



The European Land Monitoring System (ELMS)

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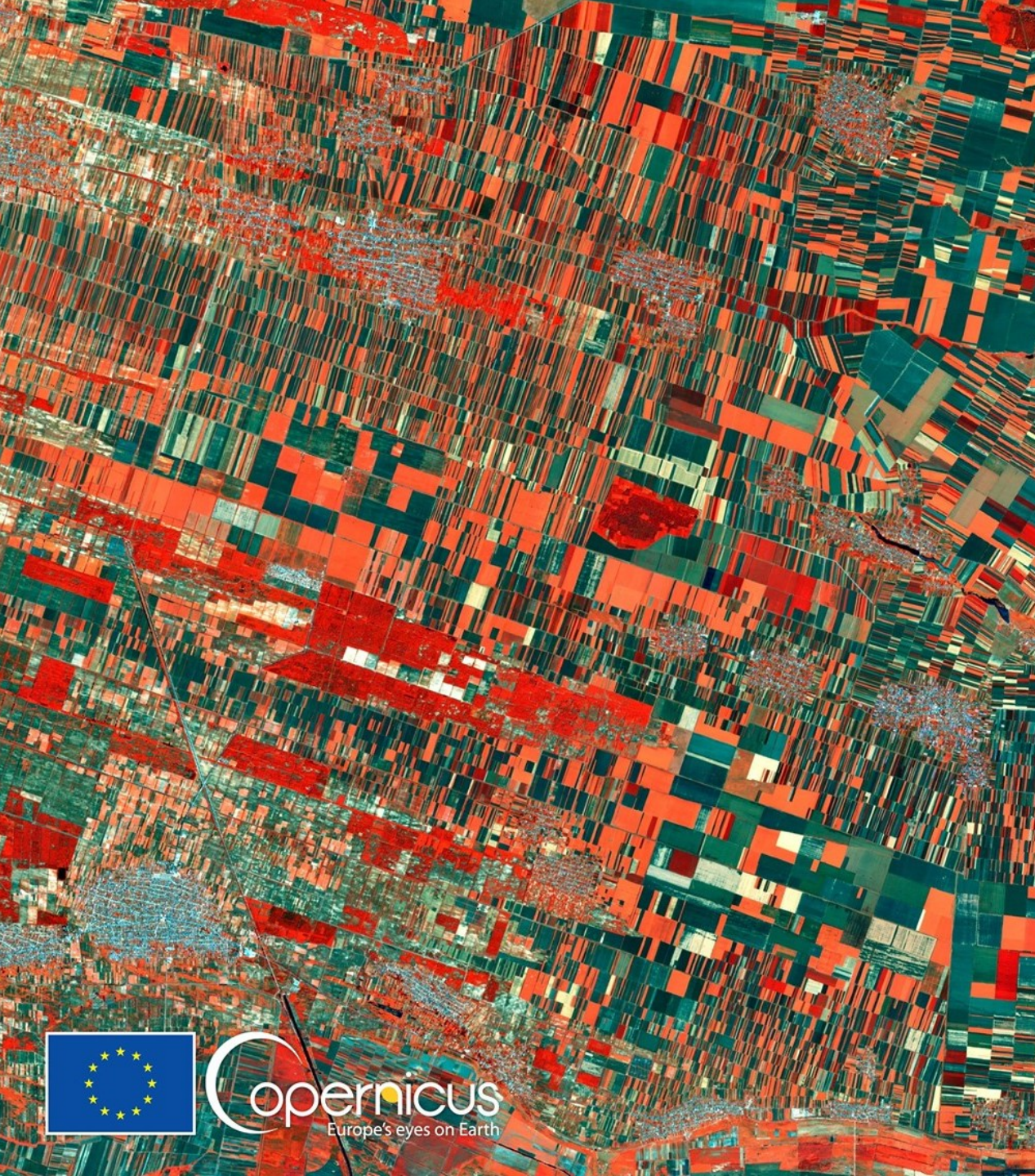
Data from the farmer for the farmer

Unit C1 - CAP Strategic Plans Coordination - DG AGRI

IACS as basis for ELMS

Use of new technologies/data





Copernicus and CAP

The Common Agricultural Policy (CAP) is a big user of EO!

