Role of digitalisation in the CAP Strategic plan (Cross-Cutting Objective)

SWG SCAR AKIS

1 June 2021

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Disclaimer

- *Note, that this presentation is intended to stimulate the discussion, on how the CAP Strategic Plans can be effectively used to implement the element digitalization of the cross-cutting objective. It is not intended to provide legally binding information.*

Outline

- Setting the scene

- A closer look at digital technologies

- Creating an environment enabling farmers and rural communities to take up and effectively deploy digital technologies

- Transposing ambitions into the CAP Strategic Plan

- Potential for complementarity with other policy instruments (outside the CAP)

Objectives of the Common Agricultural Policy post-2020

Cross-cutting / horizontal objective:

Modernising the sector by fostering and sharing of knowledge, innovation and **digitalisation** in agriculture and rural areas, and encouraging their uptake

Selected framing conditions for the digital transformations in agriculture in the EU
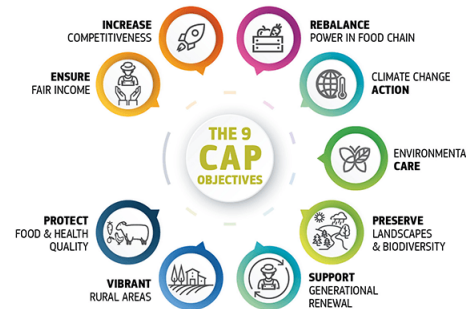
Code of Conduct on agricultural data sharing (2018)

Digital Declaration (2019)

A European Strategy for Data (2020)

Common Agricultural Policy post 2020

Green Deal & Farm to Fork

Digital technologies can ...

- help farmers to work more precisely and efficiently;

- increase the sector's competitiveness and sustainability performance;

- make the job of a farmer more attractive to younger generations;

- increase transparency for the consumer;

- can support **all types** of farming;

- increase the competitiveness and sustainability performance of **rural communities**, and increase quality of life.

More specification needed ...

- Under which conditions can digital technologies contribute to which extent to which objective?
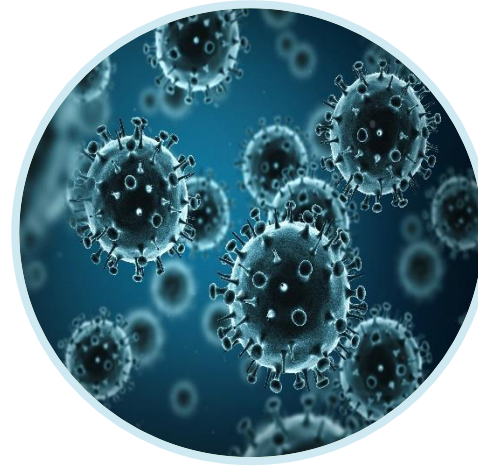
2030 Targets for sustainable food production

Reduce by 50% the overall use and risk of **chemical pesticides** and reduce use by 50% of more hazardous **pesticides**

Reduce **nutrient losses** by at least 50% while ensuring no deterioration in soil fertility; this will reduce use of **fertilisers** by at least 20 %

Reduce sales of **antimicrobials** for farmed animals and in aquaculture by 50%

Achieve at least 25% of the EU's agricultural land under **organic farming**

2030 Target for pesticides

Reduce by 50% the overall use and risk of **chemical pesticides** and reduce use by 50% of more hazardous **pesticides**

Precision farming can help to reduce the amount of pesticides allowing for more tailored and precise application.

Challenge:
Assessing the emission reduction potential of certain digital technologies.

2030 Targets for sustainable food production

**Structure
+
Land use
patterns**

Bring back at least 10% of agricultural area under **high diversity** landscape features by 2030

Achieve at least 25% of the EU's agricultural land under **organic farming**

2030 Targets landscape diversity

Digital technologies and precision farming cannot replace actions to increase structural diversity.

Digital technologies can help to manage agricultural land with high structural diversity more cost-effectively and -efficiently.

