
EU Data Policy and Actions

Kimmo Rossi

DG CONNECT

Data Policy and Innovation Unit (G1)



Data Policy milestones

- 2017: Communication "**Building a European Data Economy**"
- April 2018: Two EC Communications published:
 - **Towards a common European Data Space**
 - **Artificial Intelligence for Europe**
- May 2018: **GDPR** becomes applicable
- December 2018: **Coordinated Plan on AI**
- April 2019: **Ethics Guidelines** for Trustworthy AI (final)
- May 2019: Regulation on **Free flow of non-personal data** becomes applicable
- June 2019: **Open Data Directive** adopted

What does Data Economy mean?

- New business models/opportunities, built on data
- A culture of **data sharing and reuse**
- Opportunity to **monetize** your data assets
- **Empowering** data subjects: I can decide what happens to “my data”
- The key to data sharing is to make it **attractive, easy** and **safe**

What does Data Economy require?

- Creativity (new business models)
- Skills, awareness (technology, legislation...)
- Technology (to make data sharing robust and safe)
- Infrastructure, interoperability (to not have to reinvent the wheel)
- Regulation (to know what can be done)

Open Data (OD) vs. Closed Data (CD)

Closed data: proprietary, confidential, personal...

- CD needs to be **protected**
- CD can be very **valuable** (and risky)
- CD has all the **complications** of OD, and more
- Lack of (understanding of) legal framework
- Lack of tools & technology & infra to share CD safely
- **Inherent reluctance to share CD**

Privacy-preserving technologies

Important enabling technologies for sharing CD:

- Anonymisation/pseudonymisation
- Multi-party computing
- Homomorphic encryption, data wrapping
- Distributed analytics/machine learning
- Distributed ledger technologies (like blockchain)
- Access control, consent management, compliance verification
- Detection of data poisoning/pollution

Data platforms

Practical arrangements for sharing CD

Tool for realizing data economy where data can be shared and traded like shares or commodities in a stock exchange. Issues to address:

- Centralized (repository) vs. distributed (pipeline)
- Privacy-preserving methods
- Data ownership & data rights
- Quality, provenance bias, relevance of data
- Interoperability, standardization
- Access control, tracking, payment processing

Data and Artificial Intelligence (AI)

- AI needs data to “learn” to be smart
- AI is as good/bad as the data that is used for training it
- How to assess quality, bias, relevance of data for AI?
- How to select datasets for AI training
- Do you have access to (enough) training data?

What does the Commission do

Current:

- Horizon 2020 programme
- Connecting Europe Facility (CEF)
- Public-Private Partnership (PPP) on Big Data Value
- High-level expert group on AI (HLEG AI)

Future:

- Horizon Europe programme
- Digital Europe programme
- PPP on AI, Data and Robotics



Horizon 2020 (H2020)

Research & Innovation funding programme 2014-20 – portfolio of ~40 ongoing projects (180 M€)

- data sharing (**data platforms**) – 3 research projects, 9 platforms
- privacy-preserving technologies
- analytics, visualization
- data-driven **transformation of industry sectors** (banking, energy, transport, healthcare, agri, manufacturing)
- 500 MEUR for data, 2.6B EUR for AI

Connecting Europe Facility (CEF)

Deployment & infrastructure programme for European public services:

- eID, eTranslation, eJustice, Business Registers...
- Open data infrastructure (including the OD portal)
- Support centre for Data Sharing
- Context Broker

High-level expert group on Trustworthy AI (HLEG AI)

Has published the following policy documents:

- **Ethics guidelines** on AI, including an **assessment list**, currently under “piloting process” by 450 stakeholders
- A **definition** of AI
- **Policy and investment recommendations**

<https://ec.europa.eu/digital-single-market/en/high-level-expert-group-artificial-intelligence>

HLEG AI: ethics requirements

1 Human agency and oversight

- Including fundamental rights, human agency and *human oversight*

2 Technical robustness and safety

- Including resilience to attack and security, fall back plan and general safety, *accuracy*, reliability and *reproducibility*

3 Privacy and data governance

- Including respect for privacy, *quality and integrity of data*, and access to data

4 Transparency

- Including *traceability*, *explainability* and communication

5 Diversity, non-discrimination and fairness

- Including the *avoidance of unfair bias*, accessibility and universal design, and stakeholder participation

6 Societal and environmental wellbeing

- Including sustainability and environmental friendliness, social impact, society and democracy

7 Accountability

- Including *auditability*, minimisation and reporting of negative impact, trade-offs and redress

HLEG AI: policy recommendations (excerpt)

- ***29.4 Develop auditing mechanisms for AI systems.*** This should allow public enforcement authorities as well as independent third party auditors to identify potentially illegal outcomes or harmful consequences generated by AI systems, such as unfair bias or discrimination.



Horizon Europe (2021-27)

Successor of Horizon 2020 programme

Commission proposal 2018, adoption expected in second half of 2020

Some topics:

- extreme-scale analytics
- privacy-preserving technologies
- explainable AI



Digital Europe (2021-27)

New programme: deployment, capacity-building to digitise the society (especially public sector)

Commission proposal 2018, adoption expected in second half of 2020

Some topics:

- Common European **Data Spaces** (next step from data platforms)
- Support for High-value datasets
- AI Testing and Experimentation Facilities

Summary: Data, AI and auditing

AI can be a powerful tool for auditors (e.g. pattern detection, fraud detection, analytics, trends)

AI systems affect peoples' lives, so AI must be fair, accountable, trustworthy, robust...

AI systems need to be auditable!

Compliance auditing will be important (e.g. resulting from GDPR requirements)



Thank you for your attention!

Kimmo.Rossi@ec.europa.eu

<https://www.linkedin.com/in/kimmorossi/>