Data integration

An asset for policy support and research

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Data integration in Europe – A perspective on challenges, findings, added value and cost savings in the EU context

UNGGIM: Europe webinar – 15th March 2023
The JRC Digital Economy Unit studies the current and emerging facets of digital transformation, and its impacts on the European economy, society and environment, in support of EU digital policies. In particular, the unit provides techno-socio-economic research on the impacts and strategic role of digital technologies, data and digital platforms for the economy and society, as well as on digital skills and digital education, and the modernisation of the public sector.
EU's Digital Strategy: building blocks
Horizontal data sharing legislation

**Overview of data actions**

[D] What data are we talking about?  
[H] Who holds such data?  
[A] What policy intervention?

**Good governance of data cannot wait**

[D] Data voluntarily made available by data holders  
[H] Public sector, business, individuals, researchers  
[A] Make such data is easier to share in a controlled manner (technical, legal and with organisational support); Build trust in data sharing; Ensure data interoperability access sectors

**Data: a key element of Big Tech’s market power**

[D] Data held by online platforms originating from the users (both businesses and individuals)  
[H] Online platforms  
[A] Among other policy options, identify appropriate data access and data portability remedies

**High quality government data for SMEs & innovation**

[D] ‘High value’ Open Government Data (core reference data)  
[H] Public sector  
[A] Make such data available for re-use free of charge

**Better access to and control over data for a fair data economy**

[D] Co-generated, IoT data from industry and individuals, Big Data sources held by business  
[H] Business  
[A] Ensure flexible use of Big Data sources by government for the common good; Establish fairness in use of co-generated, IoT data; Make sure that Europeans stay in control over their data vis-à-vis third country jurisdictions; Examine IPR legislation for possible obstacles

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"Europe fit for the Digital Age"

Entered into force on 23 June 2022

Proposed by EC on 15 December 2020  
Entered into force on 1 November 2022

**Open Data Directive**  
Entered into force on 16 July 2019

**Implementing Act on High Value Datasets**  
Adopted on 21 December 2022  
Published on 20 January 2023  
(Official Journal of the EU)

Proposed by EC on 23 February 2022
Data economy and digital platforms

*Building a data-oriented economy* that respects European values.

**Organisational** and **technical enablers** for data sharing
(European data spaces, Interoperability solutions, standards)

**Input to the regulatory interventions** needed to develop a fair data economy
(DSA and DMA)

**Economic incentives** for digital economy, **benefits of digital platforms** and associated risks

**INSPIRE, Green Deal Data Space**, Digital Twins

**European Centre for Algorithmic Transparency**
European strategy for data

- Aims to create a **European single market for data**
- Highlights the problems to address
  - data availability, interoperability, quality
  - governance & infrastructures
  - skills & data literacy
  - cybersecurity
- Envisages the establishment of
  - a common European data space
  - sectoral data spaces

Implementing Act on high-value datasets

- High-value datasets (HVD)
  - datasets the re-use of which is associated with important socio-economic benefits

- To be made available
  - for free, under open access licenses (CC BY 4.0 or less restrictive)
  - in machine-readable formats, via APIs and (when relevant) as a bulk download

- Thematic categories of HVD

- The Implementing Act defines
  - the list of high-value datasets for each thematic category
  - the requirements for their provision: key attributes, granularity, formats, license, etc.
Europe’s Digital Decade targets by 2030

Skills
- ICT Specialists: 20 million + Gender convergence
- Basic Digital Skills: min 80% of population

Public Services
- Key Public Services: 100% online
- e-Health: 100% availability medical records
- Digital Identity: 80% citizens using digital ID

Infrastructures
- Connectivity: Gigabit for everyone, 5G everywhere
- Cutting edge Semiconductors: double EU share in global production
- Data – Edge & Cloud: 10,000 climate neutral highly secure edge nodes
- Computing: first computer with quantum acceleration

Business
- Tech up-take: 75% of EU companies using Cloud/Al/Big Data
- Innovators: grow scale ups & finance to double EU Unicorns
- Late adopters: more than 90% of European SMEs reach at least a basic level of digital intensity

- What does need to do to achieve its Digital targets for skills, infrastructures, business and government by 2030?
- We help define and monitor the projected trajectories of the EU and Member States towards their 2030 objectives.
Innovation for the public sector

Interoperability solutions for public administrations

Emerging technologies, standards and approaches that can catalyse innovation across the EU

Regional and local innovation, Digital Innovation Hubs

Framework, methodology and tools to improve the innovative use of technology for delivery of public services

Impact of emerging technologies on new forms of governance in the public sector, like smart communities

Roles of digital technologies and interoperability in public administration, and in particular in the use of trustworthy AI
Challenges with cross-border interoperability in practice

A hospital 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 just allows to share nationally.