1. The Integrated Administration and Control System

- Main civil user of Copernicus Sentinel data
- **covers 77,9% of CAP expenditure (43bn € annually)**
- 3 main systems :
 - Identification System for Agricultural Parcels + QA
 - Geo-Spatial Application System + QA
 - Area Monitoring System + QA

VHR

2. Drive & Evaluation of policy impacts Copernicus (S1/S2)

3. Crop/Yield forecast

Example of VHR 30 cm (civil use)



éiades Neo 30-cm Natural Color – Bargnana, Italy, August 11, 2023

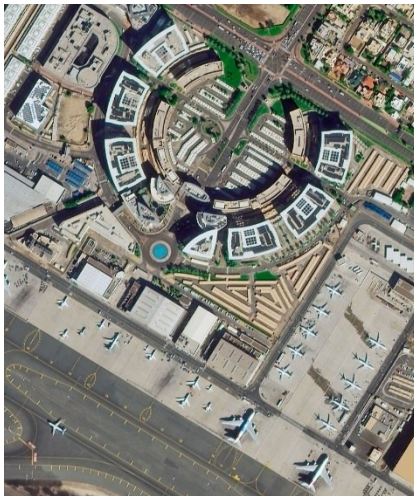
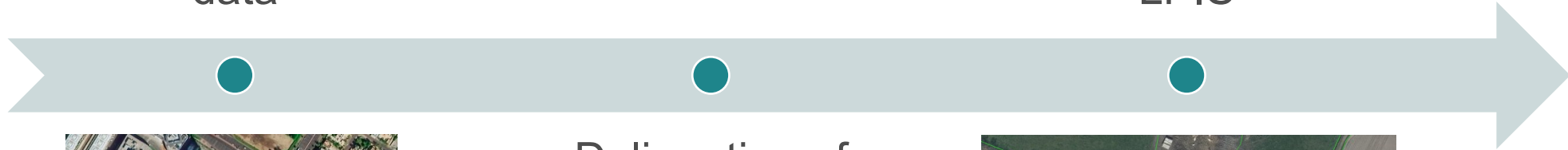


