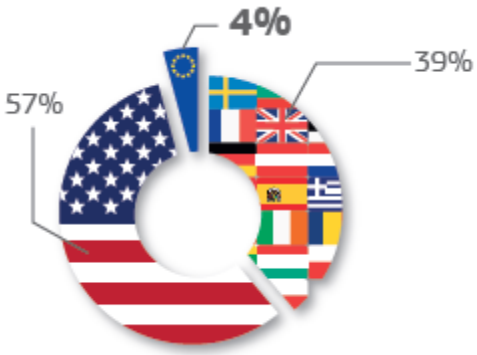
“The Digital Single Market and the Revision of the European Interoperability Framework (EIF)"

EUROPEAN COMMISSION

Directorate General for Informatics – DIGIT.B.6

Digital Single Market - DSM



The Digital Market today is made of

national online services (39%)

and **US-based** online services (57%)

EU cross-border online services represent only 4%

DSM: Three priority areas

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Interoperability

3 Creating an European Digital Economy and society with growth potential

Big data and cloud

Digital data stored in cloud:
2013: 20% - 2020: 40%

The use of big data by the top 100 EU manufacturers could lead to **savings worth €425 billion**

1 Better access for consumers and businesses to digital goods and services across Europe

Unlocking e-commerce potential

15% of consumers bought online from other EU countries in 2014 while **44%** did so **domestically**

2 Shaping the right environment for digital networks and services to flourish

Strong European data protection rules to boost the digital economy

72% of Internet users in Europe still worry that they are being asked for too much **personal data online**

DSM Roadmap

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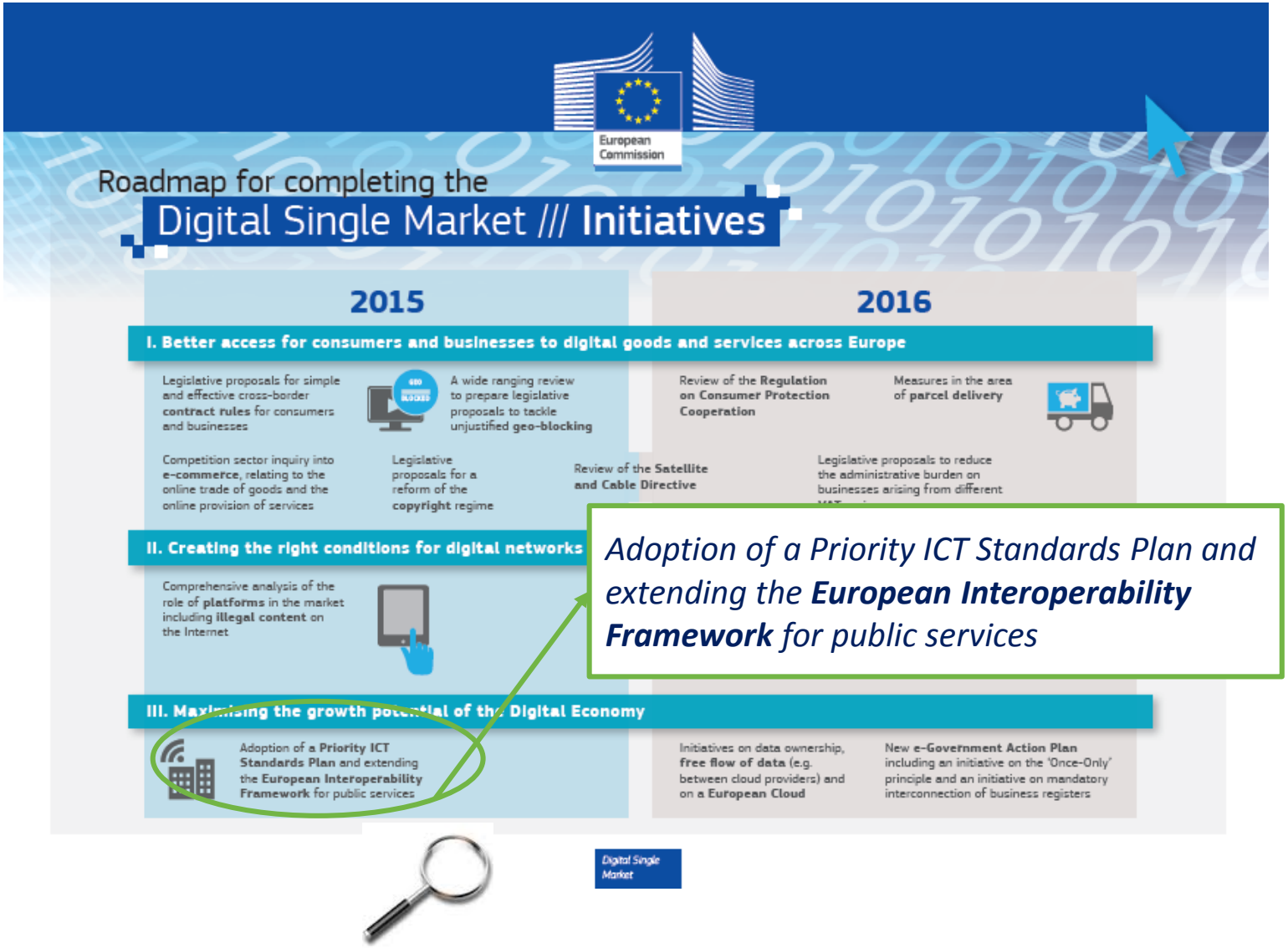

