



15 December
2022

joinup

A one-stop shop for interoperability solutions

Speakers:

Bernard Claes

European Commission – DIGIT D2 Business Manager of Joinup

Victoria Kalogirou

European Commission – DIGIT D2 Project Manager of Joinup

Petro Dudi

Trasys International – Deputy project manager of Joinup



Digital Europe Programme

interoperable
europe

Agenda



The Joinup platform



Interoperable Europe initiative on Joinup



Joinup-based tools



Questions & Answers

The Joinup platform

Joinup user testimonials

What others are saying about us



“We think Joinup allows us to give additional exposure to the solutions developed in Slovenia and to raise interest among other Member States.”

— **Danica Saponja**, Editor-in-Chief of the NIO portal in Slovenia



“Federation with Joinup was the best way to increase visibility of our solutions.”

— **Elena Muñoz**, Deputy Director General Secretariat of Digital Administration Ministry of Economic Affairs and Digital Transformation Technology- CTT Transfer Centre of the Spanish Government



“Joinup, the ideal dissemination platform for our open source solutions.”

— **Francesca Bria**, former Chief Technology and Digital Innovation Officer of Barcelona City Council



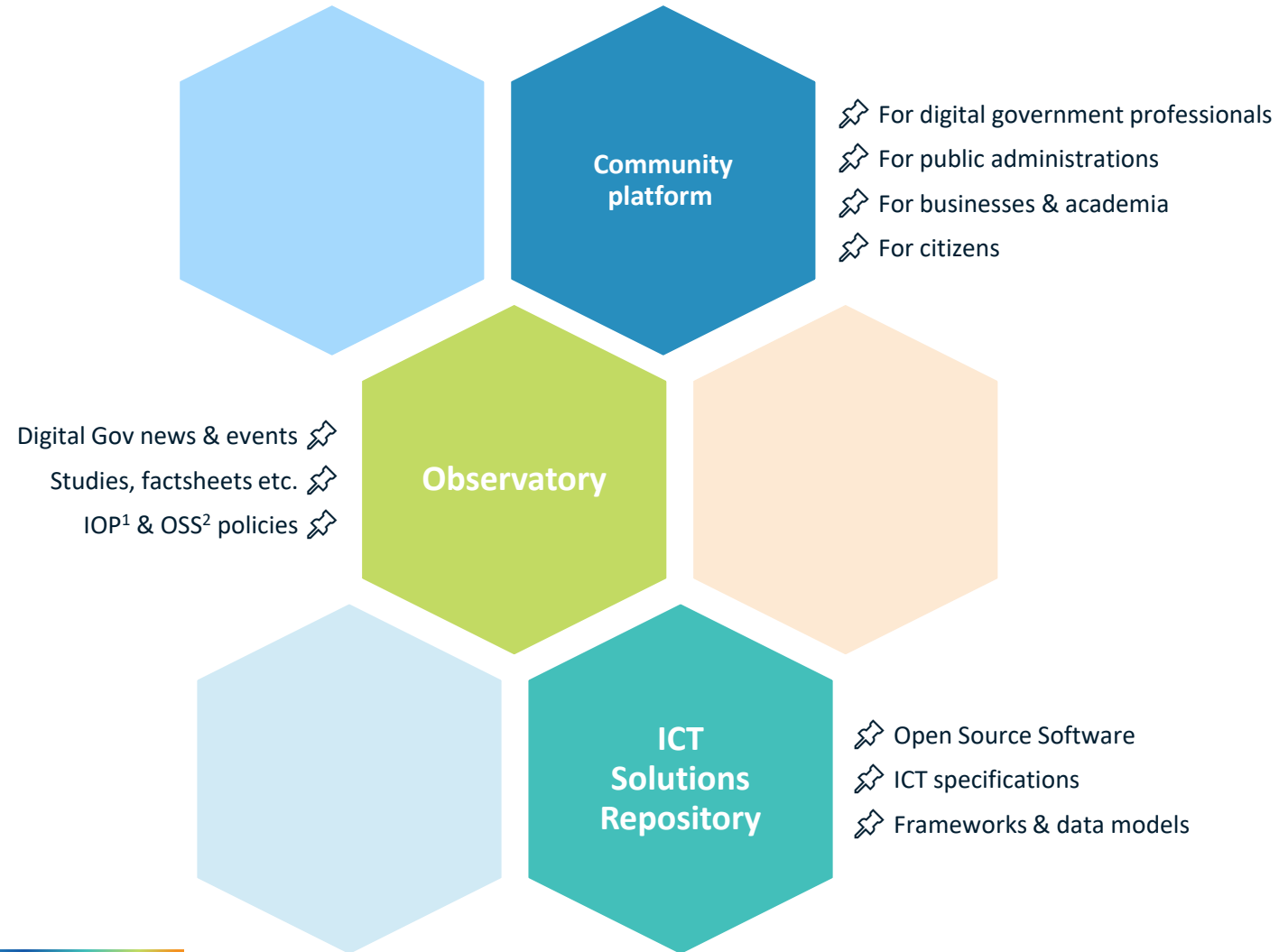
“We believe [Joinup] to be a valuable knowledge-sharing platform among Member States. [...] I try to get my teams to consult Joinup regularly to keep themselves updated.”