Bring back at least 10% of agricultural area under **high diversity** landscape features by 2030
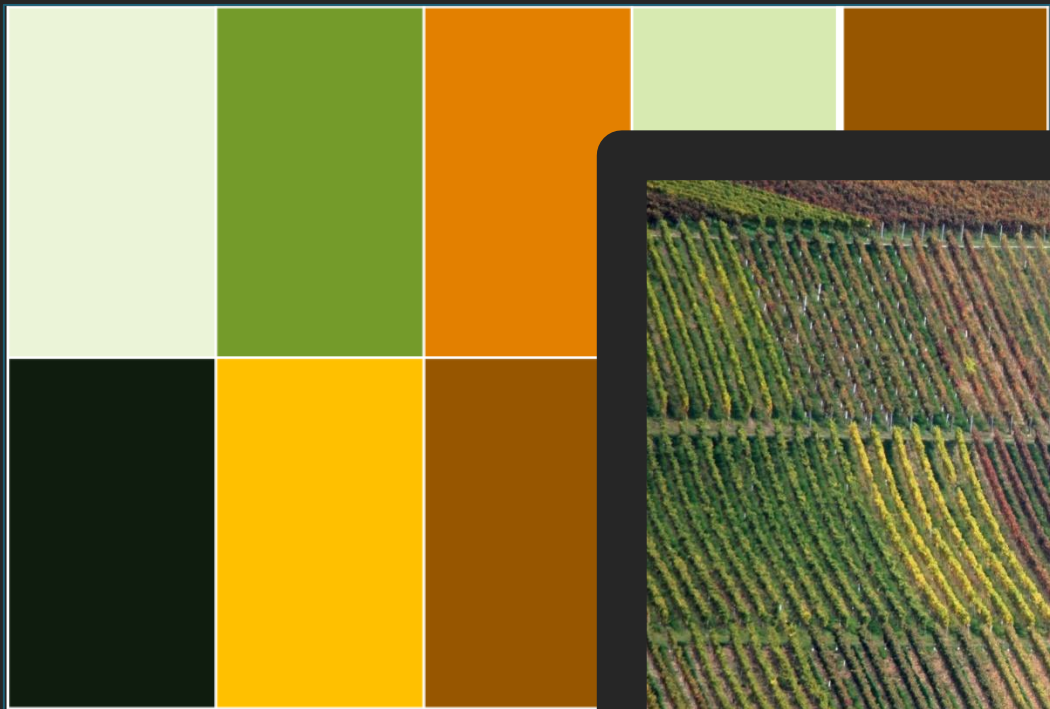
The role of data and data technologies

- The effectiveness of digital technologies strongly depends on **data and data technologies.**

- Information can also be capitalised without (expensive) digital technologies.

- **Data of higher precision** tends to be more expensive, e.g. generated through sensors.

- Farm management benefits from **reference data** from/ generated on other farms.

Digital technologies for all type of farms

Digital technologies can support:

- Conventional farms

- Organic farms

- Agro-ecological farming approaches

- Structurally large/ small farms

- Farms with strong/ weak financial and human capacities

- Etc.

- *Farms without internet connectivity?*

Digital technologies for rural communities

Digital technologies can support e.g.

- E-services, like eHealth

- Remote working

- Platforms in various fields, e.g. tourisms

- Automation in businesses

- …..

Digitalisation as "enabler"

Digitalisation is one key to achieve environmental and socio-economic sustainability ambitions.

R&I and the markets offer digital solutions,

but the potential of digitalisation is not fully exploited due to e.g. gaps in:

- Infrastructure (e.g. broadband)

- Awareness of digital technologies

- Digital skills

- Cost-effectiveness of some technologies

- Trust of operators in technology and data sharing

Digital transition – Challenges to be met *(a selection)*

- **Avoiding a digital divide** between regions and types of farms, types of businesses or population groups.

- Preparing rural communities for **changes in employment structures** and for making use of digital technologies.

Exploiting the potential of digital technologies

Examples of factors enabling uptake and effective deployment

- Providing data and facilitating data sharing

- Strengthening broadband capacities

- Supporting the development of digital skills

- Enabling the exchange of information and experiences

- Providing advisory services

- Facilitating investments

- Promoting targeted Research & Innovation

→**Comprehensive strategic approach essential**

→*May require to "think beyond the CAP"*

Digitalisation in the CAP SP (1)

<u>Link to CAP objectives and country–specific situation</u>

- Digital technologies can potentially contribute to achieve all SOs

- Digital technologies can potentially contribute to AKIS and IACS implementation

- Results of <u>overall</u> SWOT and needs assessment ideally to be considered in the elaboration of the Digitalisation Strategy.

- SWOT and needs assessment in the field of digitalisation essential to tailor interventions and follow a comprehensive approach.

