



# CALLISTO

BRIDGING THE GAP  
BETWEEN COPERNICUS DATA  
PROVIDERS AND END USERS THROUGH  
ARTIFICIAL INTELLIGENCE SOLUTIONS

PILOT USE CASES BROCHURE

CAP MONITORING



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 10100415

# PILOT USE CASES

## SATELLITE JOURNALISM

- Germany
- Poland

PRESS

## LAND BORDER CHANGE DETECTION

- European borders
- Spain-Morocco | Croatia-Bosnia and Herzegovina
- Greece-North Macedonia | Hungary-Serbia



## CAP MONITORING

- Greece
- Cyprus



## WATER QUALITY ASSESSMENT

- Belgium
- Italy



# CAP MONITORING

**PUC locations**  
Cyprus  
Orchomenos, Greece

**Technological assets used**  
Sentinel 1 & 2 Imagery, UAV,  
Mobile Phone Cameras, Action  
Cameras, VIS/NIR/SWIR Cameras

**End users**  
Agriculture Policymakers  
Insurance Companies

**Partners responsible**  
NOA, ACCELIGENCE  
CERTH, DRAXIS

## CHALLENGE

CAP monitoring is based on On-The-Spot Checks (OTSC) and/or interpretation of high-resolution field images. The implementation of an automated monitoring system could enhance the regularity and scalability of checks, and empower decision-making for appropriate follow-up actions.

## MAIN GOAL

This PUC aims to establish an automated system using advanced satellite data and data from other sources to monitor activities such as crop type identification for crop diversification and tree counting, eliminating the need for OTSC and accelerating payment management and control measures.

## EXPECTED IMPACT

This PUC will exploit a variety of data collections in a semi-automatic way to support the reusability of Deep Learning algorithms in CAP monitoring. The collections of these data and their analysis will support EU implementation bodies and policymakers in EU CAP monitoring.

## INNOVATIVE SOLUTIONS

A mobile application for farmers & inspectors

A crop classification model generating a traffic light-based map

A dataset of UAV images collected from field campaigns

A fully automated pipeline, in which the UAV sends near real-time images to the CALLISTO mobile app

Two UAV path planning algorithms optimising the paths to scan/ take representative photos of parcels

A dataset of street-level images of fields annotated with crop type labels

An automated/semi-automated way of tree counting in UAV photos

### Contact

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