— **Sara Carrasqueiro**, Member of the Portuguese Administrative Modernization Agency's (AMA) Board of Directors



What is Joinup

A one-stop shop for interoperability solutions & a community space for e-Gov enthusiasts



¹ IOP = Interoperability

² OSS = Open Source Software

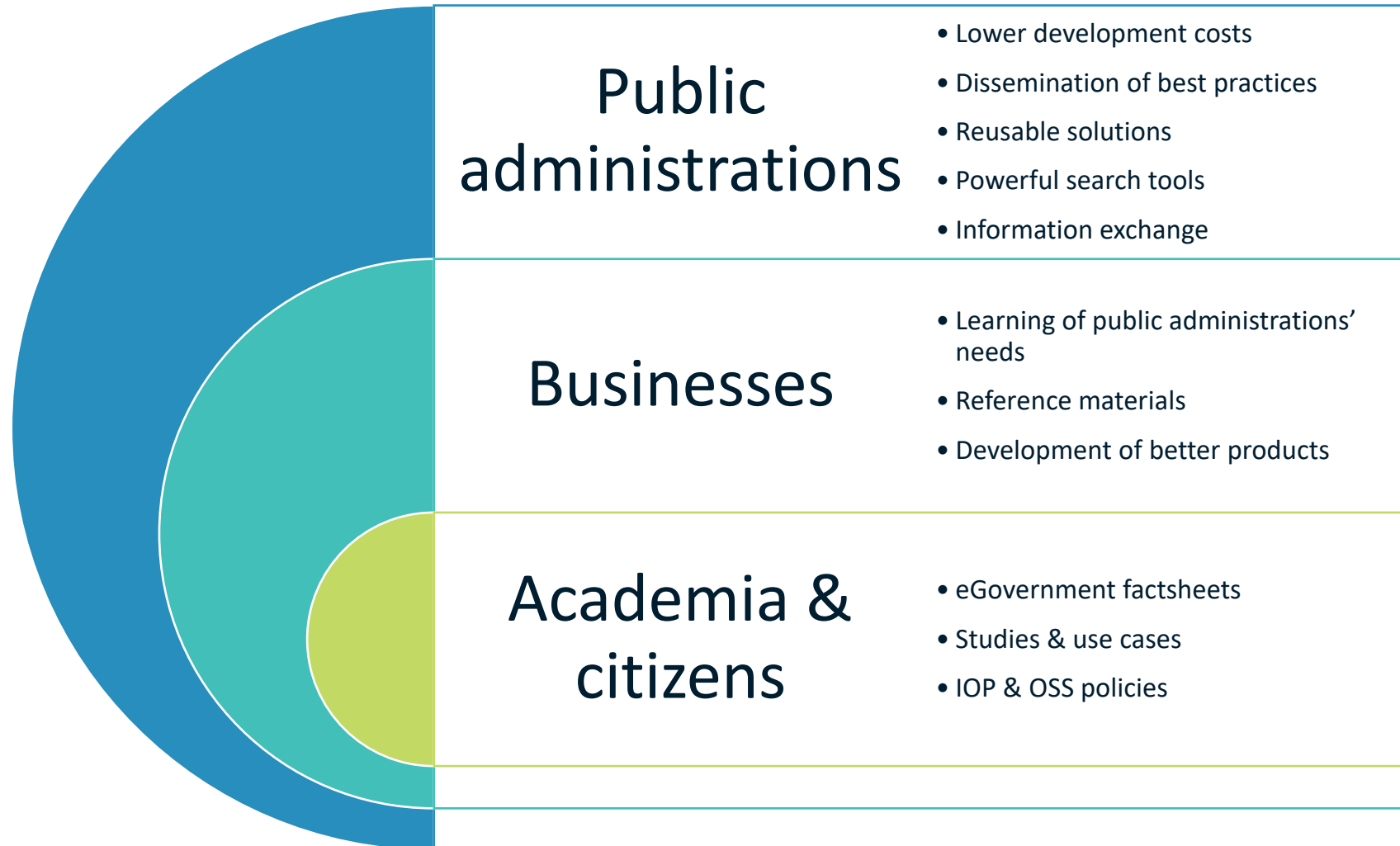
Joinup timeline

A decade of helping Europe become more interoperable



How can Joinup benefit you (1/2)

Advantages of Joinup



How can Joinup benefit you (2/2)

Top reasons to use Joinup



Vision (1/2)