Digitalisation in the CAP SP (2)

Important steps

- Assessing the status-quo of digitalization in agriculture and rural areas ideally considering e.g. the **uptake, uptake barriers, and enabling factors**

    - *Consideration of qualitative assessments might be needed*

- SWOT-Analysis on digitalization

    - *Comparison with other MS might be challenging, comparison with other sectors and regions might be considered*

- Assessment of needs in the field of digitalisation

- Establish link to results of the assessments for SOs

    - *E.g. which opportunities, threats and needs for SOx could be addressed through digitalisation*

- Development of a **strategic approach** including the selection and designing of CAP interventions (and other interventions) and **their interplay**
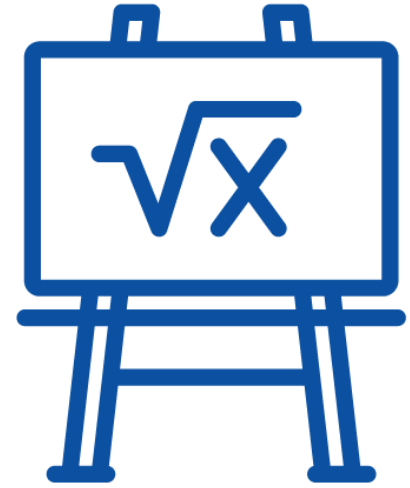
Digitalisation in the CAP SP (3)

(Potentially) Relevant interventions

- Farm advisory services: SPR (Art. 13) stipulates that digitalisation has to be covered

- FaST is to be offered by Member States to farmers

- Knowledge exchange & information

- Investment support

- EIP AGRI

- Young farmers

- Cooperation

- AECM

- Eco-schemes

Digitalisation in the CAP SP (4)

Setting targets

Result indicator R.3

- R.3 Digitising agriculture: Share of farmers benefitting from support to precision farming technology through CAP

→ *Note, results of trialogue are expected to lead to adjustments*

Digitalisation in the CAP SP (5)

Special possible focal points

- **Avoidance of digital divides between e.g. regions, types of farms, population groups** (see also Communication on a Digital Compass)

- Consideration of existing national sectoral or cross-sectoral **digitalisation strategies**, if applicable

- **Technological evolution**

- Digitalisation of the **policy implementation system** and synergies with the digitalisation of the sector might be considered (e.g. in the field of data)

Digital Declaration

Declaration of cooperation on 'A smart and sustainable digital future for European agriculture and rural areas`

- signed by most Member States since 2019;

- self-commitment by Member States to joint action;

- fosters synergies between policy programmes and instruments, including **Common Agricultural Policy, Digital Europe Programme, Horizon Europe;**

- aims at stimulating cooperation between Member States and various stakeholders;

- points to **concrete actions** and initiatives in agri-food, such as support to a Common European Agriculture Data Space.

The role of R&I in digitalisation

R&I in Agri-Tech has pivotal role to boost effectiveness, acceptance, and uptake of digital technologies, e.g. by

- increasing cost-effectiveness of digital solutions,

- enhance performance assessment opportunities,

- developing technical solutions facilitating trust in data sharing.

Important aspects
- Demonstration effect (e.g. through pilot projects)
- Need-driven and end-user orientation
- Technical innovation in combination with business models and social innovation

Selected policy instruments post 2020 beyond the CAP

Digital Europe Programme

- Common European Agriculture Data Space
- Testing and Experimentation facilities for AI in agri-food
- Digital Innovation Hubs
- Support to advanced Digital Skills

