



Geospatial data in the EU (data) policy context

EuroGeographics General Assembly 2021 (user requirements session)

outline

1. EU policy context

Common Agricultural Policy (CAP), Green deal (Farm to Fork, Biodiversity for 2030), Digital age (Common data space, ...)

2. CAP 2020+ ...and data

- Strategic Plans (SP) and CAP indicators
- Data beyond Annex I (SP Regulation) and CAP evaluation and monitoring
- Conversion of Farm Accountancy Data Network (FADN) → FSDN
- AGRI-FOOD Data portal
- Integrated Administration and Control System (IACS):
 - Data sharing under INSPIRE → Art. 65 (HZR proposal)
 - Checks by monitoring → Area Monitoring System
 - Open Data Directive and High Value Datasets

AGRI D3?

DIRECTORATE-GENERAL FOR AGRICULTURE AND RURAL DEVELOPMENT

Direction D – **Sustainability and Direct support**

D1 Direct Payment

D2 Greening, conditionality and POSEI

Unit D3 - Implementation support and IACS

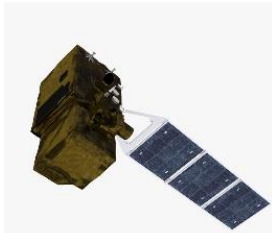
Integrated Administration and Control System

D4 Environment, climatic change, forests and bio-economy

Director-General					
Deputy Director-Generals					
A	A1	A2	A3	A4	A5
B	B1	B2	B3	B4	
C	C1	C2	C3	C4	
D	D1	D2	D3	D4	
E	E1	E2	E3	E4	E5
F	F1	F2	F3	F4	F5
G	G1	G2	G3	G4	
H	H1	H2	H3	H4	H5
I	I1	I2	I3	I4	I5
R	R1	R2	R3	R4	R5
HR Business Correspondent					

AGRI D3 – Implementation Support and IACS

Technological watch/ digital transformation	IACS legislation	IACS Quality Assessment
<ul style="list-style-type: none"> Earth observations/ tech solutions for IACS and beyond e.g. <ul style="list-style-type: none"> - Checks-by-Monitoring - Area Monitoring System Data hub <ul style="list-style-type: none"> - data sharing - data governance - local data correspondent JRC cooperation and support 	<ul style="list-style-type: none"> Modifications of current CAP legislation CAP reform including Implementing and Delegated Acts 	<ul style="list-style-type: none"> Quality Assessment of IACS components e.g. LPIS Quality Assessment
	<p>Member States Implementation support (Member state desk team)</p> <ul style="list-style-type: none"> - Interpretation of current CAP legislation <ul style="list-style-type: none"> - Consistency of audit findings - Action Plans 	



1. EU policy context

- ✓ CAP
- ✓ Digital Age
- ✓ Green deal (Farm to Fork, EU biodiversity for 2030)

1. EU policy context

CAP 2020+ : new delivery model

Specific objectives (environment and climate !)



CAP implementation:

- Shift to more performance
- Member States prepare Strategic Plans

Link with EU policy:

- Green deal
- Europe digital age

Importance of data

+ cross-cutting objective on knowledge, innovation and **digitalisation**

1. EU policy context

How to make Europe greener and more digital ?

→ A European Green Deal
An economy that works for people
A Europe fit for the digital age
Protecting our European way of life
A stronger Europe in the world
A new push for European democracy



- **Data** and AI are the ingredients for innovation that can help us to find solutions to **societal challenges**, from health to **farming**, from security to manufacturing.
- **Balance** the flow and wide **use of data** while **preserving high privacy, security, safety and ethical standards**.
- Need to move from “**need to know**” to “**need to share**”
- **The public sector** has an important role in stimulating digital transformation.

1. EU policy context

Member States Declaration

- **The public sector** has an important role in stimulating digital transformation.

Declaration for A smart and sustainable digital future for agriculture and rural areas

Signed in April 2019 (**almost all MS**)

April 2019

(...)

*increase CAP administration efficiency, **notably in sharing geospatial information among public administrations***

(...)

<https://ec.europa.eu/digital-single-market/en/news/eu-member-states-join-forces-digitalisation-european-agriculture-and-rural-areas>

1. EU policy context

Programmes to support 'digital'

MFF



+

RRF



Digital Europe *Capacities & roll out*

1. High Performance Computing (HPC)
2. Artificial Intelligence (AI)
3. Cybersecurity
4. Advanced digital skills
5. Digital transformation and interoperability

Horizon Europe *Digital in R&D&I*

1. Digital under "global challenges"
 - Digital, Industry and Space cluster
 - Digital in other clusters - health, mobility, energy, environment,...
2. Open Innovation
3. Research Infra under Open Science

Connecting Europe Facility *Digital Connectivity*

- 5G roll out
- BB 4EU, Connecting communities
- Synergies with Transport /Energy

Creative Europe MEDIA

Invest EU *Research, innovation & digitisation*

European Regional Development Fund/ Cohesion Fund

1. EU policy context

Digital Europe Programme

- The **main** financial instrument of the EU focused on bringing/deployment digital technology to be used by Europe's citizens, businesses and **public administrations**
- It aims to build the strategic digital capacities of the EU and facilitate the wide deployment of digital technologies, will provide strategic funding in **five crucial areas**:
 - (1) supercomputing, (2) artificial intelligence, (3) cybersecurity, (4) advanced digital skills, and (5) ensuring a wide use of digital technologies across the economy and society

