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- Please mute your microphone before the webinar starts.
- To chat with other participants and submit questions, please use the Chat function to the left of your screen.

{EIF Implementation}

Presentation of results and knowledge sharing

22 April 2020

Participants:

European Commission:
• Brooke Tapsall;
• Cécile Guasch;
• Isa von Kalben
• Jean-Paul De Baets;
• Miguel Alvarez Rodriguez (presenter); and
• Natalia Aristimuño Pérez (presenter).

Wavestone:
• Débora Di Giacomo;
• Federico Chiarelli (presenter);
• Sara Talpo;
• Solène Vossot (presenter); and
• Vivien Devenyi.

Trasys:
• Anastasia Sofou (presenter)
• Edouard Dumonceau;
• Konstantina Kyriakopoulou; and
• Stelios Raptakis.

Participants:
• Albane Sautory; France
• Alena Klimova; Czech Republic
• Alena Klimova; Czech Republic
• Ana Jovicic; Croatia
• Ana Rosa; Spain
• Antoine Cao; France
• Arunas Cijunaitis; Lithuania
• Dominik Klauser; Austria
• Elna Munoz; Spain
• Eric Brouwer; the Netherlands (presenter)
• Fabien Daspet; France
• Florou Maria;
• Frank Leyman; Belgium
• Frederik Pagh Nielsen; Denmark
• Gérard Soisson; Luxembourg
• Géraud Canet; France
• Hans Arents; Belgium
• Helle Stedoy;
• Irena Ažman; Slovenia
• Karmen Kern Pipan; Slovenia.
• Krystina Michalik; Poland
• Loic Lejoly; Belgium
• Marine Boudeau; France
• Mark Bartolo; Malta
• Marta Cruz;
• Massimo Pedroli; Italy
• Michal Ohrablo; Slovakia
• Michèle Thonnet; France
• Miguel A. Amutio; Spain (presenter)
• Mihaly Dan; Hungary
• Miso Vukadinovic;
• Nicholas Chronopoulos; Greece
• Nikola Modrusan; Croatia
• Patrick Amarelis; France
• Peter Kustor; Austria
• Priit Kretizberg; Estonia
• Ragnar Brevik; Norway
• Raymond Boguslawski;
• Rita Laranjeira; Portugal
• Riza Yildirim; Turkey
• Robert Van Wessel; the Netherlands
• Sonja Lutovac; Montenegro
• Sylvan Fux; Liechtenstein
• Tadej G;
• Tomas Sedivec; Czech Republic
• Trond os Haare; Norway (presenter)
Agenda of the meeting

**Part I – EIF Monitoring Mechanism: Results and Feedback**
10:00 – 10:30  Presentation of the EIF Monitoring Mechanism and its preliminary results
10:30 – 11:00  Collection of your feedback on the data collection of the EIF Monitoring Mechanism

**Part II – EIF Implementation: Knowledge sharing**
11:00 – 12:00  Knowledge sharing on best practices and challenges on the EIF Implementation

**Part III – Information session for the NIFO Community**
12:00 – 12:30  Information session on the new tools available to the NIFO Community
Today’s speakers

Natalia Aristimuño Pérez
Head of Interoperability Unit, DG Informatics, European Commission

Miguel Alvarez Rodríguez
NIFO Project Manager, ISA² Programme, European Commission

Federico Chiarelli
Consultant, Wavestone

Solène Vossot
Consultant, Wavestone
Part I - EIF Monitoring Mechanism: Results and Feedback

- Presentation of EIF implementation preliminary results
- Collection of feedback on the monitoring exercise
Introduction to EIF Monitoring Mechanism

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.
## Inputs & Benefits

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<th>Input</th>
<th>EIF Monitoring Mechanism</th>
<th>Benefits</th>
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| **Primary indicators**  
A survey of national contact points will be conducted to obtain responses needed to measure primary indicators. | | Member States **gain intelligence** on which operation areas they can improve in. |
| **Secondary indicators**  
Secondary research will use existing data sources, such as the Open Data Portal, DESI, and eGovernment Benchmark Report, Eurostat, etc. | | 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.
Presentation of EIF implementation preliminary results

Key features of the Monitoring Mechanism

Ensuring annual updates
Indicators are measured on an annual basis to provide up-to-date data.

Combining primary and secondary data
27 indicators coming from existing secondary data sources, while 41 are coming from the survey addressed to the NIFO contact points.

Leveraging existing indicators and data sources
CEF - Digital monitoring dashboard; DESI Indicators; EU eGovernment Benchmark Report; European Open Data portal; Eurostat; Trusted List Browser.

Minimisation of burden on Member States, by relying as much as possible on secondary data.
Introduction to the EIF Scoreboards

**Principles**

- The interoperability principles are fundamental behavioural aspects to drive interoperability actions.
- They describe the context in which European public services are designed and implemented.

