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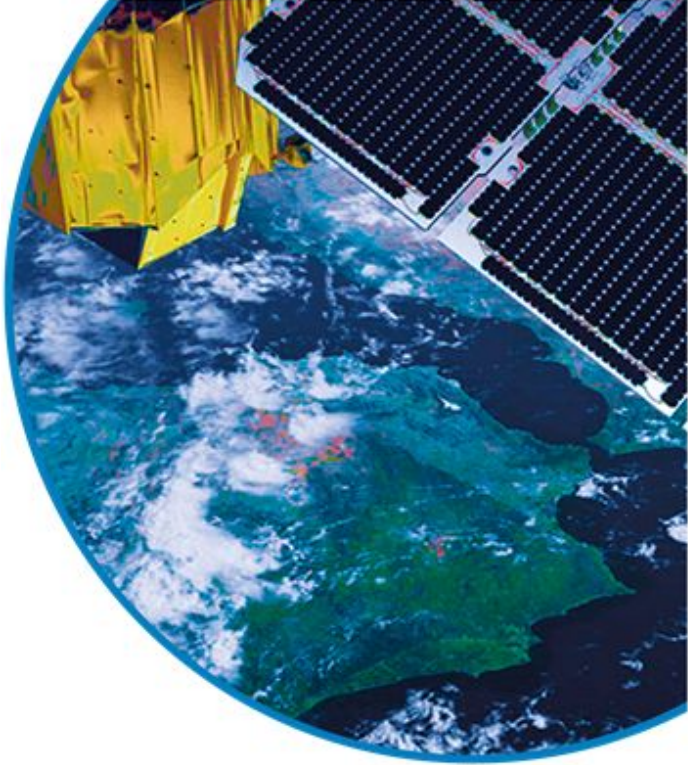

EO4AGRI

Bringing together the knowledge for better Agriculture Monitoring

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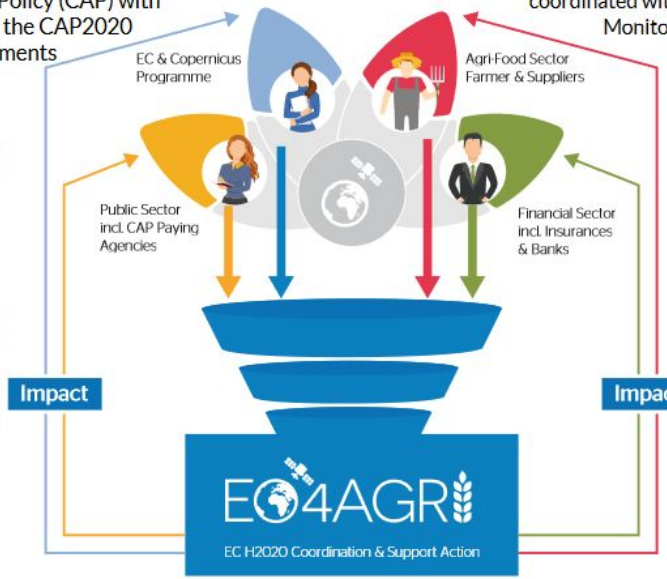
Approach

EO4AGRI will prepare a **European capacity for improving operational agriculture monitoring** from local to global levels based on information derived from Copernicus satellite observation data and through exploitation of associated geospatial and socio-economic information services.

Thus, EO4AGRI enlarges and further systematises the knowledge about Copernicus for agriculture and identifies gaps related to the utilisation of earth observation (EO) in the agri-food sector, related public services and needs of the financial sector, including international policy and coordination programmes.

Objectives

- **EO4AGRI assists** the implementation of the EU Common Agricultural Policy (CAP) with special attention to (a) the CAP2020 reform, (b) the requirements of Paying Agencies, and (c) the Integrated Administration and Control System (IACS) processes.
- **EO4AGRI works** with farmers, farmer associations and Agri-Food industry on specifying data-driven farming services with the aim at promoting EC investments based on Copernicus Data and Information Services (DIAS).



- **EO4AGRI addresses** the global food security challenges coordinated within the G20 Global Agricultural Monitoring initiative (GEOGLAM) capitalizing on Copernicus Open Data as input.
- **EO4AGRI assesses** information about land-use and agricultural service needs, offering these to financial investors and insurances. It also highlights how added value can be created by supporting these services with Copernicus information.

The EO4AGRI project methodology is a combination of community building; service gap analysis; technology watch; strategic research agenda design and policy recommendations; dissemination (incl. organization of hackathons).

Mission

EO4AGRI will build a European community of stakeholders on EO observation in agriculture, with the perspective of contributing to the Strategic Research Agenda and policy recommendations for future utilisation of EO in agriculture.

Vision

EO4AGRI will address the bottlenecks and gaps affecting the development of a strong EO sector for agriculture in Europe. By removing or reducing these gaps and by identifying research priorities, the project will contribute to the utilisation of EO data and services inside and outside of Europe in support of the whole agricultural sector.

Stakeholders

EO4AGR I will provide farmers, farmer associations and other market actors with orientation about the EO services and tools available as well as will support them in the use of farm-related technologies and systems.

Paying Agency management and technical staff in charge of the EU agricultural subsidies in compliance with the European Common Agricultural Policy (CAP) will benefit from the dedicated EO4Agri platform where information exchange and best practice assessment can be performed.

EO4AGRI will analyse potential services and techniques based on Copernicus data for the financial sector actors providing with credits and insurance services to the agri-food industry.

Food and Nutrition Security (FNS) and Sustainable Agriculture are still major global challenges. Thus, EO4AGRI will establish a formal cooperation with relevant initiatives and programmes (GEOGLAM, World Food Programme, etc) to actively participate in their opinion forming process and for the joint analysis of the potential of Copernicus exploitation.

Partners & WPs

WP 1 - Project Management & Coordination

WP 2 - User Requirements & GAP analysis

- Precision Agriculture
- Agricultural Finance
- CAP Payment Systems
- Global Food Security

WP2 - User Requirements & gap analysis

Objectives WP2 are:

- to analyse needs of different stakeholders - potential users of information derived from Copernicus data
- to collect information about their needs and identify gaps in currently offered service.

The activity in the WP2 (in cooperation with other WPs) include:

- organising workshops with end user groups
- coordinate with these different stakeholder groups
- collection of needs of different groups
- analyse the needs and identify gaps in currently offered services
- collect feedback from end user groups

WP 2 relies on a foresight approach

WP2 - User Requirements & gap analysis

Overview of lists of projects to be mined

Project List	No. of Projects
List extracted from the COPERNICUS Research library	57
Preliminary list provided in the DoW	32
The online repository of the Pilot4CAP project	32
List of projects flagged by key stakeholders	13
Total	134

WP2 - User Requirements & gap analysis

Example of projects considered in the analyis

Acronym	Title or Short Explanation
NADIRA	Nurturing Africa Digital Revolution for Agriculture
Open EO	OS interface between EO data infrastructures and front-end applications
SEN4CAP	Sentinels for Common Agriculture Policy
ECOLaSS	Evolution of Copernicus Land Services based on Sentinel data
NextGEOSS	The next generation of the Global Earth Observation System of Systems
EOMORES	Earth Observation for Monitoring and Reporting of Ecological Status
SENSAGRI	Sentinels Synergy for Agriculture
APOLLO	Advisory platform for small farms based on earth observation
RECAP	Improve remote monitoring of CAP obligations
GEOCRADLE	Coordinating EO adoption in North Africa, Middle East, and Balkans
EKLIPSE	A Learning Mechanism on Biodiversity and Ecosystem Services
MULTIPLY	SENTINEL land surface information retrieval PLatform
EO4wildlife	Platform for wildlife monitoring

WP2 - User Requirements & gap analysis

EUC	UR
Agri-Food	Data of weather forecast
	Data used for forecasting of agricultural yields
	Data for soil water index
	Data for providing a drought early warning system.
	Data for production maps of basic fertilizer
	Data for production maps of fertilizer in the phenophase 30-34
	Data for determining the height of the crop
	Data for estimating the extent of disease or damage (loss)
	Data for monitoring of hydrological stress
	Data for production exact information about climatic changes
Agri-Finance	Data for identified parcels for potential land for biomass production
	Data for creating flood maps (for Q5,25,50,100years)
	Data for maps of providing annual soil erosion risk maps
	Data for produce map of occurrence of diseases
	Data for produce of actual calamities map (droughts, flood, fires, earthquakes, ...)
	Data for production maps of relevance information for biofuel production
	Data for determination productivity of grassland and pastures.

WP2 - User Requirements & gap analysis

Public Sector	Data for support of Common Agricultural Policy new 'greening' rules, crop, ecological sensitive areas
	Data for the identification of crops to control subsidies
	Data for water protection against nitrates
	Data for monitoring of implementation of natural water retention measures
	Data for mapping parcels and validation of acreage parcels < 0,5ha
	Data for updating of Land Parcel Identification System (LPIS)
	Data for monitoring phenology of grassland (number of cuts/grazing events per season)
	Data for produce of crop growing calendar for agricultural monitoring
Food Security	Data for yield modelling for food security
	Data for food security information
	Data for cross-border land monitoring, given the interconnectedness environmental problems that cross-country borders which are connected food security
	Data for near real-time vegetation biomass measurements for agriculture and food security during the cropping season
	Data for early warning information for food security

Partners & WPs

WP 1 - Project Management & Coordination

WP 2 - User Requirements & GAP analysis

WP 3 - Scientific & Technical support actions to improve Copernicus' ability for Agriculture

- Improvement for **precision agriculture**
- Improvement for monitoring of **crop extension and composition**
- Improvement for **agricultural yields estimation and forecast**
- **Future missions** support for thematic applications
- **EO ICT** support improvement to stakeholders
- Consolidation and synthesis of required scientific and technical support actions

Partners & WPs

WP 1 - Project Management & Coordination

WP 2 - User Requirements & GAP analysis

WP 3 - Scientific & Technical support actions to improve Copernicus' ability for Agriculture

WP 4 - End-to-end Operational System Assessment

WP 5 - Community Building & Networking

WP 6 - Outreach, Policy and Needs for Future Research


esa
ESA–DEVELOPED EARTH OBSERVATION MISSIONS
2010
2015
2020
2025
2030
Proba-1
SMOS
GOCE
CryoSat
Meteosat 10 (MSG)
MetOp-B
Meteosat 11 (MSG)
Sentinel-1A
Sentinel-2A
Proba-V
Swarm
Sentinel-1B
Sentinel-2B
Sentinel-3A
Sentinel-3B
Sentinel-5p
Aeolus
Seosat
Sentinel-6A
Sentinel-1C
Sentinel-2C
EarthCARE
Sentinel-3C
Biomass
Sentinel-1D
Sentinel-2D
Sentinel-3D
FLEX
Sentinel-6B
MetOp-C
Sentinel-5A
MetOp-SG-A1
MetOp-SG-B1
MTG-I
Sentinel-4A
MTG-S1
MTG-I2
Sentinel-5B
MetOp-SG-A2
MTG-I3
Sentinel-4B
MTG-S2
MetOp-SG-B2
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