Common European Data Spaces and Official Statistics

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Contents

- Introduction of Common European Data Spaces
- Green Deal Dataspace
- Health Data Space (Anastasija Spajic)
- Governance framework (Eko Rahmadian)
- Take-away messages
What is a Data Space?

Four-corner principle of data space concept (International Data Spaces)

What role(s) for Official Statistics?

Interoperability Integration Control ‘Data Market’
Domain-Centered Approach

- Driven by stakeholders
- Rich pool of data of varying degree of openness
- Sectoral data governance (contracts, licenses, access rights, usage rights)
- Technical tools for data pooling and sharing

Data Spaces Support Centre
- Coordinating the development of data spaces
- Assuring common standards and interoperability

Technical infrastructure for data spaces
- Edge & cloud services
- Smart middleware solutions
- Marketplace
- High-Performance Computing
- AI on demand platform
- AI Testing and Experimentation Facilities

[Source: EC, DG Connect]
Example: the European Green Deal Data Space

The Green Deal Data Space specifically, will link with other EU programmes such as Horizon Europe, Galileo, and Copernicus to provide large amounts of real-time data to:

- Provide relevant high-quality data from the activities related to high-value datasets; and
- Interlink to data from other sectoral data spaces where relevant; and
- Contribute to the Destination Earth initiative, a very high precision digital model of the Earth to enable visualising, monitoring and forecasting natural and human activity on the planet in support of sustainable development.

Ultimately, this data space is to develop into a user-driven pan-European Green Deal data space by connecting EU programmes, national, regional and local data ecosystems at the EU level. To achieve this, the Commission established a number of deliverables:

1. A sustainable data governance scheme and blueprint that connects national, regional and local data ecosystems and enables public and private stakeholders to access relevant data and to develop cross-sector data services;
2. A priority list of datasets relevant to the European Green Deal Strategy;
3. A roadmap towards the common European Green Deal Data Space.

This roadmap should ensure that relevant users, such as climate and environmental scientists, are able to access and make use of the opportunities offered by Green Deal Data Space.
Relations with many other areas

Earth Observation Data

Privacy Enhancing Techniques

DESTINATION EARTH

Europe Commission

March 2022

DESTINATION EARTH (DestinE) will provide unique digital modelling capabilities of the Earth to enhance the EU's ability to monitor and model environmental changes, predict extreme events, and assist EU actions and policies to climate-related challenges.

DestinE build on EU investment in high-performance computing, massive space and socio-economic data sources at our disposal, and on the European excellence in data and AI technologies.

Climate change costs

Globally, 2021 was the fifth warmest year on record. Last year saw severe floods, heatwaves and other climate-related events claimed the lives of thousands of people across Europe. Climate change has caused at least €12.5 billion of economic damage in Europe between 2010-2019.

A Lead for Europe

DestinE will provide evidence-based support for EU and Member State policy makers at all levels on EU environmental adaptation strategies and mitigation actions and policies, thus contributing to the digital and green transformation of Europe.

DestinE actors

The Commission leads in coordination with Member States and Associated Countries

European Space Agency (ESA)

European Centre for Medium-Range Weather Forecasts (ECMWF)

European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)

Key components of DestinE system

Core service platform

The core platform will provide decision-making tools, based on an open, flexible, and secure cloud-based computing system. It will bring together data, cloud, and high-performance computing and it will integrate access to digital twins. It will be operated by the European Space Agency (ESA).
Requests for action, funded by EU

DIGITAL-2024-CLOUD-AI-06-GREENDEAL— European Green Deal Data Space

Objectives

The objective of this action is to deploy an open (GDGS). The Action is expected to take into account data strategy and green deal landscape including the Support Action on “Preparatory actions for the Green the WP 2021/22. It should also take into account the projects funded under HORIZON-CLS-2021-GOVERN.

Digital Europe Programme (DIGITAL)

Call for proposals

Cloud, data and artificial intelligence (DIGITAL-2024-CLOUD-AI-06)

Budget for GDGS in this call: 16 million euro

Overall EU budget for CEDS: 2 billion euro (!)

