

Expert workshop on a Common European Agricultural Data Space

Webinar: 8 September 2020, 9:30-12:30

Concept note

This note aims at preparing the attendees for an online discussion on how the European Commission can support building a Common European Agricultural Data Space. The discussion will help the Commission to draft the first Work Programme of the Digital Europe Programme that aims at supporting the development of such Data Spaces. It will also help to clarify elements of the implementation of the Common European Agricultural Data Space.

Declaration

In April 2019, the EU Member States signed the declaration on “A smart and sustainable digital future for European agriculture and rural areas” and committed to a number of actions including the creation of a European data space for smart agri-food applications. The Data Space will facilitate the cross-border pooling and sharing of agricultural data between farmers and throughout the value chain by promoting relevant platforms and databases taking into account the stakeholder-led Code of Conduct on agricultural data sharing by contractual agreement.

Data Spaces

The European Strategy for Data¹, dated February 2020, foresees the rollout-out of common European data spaces in nine strategic sectors, including in agriculture sector. In order to operationalise and speed up the emergence of a data market, the development of sectoral common European data spaces will be funded under the Digital Europe Programme, as a means to make relevant data available for developing innovative services, better policy insights and help the emergence of Artificial Intelligence (AI)-enabled solutions. Such data spaces will offer a secure and trusted means to make available data for stakeholders, based upon voluntary agreements (or legal obligations where such obligations are in force).

The programme will support the deployment of the underlying technologies, processes, standards and tools for the operationalisation of the data spaces, based on a federated cloud infrastructure, including the necessary IT systems, technical data governance frameworks and incubating activities for data use by SMEs and start-ups. Important elements will be the common European Green Deal data space, sectoral data spaces for agriculture, mobility, energy, etc., the High Value Datasets (HVDs) as required by the Open Data Directive²³ and the Data Spaces Support Centre that will enable the reuse of data across sectors as well as middleware platforms, cross-cutting software key building blocks and business intelligence services.

¹ COM(2020) 66 final

² Directive (EU) 2019/1024

³ High Value Datasets domains addressed in the first two years of the programme are all those indicated in Annex 1 to the Open Data Directive: geospatial, Earth observation and environment, meteorological, statistics, companies and company ownership, mobility.

Rationale for a European data space in agriculture

The objective is to set up, populate and operate a secure and trusted data space in order to enable the agriculture sector to access data relevant for agricultural production. In detail, the plan is to enhance the sustainability, performance and competitiveness of the agricultural sector through the processing and analysis of *production data* (collected through Farm Management Systems (FMS) or similar applications) and *open data* (such as satellite images, weather data, soil maps that are for public use), allowing for precise and tailored application of production approaches at farm level. Production data supplemented by open data will present new opportunities for monitoring and optimising the use of natural resources and, as such, will contribute to the sustainable goals of the Green Deal.

The FMS collect agricultural data during farm operations. The majority of FMS suppliers have their own cloud infrastructure, where some of the collected data are stored. It is proposed to create a European data space to unleash access to the data generated by the different systems, which will become the central access points for both the farmers and third parties. Standard Application Programming Interfaces (APIs) and a reference architecture developed as part of the data space will ensure interoperability between the proprietary data formats. Essentially, the European data space will pool metadata from its heterogeneous sources and facilitate data exchange based on contractual agreements.

Transparent control of data access and use as well as 'data sovereignty' are necessary elements of a data space. The data space will promote the collection of data and give free access to open data such as satellite images, weather data, soil maps that are for public use, including data from the list of high value datasets to be established under the Open Data Directive (especially those selected from the geospatial, earth observation, environment and meteorological categories). It will also capture agricultural production data collected by the on-site sensors and connected machines such as planting population, yield data, fertiliser, pesticide application and may also cover market research data, retail prices, logistics data, etc.

Implementation of the data spaces

The implementation of a Common European Agricultural Data Space will not be established from scratch but it will combine existing data platforms and data sets. As such, the European data space might be seen as a distributed system comprising different data platforms, which have implemented common interoperability mechanisms. The data sources could come from open data, different data platforms such as FMS, or from existing data platforms supported by ecosystems where stakeholders already share data.

The implementation of the European data space will require the main key players/suppliers of the data space to agree on a set of interoperability mechanisms such as architecture of the distributed system, specification on a reference API, meta-data, etc. The definition of the interoperability mechanisms will be elaborated and agreed by the key players of the agriculture sector in close cooperation with the support centre, which will be set up, and which will coordinate all relevant actions on sectoral data spaces.

Questions for discussion at the technical workshop/ webinar:

1. Is the federation of some of the Farm Management System (FMS) platforms and other data platforms feasible?
2. Assuming that the implementation option for the Common European Agricultural Data Space for agriculture is based on a federated distributed system of existing data platforms, what is needed to implement a European data space from a technical point of view (definition of the interoperability mechanisms)?
3. How can we reach an agreement on a set of interoperability mechanisms (avoiding locking into existing platform architectures)?
4. Are the suppliers of FMS ready to share their data? And willing to federate their data platform with other suppliers?
5. Which existing platforms supported by ecosystems (at regional or national level) are already sharing data? In which sub-sectors are they sharing the data?
6. Which public data sets would be of particular relevance for increasing the effectiveness of the Common European Agriculture Data Space?
7. Are their experiences with taking public data sets as input to FMS, farmers` applications or agricultural data spaces?