LPIS Identification System for Agricultural Parcels

Very high resolution data



LPIS



Delineation of reference parcels



GSA Geo-Spatial Application

enheden SNL-a

01 01 2014

Berekend 2,45 Beteeld 3,94

0,00

01 Eigendom

265 Grasland, blijvend

stalen

gebiedenvergoeding

Berekend 3,93 Aangevraagd 0,00

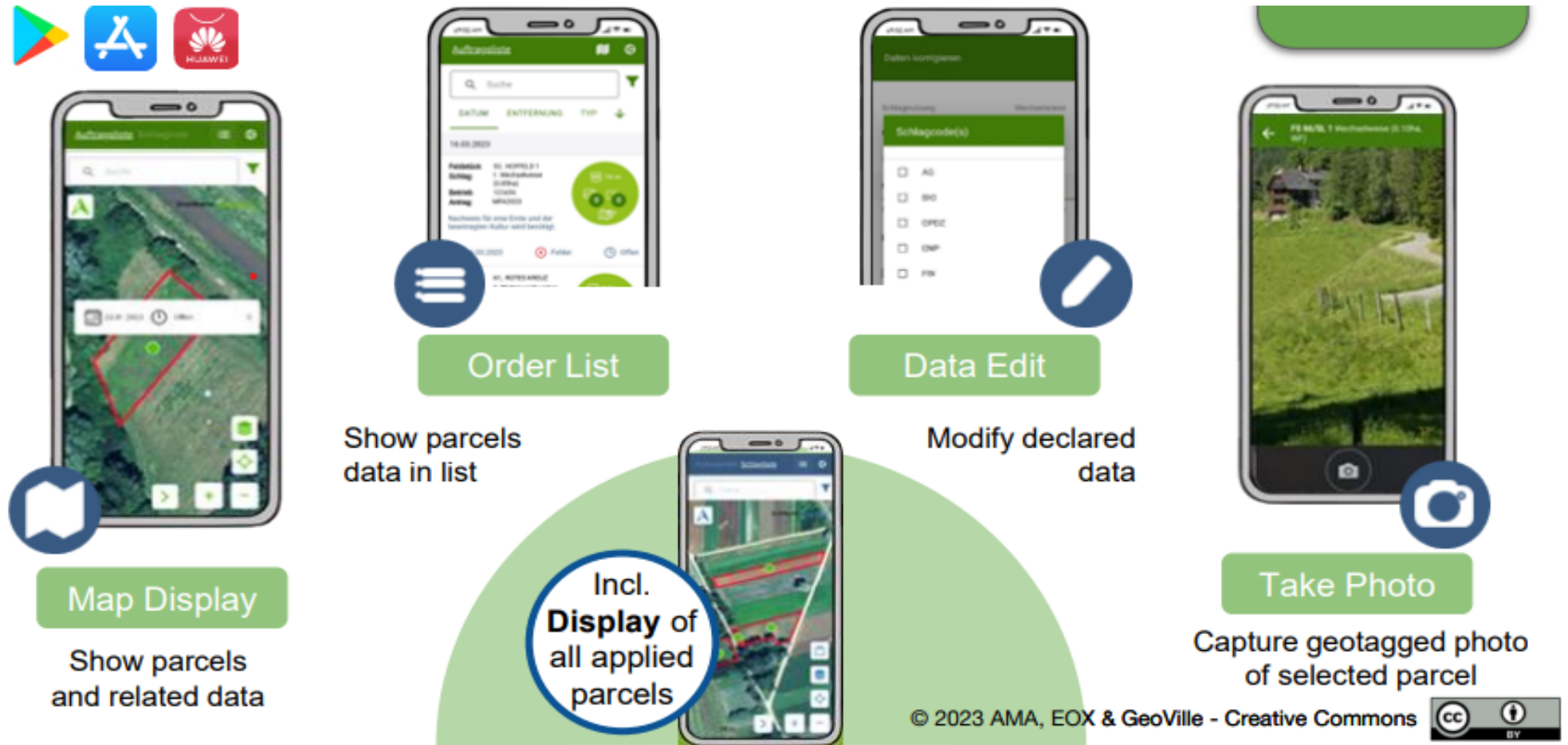
Opslaan en voltooid perceel

Annuleren

U kunt nu de vorm van uw perceel nog wijzigen. Klik met de linker muisknop op een knikpunt in de splitslijn en versleep deze naar de gewenste positie. Met de knop kunt u de twee nieuwe percelen opslaan.



