EU level initiatives and policies concerning digitalisation in the agricultural value chain.

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

Kerstin ROSENOW
DG AGRI
Unit B2: Research & Innovation

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Broader political context framing sustainable digitalisation in agriculture

Green Deal

Farm to Fork Strategy

Digital Age

Common Agricultural Policy
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.
Digital technologies can ...

- help farmers to work more precisely and efficiently;
- increase the sector’s sustainability performance and competitiveness;
- make the job of a farmer more attractive to younger generations;
- increase transparency for the consumer;
- support all types of farming;
- reduce administrative burden for farmers and administration.

But “gap” between R&I and market and the uptake of digital technologies by farmers.
Digitalisation as « enabler »

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

• But potential not fully exploited due to e.g. shortcomings in:
  • Infrastructure (e.g. broadband)
  • Awareness of digital technologies and skills
  • Cost-effectiveness of some technologies
  • Trust of operators in technology
Exploiting the potential of digital technologies – A European perspective

- Strengthening broadband capacities
- Supporting the development of digital skills
- Enabling the exchange of information and experiences
- Providing advisory services
- Facilitating investments
- Providing data and facilitating data sharing
- Promoting targeted Research & Innovation
What are we already doing with EU programmes?

Selected examples

- Research and Innovation/ Horizon 2020
- CAP – EIP - AGRI
Horizon 2020 - Large Scale Pilots in Agriculture

Very Large Innovation Actions, 30-60 Partners
Supply-demand cooperation

Focus on Open platforms and Standards based solutions
Value-chain approach

A set of compelling use cases with evidence of Impact
Cascading Funding

Atlas
30MC funding
15MC funding
13MC funding
Example of a Use Case (IoF2020)

4.3 ADDED VALUE WEEDING DATA

5/8 CURRENT TRL & TARGET TRL

+ 5% PRODUCTION CROP/M²

+ 10% €/CROP

- 10% LABOUR REDUCTION

Use Case – Crop management

HOW IT WORKS

THE IMPACT

OUR OBJECTIVES
Through improved crop and field monitoring, resulting in better field management we aim to reduce the labor required for organic crop production, while improving the yield.

ON ECONOMY
- Crop yield +5%.
- Sales turnover +5%.

OTHER IMPACT
- Work time -5%.
- Prediction uncertainty -10%.

Main messages:
- Integration of apps/platforms
- Integration of data
- Demo or Die
Connecting policies: the bigger EIP picture

**CAP/Rural development**
(Regional/national level)

- **OG preparation**
- **OG projects**
- **Innovation support services**

**Research projects**
**Multi-actor projects**
**Thematic networks**
(interactive innovation)

Unique EU knowledge repository of contacts and practice abstracts

Involvement of OGs is strongly recommended

Spread the results
EIP-AGRI – Where are we?

- 27 Member States, 98 rural development programmes implementing the EIP
- Around 3 200 OGs planned in 2014-2020; more than 1200 OGs already running
- Around 10% of OGs foster digital technologies in agriculture
- Around 180 H2020 multi-actor projects, including 34 thematic networks
- An increasing volume of practice-oriented knowledge!

www.eip-agri.eu
Selected policy instruments post 2020

Common Agricultural Policy
- European Partnership for Agricultural productivity and Sustainability (EIP-AGRI)
- Measures supporting capacity building among farmers and their advisors

Horizon Europe
- Tailored Horizon Europe themes
- Horizon Europe Candidate Partnership “Agriculture of Data”

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
Future Rural Development Policies

Examples of relevant support measures

• Investments in broadband
• Investments in digital technologies
• Advisory services
• European Innovation Partnership for Agricultural Productivity and Sustainability (EIP-AGRI) (upgraded)
• Agricultural Knowledge and Innovation Systems (AKIS)
Horizon Europe: structure

**Pillar 1**
Excellent Science
- European Research Council
- Marie Skłodowska-Curie Actions
- Research Infrastructures

**Pillar 2**
Global Challenges and European Industrial Competitiveness
- Health
- Culture, Creativity and Inclusive Society
- Civil Security for Society
- Digital, Industry and Space
- Climate, Energy and Mobility
- Food, Bioeconomy, Natural Resources, Agriculture and Environment
- Joint Research Centre

**Pillar 3**
Innovative Europe
- European Innovation Council
- European innovation ecosystems
- European Institute of Innovation and Technology

€9 billion

Widening Participation and Strengthening the European Research Area
- Widening participation and spreading excellence
- Reforming and Enhancing the European R&I system
Cluster 6 Food, Bioeconomy, Natural Resources, Agriculture and Environment

We work with...

- Environmental Observation
- Biodiversity and Natural Resources
- Agriculture, Forestry and Rural Areas
- Bio-based innovation systems in the EU Bioeconomy
- Seas, Oceans and Inland Waters
- Food Systems
- Circular Systems

...and across clusters
Digitalisation in Horizon Europe Cluster 6

- First Work programme still under preparation
- Targeted themes supplementing large-scale projects on digitalization in agriculture under Horizon 2020.

- Themes are expected to help to e.g. to overcome challenges going along with the digital transition:
  - Ability to monitor and benchmark – Lack of data on the uptake of digital technologies in the agricultural sector.
  - Avoiding a digital divide between regions or types of farms.
  - Preparing rural communities for changes in employment structures and for making use of digital technologies.
Challenges to be met *(a selection)*

- **Ability to monitor and benchmark** – Lack of data on the uptake of digital technologies in the agricultural sector.

- **Avoiding a digital divide** between regions and types of farms.

- Preparing rural communities for **changes in employment structures** and for making use of digital technologies.
Encouraging synergies through partnerships between the EU and Member States

New generation of objective-driven and more ambitious partnerships in support of agreed EU policy objectives

Key features

- Simple architecture and toolbox
- Coherent life-cycle approach
- Strategic orientation
Candidate partnership Agriculture of Data

Proposed for Horizon Europe Work Programme 2023/24

**Principal Objectives**

- Using the possibilities offered by data technologies in the field of Environmental Observation to
  - provide support to improve the sustainability performance of agricultural production;
  - Improve the capacities for policy monitoring and evaluation.
Digital Europe Programme - Testing and Experimentation Facilities for AI

- Planned for the first Work Programme of the Digital Europe Programme
- 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”
- Exchange of experiences, visits by experts
- Links to Digital Innovation Hubs
Thank you