1. EU policy context

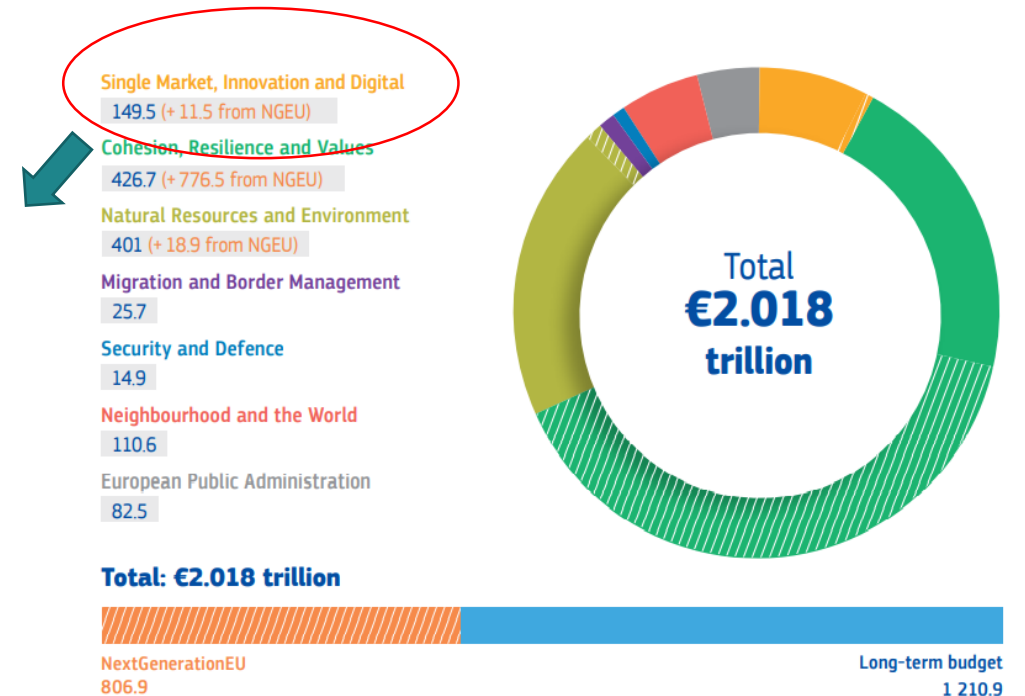
Budget for the digital

DEP (7.7 billions EUR) is a part of the next long-term EU budget, the Multiannual Financial Framework, which covers 2021 to 2027:

- Super computing (**2.2** billion) – (**data processing capacity...**)
- Artificial intelligence (**2.2** billion) – (set up of **data spaces...**)
- Cyber security (**1.7** billion)
- Advanced digital skills (**0.58** billion)
- Wide use of digital technologies (**1.1** billion
- notably green deal and **public administration...**)

March 2021 – **EC communication (digital decade)** – 2030 targets

20% Percentage of the Recovery and Resilience Facility (instrument of NGEU) each EU country should dedicate to the digital transition



1. EU policy context

European Green Deal

*"The European Green Deal is our new growth strategy.
It will help us cut emissions while creating jobs."*

Ursula von der Leyen, President of the European Commission



*"We propose a green and inclusive transition to help
improve people's well-being and secure a healthy planet
for generations to come."*

Frans Timmermans, Executive Vice-President of the European Commission

The EU will:



Become
climate-neutral
by 2050



Protect human life,
animals and plants,
by cutting pollution



Help companies
become world leaders
in clean products and
technologies



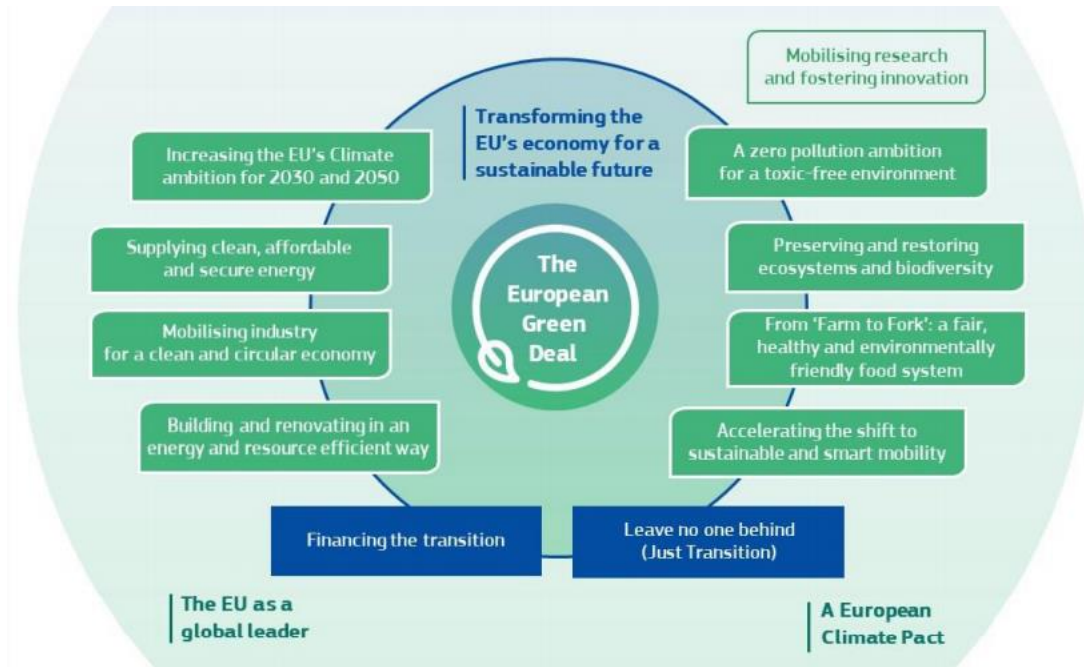
Help ensure a
just and inclusive
transition

<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1588580774040&uri=CELEX%3A52019DC0640>

December 2019

1. EU policy context

European Green Deal – actions!