The inclusion in the proposal(s) of concrete use cases that benefit citizens and businesses and especially SMEs will be considered an asset in the evaluation process. Applicants are encouraged to consider the following examples and guiding directions:

- Collecting data for calculating certain forest indicators is essential in order to monitor pressures and hazards encountered by forest ecosystems. The GDGS could enable access to Earth Observation and National Forest Inventories (NFI) data for calibrating geospatial machine learning models that underpin development and delivery of forest indicators. The GDGS should deploy confidentiality preserving technologies to ensure confidentiality for the plot locations of the NFI data. Proposals could also explore how access to Earth Observation and NFI data can be the basis for new downstream services benefitting the broader forest economy. Similar use cases that seek to allow access to certain environmental data sets considered confidential in order to train machine learning models are also encouraged.

- In a circular economy for textiles, there is a need to close material and data loops along the value chain. The GDGS could contribute by designing and deploying a Producer Responsibility Organization Information System (PRO-IS) as a complement and interface with the Digital Product Passports (DPPs). For instance, the PRO-IS could close data loops via collecting and feeding DPPs of newly manufactured textiles with information on the recovered/recycled fibres content. Involving actors from the textile, waste and digital sectors for such a use case would be important.

- Sustainability reporting and due diligence along supply chains and operations helps private operators assess and disclose their environmental and sustainability performance while complying with legal obligations, which can become a competitive advantage in the sustainability race. The GDGS could support private operators in their journey to collect, verify and share “data-points” across their value chains, to calculate scope 3 GHG emissions, deforestation caused by
Example: the European Health Data Space

European Health Data Space: Council and Parliament strike deal

This press release was updated on 22 March 2024 to include the link to the compromise text

The Council of the EU and the European Parliament have reached a provisional agreement on a new law making it easier to exchange and access health data at EU level. The agreement will now need to be endorsed by both the Council and the Parliament.

The proposed regulation for a European Health Data Space (EHDS) aims to improve individuals’ access to and control over their personal electronic health data, while

Provisional agreement on a new law

Health Data Access Body
Granting access to health data for secondary purposes – ‘Good governance’ assessment of legal schemes for Dutch Health Data Access Body

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Nominee Ben Feringa Impact Award 2024
Confrontation of Legal Schemes (OS and CEDS)
Conclusions- Legal Aspects Health Data Access Body

• Both legal schemes fulfill good governance. Decision on the most apt framework depends on interests of decision-makers and weighing the challenges

• Lack of adequate, pre-established EU principles that would guide data governance frameworks

• Complexity of the interplay of legal frameworks:
  • EU level ambiguity between EHDS and DGA.
  • New legal initiatives implemented without resolving issues with existing frameworks like the GDPR.
  • Interplay between ESS and DGA underexplored.
  • Extensive research conducted on the GDPR given its revolutionary nature but little attention has been given to the ESS and pre-existing frameworks that also govern access to data for research purposes.
Many more aspects to take into consideration...

**Stakeholder Engagement**
Comprehending the needs and concerns of both internal and external stakeholders.

**Sector and domain-specific applications**
Customize initiatives and policies to tackle the distinctive challenges and prospects within each realm.

**Governance**
Establishing a robust governance and regulatory framework is essential for effectively overseeing the operations of CEDS.

**Interoperability and data sharing**
Enabling seamless data exchange and collaboration within CEDS and across other data spaces.

**Organizational Capabilities**
Building the capacity of stakeholders (particularly internal stakeholders and close partners) to effectively participate in CEDS.

**Collaboration**
Collaboration with national and international partners and organizations is essential to align policies, share best practices, and address common challenges.

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How to make choices?

PROPOSED GOVERNANCE FRAMEWORK FOR CBS

Set of policies, guidelines, rules, actions on data governance; to provide comprehensive overview, ensure the benefits, and mitigate the risks.

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Questions and decision trees

How to implement?

Decision relationship viewpoint

Describe the relationship of each decisions on participating on CEDS for CBS with GAMSO, GSBPM, and other programmes.

It helps CBS to track decisions for transparency, accountability and clarity.

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Not only in Europe 😊
Take-aways

- A lot of activity, often domain-specific
- Many stakeholders involved
- Important to join the discussions!
- What’s in it for Official Statistics?
- Data spaces lead to broader strategic questions
- Not just Europe!
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