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.

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.
EU policy on interoperability – What is already happening?


**Support to interoperability activities** since 1995 (currently under DEP), solutions to be found on [online platform (JoinUp) for interoperability solutions](https://joinup.ec.europa.eu) and [community](https://isa2.europa.eu) since 2011 through the ISA and ISA² programmes.

**Cooperation with Member States** through the informal CIO network (since 2015), and the Expert Group on interoperability of European public services (since 2020).
Why a legislative package?

**EU's digital strategy**
- Key Public Services: 100% online by 2030
- Cross-border interoperability as an enabler

**Gaps in existing legislation**
- Inefficient governance of interoperability efforts between EU policies, the Commission and Member States for all administrative levels and sectors.
- Lack of common minimum interoperability specifications, shared solutions, standards.
- Lack of an ‘interoperability-by-default’ approach in the design and implementation of EU and MS’s legislation and policies.
Interoperable Europe Act – Ambition and objectives

Help EU and Member States administrations to deliver connected digital services to citizens and businesses across Europe

- To ensure a consistent, human-centric EU approach to interoperability from policy-making to policy implementation
- To establish an interoperability governance structure to enable public administrations to work together and agree on shared interoperability solutions
- To create an ecosystem of interoperability solutions for the EU’s public sector so that public administrations in the EU and other stakeholders can contribute to and re-use such solutions, innovate together and create public value

Communication to set the context and next steps

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**’ label 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)

Join the Interoperable Europe Community!
European Union Location Framework (EULF) Blueprint

A European ‘location interoperability framework’ with guidance for the exchange and use of location information in government policy and digital public services, allied closely to the interoperability principles and scope of the EIF

5 Focus Areas

19 Recommendations

6 Roles

2 Related Frameworks

92 Best Practices

15 Benefits Illustrations

Online and downloadable versions

Adoption monitored through the LIFO

Location Interoperability Framework Observatory (LIFO) | Joinup
EULF Blueprint and EIF

- Detailed two-way cross references in EULF Blueprint and EIF Toolbox solutions on Joinup
- Enables users to access resources from both frameworks

<table>
<thead>
<tr>
<th>EULF Blueprint Recommendation Topics</th>
<th>EIF UNDERLYING PRINCIPLES</th>
<th>EIF INTEROPERABILITY LAYERS</th>
<th>EIF CONCEPTUAL MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy and Strategy Alignment</td>
<td>Openness</td>
<td>Reusability</td>
<td>Interoperability</td>
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<td>1. Digital policy alignment</td>
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<td>2. Data policy alignment</td>
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<td>3. Location data privacy</td>
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<td>4. Location data for policy evidence</td>
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<td>Governance</td>
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<td>5. Standards based procurement</td>
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**Notes:**
- 'X' indicates a focus on the respective principle or layer in the EULF Blueprint or EIF Toolbox.
- The EIF Conceptual Model column includes concepts related to internal information sources and services, base registries, open data, external information sources, and services, and security and privacy.
EULF Blueprint and UN-GGIM IGIF

Presented at the Geospatial World Forum (GWF) 2022
GKI Training programme in Amsterdam

- EULF Blueprint contains detailed two-way cross references between EULF Blueprint recommendations and IGIF strategic pathways, key elements, actions and tools
- Updated in EULF Blueprint v5.2 to 2022 versions of IGIF Implementation Guides
- Enables users to access resources from both frameworks in defining their strategies, implementation actions, guidance and monitoring
- Start your exploration here: https://joinup.ec.europa.eu/node/704325

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JRC knowledge base on data

- Several findings around (geospatial) data sharing
Thank you!

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@EULocation
EU Location Interoperability & Innovation


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