Annex to the Communication on the European Green Deal

Roadmap - Key actions

Actions	Indicative Timetable ¹
Climate ambition	
Clean, affordable and secure energy	
Industrial strategy for a clean and circular economy	
Sustainable and smart mobility	
Greening the Common Agricultural Policy / 'Farm to Fork' Strategy	
Preserving and protecting biodiversity	
Towards a zero-pollution ambition for a toxic free environment	
The EU as a global leader	
Working together – a European Climate Pact	

<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1588580774040&uri=CELEX%3A52019DC0640>

1. EU policy context

European Green Deal and CAP

	Greening the Common Agricultural Policy / 'Farm to Fork' Strategy	
X	Examination of the draft national strategic plans, with reference to the ambitions of the European Green Deal and the Farm to Fork Strategy	2020-2021
X	'Farm to Fork' Strategy	Spring 2020
	Measures, including legislative, to significantly reduce the use and risk of chemical pesticides, as well as the use of fertilizers and antibiotics	2021
	Preserving and protecting biodiversity	
X	EU Biodiversity Strategy for 2030	March 2020
	Measures to address the main drivers of biodiversity loss	From 2021
	New EU Forest Strategy	2020
	Measures to support deforestation-free value chains	From 2020
	Towards a zero-pollution ambition for a toxic free environment	
	Chemicals strategy for sustainability	Summer 2020
	Zero pollution action plan for water, air and soil	2021
	Revision of measures to address pollution from large industrial installations	2021



Member States → Strategic Plans

Well-established evidence (e.g. studies) and **data**, taking into account the **national and regional** contexts.

1. EU policy context

Farm to Fork targets



The use of pesticides in agriculture contributes to pollution of soil, water and air. The Commission will take actions to:

- ✓ **reduce by 50%** the use and risk of chemical pesticides by 2030.
- ✓ **reduce by 50%** the use of more hazardous pesticides by 2030.



The **excess of nutrients** in the environment is a major source of air, soil and water pollution, negatively impacting biodiversity and climate. The Commission will act to:

- ✓ **reduce nutrient losses by at least 50%**, while ensuring no deterioration on soil fertility.
- ✓ **reduce fertilizer use by at least 20%** by 2030.



Antimicrobial resistance linked to the use of antimicrobials in animal and human health leads to an estimated 33,000 human deaths in the EU each year. The Commission will **reduce by 50% the sales of antimicrobials for farmed animals and in aquaculture by 2030**.



Organic farming is an environmentally-friendly practice that needs to be further developed. The Commission will boost the development of EU organic farming area with the aim to achieve **25% of total farmland under organic farming by 2030**.

1. EU policy context

Biodiversity strategy targets

The new EU-wide Biodiversity Strategy will:

- > Establish protected areas for at least:



30%
of land in
Europe



30%
of sea in
Europe

With stricter protection of remaining EU primary and old-growth forests legally binding nature restoration targets in 2021.

- > Restore degraded ecosystems at land and sea across the whole of Europe by:



Increasing organic farming and biodiversity-rich landscape features on agricultural land



Halting and reversing the decline of pollinators



Restoring at least 25 000 km of EU rivers to a free-flowing state



Reducing the use and risk of pesticides by 50% by 2030



Planting 3 billion trees by 2030

<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590574123338&uri=CELEX%3A52020DC0380>

2. CAP and data

1. Strategic Plans and CAP indicators
2. Data beyond Annex I (SPR) and CAP evaluation and monitoring
3. FADN → FSDN
4. AGRI-FOOD Data portal
5. IACS : data sharing under INSPIRE → Art. 65 (HZR proposal)
6. IACS: checks by monitoring → Area Monitoring System
7. Open Data Directive and High Value Datasets

2.1 Strategic Plans and CAP indicators

Strategic plans

[CAP strategic plans – Proposal for a regulation COM\(2018\) 392](#)

Legal texts on financing, management and monitoring of the CAP

[Financing, management and monitoring of the CAP – Proposal for a regulation COM\(2018\) 393](#)

Legal texts on common organisation of the markets

[Common organisation of the markets – Proposal for a regulation COM\(2018\) 394](#)

- shift towards a **more performance-oriented** policy
- the establishment of a solid performance framework (A new Performance Monitoring and Evaluation Framework (**PMEF**) will cover all instruments of the future CAP)
- based on a set of **common indicators**

ANNEX I

IMPACT, RESULT AND OUTPUT INDICATORS PURSUANT TO ARTICLE 7

Assessment of the performance of the policy (multi-annual) - IMPACT	Annual performance review - RESULT*	Annual performance clearance - OUTPUT
Objectives and their respective impact indicators.*		Broad types of interventions and their output indicators.*

+ **Context indicators** which remain pertinent

2.1 Strategic Plans and CAP indicators

Table 1: Indicators in Annex I of the proposed CAP Strategic Plan Regulation associated to Green Deal targets

Green Deal targets related to the agricultural sector ¹⁸	Impact indicators (as laid down in Annex I) or Context indicators (as envisaged in secondary legislation)	Output and result indicators (as laid down in Annex I)
<ul style="list-style-type: none"> Reducing by 50% the use and the risk of chemical pesticides by 2030 Reducing by 50% the use of high-risk pesticides 	I.27 Sustainable use of pesticides: reduce risks and impacts of pesticides	R.27 Sustainable pesticide use: share of agricultural land concerned by supported specific actions which lead to a sustainable use of pesticides
<ul style="list-style-type: none"> Reducing by 50% the sales of antimicrobials for farmed animals and in aquaculture by 2030 	I.26 Limiting antibiotic use in agriculture: sales/use in food producing animals	R.36 Limiting antibiotic use: share of livestock units concerned by supported actions to limit use of antibiotics
<ul style="list-style-type: none"> Reducing nutrient losses by at least 50% in 2030 	I.15 Improving water quality: Gross nutrient balance on agricultural land	R.21 Sustainable nutrient management: share of agricultural land under commitments related to improved nutrient management
<ul style="list-style-type: none"> Achieve 25% agricultural area under organic farming by 2030 	C.32 Agricultural area under organic farming	O.15 Number of ha with support for organic farming
<ul style="list-style-type: none"> Completing fast broadband internet access in rural areas reach 		R.34 Connecting rural Europe: share of rural population benefitting from improved access to services and infrastructure through CAP support
<ul style="list-style-type: none"> Increasing land for biodiversity, including agricultural area under high-diversity landscape features 	I.20 Enhanced provision of ecosystem services: share of UAA covered with landscape features	R.29 Preserving landscape features: share of agriculture land under commitments for managing landscape features, including hedgerows