**Layers**

- There are 4 layers of interoperability: legal, organisational, semantic and technical.
- A cross-cutting component of the four layers includes a ‘integrated public service governance’.

**Conceptual model**

- The conceptual model is modular and comprises loosely coupled service interconnected components.
- Guides the planning, development, operation and maintenance of public services by Member States.

19 recommendations

14 recommendations

14 recommendations
## The EIF Scoreboards

### Interoperability Principles

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### Interoperability Layers

- General
- Technical Interoperability
- Semantic Interoperability
- Organisational Interoperability
- Local Interoperability
- Interoperability Governance
- Internal information
- External information

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Q: What does the figure mean in the scoreboard?
A: They represent the performances of the Member States across the different levels of the Scoreboards. In this particular case, figure represents the performances of the Member States in relation to the second principle of interoperability, Principle 2 – Openness.
Interoperability Principles – Recommendation 2

Legend
- Higher performance
- Upper middle performance
- Middle lower performance
- Lower performance
- No data
- Out of scope

Recommendation 2: Publish the data you own as open data unless certain restrictions apply.
Interoperability Principles – KPI 2

Legend
- Higher performance
- Upper middle performance
- Middle lower performance
- Lower performance
- No data
- Out of scope

KPI 2: Level of Open Data Maturity within a country
Q: Why is there no data from France?
A: The appointed point of contact from France was not able to complete the questionnaire due to internal problems.
Q: Wouldn’t be better to collect information through field observations instead of declarations?
A: One of the main effort in developing the EIF Monitoring Mechanism was to reduce the burden for Member States due to the high number of KPIs involved. Field observations would require to provide “proof” of each data provided and therefore, the effort requested to the Member States would be much higher.
Q: Are the scores on the charts relative between countries or absolute compared with the maximum possible?
A: They are absolute compared with the maximum possible. The maximum is set according to the requirements of the EIF.
Part I - EIF Monitoring Mechanism: Results and Feedback

- Presentation of the preliminary results
- Collection of feedback on the monitoring exercise
Satisfaction survey

Collection of feedback on the monitoring exercise

Please go on www.beekast.live/EIPWebinar or scan the QR code with your phone. Once you are in, please insert your country.

There will be two activities: one quick survey and another where you can provide detailed comments and suggestions for improving the data collection process.

Once you submit your answers, we will gather your feedback and have a dedicated session to discuss them.
Q: The questions related to the first part are too high level to get interesting information from. Questionnaire is okay but not enough.
A: It is just an introduction part to have general feedback. The real discussion is meant to start in the second part of this session.

Q: Even if the EIF Monitoring Mechanism already relies on secondary sources to be compliant with the only-once principle, there are some questions that we have been asked to reply multiple times under different initiatives.
A: Thank you for flagging this issue, we will tackle the problem by liaising with the different initiatives. We would appreciate if you could provide us with more detail information regarding the questions you referred to.

Q: You can use the Single Digital Gateway (SDG) as input, but it is important to define how to interact and cooperate with SDG group?
A: We have two question on the SDG and we agreed with DG GROW, responsible for the SDG initiative, on sharing resources and information. We are currently working on the topic.
Satisfaction survey – results

Q: The questions related to the first part are too high level to get interesting information from. Questionnaire is okay but not enough.
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A: We have two question on the SDG and we agreed with DG GROW, responsible for the SDG initiative, on sharing resources and information. We are currently working on the topic.
Brainstorming results: **Share your feedback**

**DIFFICULTIES ENCOUNTERED**
- Several questions have to be asked in cascade to all public entities, which requires a lot of effort to get the necessary data. Therefore, for some questions of the survey, it is preferable to gather data from a secondary data source (4 votes).
- The survey is quite large and took a long time to answer (3 votes).

**SUGGESTIONS FOR IMPROVEMENTS:**
- It would be a good idea to unify this data collection exercise with others that come with similar issues - for example, Digital Government Factsheet (3 votes).
- It would be interesting to see a link with interoperability activities and other projects of the Commission, such as Access to base registries, SDG, and so on (5 votes).
- In order to maximise the chances of obtaining data from all MSs, additional contacts may be necessary for each country (2 votes).
- Making the questions *smart* will provide the Member States and the Commission with granular information on areas that can be improved (2 votes).
- In order for Member States to be able to better explain the questions and provide more in-depth answers, there should be the possibility of interviews with Member States (2 votes).
Brainstorming results: Share your feedback

HELPFUL FEATURES
- There could be an option with each question of the online survey, to suggest a better formulated question (6 votes)
- When submitting the survey, it would be great to have the copy of the answers. Now I had to request it by (4 votes)
- The tool should allow to go directly to a specific question because otherwise it is difficult to make corrections (3 votes)
- The tool should provide a PDF or similar document with the answers provided (3 votes)

