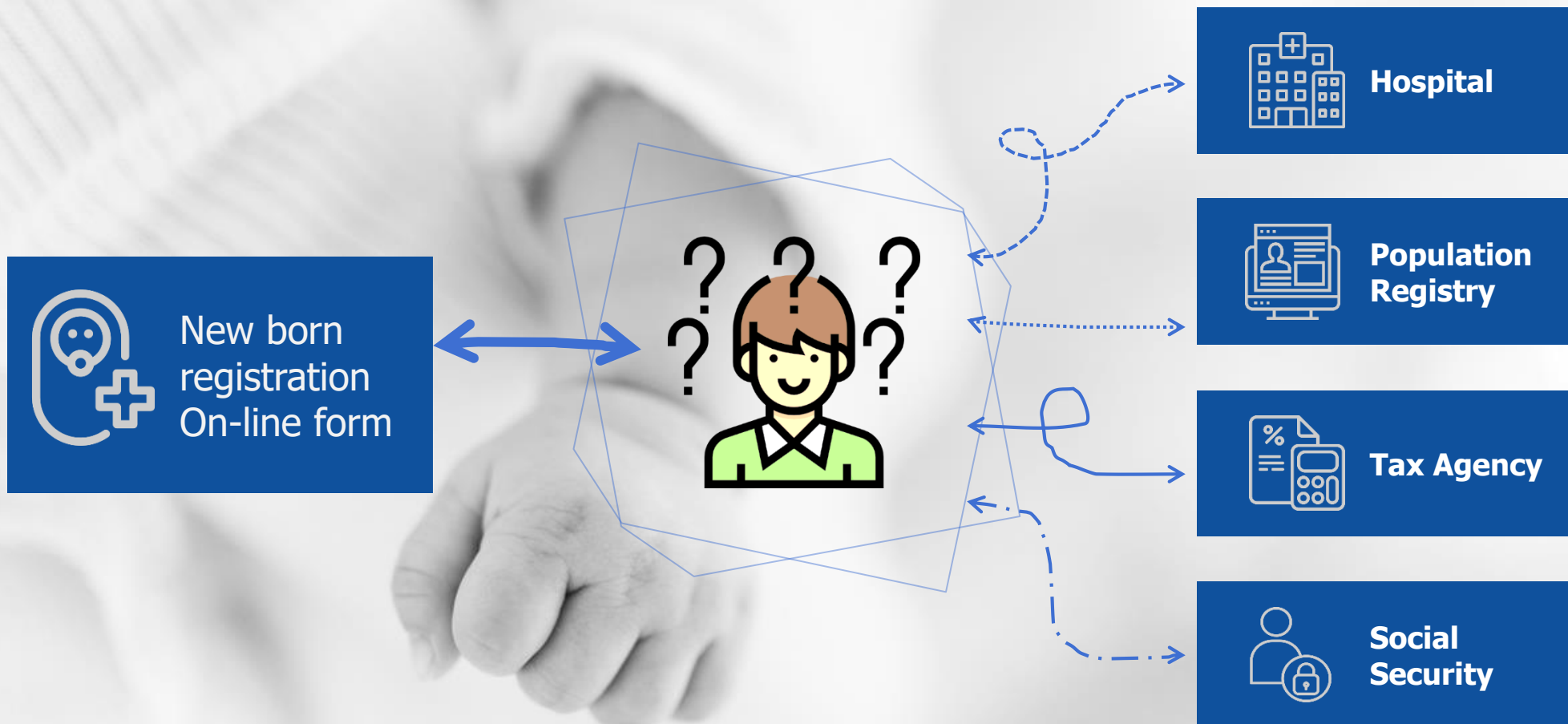
This new digital services touches several authorities:

- **the hospital** where the child was born who can prove that the event occurred;
- **the population registry** where the child must be registered as a new citizen of ISAlandia;
- **the tax agency** who can provide information on the household´s income;
- **the social security department** who will allocate a subsidy of a social aid to raise the child based on the household´s income.

As part of the new digital strategy **existing data** should be reused as much as possible not to bother the parents with the provision of evidences or certificates**.** The system also should reuse as much as possible **non-proprietary solutions.**

A use case in ISAlandia

New born registration On-line form

Hospital

Population Registry

Tax Agency

Social Security

PLEASE SPLIT IN 3 GROUPS

Identify challenges

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Overview of EIF Development, Structure and its Main Purpose

The new EIF

The **new EIF** is part of an **EC Communication (COM(2017)134)** adopted in March 2017. The framework gives guidance on the establishment of **interoperable digital public services**.

Digital Single Market Strategy

One of main the actions of the **Digital Single Market Strategy** is to revise and expand the EIF.