Tackling digital transformation

Our vision

Making European digital public services a reality

Our values



Collaboration



Open source



Interoperability



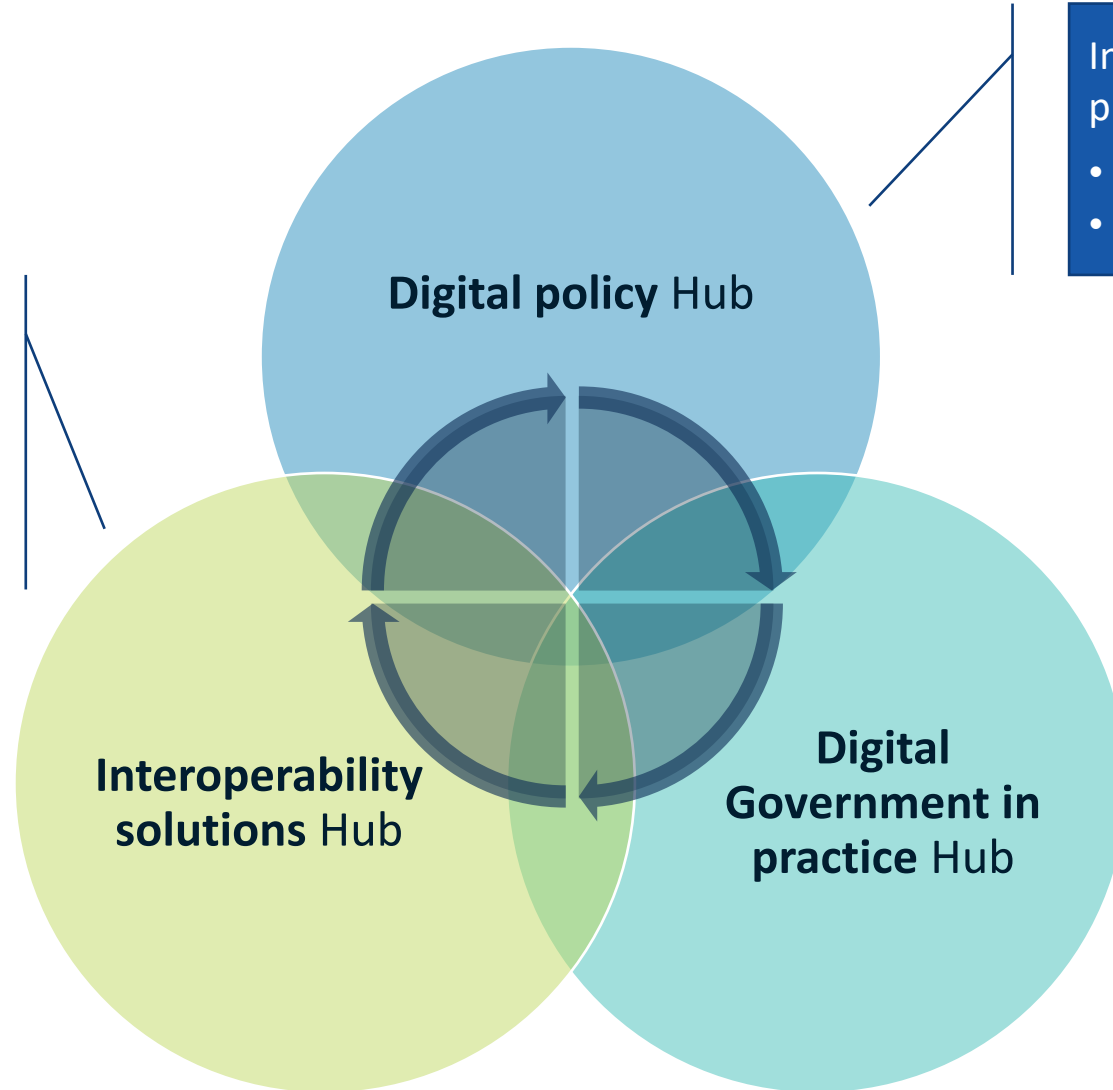
Sharing & reuse

Vision (2/2)

Supporting the full lifecycle of digital transformation

Choose the right solutions to make digital initiatives a reality, i.e.:

- Software
- Tools



Interact, stay informed, research and plan digital initiatives, i.e.:

- EU policy
- Monitoring & Reporting

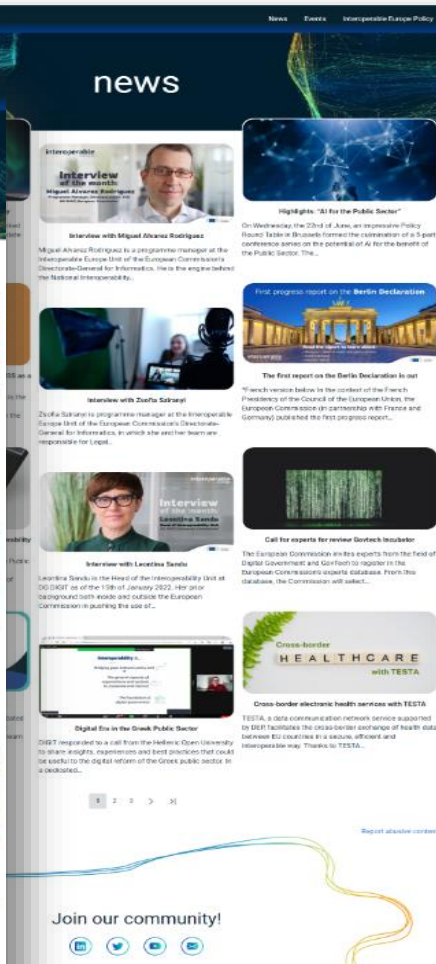
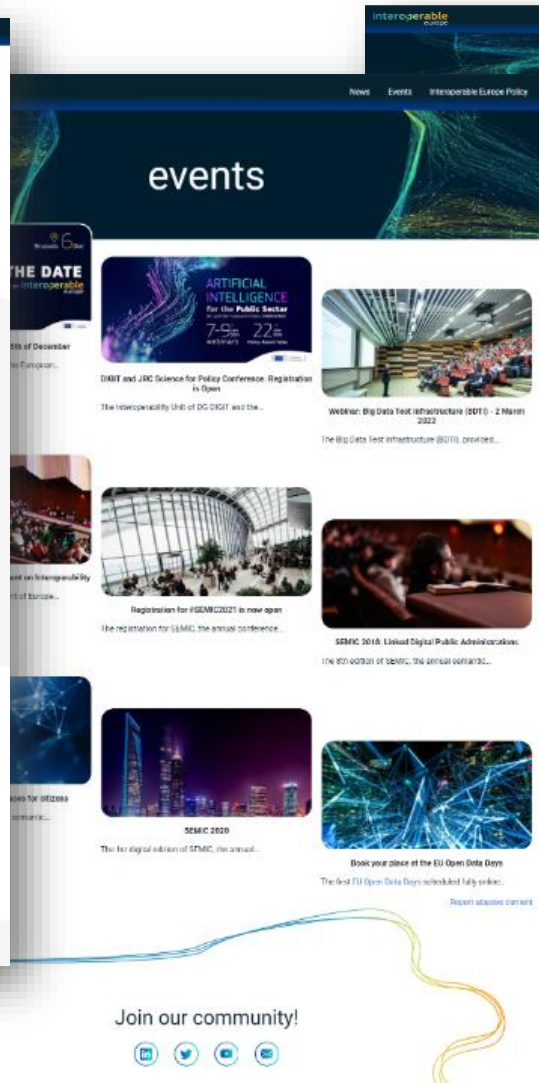
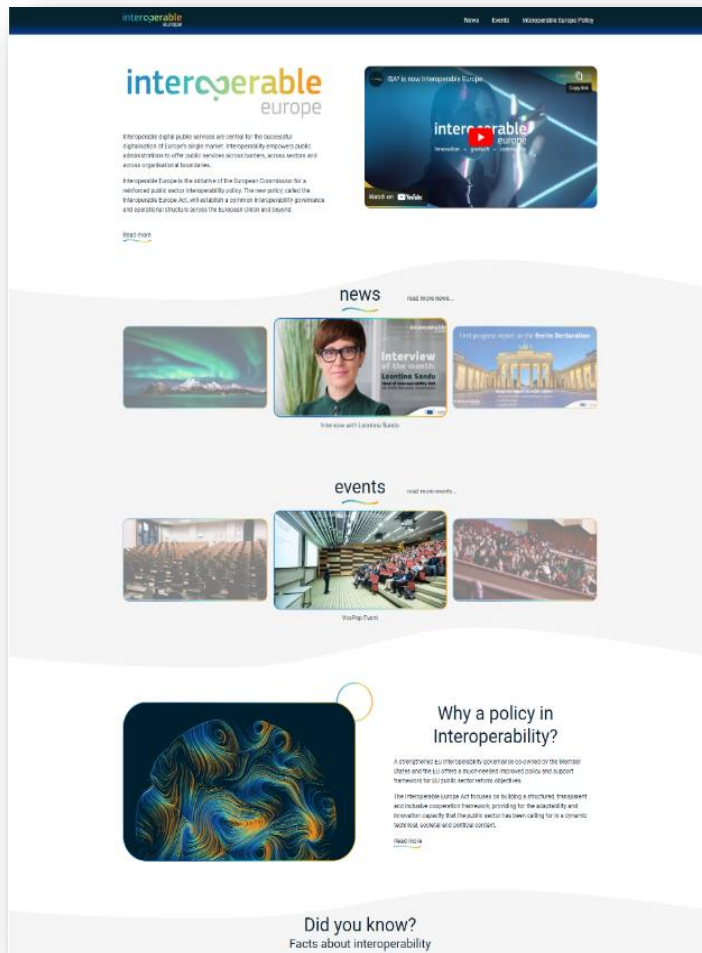
Showcases digital initiatives and pilots that have been put into practice, i.e.:

- Interoperable Europe Academy
- Communities
- Successful Member States' stories

The Interoperable Europe initiative on Joinup

Interoperable Europe on Joinup

Covering the policy angle of interoperability



A custom user experience & design for the Interoperable Europe space on Joinup

What's Interoperable Europe?

- ✓ A European Commission initiative for a **reinforced interoperability policy**
- ✓ An interoperability policy to transform public administrations and help them in their **digital transformation**

What can you find here?

- ✓ News and events about **government-related interoperability**
- ✓ Initiatives and best practices that support the **digitalisation of EU public administrations**



08 December
2022

Interoperable Europe Act

Linking national public services

interoperable
europe

Challenges with cross-border interoperability

Data compliance issues



Car driver wants to get a digital parking ticket in a city outside the country his car is registered in.

But: The parking app only allows to enter national license plates.

Business wants to share the capacities of free intensive care beds with the nearest hospital that is on the other side of the border.

But: The current legal and technical framework is not designed for this nationally.



Find and reuse issues



A city wants to implement traffic management solutions. They are looking for a good example.

While such good examples exist across Europe, they are difficult to find and reuse.

What can help us today?



European Interoperability Framework. (updated in 2017)
+ monitoring of the national implementation.



Joinup: a platform for interoperability **solutions** and **community** since 2011.



Cooperation with Member States through the informal **Chief Information Officers** network (since 2015), and the **Expert Group** on interoperability of European public services (since 2020).

