Horizon Europe programme 2021

HE-CL6-2021-GOV-01 - *3rd Joint Newsletter*

Collaborative openings

CHAMELEON

Spade physical-cyber drones ecosystem agriculture • forestry • environment

ICAERUS

THE OBJECTIVE

As drone technologies gain traction across Europe and beyond, the importance of collaborative innovation becomes increasingly clear. While technical advancements are essential, it is through open exchange, cross-sector partnerships, and inclusive innovation processes that these technologies can be effectively adapted to real-world needs. In agriculture, forestry, and livestock management in particular, the integration of drones offers a path toward more sustainable, efficient, and responsive systems—provided that diverse perspectives and expertise are actively involved.

In this context, the European projects CHAMELEON, SPADE, and ICAERUS are each offering opportunities for external participation through their respective open calls. These initiatives aim to expand the projects' reach, enhance their outcomes, and foster a broader ecosystem of experimentation and impact. A key objective of this collaborative effort is to share knowledge and identify new opportunities in the field of digital agroforestry services. By bringing together multiple initiatives and stakeholders, this joint approach encourages the exchange of ideas, best practices, and technologies that can accelerate innovation and strengthen the future of sustainable land management.

This third edition of the joint newsletter is dedicated to showcasing these opportunities. It presents an overview of the open calls from each project, highlights their thematic focus, and outlines the types of support available to participants. By aligning and amplifying these efforts in one publication, we aim to foster greater visibility, cross-pollination of ideas, and wider engagement across sectors and regions.

CHAMELEON

Open Call #1

Open Call #2

Spade
physical-cyber drones ecosystem
agriculture • forestry • environment

Open Call #1

Open Call #2

ICAERUS

PUSH Calls

PULL Calls

COOPERATION

CHAMELEON, SPADE and ICAERUS are three projects that were funded under HORIZON - CL6-2021-01-21 in the category of "Potential of drones as multi-purpose vehicle". Therefore a synergy was found and carried out by the three projects that aims to help each other, find solutions to future problems, ensure efficient dissemination and worthwhile opportunities and simultaneously create knowledge that together with the developed solutions will transform the present situation in areas and fields that each of the projects is focusing and working on.

The expected results of this collaboration are:

- Sharing knowledge on using drones in rural areas
- Identifying new opportunities in the area of digital agroforestry services
- Bring awareness of the value of using drones in agriculture, forestry and livestock monitoring

PARTNERS

CHAMELEON

A Holistic Approach to Sustainable, Digital EU Agriculture, Forestry, Livestock and Rural Development based on Reconfigurable Aerial Enablers and Edge Artificial Intelligence-on-Demand Systems

Spade
physical-cyber drones ecosystem
agriculture • forestry • environment

Multi-purpose physical-cyber agri-forest drones ecosystem for governance and environmental observation

ICAERUS

Innovation and Capacity building in Agricultural Environmental and Rural UAV Services

CHAMELEON

A Holistic Approach to Sustainable, Digital EU Agriculture, Forestry, Livestock and Rural Development based on Reconfigurable Aerial Enablers and Edge Artificial Intelligence-on-Demand Systems

CHAMELEON is a Horizon Europe project dedicated to enhancing productivity and addressing emerging challenges in agriculture, livestock, forestry, and rural areas.

To broaden the platform's reach and ensure its relevance in practical contexts, CHAMELEON has launched two Open Calls with thematically coherent yet distinct focuses. The first invited third parties to create new bundles to extend the platform's capabilities, while the second builds on this by supporting pilot use cases that integrate CHAMELEON technologies to tackle specific challenges. These Open Calls play a central role in expanding the project's ecosystem and driving innovation through collaboration, ensuring that CHAMELEON's solutions are tested, refined, and enriched by diverse expertise.

THE CALLS

Open Call #1

Main Objective
Develop bundles to be added to the CHAMELEON platform.

Time for proposals
August 2023 to November 2023

Final selection
5 beneficiaries

Budget
300.000€

Open Call #2

Main Objective
Integrate pilot use cases using CHAMELEON solutions.