Role of ISA²

In accordance to **the ISA² legal decision**, the ISA² programme is in charge of **contributing to** and **monitoring the implementation of the EIF** across the EU Member States

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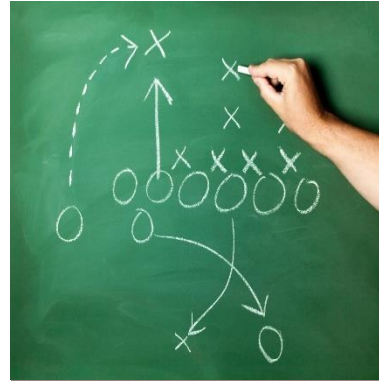# Overview of EIF Development, Structure and its Main Purpose

1

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Detailed recommendations that can be **directly applied**

2

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Focus on **openness**, data governance and **integrated public service delivery**

3

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Take into account **emerging technological trends**, such as open data and cloud computing.

4

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Follow EU policy development.

5

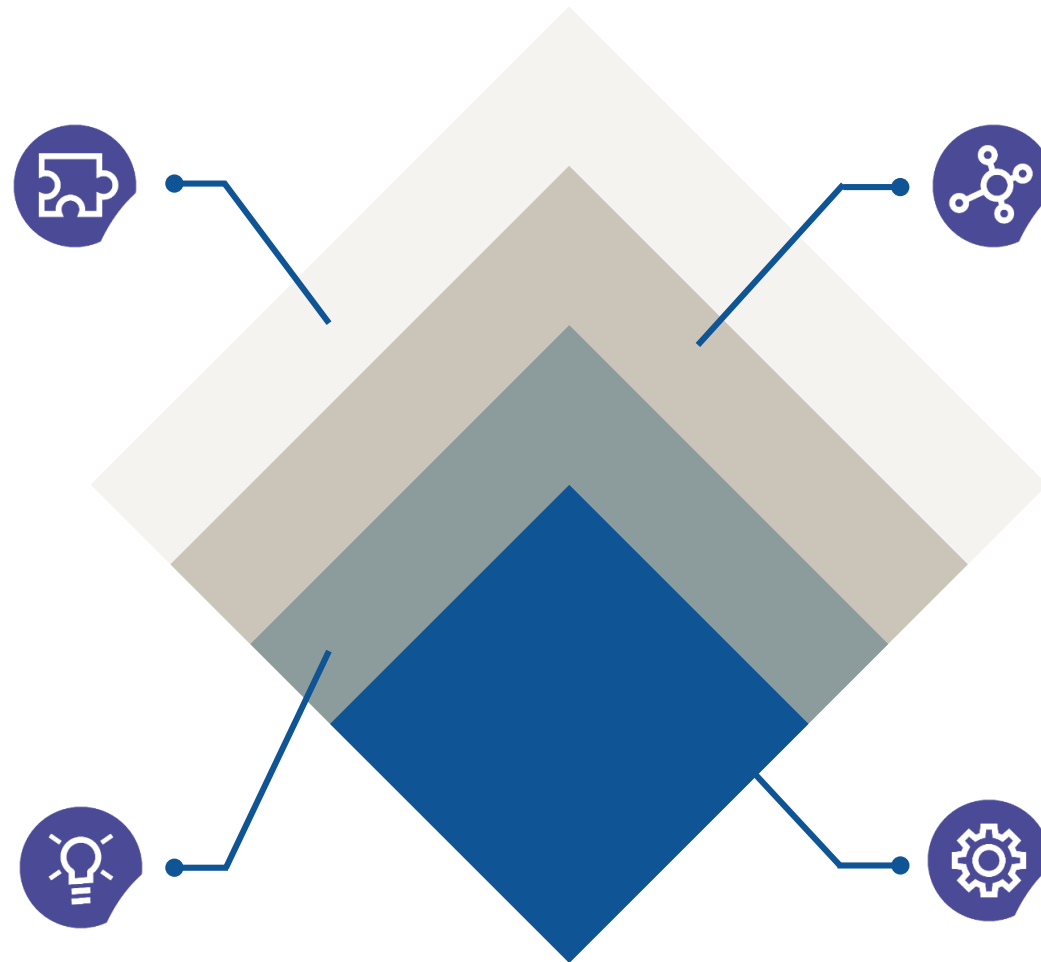___

Practical principles and models.

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Legal context

Other Policies, instruments or strategies

✓ Connecting Europe Facility
✓ Digital Agenda for Europe
✓ Europe 2020 Strategy
✓ Tallinn Declaration

Policies promoting the wider Digital Single Market

✓ GDPR (2016/679)
✓ Digital Single Market strategy
✓ Open Data communication (COM (2011) 882)

Policies promoting eGovernment

✓ EIDAS Regulation (EU) No 910/2014
✓ Public Sector Information (PSI) Directive (2013/37/EU)
✓ NIS Directive (2016/1148)
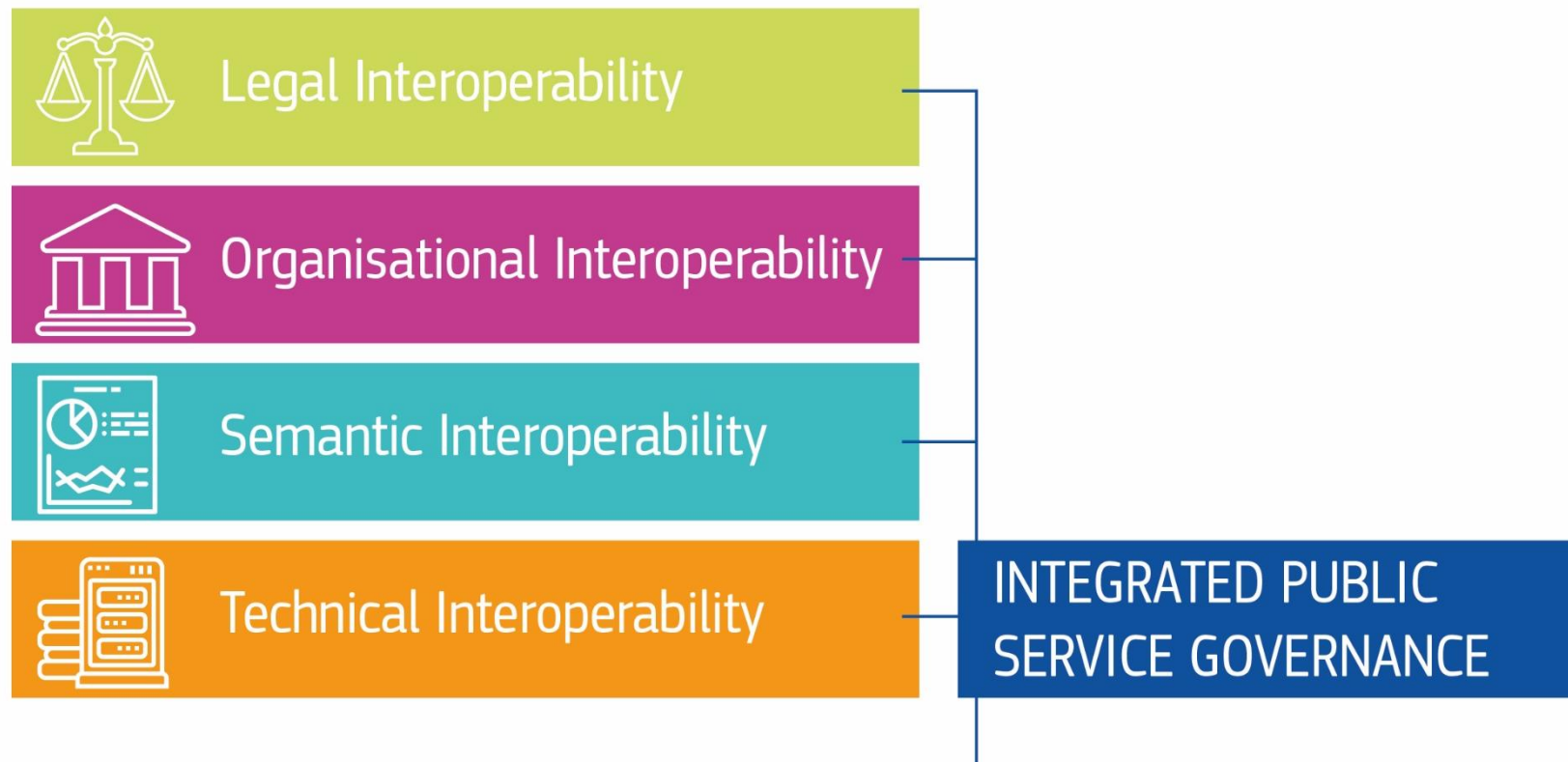✓ SDG Regulation (EU) No 2018/1724
✓ Open data Directive
✓ Cybersecurity Act

Policies promoting interoperability

✓ Decision (EU) 2015/2240 (ISA2)
✓ Decision (EU) 2009/922 (ISA)
✓ EIF Communication (COM(2017)134)
✓ Digital Europe Programme proposal for a Regulation

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Overview of EIF: The Interoperability Model for designing, implementing and delivering Public services

Interoperability Governance

Legal Interoperability

Organisational Interoperability

Semantic Interoperability

Technical Interoperability

INTEGRATED PUBLIC SERVICE GOVERNANCE

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Overview of EIF Development, Structure and its Main Purpose

4 layers of interoperability	The EIF identifies four layers of interoperability (legal, organisational, semantic and technical) at the same time pointing out the essential role of governance (background interoperability governance and integrated public service governance) to ensure coordination of relevant activities across all layers and all sectors of public administration.
12 underlying principles	The interoperability principles are fundamental aspects to drive interoperability actions. They establish the context for designing and implementing interoperable European public services.
47 recommendations	The recommendations are actionable propositions to be implemented by public administrations. The 47 recommendations are divided between principles (19), interoperability layers (14), conceptual model (14).
1 conceptual model	The EIF conceptual model for integrated public services sets out to promote "interoperability-by-design" as a standard approach for the design and operation of European public services. The model is modular and comprises service components interconnected through shared infrastructure.

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EIF layers

LEGAL INTEROPERABILITY

Definition

Legal interoperability ensures that **organisations operating under different legal frameworks are able to work together**. This might require that legislation does not block the establishment of European public services within and between Member States and that there are clear agreements about how to deal with legal differences.

Characteristics

1 Use a **Legislative catalogue** (EurLex at EU level)

2 Requires **multidisciplinary teams** through the legislative process life cycle to **facilitate the interoperability and reuse of building blocks.**

3 Requires the formulation of **legal interoperability agreements** between several organisations

Examples of use

1 Performing Interoperability checks, by screening existing adopted legislation to **identify interoperability barriers.**

2 Performing a digital check **on proposed legislation to ensure that it suits not only the physical but also the digital world.**

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EIF layers

ORGANISATIONAL INTEROPERABILITY

Definition

Organisational interoperability refers to the **alignment of business processes, responsibilities and expectations to achieve commonly agreed and mutually beneficial** goals. It entails documenting, integrating business processes and relevant information exchanged. It also aims to make services available, easily identifiable, accessible and user-focused.

Characteristics

1 Requires the **existence of a Public Service catalogue ensuring discoverability** and easy identification of the Public service

2 Requires **clearly defined relationships** between service providers and service consumers

3 Requires sound coordination of various organisations; defining **common SLAs for shared services**

Examples of use

1 **Signature of SLAs or MoUs** to ensure interoperability such as multilateral or global European agreements (e.g. OpenPEPPOL network).

2 **Documenting business processes** with accepted modelling techniques.

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EIF layers

SEMANTIC INTEROPERABILITY

Definition

Semantic interoperability ensures that the **precise format and meaning of exchanged data and information is preserved and understood throughout exchanges between parties**. In the EIF, semantic interoperability covers both semantic and syntactic aspects of the data being exchanged.

Characteristics

1 Representation and meaning of **exchanged** data elements is preserved and **understood among parties**.

2 Ontologies and Data Catalogues enabling **discovery and reuse.**

3 Data and Information are **valuable Public Assets**

Examples of use

1 Using approaches like data-driven design, coupled with linked data technologies.

2 Designing **information standards that facilitate a seamless communication of data**.

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EIF layers

TECHNICAL INTEROPERABILITY

Definition

Technical interoperability covers the infrastructures linking systems and services. These include **interface specifications, interconnection and data integration services**, data exchange and communication protocols. Historically, applications and information systems were developed in a bottom-up fashion, resulting in fragmented ICT islands which are difficult to interoperate.

Characteristics

1 **Use** services

2 **Reuse** components

3 Use **Open Standards**

Examples of use

1 Use of data representation and exchange, and secure communication protocols. e.g. CEF e-delivery uses AS4 open standard.

2 Use of **interconnection services, data integration services.** e.g. linked data techniques.

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EIF principles

Principles		Examples

Principles

Examples

I: Subsidiarity and proportionality
1 recommendation

1. Member States developing NIFs.

2. The provision of the EIF as a common denominator to which MS can align to.

II: Openness
3 recommendations

1. Use of open source software technologies and products.

2. Creation of an Open Data government portal.

III: Transparency
1 recommendation

1. Protecting personal data.

2. Ensuring visibility of interfaces used with internal information systems.

IV: Reusability
2 recommendations

1. Reusability of IT solutions (e.g. software components Application Programming Interfaces, standards such as CEF building blocks and Base Registers).

2. Using ISA² sharing and reuse framework for IT solutions.

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EIF principles

Principles

V: **Technological neutrality and data portability**
2 recommendations

VI: **User-centricity**
4 recommendations

VII: **Inclusion and accessibility**
1 recommendation

VIII: **Security and privacy**
1 recommendation

Examples

1 Providing for access and reuse of their public services and data irrespective of specific technologies or products.

2 Ensuring data portability - the ability to move and reuse data easily among different applications and systems.

1 Using a multi-channel delivery approach, ensuring the availability of physical and digital channels to access a service.

2 Requesting service users' feedback

1 Allowing third persons to access services on behalf of an incapacitated individual.

2 Complying with existing e-accessibility specifications widely recognised at European or international level.

1 Upholding GDPR in public service delivery.

2 Applying the Regulation on electronic identification and trust services.

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EIF principles

Principles

IX: Multilingualism
1 recommendation

X: Administrative simplification
1 recommendation

XI: Preservation of information
1 recommendation

XII: Assessment of Effectiveness and Efficiency
1 recommendation

Examples

1 — Ensuring that services are delivered in the language of their expected users.

2 — Taking into account of multilingualism at all levels of the design of public services.

1 — Ensuring digital-by-default services.

2 — Applying the digital-first principle.

1 — Digitising archives in an electronic format.

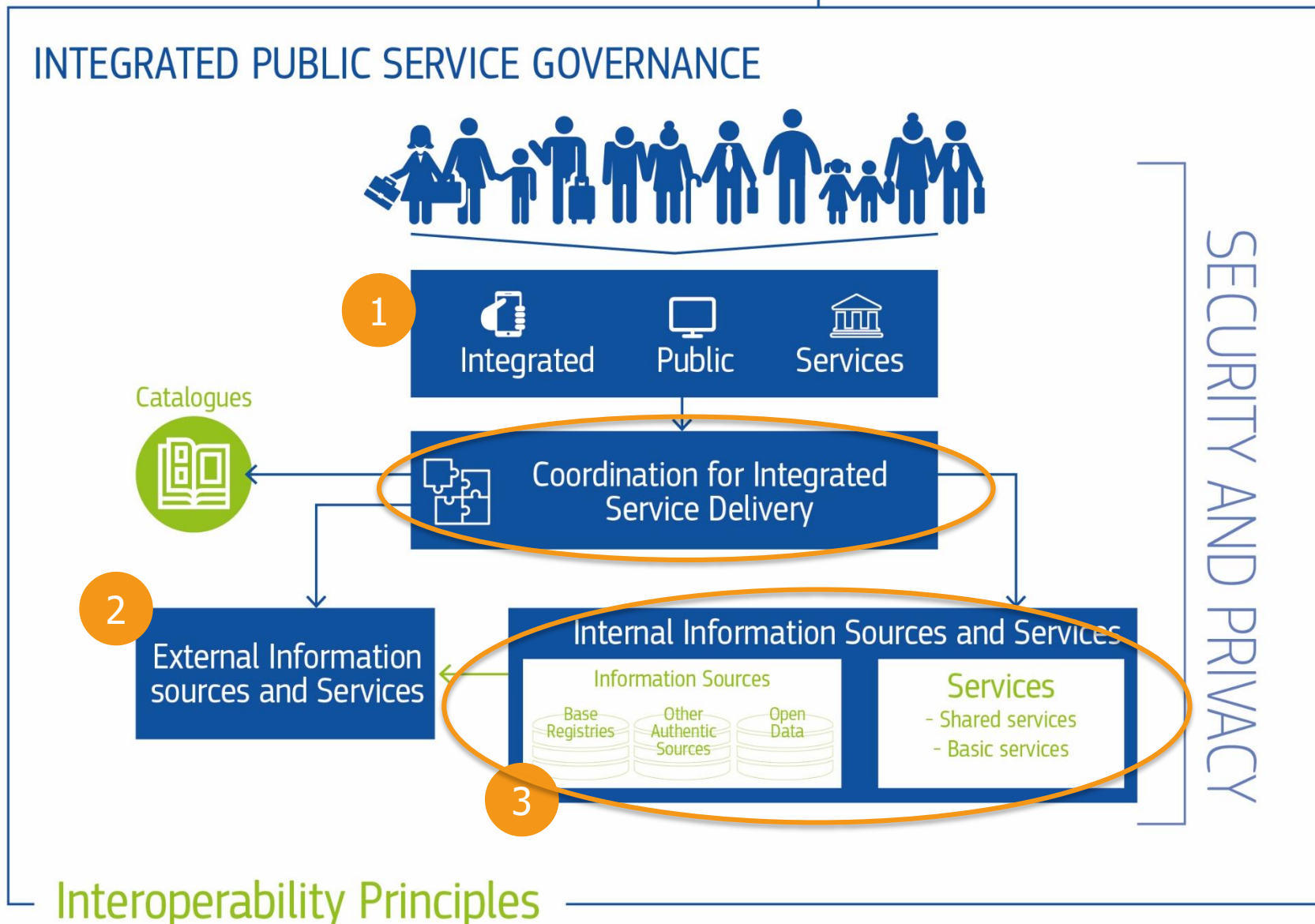2 — Ensuring long-term accessibility to documents and information held.

1 — Evaluate different technological solutions according to many metrics such as user satisfaction and cost.

2 — Conduct impact assessments.

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EIF conceptual model

EIF conceptual model

1 Integrated Public Services: To achieve public services integration at EU level, **compatible models, standards and common infrastructure** need to be agreed. To this end, the EIF Integrated Public Service Model in Annex 2 of the EIF should be applied to ensure the delivery of integrated public services.

2 External Information sources and services: Public administrations need to leverage services delivered outside of their organisations by third parties. They need also to be able to exploit external information sources, **such as open data**. Additional Data can be collected through the development of new technologies such as IoT. An example of an external source of information would be an Open Data Portal.

3 Internal Information sources and services: Information sources and services are sometimes available for use only inside the administrative system and not in the external environment. These information sources, **such as base registries**, are often unknown outside the boundaries of a particular administration. This can result in a duplication of effort and a under-exploitation of available resources and solutions. An example of internal source of information would be a base registry.

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A use case in ISAlandia

1

NEW BORN REGISTRATION

Public service consumer

Integrated public service delivery (common infrastructure)
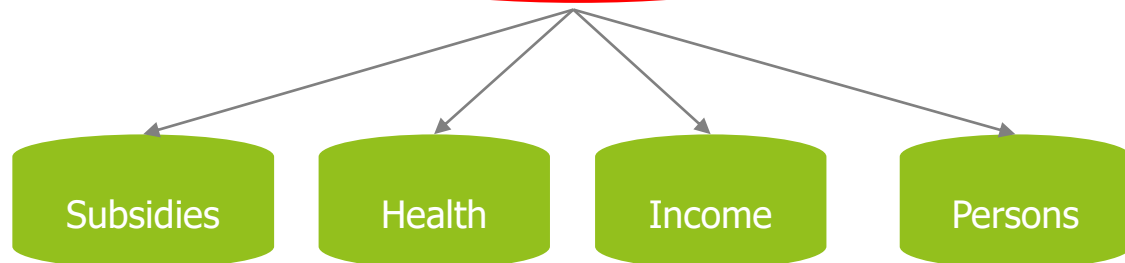
COORDINATION

Social Security

Hospital

Tax Agency

Population Registry

ORCHESTRATION

e.g. eID, eSignature, eDelivery, Semantic Interoperability, OOP

Subsidies

Health

Income

Persons

Security/ data protection

Reuse data/ Reuse solutions

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A use case in ISAlandia

NEW BORN REGISTRATION

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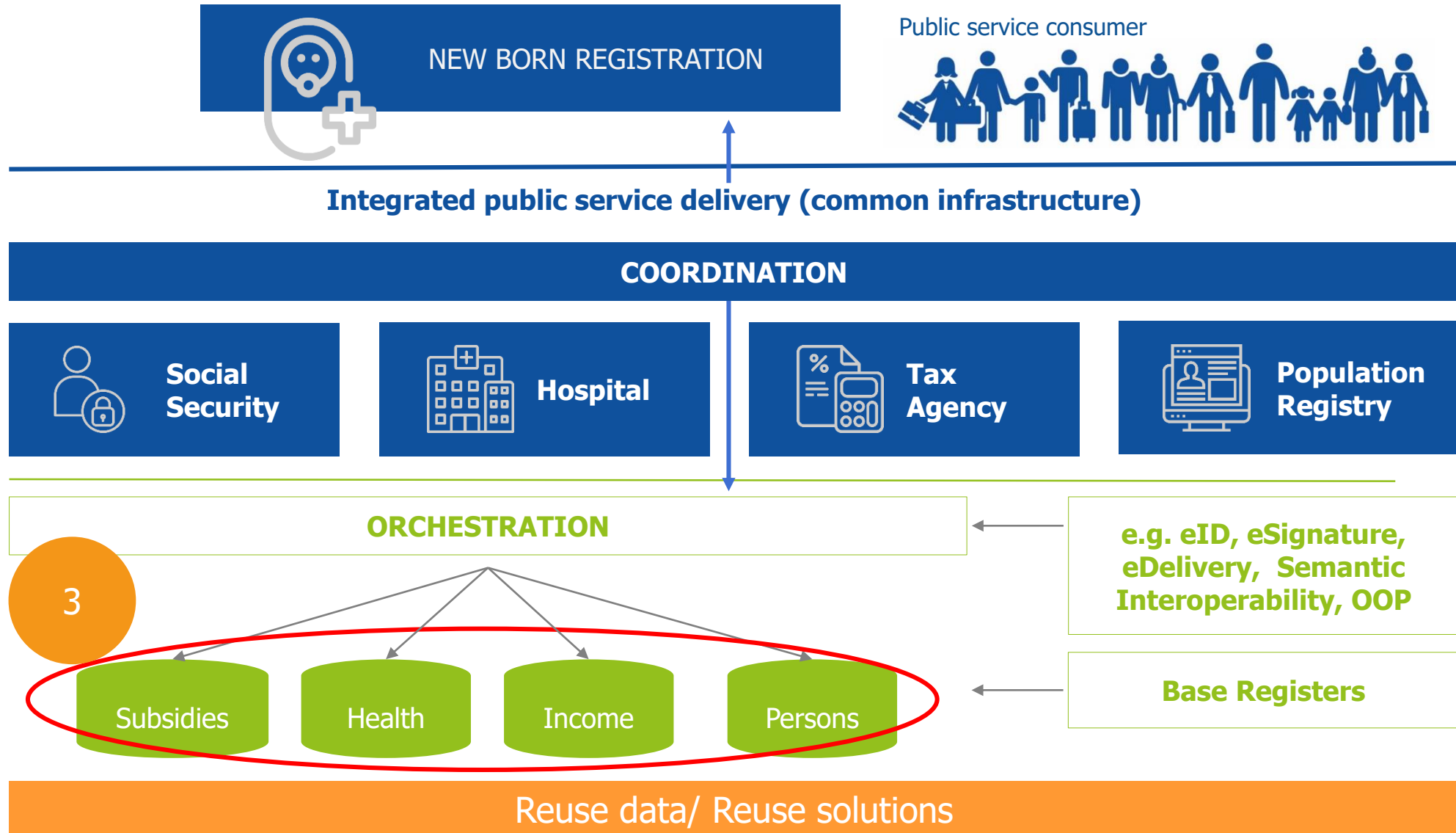
NIFO

The **National Interoperability Framework Observatory** (or NIFO) monitors the latest eGovernment initiatives implemented across Europe and allows Member States to find Interoperability best practices.

The NIFO collections also include studies on the state of eGovernment in Europe, such as the **Digital Government factsheets**, **EU Semester study series** and comprehensive **Interoperability Case Studies**.

NIFO is also a living community, where its members can interact and share knowledge, as well as contacting their country's **NIF and eGovernment representatives**.

NIFO Digital factsheets: Purpose and scope

The Digital Government factsheets aim to be a respected and authoritative source of information on the state of play of digital government in Europe

Digital
Government
Factsheet 2019

Czech Republic

These factsheets are updated in collaboration with **national contact points**, European Commission experts, as well as desk research, on a **yearly basis**.

They provide policy-makers and digital government practitioners with an overview on the **most recent digital government developments** in:

- EU Member States;
- EFTA countries;
- Turkey;
- Republic of North Macedonia;
- Ukraine;
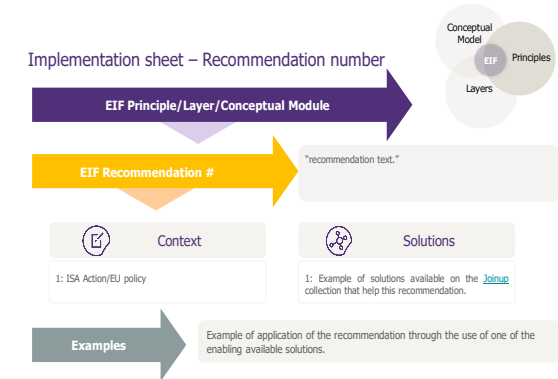- Montenegro.

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Other NIFO solutions
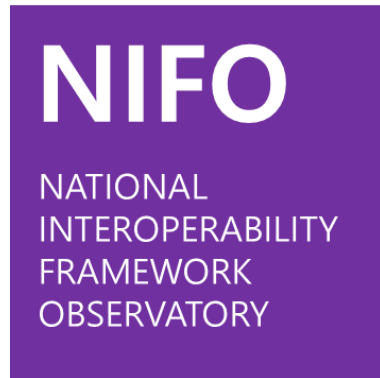
Online community

Online community facilitating the **sharing** of interoperability and eGovernment **best practices**

EIF Training Modules

Interactive training modules on the EIF for Public Administrations

EIF Toolbox

Toolbox highlighting all the implementation needs of the EIF's 47 recommendations

EIF Toolbox

The objective of the EIF Toolbox is to identify Member State-focused **operational solutions, guiding documents and informational packages** targeting public administration officials working on IOP at all levels of administration.

Our vision is to make the Toolbox into **a living catalogue of solutions and best practices** that can assist national public administrations in implementing the **European Interoperability Framework (EIF).**

Currently, the Toolbox maps ISA² solutions and CEF buildings blocks to the **47 EIF recommendations.**

The final visualisation of the EIF Toolbox takes inspiration from the **OECD Digital Government Toolkit**, as to allow Member States to easily find resources based on their needs.

New **European Interoperability Framework**

Promoting seamless services and data flows for European public administrations

OECD
BETTER POLICIES FOR BETTER LIVES

OECD DIGITAL GOVERNMENT TOOLKIT

| HOME | 12 PRINCIPLES | GOOD PRACTICES | SELF-ASSESSMENT | INDICATORS |

The following 12 principles support the development and implementation of digital government strategies that bring governments closer to citizens and businesses.

1 Openness, transparency and inclusiveness	2 Engagement and participation in policymaking and policy making and service delivery	3 Creation of a data-driven culture in the public sector	4 Protecting privacy and ensuring security
5 Leadership and political commitment	6 Coherent use of digital technology across policy areas	7 Effective organisation and governance frameworks to coordinate	8 Strengthen international cooperation with governments
9 Development of clear business cases	10 Reinforce ICT project management capabilities	11 Procurement of digital technologies	12 Legal and regulatory framework

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EIF monitoring: the strategic view

Mission

Article 1.2 of the ISA² Decision states **"the Commission, through the ISA² programme, shall monitor the implementation of the EIF".**

Goal

Provide each Member State with its **level of implementation** of the EIF based on a recommendation by recommendation measurement (COM(2017) 134 final).

Approach

Using a series of **KPIs** to measure primary and secondary indicators for all 47 EIF recommendations, the Monitoring Mechanism will determine the level of EIF implementation for each country as part of an annual data collection exercise.

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SUPPORTING SOLUTIONS
monitoring mechanism: Inputs &Benefits

INPUT

Primary indicators
A survey of national contact points will be conducted to obtain responses needed to measure primary indicators.

Secondary indicators
Secondary research will use existing data sources, such as the eGovernment benchmark, DESI, Open Data Portal and eGovernment Benchmark Report).

INPUT

Member States gain intelligence on which operation areas they can improve in.

Member States obtain granular information on their level of EIF implementation.

Simplified evaluation process through existing indicators.

Useful input for ISA² programme mid-term & final evaluations.

Identification of synergies across EC facilitating interoperability.

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monitoring mechanism: Key features

ENSURING ANNUAL UPDATES

LEVERAGING EXISTING INDICATORS AND DATA SOURCES

COMBINING PRIMARY AND SECONDARY DATA

Almost all the indicators are measured on an annual basis to provide up-to-date data.
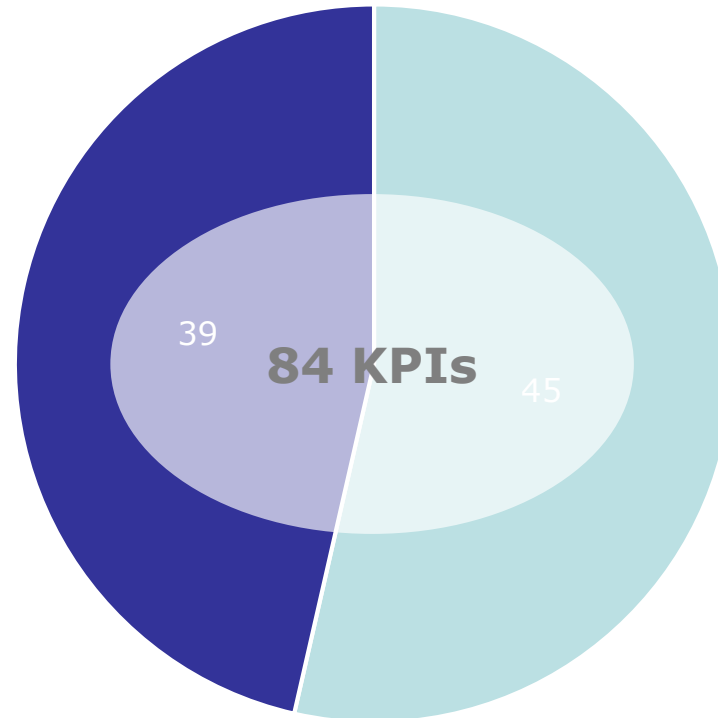
CEF - Digital monitoring dashboard; DESI Indicators; EU eGovernment Benchmark Report; European Open Data portal; Eurostat; Single Digital Gateway; Trusted List Browser.

45 indicators coming from existing secondary data sources, while 39 are coming from the survey addressed to the NIFO contact points.

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Deep dive: monitoring EIF implementation

Primary data

Data collected by the survey questionnaire

84 KPIs

39

45

Secondary data

➢ European Open Data portal

➢ Joinup - European collaborative platform and catalogue (2016.20)

➢ Eurostat - Table E-government activities of individuals via websites

➢ DESI Indicators

➢ EU eGovernment Benchmark Report 2018

➢ Access to base registers (2016.28)
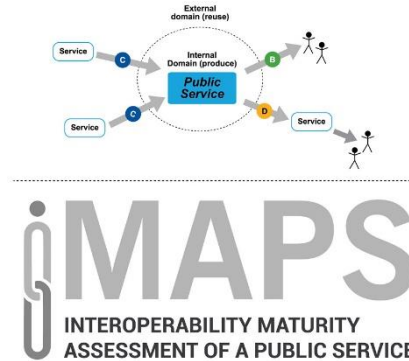
➢ CEF - Digital monitoring dashboard

➢ Trusted List Browser

Minimise burden on Member States, rely as much as possible on **secondary data**

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Other highly relevant solutions
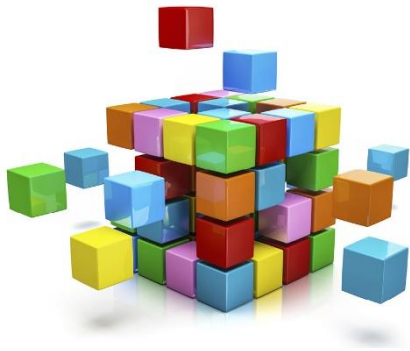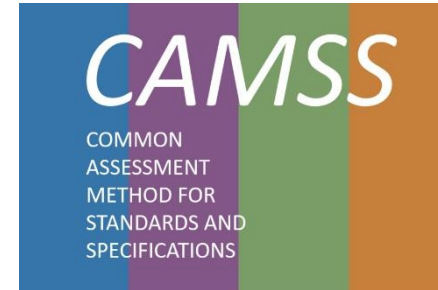

EIRA and CarTool

Defines the most salient architectural building blocks (ABBs) needed to build interoperable e-Government systems.

Provides a highly user-friendly self-assessment tool of the interoperability maturity of your Public Service.

Assessment methodology and catalogue of assessed standards and specifications

Test Bed

Test platform for testing how interoperable your solutions are

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EIF: The way forward ?

1

LEGAL SIDE:

- More legally binding instrument?
- Setting clear goals and objectives on interoperability?
- Aligned and applied to emerging technologies (AI…)
- Broadening the scope to cross-border services?

2

ORGANISATIONAL SIDE:

- Deeping down on specific aspects: (SLAs…)
- Addressing more concrete governance structures (Regulatory, Coordinated, voluntary)
- Tailored to cross-border governance structures

3

SEMANTIC AND TECHNICAL SIDE:

- Addressing specific standards, open specifications
- Linked to standard repositories or multi-stakeholders' platforms (like the one for procurement) assessed by CAMSS

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EIF: The way forward – a summary of your input

1   LEGAL LAYER:

2   ORGANISATIONAL LAYER:

3   SEMANTIC AND TECHNICAL LAYER:

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QUESTION & ANSWERS