A European Strategy for Data – Implications for the agricultural sector and agricultural policies

Conference “Digital Transformation of the Agricultural Value Chain Opportunities, Challenges and the Role of Science”

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The Digital Age

"Digital Package" adopted in February 2020

- Communication on "Shaping Europe's digital future";
- White paper on Artificial Intelligence (AI);
- Communication on a European Strategy for Data.

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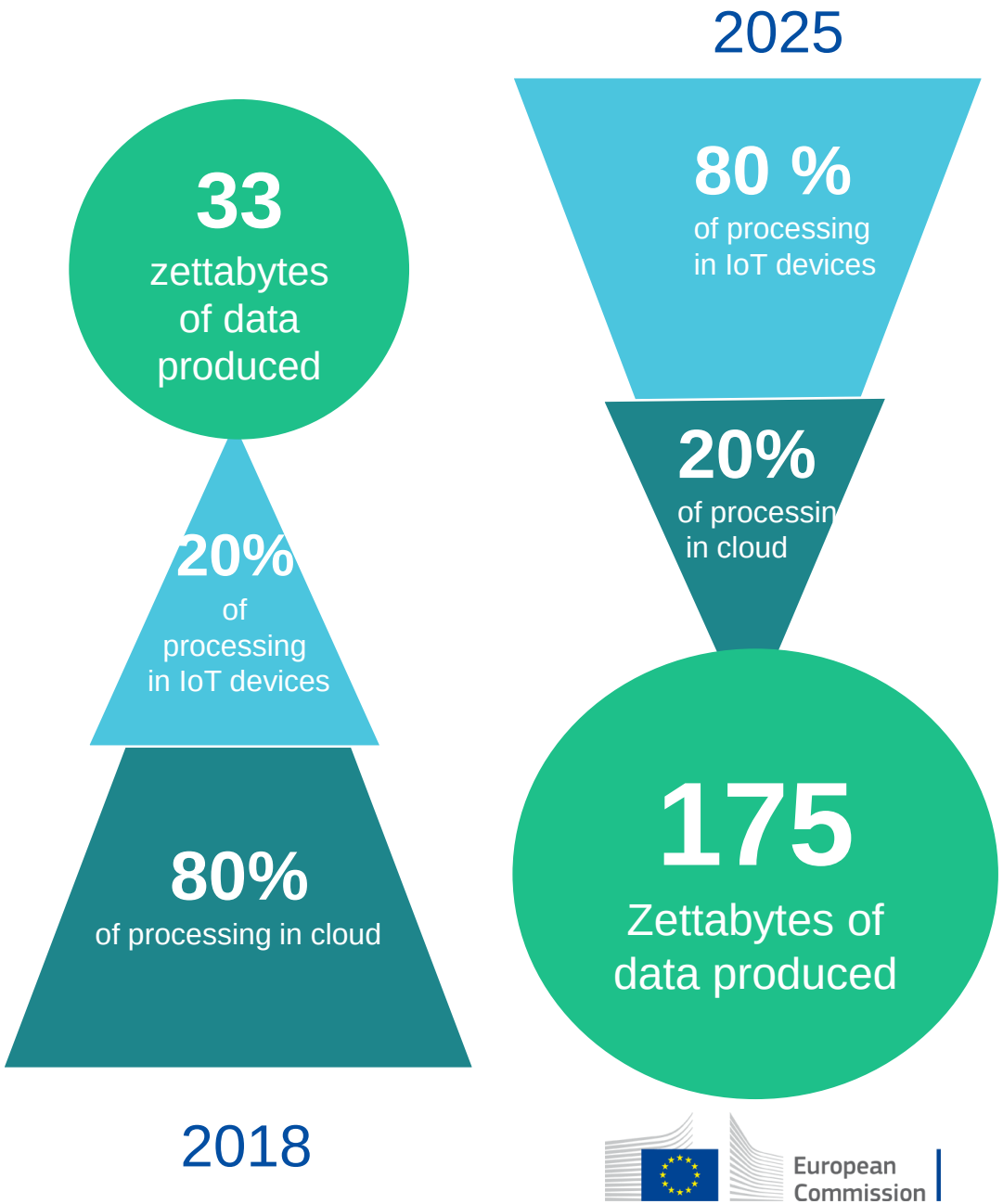
The potential of data

- Data can transform all sectors of the economy and is crucial for AI;
- Personal and non-personal data can be a source of innovation for new products and services;
- Data can contribute to tackle societal challenges such as climate change, health, mobility, etc.
- Data can make our lives and work easier and better.



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Value of data for the EU economy

Projected figures 2025

530%

increase of global data volume

From 33 zettabytes in 2018 to 175 zettabytes

€829 billion

value of data economy in the EU27

From €301 billion (2.4% of EU GDP) in 2018

10.9 million

data professionals in the EU27

From 5.7 million in 2018

65%

Percentage of EU population with basic digital skills

From 57% in 2018

What are the problems?

Not enough data available for reuse

- More public sector data can be made available
- Low uptake of voluntary data sharing among companies
- No clarity on the use of private sector data for the common good

Lack of European data processing & storage solutions

Absence of comprehensive data governance approaches

- To address legal and technical barriers within and across sectors (e.g. standardisation & interoperability)

Skills shortage and low data literacy

Fragmentation of the single market

No real user empowerment

- imperfect data portability mechanisms

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A European Strategy for Data

Becoming an **attractive, secure and dynamic data economy** by

- Setting clear and fair rules on access and re-use of data;
- Investing in next generation standards, tools and infrastructures to store and process data;
- Joining forces in European cloud capacity;
- Pooling European data in key sectors, with EU-wide common and interoperable data spaces;
- Giving users rights, tools and skills to stay in full control of their data;
- Creating an **internal market for data**;
- Legislative, investment and strategic initiatives.

Deploying the strategy through 4 Pillars

A cross-sectoral governance framework for data access and use

including a legislative framework for the governance of European data spaces and other cross- sectoral measures for data access and use

Enablers

Total investments of € 4-6 billion in a High Impact Project on European data spaces and federated cloud infrastructures

Competences

Empowering individuals, investing in digital skills & data literacy and in dedicated capacity building for SMEs.

Rollout of common European data spaces

in crucial economic sectors and domains of public interest, looking at data governance and practical arrangements.

International Aspects

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Common European data spaces

- Driven by stakeholders
- Rich pool of data of varying degree of openness
- Technical tools for data pooling and sharing
- Sectoral data governance (contracts, licenses, access rights, usage rights)
- IT capacity, including cloud storage, processing and services

Personal data spaces

Public sector data (high value data, 'sensitive' data)

Horizontal framework for data spaces:

- Trust in novel data intermediaries that respect 'data sovereignty'
- Governance of standards for cross-sector interoperability

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EU data strategy: upcoming legislation

Q4 2020

Enabling framework for the governance of common European data spaces

Data sharing intermediaries, data altruism, better use of sensitive public data

Q4 2020

Market power instrument under **Digital Services Act** package

Data: a key element of Big Tech's market power

Q1 2021

Implementing Act under **Open Data Directive**

Opening up high quality government data for SMEs & innovation in six thematic domains

2021

Data Act

Better access to and control over co-generated data, B2G data sharing

Implications for the agricultural sector

Different perspectives on agricultural data

- **Private and public data** form valuable input to smart farming.
- **Digital technologies generate large amounts of data** relevant for farmers and the development of the sector, for policy monitoring & evaluation, impact assessment, R&I, etc.
- **EU-wide data-sets** are of added value for comprehensive analyses, e.g. for AI applications, product development, and for concepts for adapting to climate change.

→ Agricultural data has a value.

Data sharing in the sector

- Need to encourage the sharing and pooling of private and public data and the application of data technologies.
- For private data, first experiences with the **EU Code of conduct on agricultural data sharing by contractual agreement** have been gained.
- **Technical solutions** to efficient and trustworthy data sharing needed.
- Various types of **data platforms** for sharing agricultural data exist.

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Common European Agriculture Data Space

- One data space in a set of data spaces;
- To facilitate **the trustworthy sharing and pooling of data for the sector**;
- Has the potential to provide a basis **for R&I** to develop solutions for the sector, and generate forecasting, monitoring and **policy-relevant data**;
- Is to build on experiences with the **Code of conduct** of agricultural data sharing;
- Supported under the forthcoming **Digital Europe Programme**;
- Accompanied by a set of forthcoming **legal acts**;
- **Design still to be defined**, e.g. interoperability mechanisms, role of public data and contribution to **“common good” purposes**.

How may a

Common European Agriculture Data Space

look like?

Possible organisational approaches towards a common agriculture data space

Options	Outputs			Comments
	for sector(s)	for common good	Other	
1) Sharing and pooling of private data	Facilitated trustworthy sharing of data, May encourage more farmers to share data for tailored advice	---	Potentially: Common approach towards data sharing across the EU Facilitated development of applications for farmers Individual farmers may indirectly benefit from the data of other farmers/ actors	**Design of data space still to be set as it regards, e.g.** - **Content** - **Actors involved** - **Financing** - **Technical aspects**
2) Sharing and pooling of private data supplemented by public data	In comparison to Option 1, increased effectiveness	Possible re-use of data with cost-reduction potential	Extended input to farmer applications	
3) Sharing and pooling of private and public data also for the common good	Sector will increasingly benefit of in-depth data analyses	Generation of data for R&I, policy monitoring and statistics across policy fields	May lower data processing needs on farms	

Steps towards the Data Space

- Data strategy: Space will be elaborated with stakeholders and Member States;
- Workshop on Data sharing towards an agriculture data space organized by AIOTI and the Commission June 2020;
- Second step: Stakeholder workshop early September “Expert Workshop on a Common European Agricultural Data Space”
  - 250 participants
  - Position papers by stakeholders and Member States
  - Webinar revealed complexity of the subject and already ongoing efforts.
- Participation/Exchanges to be continued;
- Stocktaking of related initiatives, e.g. in the field of platforms and interoperability;
- Finalization of first Work Programme of the Digital Europe Programme;
- Development of horizontal/cross-sectoral legal acts.

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Support to data space under the DEP

- Common Agriculture Data Space will be element of first Work Programme (2021/22) of the Digital Europe Programme, which is still under development.
- The space will include:
  - (i) the deployment of data-sharing tools and platforms;
  - (ii) the creation of data governance frameworks;
  - (iii) improving the availability, quality and interoperability of data – both in domain-specific settings and across sectors.
- Data space to be developed by connecting different infrastructures deployed.
- The support for data spaces will also cover data processing and computing capacities that comply with essential requirements in terms of environmental performance, security, data protection, interoperability and scalability.

Upcoming Horizontal actions on data

- Legislative framework on data governance:
  - Generic facilitators to make data spaces work (e.g. data intermediaries)
  - Stimulate sharing of data that can be shared without change of substantive rights on data
  - Cross-sector data interoperability
    - Re-Use of Public Sector Data
    - Providers of Data Sharing Services as ‘trusted intermediaries’
    - Data Altruism
    - Creation of the European Data Innovation Board

- Data Act
  - Clarify access for public sector to privately-held data: Flexibility to use ‘big data’ sources
  - Clarify rights of access and use of data: personal and non-personal IoT data;
  - Copyright

High Value Data Sets …

- are subject of a forthcoming implementing act as follow-up of the Open Data Directive (ODD);
- have important benefits for economy and society;
- should be available free of charge, in machine readable formats, provided via APIs and, where relevant, as bulk download.

Thematic scope (as defined in the Annex of the ODD)

  - Geospatial, Earth observation and environment, Meteorological, Statistics, Companies and company ownership, Mobility.

- Concrete data sets are still to be defined.
- Financial support under the Digital Europe Programme for the preparation of data sets.

Non-legislative activities to promote Open Data

- Open Data infrastructure (European Data Portal and EU Open Data Portal) **+ Connecting Europe Facility** building blocks (Big Data test infrastructure and Context Broker)
- **Digital Europe Programme (DEP)**: Specific Objective 2 'Data for Artificial Intelligence (AI)' will strengthen core AI capacities in Europe, including data resources. Calls will focus on, inter alia, making specific datasets interoperable and fit for AI applications. Activities could cover, for example:
    - curation;
    - semantic annotation;
    - harmonisation of metadata;
    - facilitating publication in machine-readable formats and accessibility through APIs.

DEP: Artificial intelligence, data and cloud

Data spaces

- Green Deal
- Manufacturing
- Health
- Agriculture
- Mobility
- Security (law enforcement)
- Cultural Heritage
- Media

Horizontal actions in support to data spaces

- support centre
- open data portal
- high value data sets

Cloud federation

- Market place
- Cloud to Edge based services
- Middleware platforms, building blocks, cross cutting software…

AI on demand platform

- Central access point to AI resources

Testing & Experimentation Facilities

- Manufacturing
- Health
- Agriculture
- Smart Communities
- Edge AI HW

Actions will be managed directly by DG CNECT

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TEF for AI in agri-food

- Testing and Experimentation Facilities (TEF) for Artificial Intelligence (AI) in agri-food are planned for the first Work Programme of the DEP;
- to pave the way for deployment of AI and to boost up-take;
- greater efficiency and uniformity of testing, experimentation and validation;
- large-scale, world-class technology infrastructure for testing and experimentation;
- a kind of “Trial farms” or “Trial fields”;
- exchange of experiences, visits by experts;
- links to Digital Innovation Hubs, and eventually to Common Agriculture Data Space.

→ **Capitalization of data.**

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Thank you