2.2 Data beyond Annex I (SPR) and CAP evaluation and monitoring

Annex I ? Not sufficient (under discussion with MS)

- Indicators for the Annual Performance Report (performance clearance and review with output and results indicators) – **not for (detailed) evaluation nor monitoring purpose!**
- No data at **lower geographical level** (environment!)
- Not possible to calculate the impact/result indicators on distribution support (I24, R6) – data at individual beneficiary !
- In addition, performance is **broader concept** covering both the evaluation of the CAP plans and EU progress towards objectives and targets set in the Biodiversity and Farm to Fork strategies.

DG AGRI should be able with additional data ensure its capacity **to monitor and evaluate the CAP Strategic Plans 2023-2027** and ultimately **demonstrate that the CAP is delivering towards its objectives.**

The Commission has to **evaluate the CAP and prepare impact assessments** of its policy proposals

→ Therefore, monitoring and communication needs to go **beyond the indicators set in Annex I.**

2.3 FADN → FSDN

The Commission will propose legislation to convert its Farm Accountancy Data Network into the **Farm Sustainability Data Network** with a view to also **collect data** on the Farm to Fork and Biodiversity Strategies' **targets** and other sustainability indicators. The network will enable the **benchmarking of farm performance** against regional, national or sectoral averages.

From: [A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system](#)

Indicative timetable: Proposal by Q2 2022

2.4 AGRI-FOOD Data portal

Published in March 2021

<https://agridata.ec.europa.eu/extensions/DataPortal/home.html>



Agri-food Markets

Market data on national and European agriculture provided by the European Commission's agricultural and rural development department. Browse through multiple visualisations about imports, exports, prices and production.



CAP Indicators

These indicators help measure the Common Agricultural Policy performance. The EU policy provides financial support to farmers in member states, develops the rural community and ensures an environmentally sustainable farming.



Farm Economics

Economic reports on EU farming, based on sample data from the Farm Accountancy Data Network (FADN). Learn about productivity, profitability, subsidies, economic structure and finances of European farms.



Geoportals

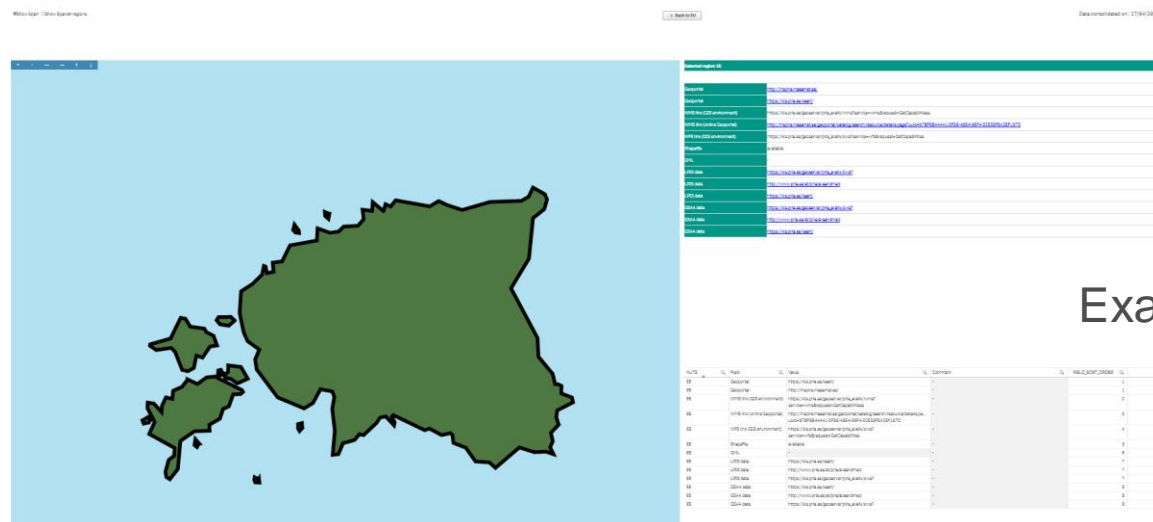
A discovery hub providing links to access the Member States' geoportals that publish spatial data collected in the context of the Integrated administration and control system (IACS).