The *AMA MFA Foto App* – The Austrian example



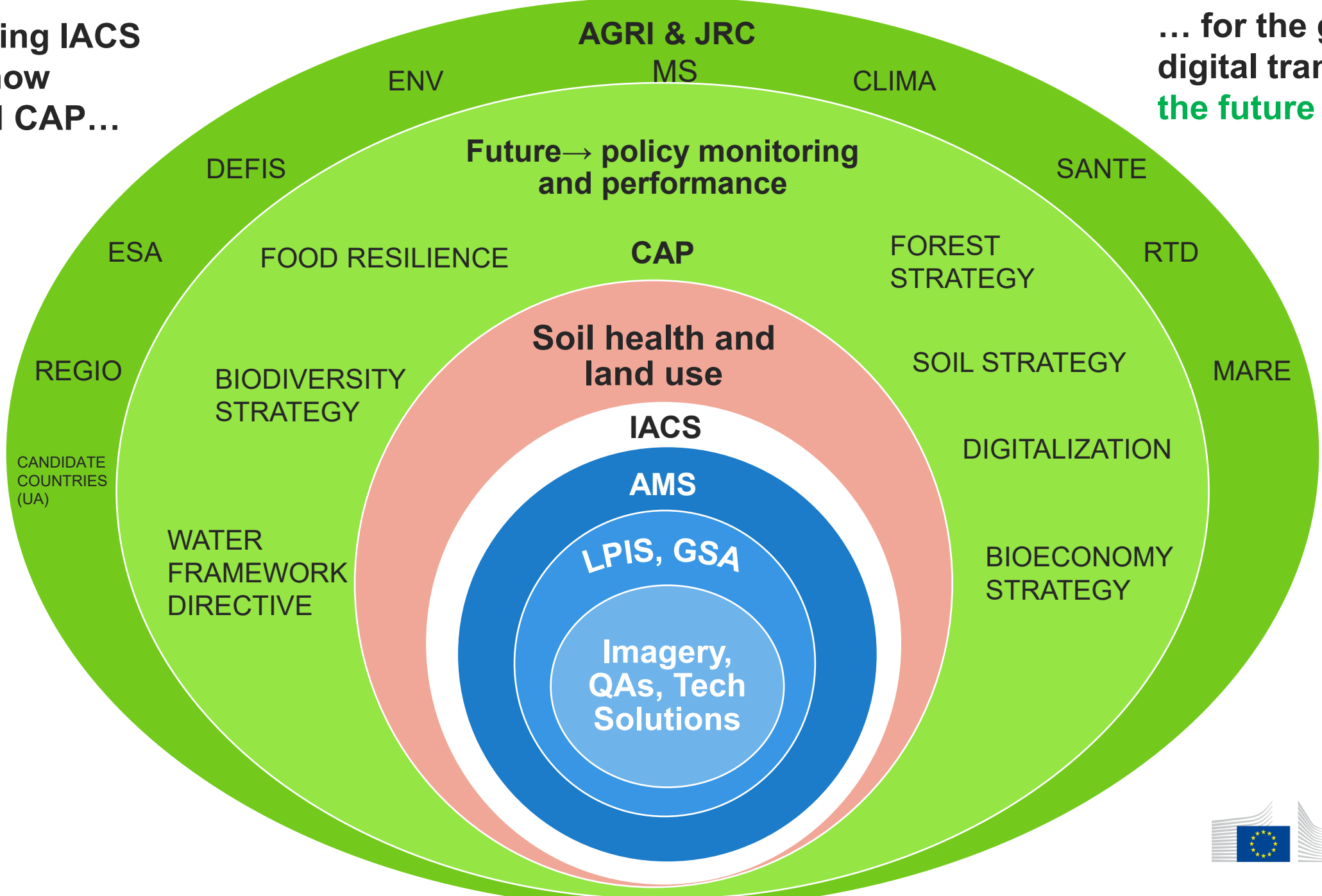
Next step?

European Land Monitoring System (ELMS)

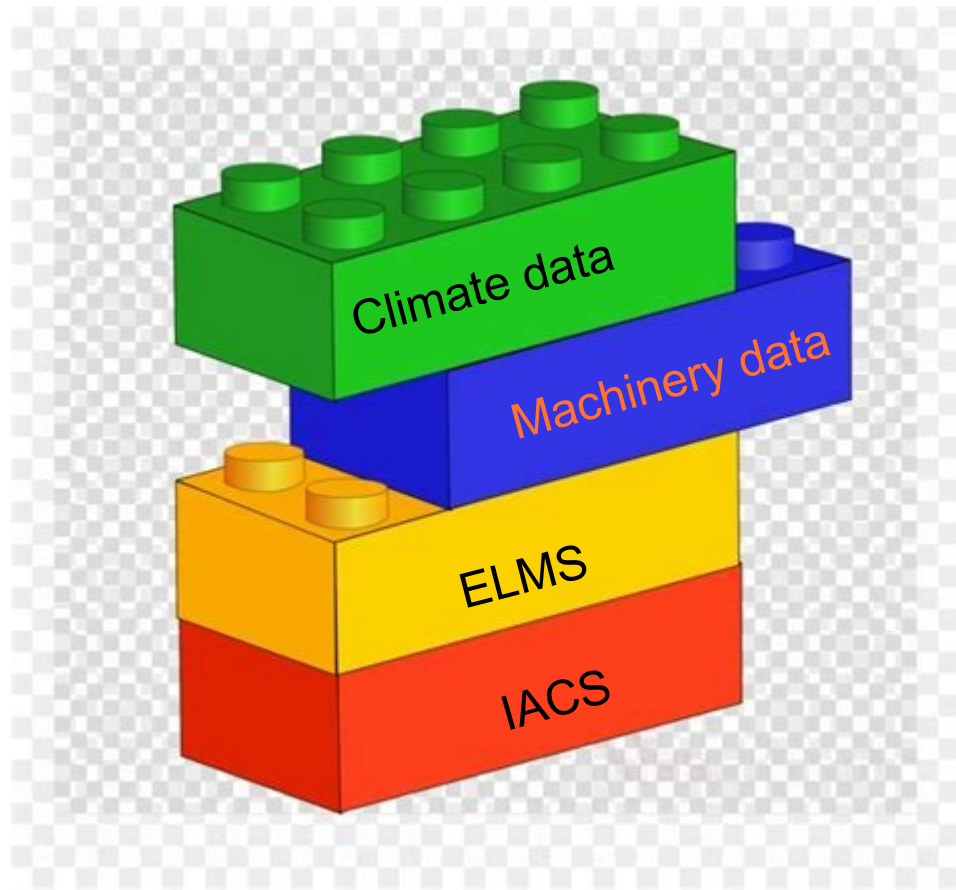


upgrading IACS know-how beyond CAP...

... for the green and digital transitions - the future of farming



The way ahead: Data from the farmer for the farmer = ELMS



Farmer decides if/how/with whom data is shared

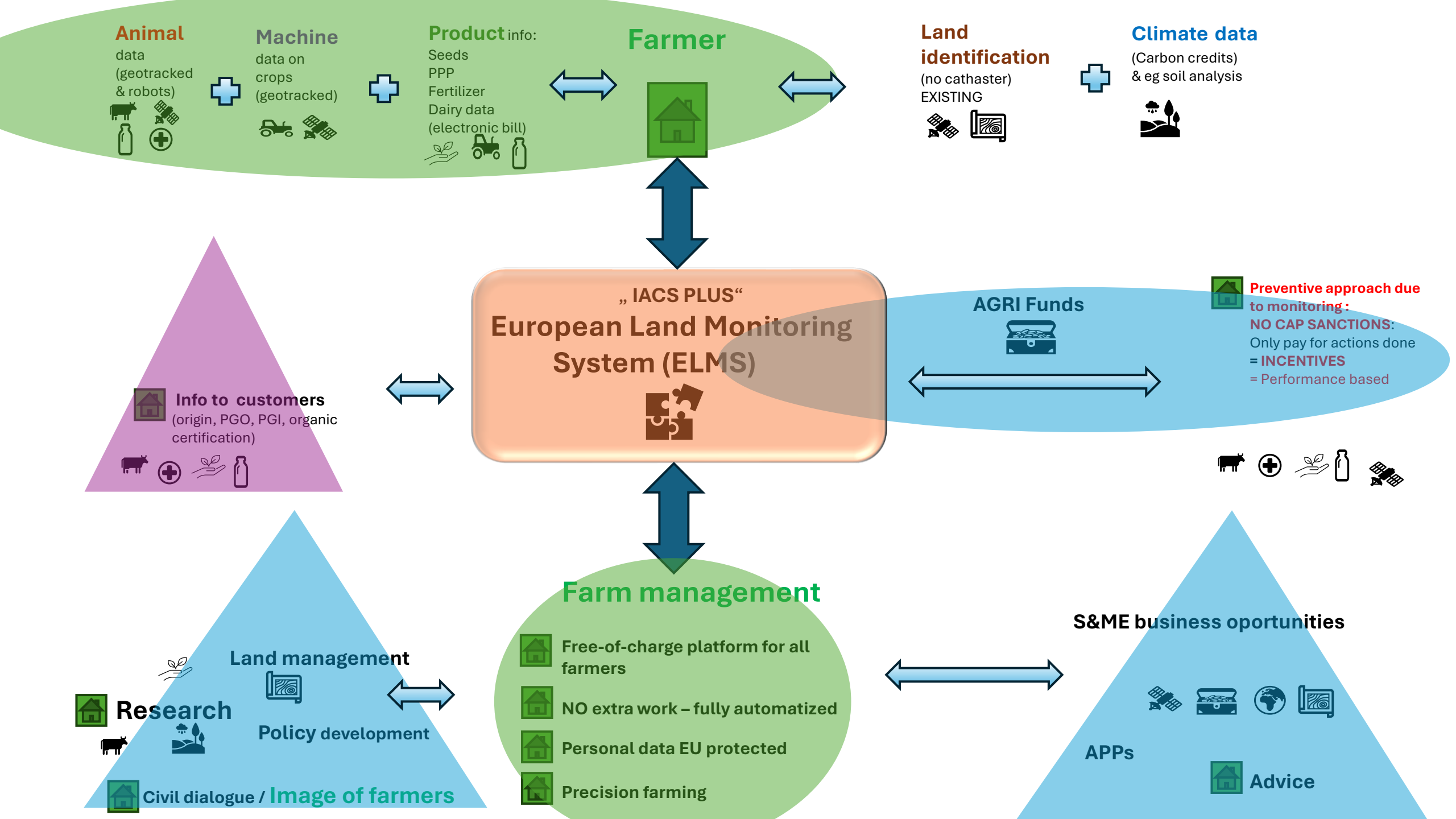
Full subsidiarity for MS on elements of ELMS

IACS = Minimum ELMS

Data governance authority to ensure on data interoperability

ELMS see Art. 70 (6) proposed NRPP Regulation





Animal data

(geotracked & robots)



Machine data

on crops (geotracked)



Product info:

Seeds
PPP
Fertilizer
Dairy data (electronic bill)



Farmer



Land identification

(no cathaster) EXISTING



Climate data

(Carbon credits & eg soil analysis)



„IACS PLUS“ European Land Monitoring System (ELMS)

AGRI Funds



Preventive approach due to monitoring: NO CAP SANCTIONS: Only pay for actions done = INCENTIVES = Performance based

Info to customers
(origin, PGO, PGI, organic certification)



Farm management

- Free-of-charge platform for all farmers
- NO extra work – fully automatized
- Personal data EU protected
- Precision farming

S&ME business oportunities

APPs

Advice



Land management

Policy development

Research



Civil dialogue / Image of farmers



ELMS in real life: Area monitoring & Carbon credits in Lithuania

The screenshot displays the GFarm mobile application interface. On the left is a dark green sidebar with navigation options: 'Ūkis' (Fields) and 'Miškas' (Forests) at the top, followed by 'Pradinis' (Initial), 'Metinė Ataskaita' (Annual Report), 'Pranešimai' (Notifications), and 'Nustatymai' (Settings). Below these are sections for 'Ataskaitos' (Reports) including 'Ūkio Ataskaita' (Field Report) and 'ŠESD Ataskaita' (ESG Report), and a user profile for 'Petras Petraitis' (Farmer).

The main content area is divided into several sections:

- Top Bar:** Shows the current season '2025 / 2026'.
- Laukų sąrašas (Fields List):** A list of fields with their areas and types. The first field is 'Laukas prie upelio' (Field by the river) with an area of 35.12 ha and type 'Žemėiniai kviečiai' (Cereals).
- Anglies kreditai (Carbon Credits):** A section showing 'Sukaupti' (Accumulated) credits of 83.00 and 'Numatomi' (Planned) credits of 1 660.00. A line graph shows the trend, and the average credit price is listed as 53.12 EUR.
- Ūkio statistika (Field Statistics):** A donut chart at the bottom.
- Map:** An aerial satellite view of the farm with several fields outlined in grey. One field is highlighted in green, with a green arrow pointing from it to the text on the right.
- Laukas prie upelio (Field by the river) Details:** A form for entering field information. It includes a vertical timeline on the left showing planning status from 2029/2030 (Suplanuota) to 2023/2024 (Baigta). The current year 2025/2026 is highlighted in dark green and labeled 'Dabar' (Now). The form fields include:
 - Informacija:** 'Lauko pavadinimas' (Field name) and 'Lauko plotas (ha)' (Field area).
 - Pasėlio informacija:** 'Sėjos tipas' (Sowing type) and 'Augalas' (Crop).
 - Tarpinio pasėlio informacija:** 'Augalas' (Crop).
 - Trašos:** 'Trašos tipas' (Fertilizer type) and 'Kiekis (kg)' (Quantity).