*Adoption of a Priority ICT Standards Plan and extending the **European Interoperability Framework** for public services*

Background

EC COM(2010) 744 'Towards interoperability for European public services‘:

- a strategy (European Interoperability Strategy - EIS) and
- a framework (European Interoperability Framework - EIF)

for promoting interoperability in order to provide efficient and effective cross-border eGovernment services.

Member states had to align their National Interoperability Frameworks with the EIF. Since then, the alignment of the national frameworks is monitored by the ISA Programme with the National Interoperability Framework Observatory (NIFO).

State of Play of Interoperability in EU

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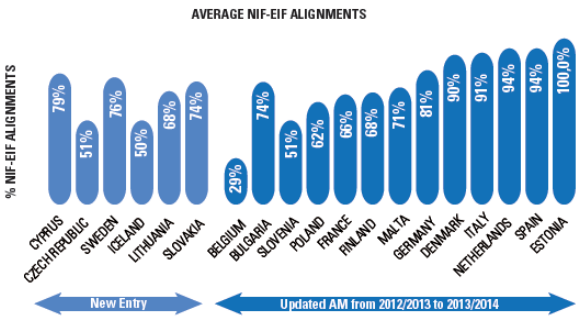
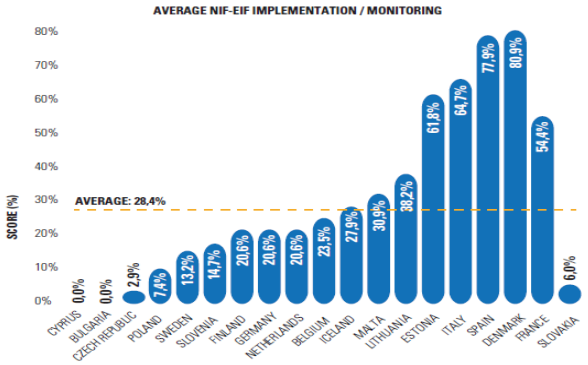
European Interoperability Framework

Well accepted as a framework by the MS



There is an overall very good NIF-EIF alignment across countries for 2014

Still some way to go to have it implemented



The overall average of NIF Implementation and Monitoring for 2014 is significantly minor than the overall average of NIF-EIF Alignment (72%)

Need for revision

Today, there is a need to extend and update this communication. This needs stems from:

1. Results from NIFO, identifying areas of possible improvements and challenges.
2. Results from sectoral interoperability initiatives like the Service Directive (2006/123/EC) and the INSPIRE Directive (2007/2/EC).
3. Results from the ISA Programme which run successfully for the period 2010-2015, e.g. the European Interoperability Reference Architecture - EIRA.
4. New technological trends bringing also new challenges and opportunities, e.g. big data, cloud.
5. New policies which introduce new interoperability challenges and opportunities, e.g. the revised PSI Directive and the policies on open data, the Regulation on European Standardisation (1025/2012) and the new Digital Single Market strategy COM(2015) 192.

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EIF Revision process – state of the art

Presentation of the main changes

- Introduction
- Definitions
- Revised principles
- New Conceptual Model
- New model for the Interoperability layers

How ?

Working with experts from academia

Consensus-building **process** with:

- ✓ The Member States
- ✓ The concerned Commission Services
- ✓ The other European Institutions

Providing opportunities to External stakeholders to comment

- ✓ Standardisation bodies
- ✓ Industry representatives
- ✓ Academia

Public consultation January to March 2016

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Meetings with Member States:

- 1st Webinar (held on 10/09)
- 2nd Webinar (held on 7/10)
- 3rd Webinar (held on 13/11)

Meetings with DGs:

- 1st Working Group meeting (held on 15/09)
- 2nd Working Group meeting (held on 22/10)

Next Meetings

- 3rd Working Group meeting with DGs foreseen on 1 December 2015
- ISA Committee meeting foreseen on 15 December 2015

Agenda

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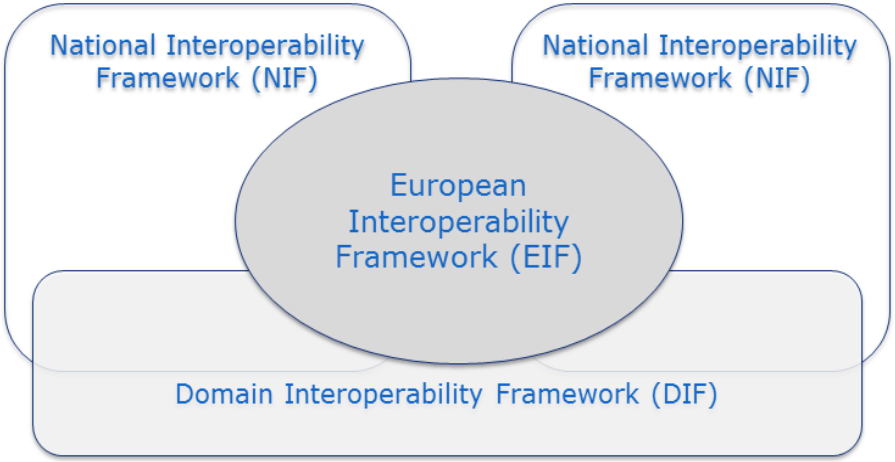
Readership and Usage

EIF provides a common core of interoperability recommendations to all European NIFs and DIFs (Domain Interoperability Framework). It guarantees that NIFs and DIFs are developed in a coordinated and aligned fashion, while providing the necessary flexibility to address specific requirements coming from national or domain specific requirements.



Target

The EIF is **primarily to be used by** those **who develop or maintain national interoperability framework (NIFs), interoperability strategies** as well as **domain specific frameworks.**

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Definitions

Old Definition

"a cross-border public sector service supplied by public administrations, either to one another or to European businesses and citizens"

New Definition

"any service supplied by public administrations in Europe to businesses, citizens or others public administrations"

Main Changes

The term assumes a broader meaning:

- All services supplied by public administrations in Europe are now involved (cross-border by default)
- PAs, Citizens and Businesses have been confirmed as final users of European Public Services

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Base Registries

New Definition

“being a trusted and authentic source of information which should be digitally reused by others and in which one organization is responsible and accountable for the collection, usage, updating and preservation of information"

- Clues about Data Quality and Privacy Issues are provided:

"*Access to base registries should be regulated to ensure that privacy and other regulations are not violated. Access control should therefore ensure that appropriate measures have been taken so that only parties that have a necessity, finality & authorization have access to the information*".

Definitions

New

Core Vocabulary

New Definition

“simplified, re-usable and extensible data models that capture the fundamental characteristics of a data entity in a context-neutral fashion"

Reasons of the importance of this definition:

"A set of commonly agreed Core Vocabularies supported by the European Member States provides a concrete starting point for promoting semantic interoperability among European public administrations."

Definitions

New

Master Data

New Definition

"the description of the core data assets and their relationship that are necessary for providing European public service provisioning."

New

Master Data Management

New Definition

"it comprises the governance and a capability aimed at ensuring the uniformity, quality, stewardship and semantic consistency. It defines accountability of master data".

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Revised Principles
Structure Changes

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New Structure

The **(now) eleven** underlying principles of the EIF can be divided into four categories:

"It is necessary to group principles"

First Principle	First Section	Second Section	Third Section
1. Subsidiarity and proportionality	2. Reusability 3. Technological neutrality and adaptability 4. Openness and Transparency	5. User-centricity 6. Inclusion and accessibility 7. Security and privacy 8. Multilingualism	9. Administrative simplification 10. Preservation information 11. Effectiveness and Efficiency
"need to maintain the subsidiarity principle"			
It sets the context for EU action on European public services.	Core interoperability principles.	Generic user needs and expectations.	Foundation for cooperation among public administrations

Some Changes:

1. **Reusability, Technological Neutrality, Openness & Transparency** have been moved to the top of the section since they are core Principles in terms of Interoperability.
2. **Openness and Transparency** have been joined in one Principle.

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New Conceptual Model
Key concepts

- ***Integrated service delivery***. The model emphasizes the development of capabilities for orchestrating the services and data needed to provide Integrated European public services.

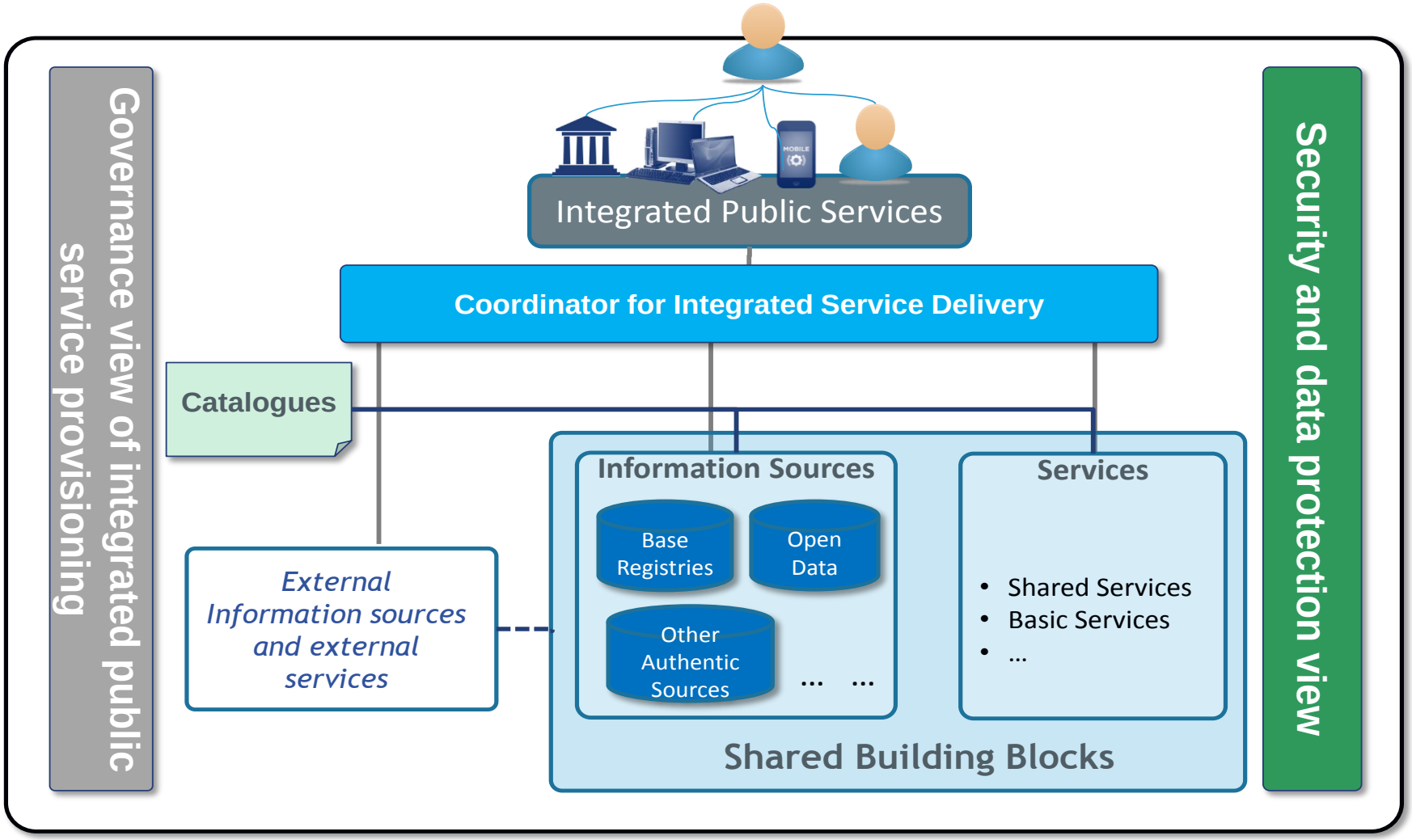
- The model allows multi-channel access and emphasizes a ***no wrong door policy***.

- ***Reuse of services***. Instead of duplication of efforts and developing similar service over and over again, the model emphases the reuse of existing services. The model treats public services as valuable assets that need to be governed.

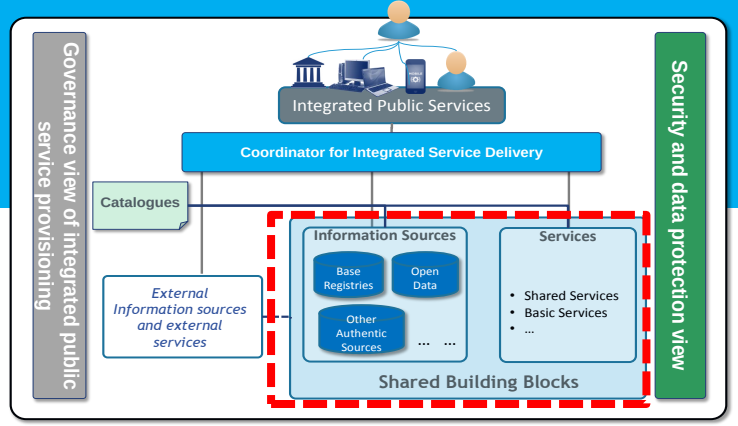
- ***Reuse of data***. Data is everywhere and has various quality levels. The model emphases the reuse of high-quality data as stored in the Base Registries and other data.

- ***Functionality for enabling reuse***. The model shows the capabilities needed to facilitate reuse of data and services. This requires a catalogue of services, data and other registries which allows to discover appropriate services and data and to connect to registries of other MSs.

New Conceptual Model



New Conceptual Model
Shared building blocks



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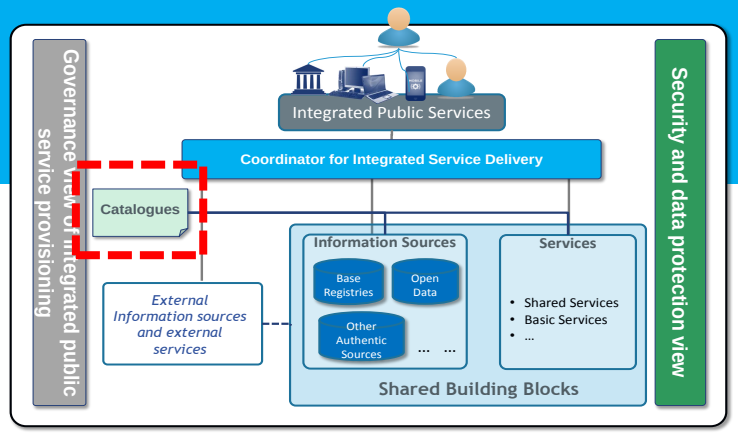
Shared building blocks cover:

- **information sources** (base registries, open data portals, other authentic sources of information)
- **services** such as shared services and basic services that can be used for creating integrated public services.

- **Base registries** are based on the principles of **information stewardship**.
- **Base registries** should define and implement a **data quality assurance** in order to ensure the quality of the data managed by the base registry.

Recommendation 17. *Base registries should be accompanied by a description of its content, service assurance and responsibilities, conditions of access, terminology and a glossary. Each base registry should expose its content and description, responsibilities, type of master data it keeps, how it makes its data available to others and the service levels it offers as well as which master data it consumes from other Base Registries (if any).*

New Conceptual Model
Catalogues



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Catalogues **objectives** are:

- To give an **overview of public services that can be used** for creating an integrated service for users.
- To give an **overview of available internal and external services for reuse** by other public administrations and those available to citizens and businesses.
- To give an **overview of available internal and external information sources** (including base registries) for reuse by other public administrations and those available to citizens and businesses.