2.4 AGRI-FOOD Data portal

Published in March 2021



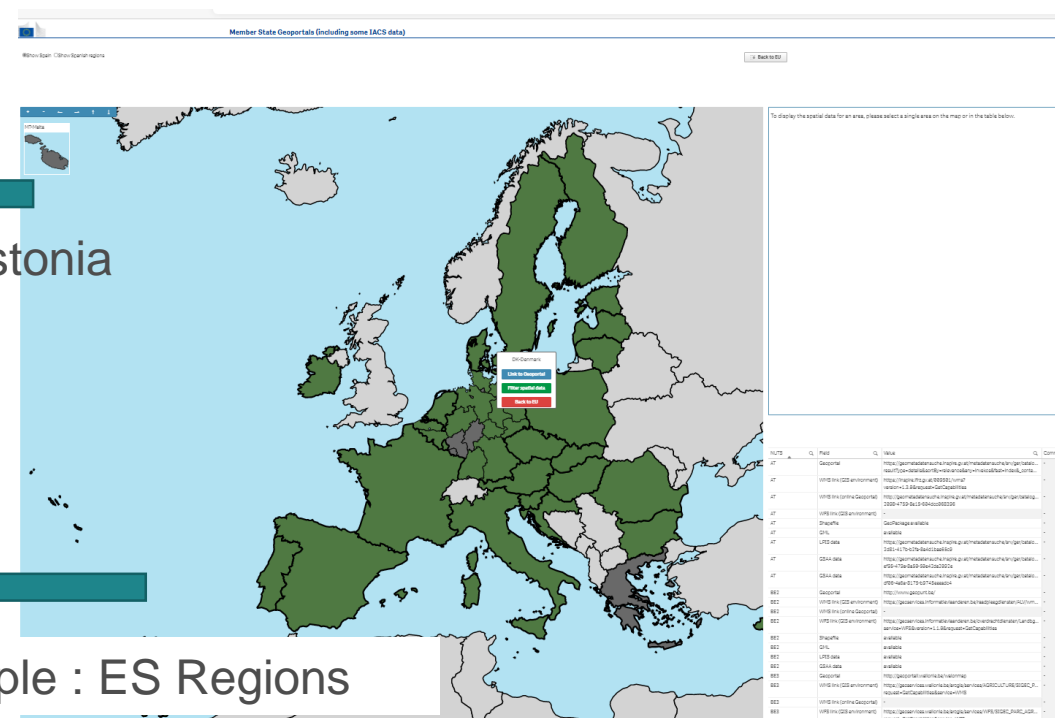
<https://agridata.ec.europa.eu/extensions/DataPortal/home.html>



Example : Estonia

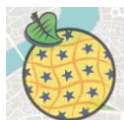


Example : ES Regions



2.5 IACS : data sharing under INSPIRE → Art. 65 (HZR proposal)

- For the CAP management, MS must set up a system (IACS = **Integrated Administration and Control System**) ([Regulation \(EU\) 1306/2013](#) and [Regulation \(EU\) 640/2014](#))



Directive 2007/2/EC → establishing an Infrastructure for Spatial Information in the European Community (**INSPIRE**); obligation to share spatial data which is relevant for EU environmental policy (<https://inspire-geoportal.ec.europa.eu/>)

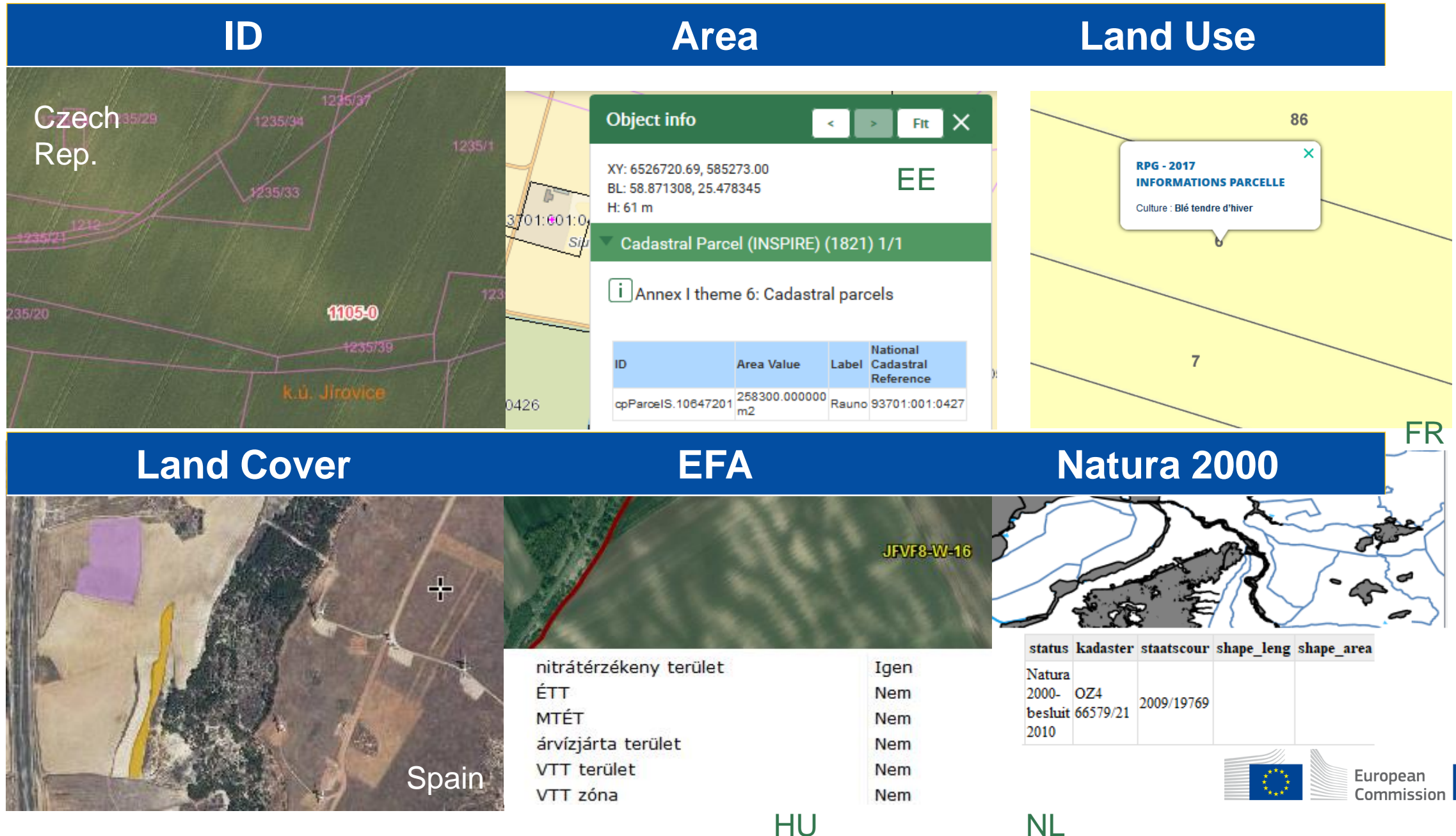
- Next CAP (HZR) **Data keeping and sharing** →

- Member States shall ensure that data sets collected through the integrated system which are relevant for the purposes of **Directive 2007/2/EC** of the European Parliament and of the Council³⁵ or relevant for monitoring Union policies, are shared free of charge between its public authorities and **made publicly available at national level**. Member States shall also provide the institutions and bodies of the Union with access to these data sets.
- Member States shall ensure that data sets collected through the integrated system, and which are relevant for the **production of European statistics** as referred to in Regulation (EC) No 223/2009³⁶, are shared free of charge with the Community statistical authority, the national statistical institutes and, where necessary, with other national authorities responsible for the production of European statistics.