GENERAL FEEDBACK:
- Duplication should be avoided as much as possible; e.g. by consulting other similar initiatives such as SDG implementation monitoring (3 votes)
- The questionnaire studies a high level indication of interoperability, which is appropriate for the aim of comparing Member States. Going further into detail would make comparison more difficult (4 votes)
- After completing the survey, it would be useful to obtain a PDF with the questions and answers (6 votes)
- Interoperability is not our goal. Good services to citizens and companies is (2 votes)
- The questionnaire is suiting for countries that have a high score, however, other countries may have more difficulties with filling it out (1 vote)
Q: Last year there were about 5 surveys with questions overlapping by about 50%.
A: As mentioned before, we will work on the topic. Please consider that sometimes
the timeline of the different data collection do not match and therefore, we might
need to ask similar question. Nevertheless, we will work on the issue to minimise this
phenomenon.

Q: Sometime the answer to a specific question might change according to the domain
you consider.
A: The challenge was to create something not influenced by the different context of
the MS.

Q: The De4A data collection and the EIF Monitoring Mechanism have several
overlapping.
A: Our team liaised with Belgium to share the information of the EIF monitoring and
minimise duplication in the data gathering.

Q: For the moment no data gathering is already done an no report exists at SDG level.
Will this be done in the future once SDG exists?
A: the SDG implementations is not monitored yet. We can contribute now partially
since some questions are relevant to the SDG but the EIF monitoring has a much broader context.
Part II - EIF Implementation: Knowledge sharing
Lightning talks

Knowledge sharing on best practices and challenges on the EIF implementation

Haare Trond Os
National architecture and information management in the Digitization Directorate of Norway

Miguel A. Amutio
Coordinator of the development the NIF of Spain

Eric Brouwer
Strategic Adviser at ICTU, an independent consultancy and project organization within the Dutch government
Trond Os Haare is working with national architecture for public sector in Norway. He has been responsible for establishing the National Interoperability Framework and for the new architecture principles for digitalization of the public sector in Norway.
Lightning Talk in the EIF Implementation Webinar

Trond Ols Haare, trond.haare@:bgdir.no
Senior advisor, National architecture
22 April 2020
Why focus on interoperability?

**OECD concludes in its review (2017) that Norway is:**
- Leading in terms of digitalisation within sectors
- Lagging behind in terms of cross-sector digitalisation and between central and local government

The Office of the Auditor General of Norway highlights in its review of public sector digitalisation (2018):
- Central government agencies are only partially reusing available information
- Common digital solutions are not used to their potential
- There is a need for a more centralised governance of public sector digitalisation
- There is a great untapped potential for cooperation and coordination between sectors [and areas of government].
Why focus on interoperability?

Digital Strategy for the public sector 2019-2025:

- Common strategy for local and central government sectors
- Key areas are
  - Seamless services
  - Coordination across administrative levels and sectors
  - Digitalisation-friendly regulations
  - Data sharing
  - Common national solutions in an ecosystem
  - Cooperation with the private sector
- Prioritises seven life events that involve actors across central and local government
- An action plan for 2020 has been established

Efforts to increase interoperability

• National Interoperability Framework (NIF) for Norway
• New architecture principles for digitalisation of the public sector
• Unified descriptions of national common solutions
• National framework for information management
• National Data Catalog
• Reference architectures for data exchange
• Centre of competence for data sharing, with focus on legal interoperability (under establishment)
• And more..
**Architecture principles that supports the objectives and the digitalisation strategy**

1. **User-centricity**
2. **Subsidiarity and proportionality**
3. **Legal interoperability**
4. **Share and reuse data**
5. **Share and reuse solutions**
6. **Support interoperability**
7. **Trust**

With underlying recommendations and resources

https://www.digdir.no/1065 (in norwegian only)
<table>
<thead>
<tr>
<th>Challenges</th>
<th>Lessons learned</th>
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<tr>
<td>• Prioritising efforts</td>
<td>• Objectives decided at highest possible level</td>
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<td>• Sufficient resources and competence</td>
<td>• Through cooperation with agencies from a variety of sectors:</td>
</tr>
<tr>
<td>• Ensuring stakeholder commitment in sectors</td>
<td>• Involvement of more subject matter specialists to joint efforts</td>
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<tr>
<td>• Dissemination and use</td>
<td>• Improved quality</td>
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<tr>
<td>• Management and development</td>
<td>• Stakeholder commitment through participation</td>
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<td>• Increased motivation to use, and to take part in further development</td>
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<td></td>
<td>• Subject matter specialists coordinating efforts, and managing scope and progress according to high-level objectives</td>
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Interoperability through collaboration
Comment: For more information on the Norwegian digital agenda, please consult the white paper of 2019, which describes the priorities of the country, the common strategy for local and central governments and the action plan for 2020. Priorities with seven life events that involve actors across central and local governments.
Miguel A. Amutio is Director of the Cybersecurity Planning and Coordination Division at the General Secretariat for Digital Administration in the Ministry of Economic Affairs and Digital Transformation.