Interoperable Europe Act - Ambition and objectives

Help EU and Member States administrations to deliver connected digital services



From policy-making to policy implementation



Establish a **governance** to work together and agree on shared interoperability solutions



Setup an environment where public administrations and stakeholders **can innovate, contribute and re-use** interoperability solutions (**community**)

Supports the achievement of the Digital Decade 2030 targets

Main deliverables of the Regulation

- **Mandatory interoperability assessment:** Impacts on cross-border interoperability of the legal, organisational, semantic and technical requirements for the IT system in scope (Art 3)
- Keeping ‘**European Interoperability Framework**’ (EIF) up-to-date and strengthening alignment (Art 6)
- Common ‘**Interoperable Europe solutions**’ for openly accessible & reusable solutions (Art 7), published in the **Interoperable Europe Portal** (Art 8)
- **Mandatory share and reuse** of publicly developed solutions (Art 4)
- **Innovation measures**, such as GovTech (Art 10) and regulatory sandboxes (Art 11-12)
- **Policy implementation support** projects (Art 9.), incl. trainings (Art 13) and peer reviews (Art 14)
- **Interoperable Europe Agenda** - annual strategic planning (Art 19)
- **Monitoring** - implementation of EIF, take-up of IOP solutions and development of OS solutions (Art 20)



interoperable europe

innovation ∞ govtech ∞ community

Stay in touch



[\(@InteroperableEU\) / Twitter](#)



[Interoperable Europe - YouTube](#)



[Interoperable Europe | LinkedIn](#)



DIGIT-INTEROPERABILITY@ec.europa.eu



<https://joinup.ec.europa.eu/collection/interoperable-europe/interoperable-europe>

Joinup-based tools

Joinup Licensing Assistant (JLA) (1/5)

A multipurpose tool for your licensing requirements

Select licence terms below

Can	Must	Cannot	Compatible	Law	Support
Use/reproduce	Incl. Copyright	Hold liable	None N/A	EU/MS law	Strong Community
Distribute	Royalty free	Use trademark	Permissive	US law	Governments/EU
Modify/merge	State changes	Commerce	GPL	Licensor's law	OSI approved
Sublicense	Disclose source	Modify	Other copyleft	Other law	FSF Free/Libre
Commercial use	Copyleft/Share a.	Ethical clauses	Linking freedom	Not fixed/local	
Use patents	Lesser copyleft	Pub sector only	Multilingual	Venue fixed	
Place warranty	SaaS/network	Sublicense	For data		
	Include licence		For software		
	Rename modifs.				

or enter [licence SPDX identifier](#)

51 licences found

AFL-3.0 Academic Free License v3.0

Can	Use/reproduce, Distribute, Modify/merge, Sublicense, Commercial use, Use patents
Must	Incl. Copyright, Royalty free, Disclose source, SaaS/network
Cannot	Hold liable, Use trademark
Compatible	Permissive, GPL, Other copyleft, Linking freedom, For software
Law	Licensor's law, Venue fixed
Support	OSI approved, FSF Free/Libre

Licence comment:
Written by Lawrence Rosen (attorney, formal counsel of the Open Source Initiative), AFL-3.0 gives recipients a copyright and allows for a patent on the software so long as they include the original software, any of its copyrights or trademarks and a note saying that you modified it (as the case may be). Nearly identical as the Open Software License (same author), but not reciprocal: it is permissive (widely compatible), interoperable and doesn't force derivative works to use the same licence. Applicable law and venue are those of the licensor.

Add to compare list

A tool to help identify & compare suitable FOSS licences for distribution of software or data

- ✓ Supports finding & comparing licences
- ✓ Checks compatibility between licences
- ✓ Improved & interactive licence categorisation compared to other tools
- ✓ Direct link to each licence's SPDX content
- ✓ Up-to-date licence information
- ✓ JLA code is open source

Joinup Licensing Assistant (JLA) (2/5)

Initiating a licence search with terms/SPDX ids

Select licence terms below

Can	Must	Cannot	Compatible	Law	Support
Use/reproduce	Incl. Copyright	Hold liable	None N/A	EU/MS law	Strong Community
Distribute	Royalty free	Use trademark	Permissive	US law	Governments/EU
Modify/merge	State changes	Commerce	<u>GPL</u>	Licensor's law	OSI approved
Sublicense	Disclose source	Modify	Oth		
Commercial use	Copyleft/Share a.	Ethical clauses	Linking freedom	Not fixed/local	
Use patents	Lesser copyleft	Pub sector only	Multilingual	Venue fixed	
Place warranty	SaaS/network	Sublicense	For data		
	Include licence		For software		
	Rename modifs.				

or enter [licence SPDX identifier](#)

RESET

Multi-selectable licence terms for filtering

Tooltips per licence term

SPDX short-form identifiers communicate licence information in a simple, efficient, portable and machine-readable manner

Joinup Licensing Assistant (JLA) (3/5)

Results with intuitive information per licence

Licence SPDX id & name

Short licence description

Terms applicable to the licence

AFL-3.0 Academic Free License v3.0

- Can** Use/reproduce, Distribute, Modify/merge, Sublicense, Commercial use, Use patents
- Must** Incl. Copyright, Royalty free, Disclose source, SaaS/network
- Cannot** Hold liable, Use trademark
- Compatible** Permissive, GPL, Other copyleft, Linking freedom, For software
- Law** Licensor's law, Venue fixed
- Support** OSI approved, FSF Free/Libre

Licence comment:
Written by Lawrence Rosen (attorney, formal counsel of the Open Source Initiative), AFL-3.0 gives recipients a copyright and allows for a patent on the software so long as they include the original software, any of its copyrights or trademarks and a note saying that you modified it (as the case may be). Nearly identical as the Open Software License (same author), but not reciprocal: it is permissive (widely compatible), interoperable and doesn't force derivative works to use the same licence. Applicable law and venue are those of the licensor.