2.5 IACS : data sharing under INSPIRE → Art. 65 (HZR proposal)

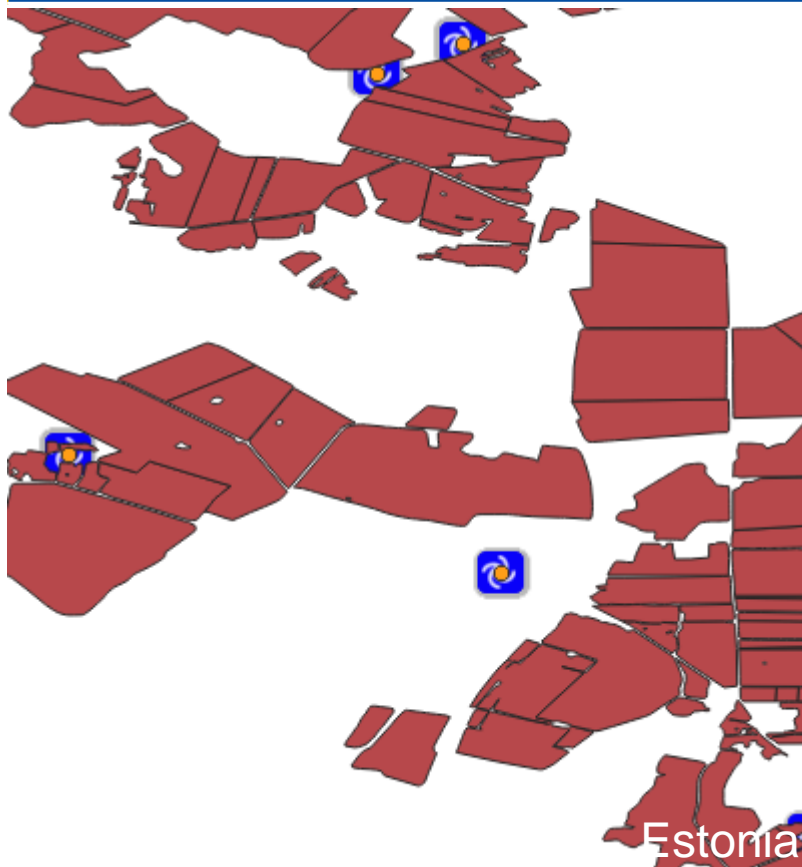
- **AGRI/JRC** arrangement (with **ENV**) to support Member States (→ March 2023)
- Ensure efficient access to data and effective re-use through use cases (soil health, LULUCF, CAP indicators...)
- Collaboration between EC services (policy changes...) and with Member States (data protection, specific IACS set up...)
- Mapping of what data is already shared and how (→ agri-food data portal)