He coordinates the development of the National Security Framework and of the National Interoperability Framework of Spain and their Technical Regulations, together with the supporting documents. He is member of the Committee of the ISA Programme and previously of the committees of Programmes ISA, IDABC, and IDA II; also member of the eGovernment Action Plan Steering Group. Writer and speaker at various media, conferences and courses.
Implementation of the European Interoperability Framework in Spain

ISA² EIF webinar
22 April 2020

Miguel A. Amutio
ISA2 Committee - Spain
MAETD - SGAD
The challenge – Role of Interoperability

**Interoperability, enabler role:**

- Ensure the fulfilment of rights and obligations, for citizens and public administrations
- Provide digital public services, reaching all, in a complex administrative scenario
- Effectiveness and efficiency
Implementation of the European Interoperability Framework in Spain

IOP requires a global approach

- Exhaustive LF for eGov
- IOP embedded in LF
- IOP, a principle in the action of P.A.s
- Common rules
- Links to EU elements

- Common services enabling IOP at great scale
- Horizontal solutions & Building blocks

- C&G bodies ensure IOP
- Stakeh. Engagement
- Community: IOP Awareness & Dissemination

- Link to EU services / BBs
- Reuse of IOP assets
Implementation of the European Interoperability Framework in Spain

A collective and multidisciplinary effort along the time

19 Years of the National Interoperability Framework (NIF)

1992
- Law 30/1992
- RD 263/1995
- Data Protection

1996
- RD 362/1996
- Security

2006
- National E-ID
- Cert DN-e

2007
- Law 37/2007, PSI

2010
- NIF
- NSF
- EIF v1

2011
- Cybersecurity
- Law 15/2011, Transparency
- EDPB Agreement
- PSI
- Privacy

2013
- Administrative Laws
- 30/2016, 40/2016
- IT Strategy
- Declaration on Shared Services
- NSF updated

2015
- Regulation 104
- NSF Agreements
- Health Information
- Digital
- Law 32/2015, Data Protection
- EDV Accessibility

2019
- Cybersecurity Strategy
- 2019
- White Paper

2020
- EU Digital Strategy
- NSI for Data
- EDV v4.1
Implementation of the European Interoperability Framework in Spain

Supporting guides and documents (>20)

- Data Models
- E-Doc Management Policy + Metadata Schema
- Connection to Administrative Network of Public Administrations
- Procedures for authentic copies and conversion of Documents
- Exchange of records between Official Input/Output Registries
- Reuse of Public Sector Information

Administrative Laws 39/2015 & 40/2015

Ecosystem that facilitates flow of data and services

Aligned with the EIF

12 IOP Agreements
- Catalogue of Standards
- E-Document
- Digitization of Documents
- E-File
- E-Signature and certificates Policy
- Data Intermediation (OOP)

Support

Legal Framework

Ecosystem

Monitoring
Implementation of the European Interoperability Framework in Spain

IOP Governance - CIO Leadership

General State Administration
- ICT Strategy Committee
- Executive Committee
- Ministerial Commissions on Digital Ad.
- ICT Steering Committee
- Working Groups

Sectorial Commission of eGov
- Secretaries
- Presides
- Provides advice to
- Link
- Working Groups
- WGs on Interoperability
- Regional Govs
- Local Entities
- Public Universities
- CIO
- Ensures IOP
- Promotes eGov
- Ensures cooperation

Multidisciplinary
The EIF, a reference for the NIF of Spain

- Early alignment: internal dissemination
- Integration: in common infrastructures and sectorial services
- Reuse: products, IOP assets, solutions, BBs
- Feedback & contribution
- Follow up of monitoring surveys & factsheets
Implementation of the European Interoperability Framework in Spain

Alignment with EIF v2

1. **Alignment.**
   - Traffic light analysis:
     - Principles and
     - Recommendations
   - Same approach:
     - Tallinn Declaration
     - SDG Regulation

2. **Homework.**
   - Identification of areas to be reinforced

3. **Filling out draft EIFv2 questionnaire.**
   - Feedback: Proposals to simplify & clarify

4. **Filling out the EIFv2 monitoring questionnaire.**

Photo by Paweł Czerwiński on Unsplash
Implementation of the European Interoperability Framework in Spain

Follow up of solutions & reuse

✓ Follow up of ISA2, CEF Telecom Solutions and other initiatives
✓ Correspondence with equivalent national ones. Dissemination.
✓ Link, reuse, implementation, use, participation in pilots, propose actions

Implementation of the European Interoperability Framework in Spain

IOP, a continuous & never ending effort

✓ Keep the dynamics of the global approach
Legal framework + cooperation and governance (co-responsibility) + common services.