Add to compare list **Compare** **Licence Text**

Include in "compare list"
(up to 5 licences)

Initiate compare process
& display comparison
matrix

Full SPDX licence
description

Joinup Licensing Assistant (JLA) (4/5)

Compare licences side-by-side

Terms applicable to the licences

Can	AFL-3.0 ⓘ	Apache-2.0 ⓘ	Artistic-2.0 ⓘ	BSL-1.0 ⓘ	0BSD ⓘ
Use/reproduce	✓	✓	✓	✓	✓
Distribute	✓	✓	✓	✓	✓
Modify/merge	✓	✓	✓	✓	✓
Sublicense	✓	✓	✓		✓
Commercial use	✓	✓	✓	✓	✓
Use patents	✓	✓			✓
Place warranty		✓			✓
Must	AFL-3.0 ⓘ	Apache-2.0 ⓘ	Artistic-2.0 ⓘ	BSL-1.0 ⓘ	0BSD ⓘ
Incl. Copyright	✓	✓	✓	✓	
Royalty free	✓				
State changes		✓	✓		
Disclose source	✓		✓		
Copyright/Share a.					
Lesser copyleft					
SaaS/network	✓				
Include licence		✓	✓	✓	
Rename modifs.			✓		
Cannot	AFL-3.0 ⓘ	Apache-2.0 ⓘ	Artistic-2.0 ⓘ	BSL-1.0 ⓘ	0BSD ⓘ

Check marks denote applicable or not licence terms

Up to 5 licences can be compared

Info icons display the licence's short description

Joinup Licensing Assistant (JLA) (5/5)

Check licences' use/distribution compatibility

or enter [licence SPDX identifier](#)

51 licences found

AFL-3.0 Academic Free License v3.0	<input type="radio"/> Inbound <input type="radio"/> Outbound	<input type="button" value="Check compatibility"/>	<input type="button" value="Licence Text"/>
Apache-2.0 Apache License, Version 2.0	<input type="radio"/> Inbound <input type="radio"/> Outbound	<input type="button" value="Check compatibility"/>	<input type="button" value="Licence Text"/>
Artistic-2.0 Artistic License 2.0	<input type="radio"/> Inbound <input type="radio"/> Outbound	<input type="button" value="Check compatibility"/>	<input type="button" value="Licence Text"/>
BSL-1.0 Boost Software License 1.0	<input type="radio"/> Inbound <input type="radio"/> Outbound	<input type="button" value="Check compatibility"/>	<input type="button" value="Licence Text"/>

INBOUND for what you “use”
OUTBOUND for what you “distribute”

The JLA Compatibility Checker can:

- ✓ **Verify** they are compatible licences
- ✓ **Identify** suitable licence combinations
- ✓ **Tackle** the requirements imposed by each licence

Check compatibility &
provide the outcome

Example outcome

The inbound licence is a permissive licence: provide you respect and include all existing copyrights or trademarks and, in case the source was modified, a note documenting your modifications, permissive licences do not force derivative works to use the same licence. Therefore you may reuse, link or even merge the covered code with your own work and re-distribute it to third parties under the outbound licence. This is authorised for the new combined work, but should not be considered as an authorisation to re-licence (change the licence) of the original component covered by inbound licence in case it is distributed alone or separately or "as is" in the same distribution.

EIF Toolbox (1/5)

Helping you to align your NIF to the EIF



The **EIF Toolbox** is a guiding tool for national public administrations to align their National Interoperability Frameworks (NIFs) with the European Interoperability Framework (EIF).

 SOLUTIONS Find out supported solutions to achieve interoperability	 EIF RECOMMENDATIONS Find out more about how to facilitate interoperability	 EIF PILLARS Find out about reusable tools, standards and examples around the EIF Pillars
--	--	--

[Back to EIF Recommendations](#) [Back to Solutions](#) [Glossary](#) [What is EIF](#)

General Information

Name of the solution: eTranslation

Solution's owner: CEF Digital

Description: The [CEF eTranslation Building Block](#) is a machine translation tool that helps public administrations and businesses exchange information and documents across all official EU languages, Icelandic and Norwegian.

Public administrations, citizens and businesses in the EU will thus be able to benefit from digital services in the language of their choice.

Type of solution: Common service

[Go to Solution](#)

eTranslation implements the following:

Principles	Interoperability layers	Conceptual model
<input checked="" type="checkbox"/> Multilingualism	<input checked="" type="checkbox"/> Semantic interoperability	<input checked="" type="checkbox"/> Open data
	<input checked="" type="checkbox"/> Technical interoperability	