2.5 IACS : data sharing under INSPIRE → Art. 65 (HZR proposal)

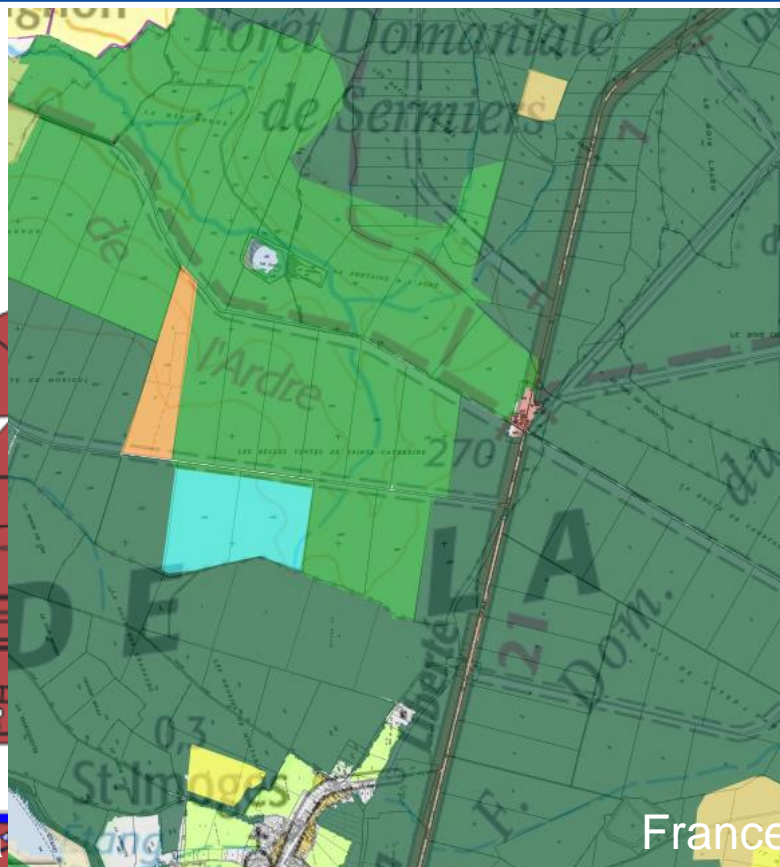


2.5 IACS : data sharing under INSPIRE → Art. 65 (HZR proposal)

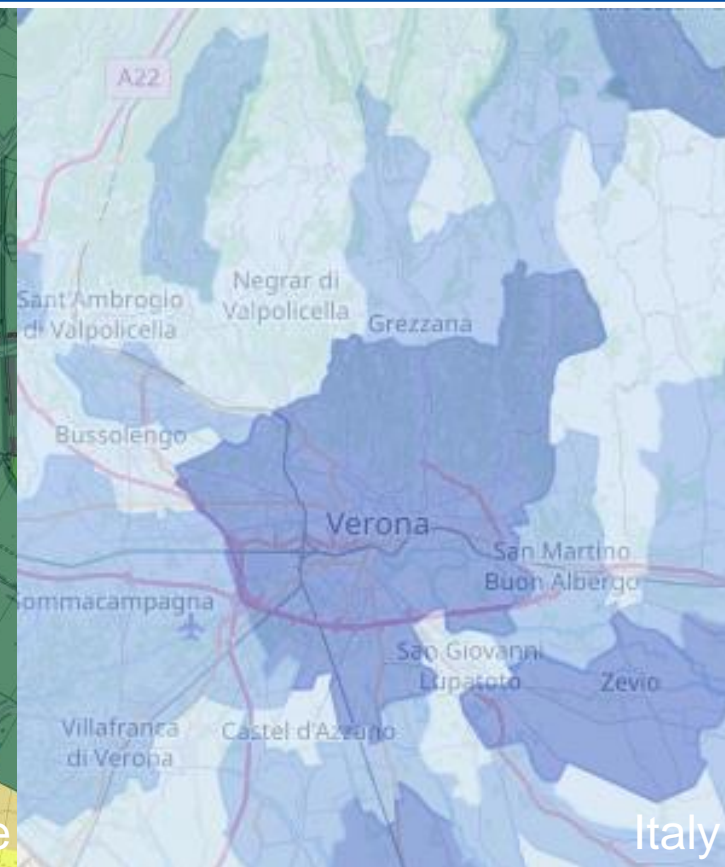
Livestock illustration



Forest illustration



Organic farming



2.5 IACS : data sharing under INSPIRE → Art. 65 (HZR proposal) – example of soil health

IACS: LPIS & GSAA

- Spatial location of agricultural features
- Practices



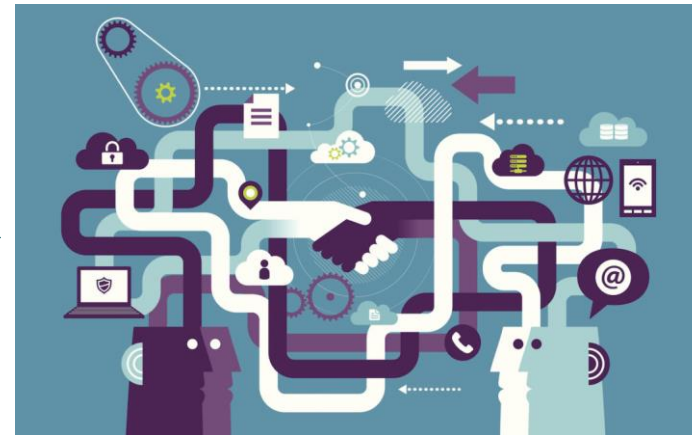
- Sowing/harvest date
- Cover (residue management, tillage)



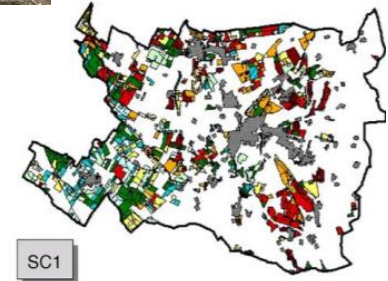
- Soil properties



MODELS

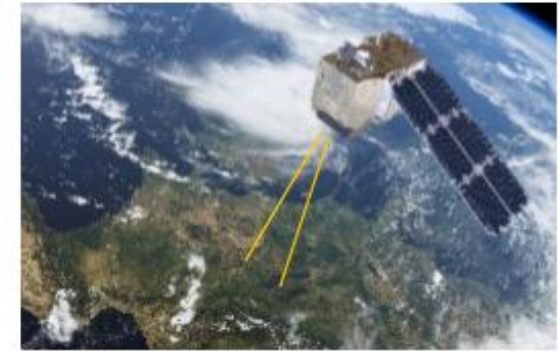


- Metadata
- Discoverability
- Accessibility
- Interoperability
- EU Common Data Space



2.6 IACS: Checks by monitoring → Area Monitoring System

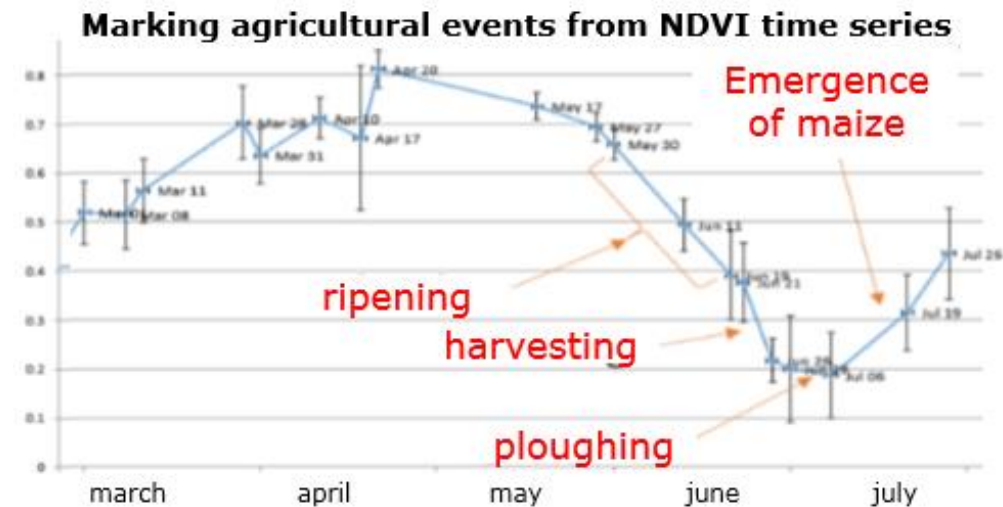
Checks by monitoring : new control approach using Sentinel data



esa.int

“AREA MONITORING SYSTEM (AMS)”

- Procedure of regular and systematic observation, tracking and assessment of **agricultural activities and practices** on agricultural areas by Copernicus Sentinel satellite data or other data with at least equivalent value.
- Primary purpose of AMS is to produce reliable & verifiable data on monitorable eligibility conditions defined by MS in their interventions.
- Second, data collected through the AMS, combined & cross-checked with other IACS data, can be the basis for reporting on output & results indicators for the purpose of the annual performance clearance/ review of area-based interventions.