✓ Keep a collective and multidisciplinary effort
Along the time, with engagement of stakeholders

✓ Keep alignment with the EU
OOP projects, Single Digital Gateway, ISA² solutions, building blocks, EUGIP, DEP, ...
Q: What kind of data are collected by your EIF dashboard? Is this "real time" data related to the digital government services, or just data stats from your annually analysis?

A: The data comes from the services and it is related to our e-gov services, mainly on common and shared services offered to the public administration and sometimes to corporations and citizens. We also look at the number of users engaged, the number of public entities participating in basic common services and this provide us with a level of engagement. It is monitored on a monthly basis or annual basis, depending on the indicator. In general, we focus mainly on traffic, for example how many documents are changed, the number of transactions of validation of signatures or certificates, the number of citizens using e-ID platform etc.
Q: Can you comment on the use of the traffic light system and on the trade off between simplicity and precision?
A: We did it with the Tallinn declaration, with other instruments and we came up with a detailed analysis of all EIF aspects, mainly a collection of principles and recommendations. We then tried to see for each one, if we were aligned or if there was something missing or something to be done. It provides with a summary and a detailed explanation to senior officers. We identify in yellow or red the topics that deserved attention. This gave us an idea of where we had to allocate our effort.

Q: Is there any needs for an evolution of the NIF to respond to the evolution of the Domain specific Interoperability Frameworks (DIFs)?
A: In general, interoperability is transversal to all domains. The same logic is applied to our interoperability agreements that are valid for all public administrations and published in the official diary. Nevertheless, we are aware that some specific sectors have specific needs that have to be considered and addressed. In those case, a more sectoral approach is adopted.
Eric Brouwer works at ICTU, the Dutch government organisation that implements ICT-projects in order to maximise the government's IT objectives through collaborating with other authorities. Prior to that he was tasked with improving the e-collaboration within the Dutch ministries by introducing Identity Management and the deployment of a secure smartcard for physical access control as well as logical access control.

From 2010, he was working on further developing the Dutch Interoperability Framework – www.NORAonline.nl – in order to improve the design and implementation of the government’s services towards civilians and businesses.

Demonstration of NORA (https://www.noraonline.nl/wiki/NORA_online): it is the platform where we share our knowledge and experience and it is all about collaboration. The different domains have their own architectures. All these different governmental communities meet every few months and constitute a council. The main objective is to agree on what should be shared to foster interoperability within the public sector. It is Wikimeda, inspired by Wikipedia and we share our knowledge. The different public services can used the resources contained in NORA to build and design a service. In case of need, the different organisations can rely on the community for support. Additionally, NORA provides public administrations with reusable architecture to develop public services. We noticed a quick growth in visitors and satisfaction. In particular, we look how people use our data and then we improve them.

The Dutch digital policy on data is transposed on the website and the most important principles are well detailed. There are five important values: trust, safety, future innovation, effectiveness, efficiency. Then we transform the principles through these basic values, and policy makers use them, so if there is a change at the political level, we don’t need to change our design. We just change the way it is interpreted. It is all about knowledge sharing. This approach is backed up by political commitment.
To measure the NIF’s alignment with the EIF, we developed and published a detailed country factsheet on the topic for the Netherlands. We included all the principles and explained how we interpreted them. We also have an interface for every EU cross borderer services.
Next steps

Collection of additional feedback by email

Publication of the webinar highlights

EIF results’ publication by June 2020
Part III - Information session for the NIFO Community
EIF Toolbox Mockup

Integrated development containing supporting material related to EIF.

22.04.2020
EIF is a framework that gives specific guidance on how to set up interoperable digital public services.

This EIF toolbox is designed to assist the assessment exercise of the National Interoperability Frameworks with the European Interoperability Framework. It contains supporting material related to the interoperability topic in Europe and covers the alignment, implementation and monitoring aspects of this exercise by providing relevant examples.
EIF stands for the European Interoperability Framework.

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Administrative simplification (EIF Principle 10), Page 16
Streamline and simplify their administrative processes by improving them or eliminating anything that does not provide public value. Administrative simplification can help businesses and citizens to reduce the administrative burden of complying with EU legislation or national obligations. Digitisation can play a role in this, through the application of the digital-by-default and digital-first principles.

Catalogues (Conceptual Model), Page 34
Catalogues help administrations find reusable resources (e.g. services, data, software, data models). Various types of catalogues exist, e.g. directories of services, libraries of software components, open data portals, registries of base registries, inventories catalogues, catalogues of standards, specifications and guidelines. Commonly agreed descriptions of the services, data, registries and interoperable solutions published in catalogues are needed to enable interoperability between catalogues.

Base registries (Conceptual Model), Page 30
Cornerstone of European public service delivery. A base registry is a trusted and authoritative source of information, which can and should be digitally reused by others, where one organisation is responsible and accountable for the collection, use, updating and preservation of information. Base registries are reliable sources of basic information on data items such as people, companies, vehicles, licences, buildings, locations and roads.