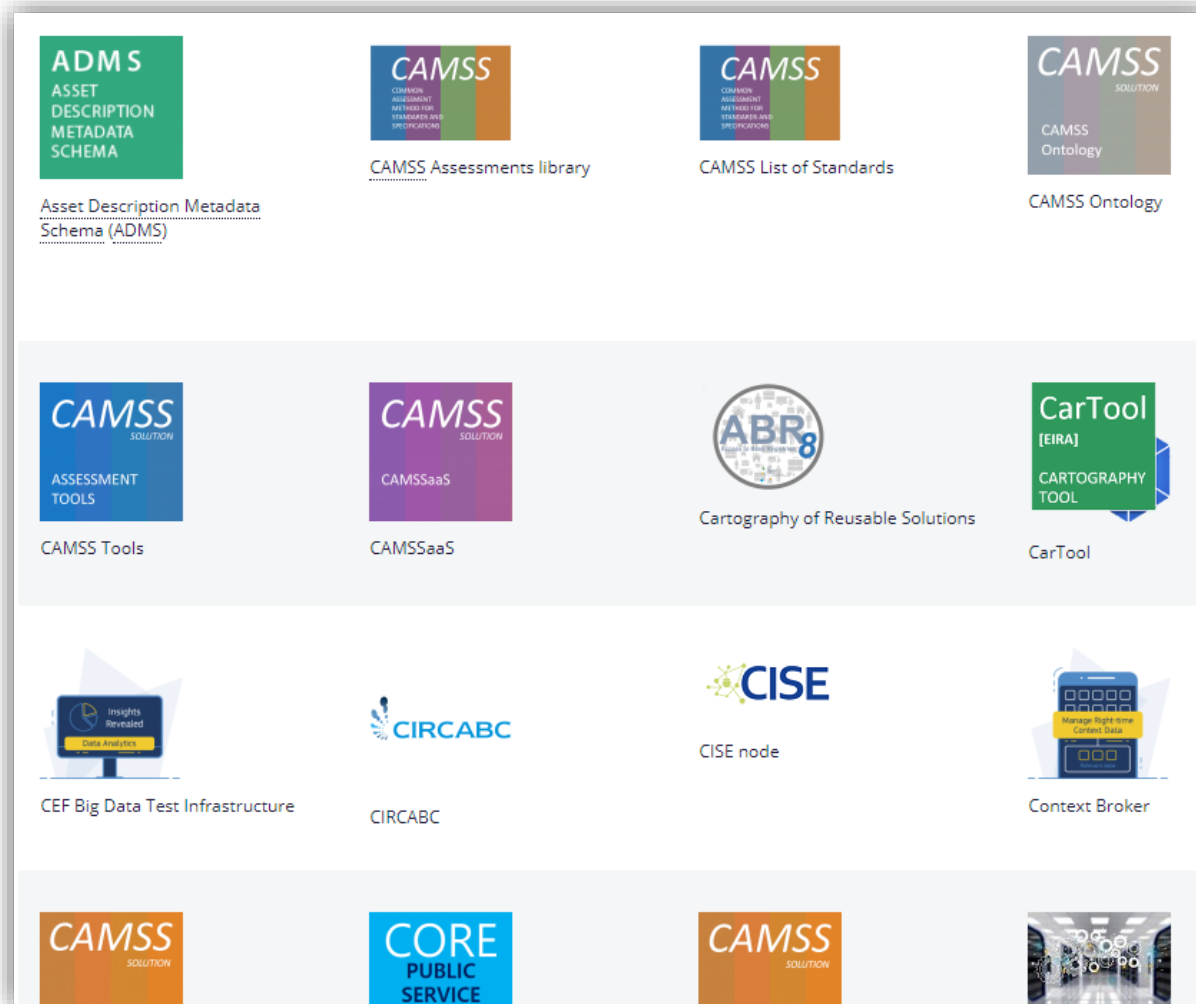
eTranslation implements the following recommendations as explained below:

- Recommendation 16 | Principle 9: Multilingualism**
eTranslation can be integrated into your information systems to make digital public services and content multilingual.
- Recommendation 32 | Interoperability layer: Semantic interoperability**
The CEF eTranslation building block encourages community driven development and updates of standards, hence involving a wide range of stakeholders in its maintenance and development.
- Recommendation 32 | Interoperability layer: Semantic interoperability**
The CEF eTranslation building block is based on open specifications and standards.
- Recommendation 37 | Conceptual model: Base registries**
eTranslation helps to make information available in different languages whilst ensuring data security and confidentiality.
- Recommendation 42 | Conceptual model: Open data**
eTranslation helps to ensure publication of data in [machine readable](#), non-proprietary formats.

[Back to Recommendations](#) [Back to Solutions](#)

EIF Toolbox (2/5)

Solutions to support your EIF alignment



The toolbox contains supporting solutions to help you achieve interoperability

They are categorised as:

- ✓ Assessment tools
- ✓ Common frameworks
- ✓ Common services
- ✓ Generic tools
- ✓ Legal interoperability tools
- ✓ Semantic assets
- ✓ Catalogue of open standards and specifications

EIF Toolbox (3/5)

Facilitate interoperability via EIF recommendations

Access the recommendation topics & the individual 47 recommendations, which are actionable items that public administrations can implement across the different EIF pillars

Recommendation topics	EIF Pillars	EIF Recommendations
Subsidiarity and proportionality	 Underlying Principle 1	Recommendation 1
	<p>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.</p>	
Openness	 Underlying Principle 2	Recommendation 2 Recommendation 3 Recommendation 4
Transparency	 Underlying Principle 3	Recommendation 5
Reusability	 Underlying Principle 4	Recommendation 6 Recommendation 7
Technological neutrality		Recommendation 8

EIF Toolbox (4/5)

Facilitate interoperability via EIF recommendations

**In each recommendation,
view the available solutions
that can implement the
recommendation**

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



CAMSS-as-a-Service

CAMSSaaS allows to assess the compliance of specifications with the EIF and thus, it supports public administrations to take decisions regarding ICT specification.