Horizon 2020/ Europe

- Successful Horizon 2020 projects, including large-scale demonstration projects
- Tailored Horizon Europe themes
- Horizon Europe Candidate Partnership "Agriculture of Data"
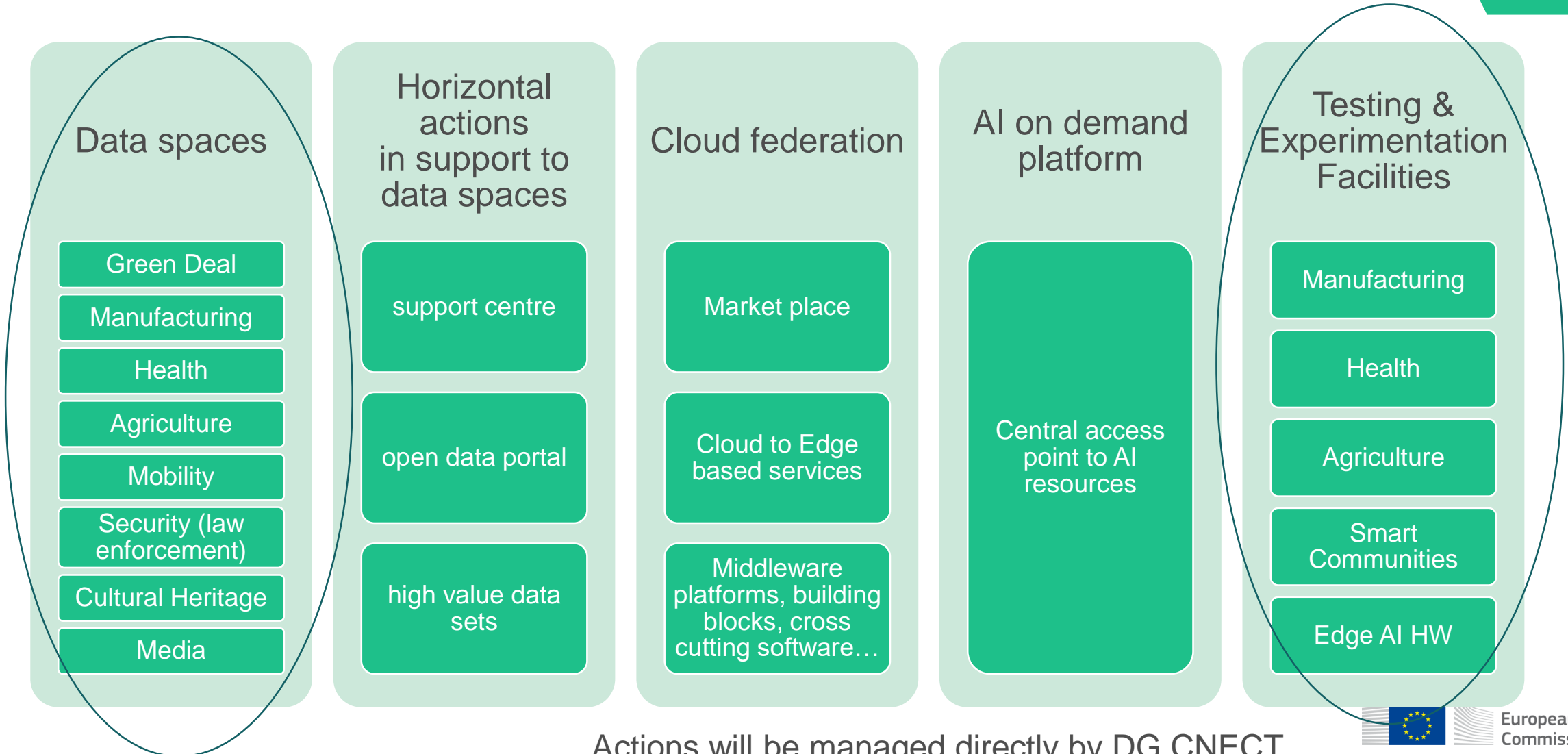
Recovery and Resilience Facility

- Digital infrastructure

Complementarity of EU programmes – Examples in the context of "Ag Digitalisation"

Policy instrument/ Programme	Scope	Examples	Comments
Horizon 2020/ Horizon Europe	**Research & Innovation**	Large-scale pilot projects with demonstration power Tailored themes, e.g. on digitalisation on small farms Partnership Agriculture of Data	Under Horizon Europe, especially Clusters 4 and 6 will be relevant
Digital Europe Programme	**Innovation & Deployment** Capacity building	Digital Innovation Hubs Data spaces Testing and Experimentation Facilities for AI Advanced digital skills	
Common Agricultural Policy	**Application** Capacity building Innovation	Advisory services Training Investment support AKIS EIP AGRI	Link to Horizon through EIP-AGRI

European Commission

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

Common European Agriculture Data Space

- Announced in the "European Strategy for Data" (02/2020)

- 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 modelling, forecasting, monitoring and policy-relevant data;

- Building on experiences with the Code of conduct of agricultural data sharing;

- Design still to be defined, e.g. interoperability mechanisms, role of public data and contribution to "common good" purposes, e.g. R&I or policy monitoring;

- Supported under the forthcoming **Digital Europe Programme**;

- Accompanied by a set of legal acts.

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.**

Thank you