Data access, Page 36
A ‘data access and authorisation plan’ determines who has access to what data and under what conditions, to ensure privacy. Unauthorised access and security breaches should be monitored and appropriate actions should be taken to prevent any recurrence of breaches.
What is EIF

The EIF is meant to be a generic framework applicable to all public administrations in the EU.

Some Facts

EIF is based on three different pillars that relate to 47 recommendations:

• 12 underlying principles.
• 6 layers of interoperability.
• 1 conceptual model.

Interested? Find out

The different EIF puts more emphasis on how interoperability principles and models should apply in practice.

A set of 47 recommendations, as actionable items to be implemented by public administrations across the different EIF pillars.

EIF Taxonomy

The EIF is available as Linked Open Data in a SKOS taxonomy.
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Interoperability layers

6

Components

Underlying principles

47

Conceptual model

Recommendations

The different EIF puts more emphasis on how interoperability principles and models should apply in practice.

A set of 47 recommendations, as actionable items to be implemented by public administrations across the different EIF pillars, provide assistance on how to improve governance of their interoperability activities, establish cross-organisational relationships, streamline processes supporting end-to-end digital services, and ensure that both existing and new legislation do not compromise interoperability efforts. These recommendations facilitate their implementation with a stronger focus on openness and information management, data portability, interoperability governance, and integrated service delivery.

A continuously updated set of supporting solutions mapped to the corresponding EIF pillars and recommendations can be used as added components to build your own interoperability solutions or services.

EIF Taxonomy

The EIF is available as Linked Open Data in a SKOS taxonomy.

more

more
1. Subsidiarity and proportionality
2. Openness
3. Transparency
4. Reusability
5. Technological neutrality and data portability
6. User centricity
7. Inclusion and accessibility
8. Security and privacy
9. Multilingualism
10. Administrative simplification
11. Preservation of information
12. Assessment of effectiveness and efficiency
The subsidiarity principle requires EU decisions to be taken as closely as possible to the citizen. In other words, the EU does not take action unless this is more effective than the same action taken at national level.

The proportionality principle limits EU actions to what is necessary to achieve the objectives of the Treaties.
Principle 1: Subsidiarity and proportionality

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Recommendations

Ensure that national interoperability frameworks and interoperability strategies are aligned with the EIF and, if needed, tailor and extend them to address the national context and needs.

Solutions
Subsidiarity and proportionality

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Solutions

EIF Toolbox > EIF pillars > Underlying principles > Subsidiarity and proportionality
Principle 1
Subsidiarity and proportionality

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Recommendations

Solutions

Subsidiarity and proportionality | Recommendation 1
EIF Toolbox > EIF pillars > Interoperability layers

- 32 Underlying Principles
- 6 Interoperability Layers

1. Interoperability governance
2. Integrated public service governance
3. Legal interoperability
4. Organisational interoperability
5. Semantic interoperability
6. Technical interoperability
Interoperability governance refers to decisions on interoperability frameworks, institutional arrangements, organisational structures, roles and responsibilities, policies, agreements and other aspects of ensuring and monitoring interoperability at national and EU levels.

- Recommendations
- Solutions
Interoperability governance refers to decisions on interoperability frameworks, institutional arrangements, organisational structures, roles and responsibilities, policies, agreements and other aspects of ensuring and monitoring interoperability at national and EU levels.

**Recommendations**
- **Recommendation 20**
  - Ensure holistic governance of interoperability activities across administrative levels and sectors.

**Solutions**
- Interoperability Governance | Recommendation 20
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Solutions
Interoperability Governance | Recommendation 20
The Coordination function ensures that needs are identified and appropriate services are invoked and orchestrated to provide a European public service. This function should select the appropriate sources and services and integrate them.

- **Recommendations**
- **Solutions**
The Coordination function ensures that needs are identified and appropriate services are invoked and orchestrated to provide a European public service. This function should select the appropriate sources and services and integrate them.

- **Recommendations**
  - No recommendations at this level.

- **Solutions**
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Recommendations

Solutions

No solutions available.
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Recommendations
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Solutions
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For the reuse of public sector data, the focus is on releasing machine-readable data for use by others to stimulate transparency, fair competition, innovation and a data-driven economy. The opening and reuse of data must be non-discriminatory, meaning that data must be interoperable so that can be found, discovered and processed.
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**Recommendation 41**
Establish procedures and processes to integrate the opening of data in your common business processes, working routines, and in the development of new information systems.

**Recommendation 42**
Publish open data in machine-readable, non-proprietary formats. Ensure that open data is accompanied by high quality, machine-readable metadata in non-proprietary formats, including a description of their content, the way data is collected and its level of quality and the licence terms under which it is made available. The use of common vocabularies for expressing metadata is recommended.
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47 Recommendations

A set of 47 recommendations, as actionable items to be implemented by public administrations across the different EIF pillars.