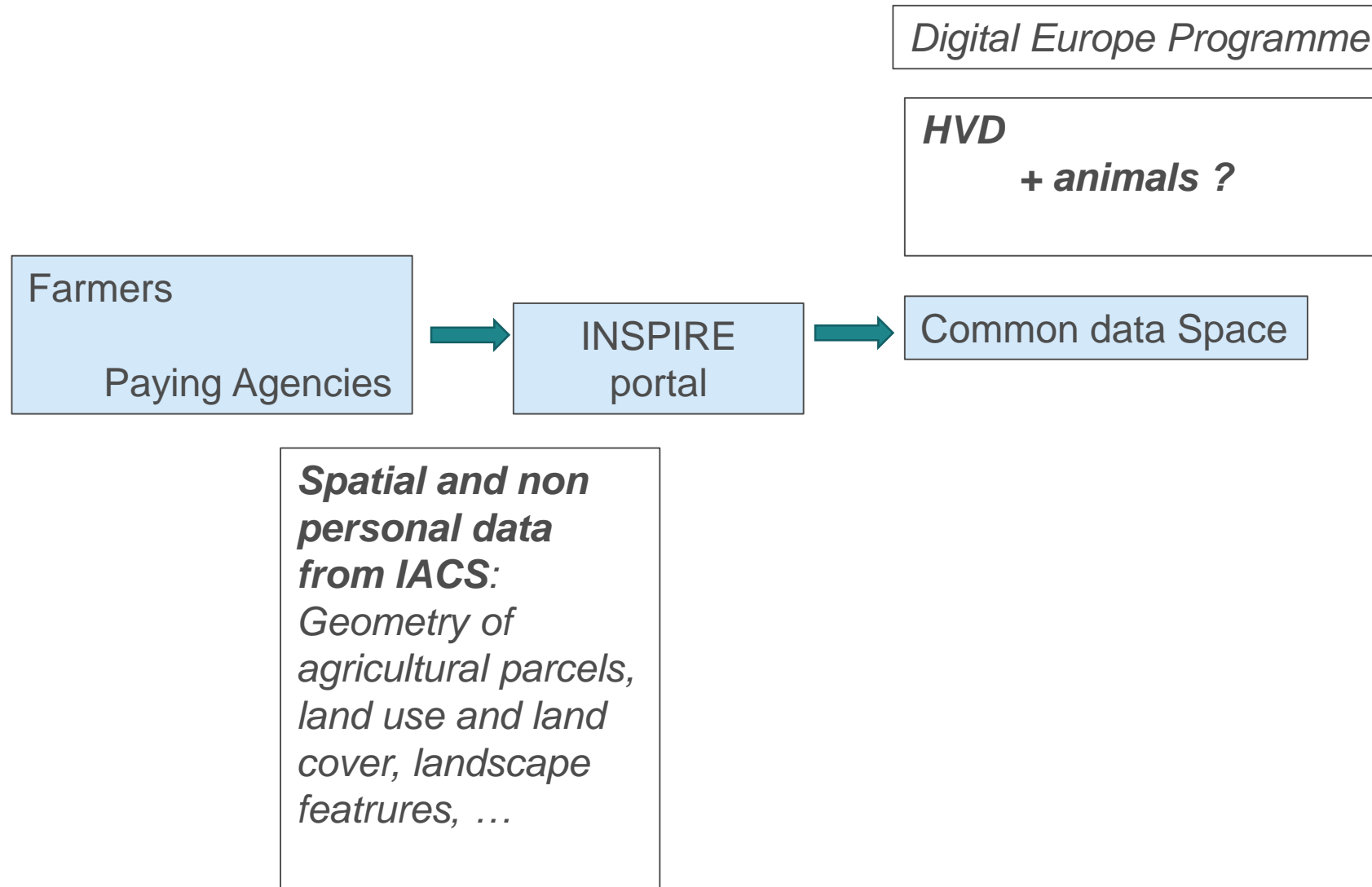
2.7 IACS vs Open Data Directive and High Value Datasets

Open Data Directive (Directive (EU) 2019/1024 for the benefit of European society and economy (enrich research, inform decision making, develop new products and services...))

Foresees an Implementing Act on 'High Value Datasets' (adoption process ongoing)

Organisations in the scope of the Directive will have to **make available** free of charge, in machine-readable format and via APIs, and, where relevant, as a bulk download

2.7 IACS vs Open Data Directive and High Value Datasets



CONCLUDING REMARKS

Digital development including data:

- *Legislation (Opendata, data protection, ...CAP2020+)*
- *Budget (MMF + NGEU)*
- *Instruments (DEP, Horizon Europe...)*

Policy purposes:

- *Green deal (Farm to Fork, Biodiversity...)*
- *Digital (improve capacity and independence, boost economy...)*

Agriculture:

- *CAP indicators good basis but more needed for evaluation and monitoring*
- *IACS data sharing under INSPIRE and synergy with High Value Datasets (and common data space)*
- *IACS evolution given new technology (Checks by Monitoring → Area Monitoring System)*

Thank you

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