Time for proposals
March 2024 to July 2024

Final selection
5 beneficiares

Budget
300.000€

FIRST OPEN CALL

The First Open Call goal was to attract tech innovative companies to contribute to the CHAMELEON platform with the development of new bundles that enhance the platform's technological offering in the scope of UAV technological approaches to agriculture/forestry/livestock problems.

VIPA-DELF

Vineyard Leaf Image Analysis for pest and Disease Detection using Explainable Federated Learning

NTNU Norwegian University of Science and Technology

MandrIAno

AI-empowered stockman

ELIF LAB

SAFRA

Sustainable Aerial Forestry Resilence Analytics

FORCERA

THURST LOG-IQ

Image-based Quantification of Logs

AERO DIAGNOSTIKA

TILO

Timber stack Inventory for Logging Operations with UAVs

PANOimagen

SECOND OPEN CALL

The Second Open Call aimed to implement small-scale pilot projects across different regions to showcase the impact and potential of the CHAMELEON approach. To this end, beneficiaries submitted detailed pilot use case scenarios, with a primary focus on validating specific bundles developed within the project.

FIRECOM

Fire Propagation Risk Assessment and Compliance at Urban-Forest Interfaces

Axtron

VINESCALE

Advanced UAV Monitoring of Multi-Scale Mediterranean Vineyards

agrobit

FIRE-AID

Forest Inspection for Fire Risk Evaluation with AI and Drones

AIDIA

ENVISION

Environmental and Vegetation Insights through UAV Surveillance for Innovative Optimization

iLINK

ESSENSE

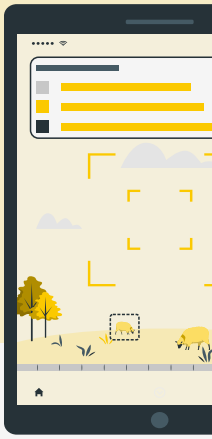
Esca Surveillace and Sensing in Serbian Vineyards

VELES SENSE

Multi-purpose physical-cyber agri-forest drones ecosystem for governance and environmental observation

SPADE is a 4-year Horizon Europe project coordinated by CERTH in Greece. It involves 21 partners from 9 European countries and the UK. The project aims to create an intelligent ecosystem for deploying unmanned aerial vehicles (UAVs) to promote sustainable digital services in crop production, forestry, and livestock. SPADE focuses on UAV usability, governance, and data trustworthiness, supported by AI/ML models for reusing sensing data.

Key activities include developing cost-effective drones and sensors, creating an open-source ecosystem for data sharing, and conducting pilot deployments in forestry, crop production, and livestock farming. Goals include reducing deforestation, enabling precision farming, and improving animal welfare. SPADE also runs open calls for additional projects to expand its scope and ensure long-term impact in agriculture and forestry.



THE CALLS

Open Call #1

Main Objective
Develop open-source solutions for forestry, crops, and livestock needs.

Time for proposals
February 2024 to April 2024

Supporting
Up to 6 projects

Budget
360.000€

Open Call #2

Main Objective
Address specific challenges through pilot use cases in SPADE.

Time for proposals
March 2025 to June 2025

Supporting
9 projects

Budget
525.000€

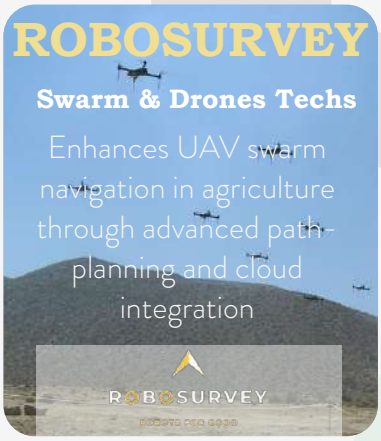
FIRST OPEN CALL

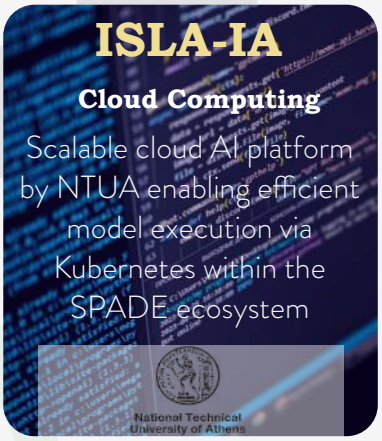
In its First Open Call, SPADE aimed to identify and fund one project per challenge, selecting a total of six creative initiatives in the fields of agriculture, forestry, and livestock. Each project addressed specific issues within one of three case study areas, contributing to SPADE's broader goal of advancing efficient and sustainable practices through drone technology.