Digital Public Administrations factsheets

The NIFO factsheets measure the level of implementation of EIF. Hence, they provide public administrations with a clear assessment of their areas of strength and areas for potential improvement in implementing the EIF.

EIF Toolbox (5/5)

Reusable tools, standards & examples around the EIF Pillars

1: Subsidiarity and proportionality
1 recommendation

2: Openness
3 recommendations

3: Transparency
1 recommendation

12
underlying principles

4 + 2
levels of interoperability

1
conceptual model

Underlying Principle 4: Reusability



Interfaces, standards, information and data are enablers of interoperability and improve quality because they extend operational use as well as saving money and time. This makes it a major contributor to the development of a digital single market in the EU. Some EU standards and specifications also exist in the DIFs and should be applied more widely. For example, the INSPIRE Directive sets out interoperability standards for addresses, cadastres, roads and many other data topics of relevance to many public administrations. These existing standards and specifications can and should be used more widely beyond the domain for which they were originally developed.

Covered by:

[Recommendation 6](#)

Reuse and share solutions and cooperate in the development of joint solutions when implementing [European public service](#).

[Recommendation 7](#)

Reuse and share information and data when implementing European public services, unless certain privacy or confidentiality restrictions apply.

Legal Initiatives

Open standards and specifications

Best practice examples

Solutions supporting the implementation of Principle 4

The toolbox's EIF Pillars section integrates EU legal/policy initiatives, good practices & examples, as well as open standards and specifications related to the implementation of the EIF

EIF Online Assistant (1/2)

An interactive tool to help align with the EIF

EIF Pillars

Recommendation topics

Matching EIF Pillars & recommendation topics

Underlying principles	Interoperability layer	Conceptual model	Solution category
Subsidiarity and proportionality	Interoperability governance	Model	Assessment tools
Openness	Integrated public service governance	Coordination function	Common frameworks
Transparency	Legal interoperability	Internal information sources and services	Common services
Reusability	Organisational interoperability	Base registries	Generic tools
Technological neutrality and data portability	Semantic interoperability	External information sources and services	Legal interoperability tools
User centricity	Technical interoperability	Security and privacy	Catalogue of open standards and specifications
Inclusion and accessibility			
Security and privacy			
Multilingualism			
Administrative simplification			
Preservation of information			
Assessment of effectiveness and efficiency			

1 matching solutions found

Attributes matching the EIF

- Underlying principle**: Subsidiarity and proportionality, Openness, Transparency, Reusability, Technological neutrality and data portability, User centricity, Inclusion and accessibility, Security and privacy, Multilingualism
- Interoperability layer**: Interoperability governance, Integrated public service governance, Organisational interoperability, Semantic interoperability, Technical interoperability
- Conceptual model**: Model, Base registries, Open data, Catalogues, Security and privacy
- Solution category**: Common frameworks

EIRA

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](#). Th...

Solution's owner: European Commission (DG Informatics) - ISA² Programme

[View EIF Perspective](#) [Go to Solution](#)

The EIF Online Assistant offers an interactive & intuitive interface for seeking open-source digital solutions that help align with the EIF

Tooltips

Resulting solution's description

Solution's home page

EIF Online Assistant (2/2)

An interactive tool to help align with the EIF

EIRA

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](#). Th...

Solution's owner: European Commission (DG Informatics) - ISA² Programme

[View EIF Perspective](#) [Go to Solution](#)

EIF Perspective information of solution

EIF Perspective attributes of EIRA

[Glossary](#) [? What is EIF](#)

General information



Name of the solution: EIRA

Solution's owner: European Commission (DG Informatics) - ISA² Programme

Description:

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 modeling notation and uses service orientation as an architectural style.

Type of solution: Common frameworks

[Go to Solution](#) [Edit EIF perspective](#)

The EIRA implements the following:

Principles

- ✓ Subsidiarity and proportionality
- ✓ Openness
- ✓ Transparency
- ✓ Reusability
- ✓ Technological neutrality and data portability
- ✓ User centricity
- ✓ Inclusion and accessibility
- ✓ Security and privacy
- ✓ Multilingualism

Interoperability layers

- ✓ Interoperability governance
- ✓ Integrated public service governance
- ✓ Organisational interoperability
- ✓ Semantic interoperability
- ✓ Technical interoperability

Conceptual model

- ✓ Base registries
- ✓ Open data
- ✓ Catalogues
- ✓ Security and privacy
- ✓ Model

EIRA implements the following EIF recommendations as explained below:

✓ Recommendation 1 | Subsidiarity and proportionality

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.

✓ Recommendation 2 | Openness

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

✓ Recommendation 5 | Transparency

Questions & Answers

Thank you!



joinup



[@Joinup_eu](https://twitter.com/Joinup_eu)



[Joinup Community](https://www.linkedin.com/company/joinup-community)



[Contact us](mailto:joinup@ec.europa.eu)



joinup.ec.europa.eu

interoperable
europe
innovation ∞ govtech ∞ community



© European Union 2022

Unless otherwise noted the reuse of this presentation is authorised under the [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license. For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders.