

We will be back at 11.00

interoperable
europe
Academy


Online

Seasonal School
13-15 May 2025



14th MAY 2025

Seasonal School 2025

Reusing interoperability Solutions

Overcoming Challenges to Share: Good practices



*Overcoming challenges to share:
Good practices*

Miguel Díez Blanco

Team lead – Interoperability Enablers
European Commission

**Seasonal School
13-15 May 2025**


Online



*Overcoming challenges to share:
Good practices*

Georges Lobo

Team lead - SEMIC
European Commission

**Seasonal School
13-15 May 2025**


Online

Session Overview

01

WHY SHARING
MATTERS?

02

WHAT IS A
SOLUTION?

03

BARRIERS TO
SHARING

04

MECHANISMS AND
TOOLS TO SUPPORT
REUSE

05

SEMANTIC
INTEROPERABILITY

06

THE EU OPEN SOURCE
SOLUTIONS
CATALOGUE

07

GOOD PRACTICES FOR
SHARING

08

KEY TAKEAWAYS



01 Why Sharing matters?

- Promotes efficiency, reduces duplication
- Encourages collaboration across borders and sectors
- Supports implementation of the Interoperable Europe Act
- Boosts innovation and sustainability

What is a solution?

- Any reusable digital building block
- Includes:
 - Semantic assets
 - Software components
 - APIs and interoperability guidelines
 - Frameworks and reference architectures
- They must be: reusable – interoperable – documented – maintained

Barriers to sharing

- **Technical:** poor documentation, lack of standards, low discoverability
- **Legal:** licensing uncertainty, IP concerns, procurement constraints
- **Organisational:** vendor lock-in, limited resources, siloed governance
- **Cultural & Social:** risk aversion, “not invented here”, low awareness
- **Economic:** cost of localisation, uncertain ROI
- **Security:** perceived risks, data protection concerns
- **Communication:** lack of visibility, multilingual gaps
- **Political:** lack of support, no national OSS mandates

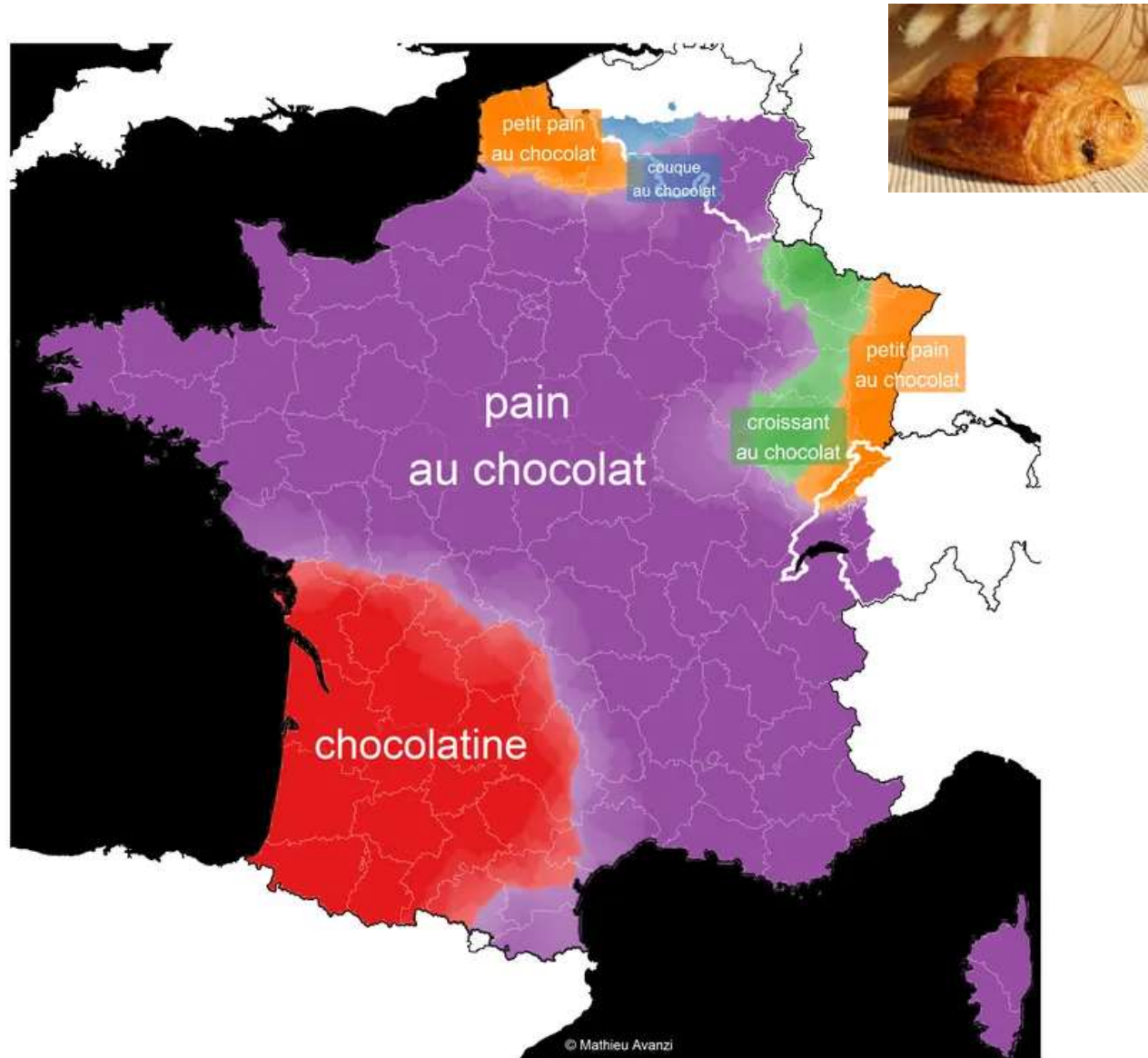
Mechanisms and Tools to support Reuse

- Policy: Open-source-first, reuse-by-default principles
- Organisational: Open Source Programme Office (OSPO), Intellectual Property team
- Technical: Interoperable Europe Portal
- Legal: EUPL, reusable licensing templates
- Metadata standards: DCAT-AP, publiccode.yml
- Capacity building: Interoperable Europe Academy, open source and interoperability communities



Deep dive: Semantic Interoperability – DCAT-AP success story

What is Semantic Interoperability ?

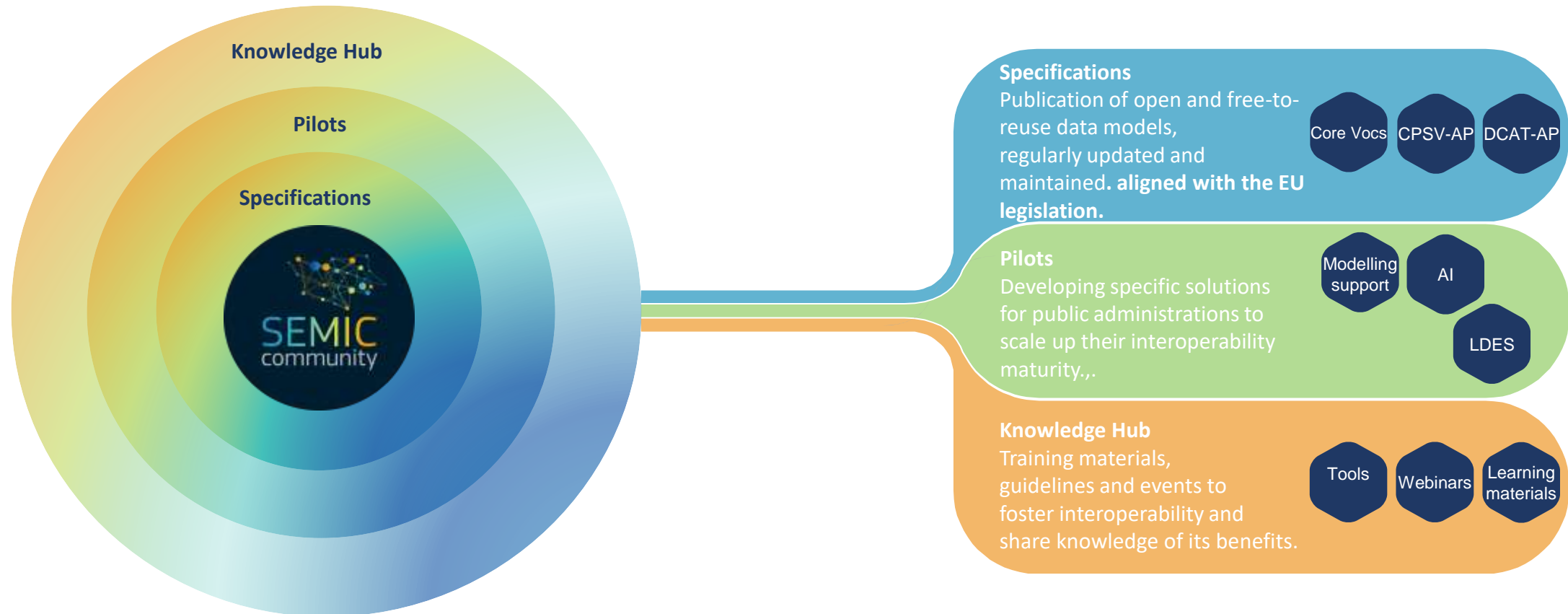


- **Same object, different names:**
- → “Pain au chocolat” in most of France
- → “Chocolatine” in the South-West
- → “Couque au chocolat” in Belgium
- **Why it matters:**
- → Humans understand the context — systems do not
- → Misunderstandings arise without agreed meaning
- **Semantic interoperability** = Ensuring that data has the same meaning across systems, regions, and people

Key to digital public services, cross-border collaboration, and trustworthy data exchange

What is SEMIC?

SEMIC's mission is to promote Semantic Interoperability amongst the EU Member States and deliver pragmatic support to help build an Interoperable Europe.





Specifications

SEMIC specifications enable interoperability:

- They make data **transparent** and **available**
- They support the **coherent** implementation of laws and policies
- They help implement **cost efficiencies**
- They help **digitalisation** and **harmonising** processes

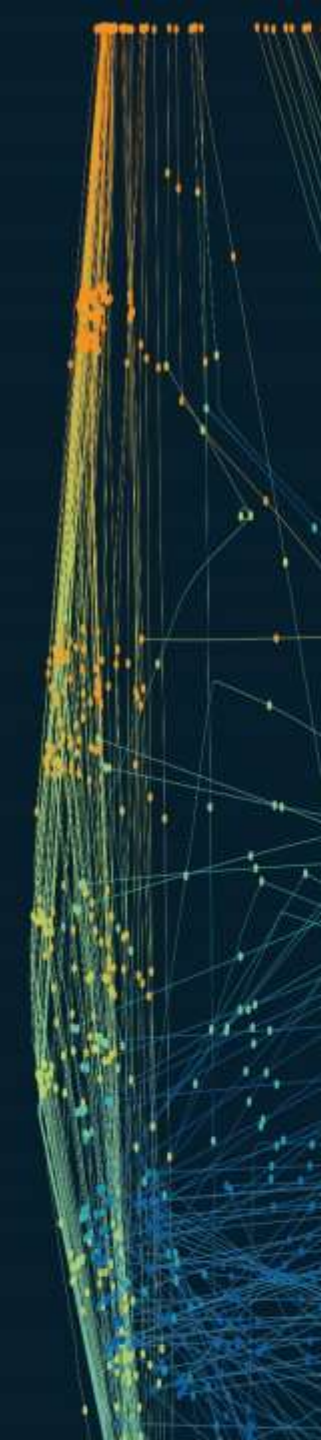
The SEMIC specifications are co-created on GitHub. Join the GitHub community [here](#).

Core Vocabularies

Core Vocabularies are a cornerstone element of semantic interoperability. They provide a standardised approach for describing key concepts such as locations, businesses, organisations and natural persons.

Application Profiles

Application Profiles make use of vocabularies for a detailed set of use cases to define mandatory relations, constraints and relationships.





A person's name(s), date and place of birth/death, identifier, addresses, citizenship, etc.

eIDAS

Vocabularies

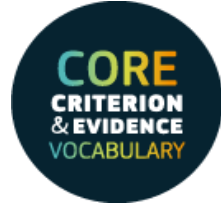


The legal name, address, identifier, company type, and activities of a legal entity.

At the basis of **BRIS**.



The different ways of describing a location, e.g. via an address, a geographic name, or a geometry, in alignment with **INSPIRE**.



The requirements and evidence of a procedure or formal process.
Connected to **SDG / OOTS**.



The administrative information, hierarchy, identifiers, events and classification of a public organisation.



A public event, its time, audience, location, etc.



To exchange Linked Data – Supporting **Data Space** initiatives and **Data.Europa.EU**

Technical

Application Profiles



To support the Catalogue of Public services
Connected to **SDG/OOTS**



For data portals in Europe – **Open Data Directive**



For base registries



For geospatial datasets
Connected with **INSPIRE**



For statistical datasets



For High-Value Datasets – **Open Data Directive**



Asset description metadata schema
Supporting the **Interoperable Europe Portal**



Data Cataloguing for AI systems –
Supporting the **AI Act**

Proven track record



W3C STANDARD

Using [DCAT](#) (W3C) as a basis



MATURE IMPLEMENTATIONS

Such as data.europa.eu



COMMUNITY

Vibrant DCAT-AP community

- [GitHub](#) DCAT-AP
- Webinars
- [Interoperable Europe Portal](#)

DCAT-AP as a solution

An EU-wide specification that enables interoperability across data spaces through

A common set of constraints



Description of metadata of datasets in a unified manner



Possibility to go beyond the common specification and create domain-specific data space extensions in a stackable way



Resulting in:
Stable and long-term management of metadata and data
Reduced amount of metadata management



Benefits of the DCAT-AP ecosystem

Enhances the **findability** and accessibility of data



Enables data spaces to make **data catalogues findable**
→ A harvesting network is made possible



Comes with a decade of **experience** of documenting, maintaining metadata records; sharing through harvesting, etc.



Enables data spaces to express their **metadata in a common language**



Provides tooling to **validate the implementation** data.



Collaborative environment that allows data spaces to express their needs and additional requirements (specialisations)



Other maintained extensions



EHDS

HealthDCAT-AP



MobilityDCAT-AP



LanguageDCAT-AP



uses **BregDCAT-AP**



EPOS-DCAT-AP

**+ National
extensions:**





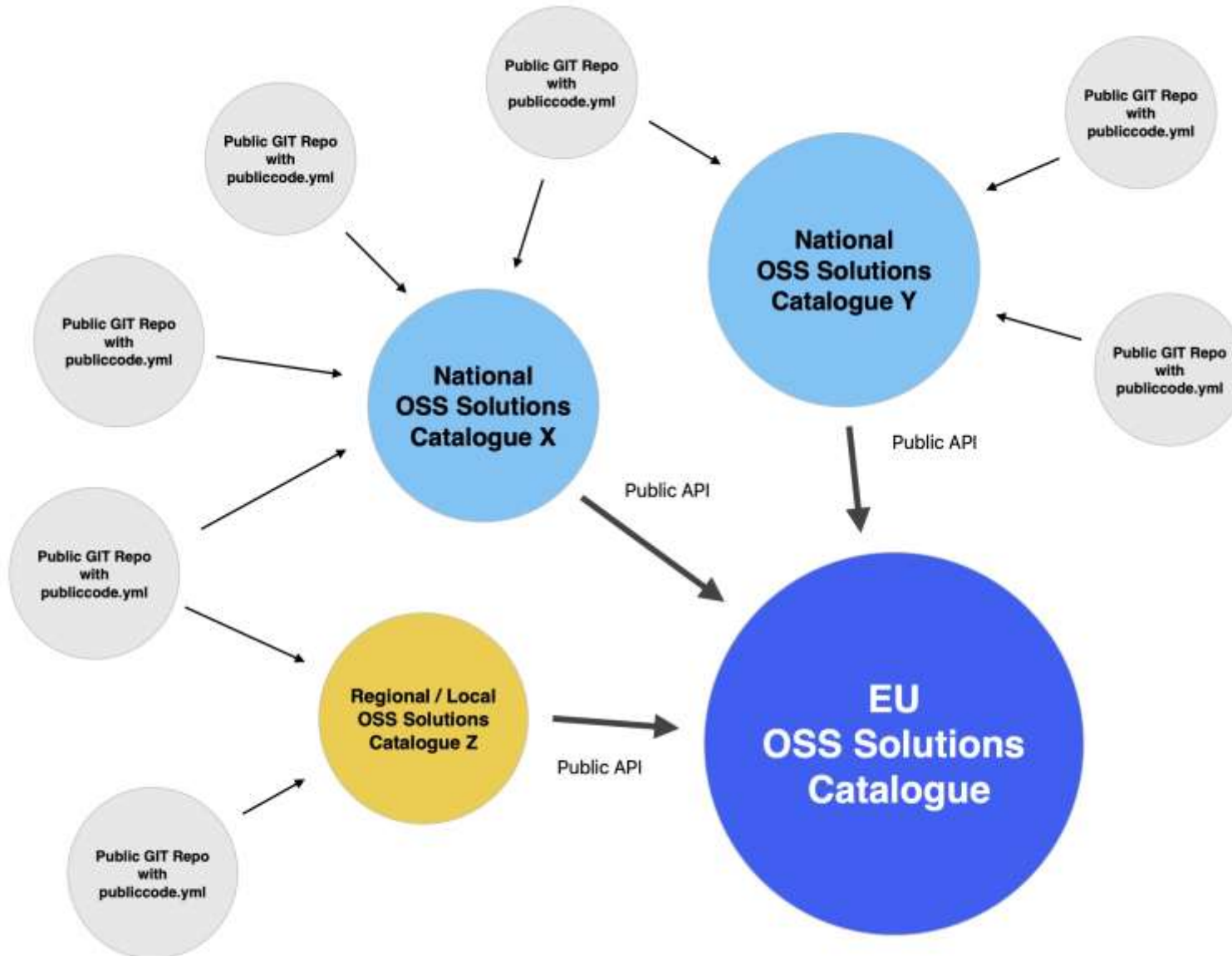
Deep dive: EU Open Source Solutions Catalogue

06 EU Open Source Solutions Catalogue

- **What is it?** Initiative resulting from the FOSSEPS Preparatory Action. A centralized catalogue showcasing open source solutions developed by public administrations from EU.
- **Purpose:** To promote sharing and reuse of software developed by European public administrations
- **Target Audience:** Public sector, developers, project managers and policy makers looking for reuse of existing open source solutions.
- **Benefits:** Reduce duplication of efforts, cost savings, foster a stronger open-source ecosystem in the EU.
- **Key Features:** part of the IOP Europe Portal, close to 700 solutions, from 6 catalogues, federated model, concept of vitality index, use of publiccode.yml as metadata standard



How it works?



- Federated Model
- Data maintained and updated at the source
- Data refreshed every night
- Vitality Index updated once a week
- Meta-data standard used: publiccode.yml



Demo!

Good practices for sharing

- Use standardised and open standards and specifications (e.g. DCAT-AP)
- Choose clear, reuse-friendly licences (license assistant in the IOP Europe Portal)
- Ensure documentation is available
- Community building (e.g. SEMIC, code.europa.eu, OSOR)
- Institutional support is key
- ...

Key takeaways

- Reuse needs clear definitions, legal clarity, and visibility
- Tools and frameworks are already available
- Sharing works best when it's built into the culture
- Let's keep building this community of practice



Thank you!

Any questions?

interoperable europe



Stay in touch



@IoP_EU



[Interoperable Europe - YouTube](#)



[Interoperable Europe | LinkedIn](#)



iop-academy@ec.europa.eu



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