Recommendation 21. *Public administrations should use a common model for describing public services and these descriptions should be made available in a public catalogue.*

Recommendation 22. *Public administrations should establish procedures and processes to integrate the opening of data in their common business processes and working routines, and also when developing systems.*

Recommendation 23. *Open data should be accompanied by high quality, machine-readable meta-data including a description of its content, the way data is collected and its quality.*

Reasons for Recommendation 22:

"*The open data should adhere to the generic interoperability principles and account for the interoperability model including all interoperability layers.*"

Reasons for Recommendation 23:

"*Some open data cannot be used because there is a lack of description or it might simply not have the right quality. Due to a lack of description of the data set, users have to guess about the meaning of the content, when it was collected, during which period and under which circumstances.*"

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Interoperability layers: the new proposed model

INTEROPERABILITY GOVERNANCE

Overcoming differences in legislation, policy and strategy	LEGAL INTEROPERABILITY
Coordinating business processes, responsibilities and expectations of different organisations to achieve a common agreed on and mutually beneficial goal.	ORGANISATIONAL INTEROPERABILITY
Format, quality and meaning of exchanged information are understood by all parties.	INFORMATION INTEROPERABILITY
Planning of technical Issues involved in linking computer systems and services.	TECHNICAL INTEROPERABILITY

PUBLIC SERVICE GOVERNANCE

Interoperability layers
Interoperability Governance

*The **Interoperability Governance** perspective defines interoperability frameworks, institutional arrangements, organisational structure, roles and responsibilities, policies, recommendations and other aspects necessary for ensuring and monitoring interoperability at EU and national level.*

Recommendation 25. *Member States should establish a national interoperability framework for the governance of their interoperability activities across administrative levels.*

Recommendation 26. *Public administrations should align their interoperability frameworks with the European Interoperability Framework.*

Recommendation 27. *Member States should establish specific organisational structures (boards, committees, etc.) for the regular governance and monitoring of their interoperability activities across administrative levels.*

Interoperability layers
Main Changes

Overcoming differences in legislation, policy and strategy

LEGAL INTEROPERABILITY

Legal Interoperability does not cross-cut other layers but it has an horizontal dimension in order to avoid misunderstandings.

Format, quality and meaning of exchanged information are understood by all parties.

INFORMATION INTEROPERABILITY

Semantic Interoperability layer has been renamed into **Information Interoperability layer** in order to avoid misunderstandings.

"Robust, coherent and universally applicable information standards and specifications are needed to enable meaningful information exchange amongst European public organisations"

Recommendation 40. *Public administrations should perceive data and information as a public asset which should be appropriately generated/collected, managed, shared, protected and preserved.*

Recommendation 41. *Public administrations should put in place an information management strategy at the higher possible level to avoid fragmentation. Metadata, master data and reference data management should be prioritised.*

Recommendation 42. *Public administrations should support the establishment of sector-specific and cross-sectoral communities that aim to create information standards or specifications and should encourage the communities to share their results on national and European platforms.*

Recommendation 28. *Public administrations should ensure that interoperability is ensured over time when operating and delivering a given European public service.*

The Public service governance includes the following:

- **organisational structures and roles & responsibilities** inside public administrations for the delivery and operation of a given European public service. This includes the arrangement of responsibilities for who can answer questions in case of failure, clear responsibilities about the operation of building block, etc.
- **interoperability agreements** to facilitate cooperation at the different interoperability layers among public administrations, in order to provide a given European public service, building block, etc.
- **IT processes for the service management** (e.g. change management).

- **Interoperability agreements are part of the public service governance** which is needed for the delivery and operation of a given European public service.
- Organisations involved should formalise **cooperation arrangements** through interoperability agreements.

Legal layer: *"Interoperability agreements are rendered specific and binding via legislation, including European directives and their transposition into national legislation, or bilateral and multilateral agreements, which are outside the scope of the EIF."*

Organisational layer: *"Interoperability agreements can, for example, take the form of Memoranda of Understandings (MoUs) or Service Level Agreements (SLAs) that specify the obligations of each party participating in the involved cross-border business processes."*

Information and Technical layers: *"Interoperability agreements take the form of standards and common specifications.* ***Standards and specifications should be appropriately managed throughout their lifecycle****"*

Interoperability Agreements
New Recommendations

Recommendation 29. *Public administrations should base interoperability agreements at the technical and, if appropriate, at the information layer on existing standards and specifications.*

New

Recommendation 30. *Public administrations, should manage the entire life-cycle of the standards and specifications they use by identifying relevant standards, assessing them, managing their implementation and checking compliance.*

New

Recommendation 32. *Public administrations should publish in a structured catalogue the standards and specifications to be used for the development of systems and applications.*

New

EIF Revision process
Next steps