Recommendation 1 | Principle 1: subsidiarity and proportionality
Recommendation 2 | Principle 2: openness
Recommendation 3 | Principle 2: openness
Recommendation 4 | Principle 2: openness
Recommendation 5 | Principle 3: transparency
Recommendation 6 | Principle 4: reusability
Recommendation 7 | Principle 4: reusability
Recommendation 8 | Principle 5: technological neutrality and data portability
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Filter by Principle:
- Subsidiarity and proportionality
- Openness
- Transparency
- Reusability
- Technological neutrality and data portability
- User centricity
- User centricity and portability
- Security and privacy
- Interoperability
- Administrative simplification
- Preservation of information
- Assessment of effectiveness and efficiency
Recommendations

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Recommendation 1 | Principle 1: subsidiarity and proportionality

Ensure that national interoperability frameworks and interoperability strategies are aligned with the EIF and, if needed, tailor and extend them to address the national context and needs.

Solutions

List of all available solutions that implement this recommendation

- **EIRA** helps public administrations to ensure compliance with EIF by providing insights on the key interoperability enablers and a comprehensive review of the quality of the descriptions of each architecture building block. EIRA consists of several views, including one view for each of the EIF interoperability levels.

- **IMAPS** is a self-assessment tool, designed for public service owners to evaluate key interoperability aspects of their digital public service.
EIF Toolbox

Solutions

Currently available supporting solutions that can be used as added components that help building interoperability solutions

Browse by category

All
- Assessment tools
- Common frameworks
- Common services
- Genetic tools
- Legal interoperability tools
- Semantic assets

Filter by

- Principle
- Interoperability layer
- Conceptual model
- All

Done

CAMSS Assessment tools

CAMSS-as-a-Service

ICT Standards for Public Procurement

European Interoperability Reference Architecture
The CAMSS Tools are the assessment tools provided by the CAMSS Team. They are publicly available and support the fulfillment of assessments of standards and technical specifications and standard setting/developing organisations.

CAMSS-as-a-Service
ICT Standards for Public Procurement
European Interoperability Reference Architecture
EIF
stands for the European Interoperability Framework

EIF Toolbox > Solutions
Solutions currently available supporting solutions that can be used as added components that help building interoperability solutions

Browse by category
- All -
  - Interoperability layer
  - Conceptual model
  - All

Filter by
- principle
- All

Assessment tools, Common frameworks, Common services, Generic tools, Legal interoperability tools, Semantic assets

CAMSS Assessment tools
CAMSS-as-a-Service, provides a service which aim is the assessment of standards and specifications on demand through the use of CAMSS Tools.

ICT Standards for Public Procurement

European Interoperability Reference Architecture
EIF Toolbox > Solutions > Assessment tools

Solutions currently available supporting solutions that can be used as added components that help building interoperability solutions

Browse by category

- All
- Assessment tools
- Common frameworks
- Common services
- Genetic tools
- Legal interoperability tools
- Semantic assets

Filter by

- Principle
- Interoperability layer
- All
- Conceptual model
- All

Done
EIF Toolbox > Solutions > Common services

Solutions
355 currently available supporting solutions that can be used as added components that help building interoperability solutions

Browse by category
- All
- Assessment tools
- Common frameworks
- Common services
- Genetic tools
- Legal interoperability tools
- Semantic assets

European collaborative platform and catalogue
Currently available supporting solutions that can be used as added components that help building interoperability solutions.

Browse by category:
- All
- Assessment tools
- Common frameworks
- Common services
- Generic tools
- Legal interoperability tools
- Semantic assets

Filter by:
- Principle
- Interoperability layer
- All
- Conceptual model
- All

Done
Solutions currently available supporting solutions that can be used as added components that help building interoperability solutions

Browse by category

- All
- Assessment tools
- Common frameworks
- Common services
- Generic tools
- Legal interoperability tools
- Semantic assets

LEOS Legislation
Editing Open Software
Currently available supporting solutions that can be used as added components that help building interoperability solutions.

Browse by category:
- All
- Assessment tools
- Common frameworks
- Common services
- Genetic tools
- Legal interoperability tools
- Semantic assets

Filter by:
- Principle
  - All
- Interoperability layer
  - All
- Conceptual model
  - All

European Catalogue of ICT Standards for Public Procurement

Data Catalogue Application Profile
EIF Toolbox > Solutions

Solutions currently available: supporting solutions that can be used as added components that help building interoperability solutions.

Browse by category:
- CAMSS Assessment tools
- CAMSS-as-a-Service
- ICT Standards for Public Procurement
- European Interoperability Reference Architecture
The European Interoperability Reference Architecture (EIRA) is an architecture content metamodel defining the most salient architectural building blocks (ABBs) needed to build interoperable e-Government systems. The EIRA provides a common terminology that can be used by people working for public administrations in various architecture and system development tasks. The EIRA was created and is being maintained in the context of Action 2016.32 of the ISA² Programme. The EIRA uses (and extends) the ArchiMate language as a modelling notation and uses service orientation as an architectural style. Find out more.

The CEF Context Broker enables organisations (including but not limited to public administrations) to manage and share data in real-time describing “what is currently happening” within their organisations, in the real world they manage or where they run their daily business processes. Thus, for example, Smart Cities can share information about what is happening in streets (e.g., traffic status, quality of air data, available parking slots, location). Similarly, a packet delivery service company may share data about orders (e.g., current location and expected delivery time). This information describing what is currently happening is referred as “context information”. Find out more.
The European Interoperability Reference Architecture (EIRA©) is an architecture content metamodel defining the most salient architectural building blocks (ABBs) needed to build interoperable e-Government systems. The EIRA© provides a common terminology that can be used by people working for public administrations in various architecture and system development tasks. The EIRA© was created and is being maintained in the context of Action 2016.32 of the ISA² Programme.

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European Interoperability Reference Architecture

General Information

The European Interoperability Reference Architecture (EIRA) is an architecture content metamodel defining the most salient architectural building blocks (ABBs) needed to build interoperable e-Government systems. The EIRA provides a common terminology that can be used by people working for public administrations in various architecture and system development tasks. The EIRA was created and is being maintained in the context of Action 2016.32 of the ISA² Programme. The EIRA uses (and extends) the ArchiMate language as a modelling notation and uses service orientation as an architectural style. Find out more
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EIRA implements the following recommendations as described below:

1. **Principle 1**
   - EIRA helps public administrations ensure compliance with EIF by providing insights on the key interoperability enablers and a comprehensive review of the quality of the descriptions of each architecture building block. EIRA© consists of several views, including one view for each of the EIF interoperability levels.

2. **Principle 2**
   - EIRA Architecture Building Blocks support the EIF principle of openness and encourages the concept of publication of data as open data.

3. **Principle 3**
   - The use of EIRA Architecture Building Blocks helps solution owners achieve visibility and enables them to provide external interfaces for European public services.

4. **Principle 4**
   - EIRA defines the most salient architectural building blocks (ABBs) needed to build interoperable eGovernment systems. This provides a framework allowing the description of solutions using well established controlled vocabulary. EIRA also facilitates the discovery and reusability of existing solutions.
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EIRA implements the following principles:
- Subsidiarity and proportionality
- Openness
- Transparency
- Reusability
- Administrative simplification

EIRA implements the following recommendations as explained below:

**Recommendation 1: Principle 1**
EIRA helps public administrations to ensure compliance with EIF by providing insights on the key interoperability enablers and a comprehensive review of the quality of the descriptions of each architecture building block. EIRA consists of several views, including one view for each of the EIF interoperability axes.

**Recommendation 2: Principle 2**
EIRA Architecture Building Blocks support the EIF principle of openness and encourages the concept of publication of data as open data.
Recommendation 5 | Principle 3: Transparency

Ensure holistic governance of interoperability activities across administrative levels and sectors.

Solutions

List of all available solutions that implement this recommendation

- **EIRA** helps public administrations to ensure compliance with EIF by providing insights on the key interoperability enablers and a comprehensive review of the quality of the descriptions of each architecture building block. EIRA consists of several views, including one view for each of the EIF interoperability levels.

- **ICT Standards for Procurement.** The catalogue fosters the referencing of existing ICT standards and technical specifications by public procurers.

- **Joinup** provides a common technical platform offering a set of services supporting public administrations exchange interoperability solutions and good practices so this can help to foster better governance.
Recommendation 20 | Interoperability Governance

Ensure holistic governance of interoperability activities across administrative levels and sectors.

Solutions

List of all available solutions that implement this recommendation

- **EIF Toolbox**
  - **ERICA** helps public administrations to ensure compliance with EIF by providing insights on the key interoperability enablers and a comprehensive review of the quality of the descriptions of each architecture building block. EIRA© consists of several views, including one view for each of the EIF interoperability levels.

- **ICT Standards for Procurement.** The catalogue fosters the referencing of existing ICT standards and technical specifications by public procurers.

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Page not found. The requested page is not implemented yet.
Comment: We would like to organise three bilateral discussions with the Member States to further investigate the design of the toolbox. Should some Member States be interested, please contact us the email address above.

Comment: Should you want to initiate a discussion on the solution that your country is currently using to foster interoperability and implement the EIF, please contact ps_research@wavestone.com.
Q: Are there open source COVID-19 app solutions available on Joinup?
A: Yes, there are lots of open source solutions as well as access to useful information sources and resources.
STAY IN TOUCH

Reach out at Miguel.ALVAREZ-RODRIGUEZ@ec.europa.eu or ps_research@wavestone.com

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Thank you