Parcel identified by LPIS
Use monitored by AMS

ELMS potential for the future beyond farms

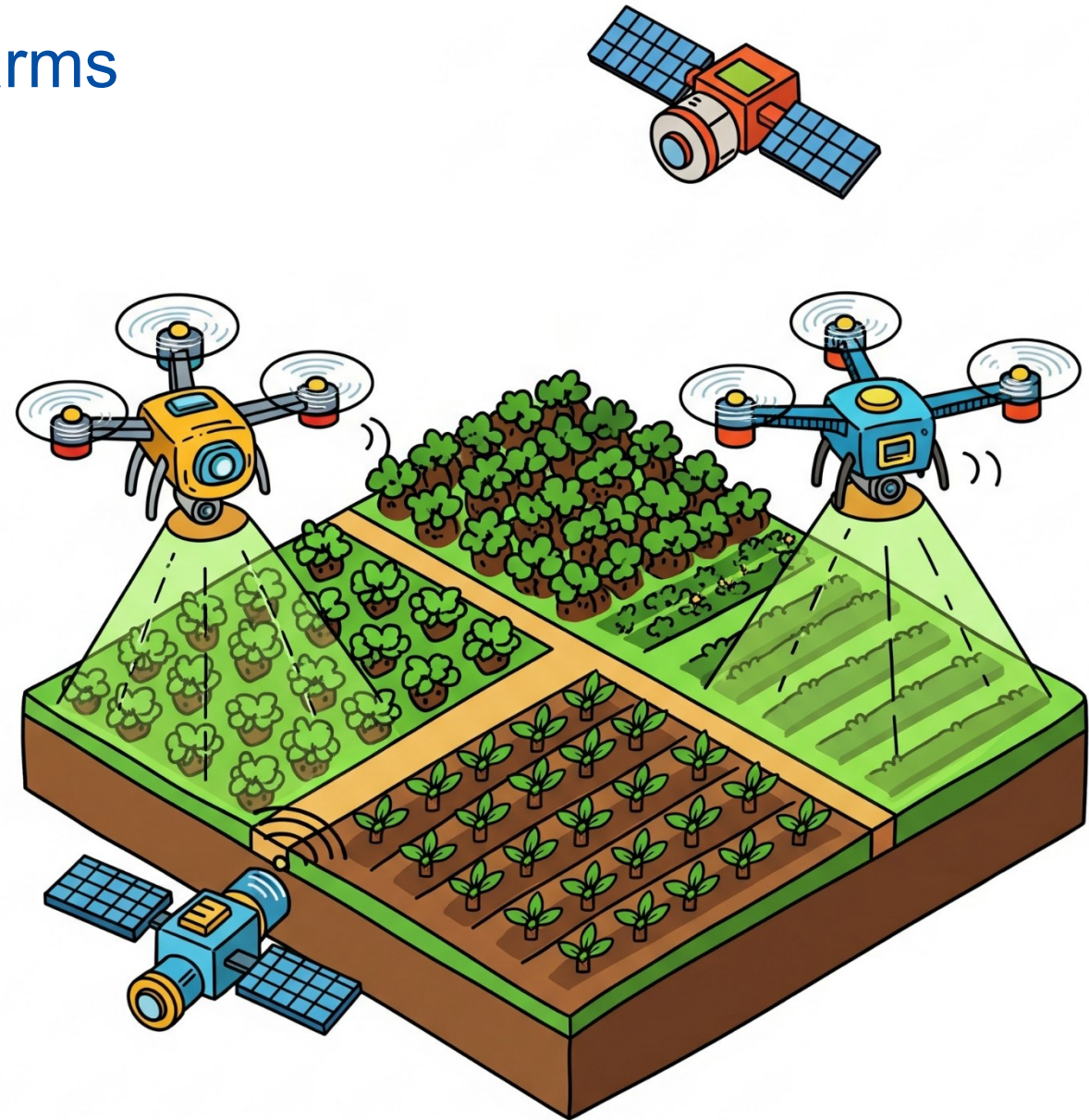
There is plenty of room to improve and innovate!

1. For the private sector :

- Satellite constellations with high spatial resolutions and good revisiting times
- Hyperspectral constellations
- Specific agricultural space services (e.g. crop detection at parcel level, analysis of events in grassland (mowing events), etc.)

2. For research :

- Better exploit Copernicus data (markers)
- Better integrate other data sources for comprehensive coverage (geotagged photos, farm machinery data, drones, ...)






Thank you

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