Open-Field Case Study (Spain)
Focusing on drones in farming to deliver insights via aerial mapping and cloud-based ML processing within the SPADE platform.

Forestry Case Study (Norway)
Focusing on delivering insights via below-canopy mapping and inventory.

Livestock Case Study (Greece)
Focusing on livestock management through the integration of sensors, edge computing data, and the SPADE livestock cloud.





SECOND OPEN CALL

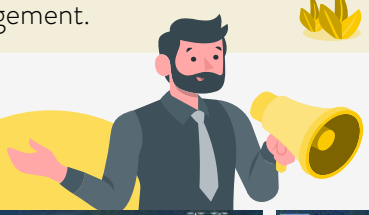
In this call, applicants were invited to address specific challenges within distinct use cases, driving innovation in agriculture, forestry, and livestock breeding, while also engaging with cross-cutting issues that foster collaboration and support the overall SPADE vision. Eligible projects had to align with one of four SPADE Case Study groups.

Universal Consideration
Enhancing efficiency, monitoring environmental conditions, and improving productivity through the integration of UAV technology in the open-field crops, forestry and livestock management.

Open-Field Case Study (Spain)
Focusing on drones in farming to streamline tasks and provide insights for better crop and field management.

Forestry Case Study (Norway)
Exploring drone swarms, cooperating drones for forest inventory, planter drone, and heavy-lift drones.

Livestock Case Study (Greece)
Enhancing sheep breeding through grazing and health monitoring with multi-purpose UAVs.



Check the INFO DAYS to learn more!

ICAERUS

Innovation and Capacity building in Agricultural Environmental and Rural UAV Services

ICAERUS is a Horizon Europe project focused on demonstrating the safe, effective, and efficient use of drones in rural areas, while evaluating their risks and benefits across agriculture, forestry, and other rural sectors. To extend its core use cases, ICAERUS launched two Open Call schemes—PUSH for Innovation Development and PULL for Farming, Forestry, and Rural Challenges—each with two launches. Through these calls, the project funded 20 third-party sub-projects, fostering innovation and broadening its impact.

THE CALLS

PUSH Call

Main Objective
Exploring drone data and innovations for validation and to assess market potential.

Budget
480.000€

Open Call #1

Time for proposals
April 2023 to July 2023

Final selection
5 beneficiaries

Open Call #2

Time for proposals
February 2024 to May 2024

Final selection
3 beneficiaries

PULL Call

Main Objective
Using drones to meet rural commercial and community needs.

Budget
600.000€

Open Call #1

Time for proposals
October 2023 to January 2024

Final selection
6 beneficiares

Open Call #2

Time for proposals
July 2024 to October 2024

Final selection
6 beneficiares

The four ICAERUS Open Calls received over 270 unique applications from 22 countries, demonstrating strong international interest in advancing drone-based solutions for rural innovation. The selected beneficiaries from these calls are presented below.

PUSH OPEN CALL

OC #1

SKYFAR
Training program on drone piloting and data management
AGRICLOUD

AIM
AI drone for methane leak and pipeline inspection
SCHWEITZER INGENIEUR GMBH

AGROTWIN
Drone DSS for vineyard management and pesticide use
agrobit

SHIELD
EGNSS-based drone upgrade for precision and security
OBSIDIAN

SENSOR 2.0
Drone CV system for plant ID, health, and disease detection
TAAL

OC #2

gprSense
Drone radar for real-time root-zone soil and moisture mapping
SENSAR

OPTIVERY
Optimized drone delivery routing for rural healthcare
itg

DiVine
Vineyard maps distinguishing disease from nutrient issues
VELES SENSE

PULL OPEN CALL

OC #1

BEETCraft-AID
Using low-cost drones and AI to monitor SBR-affected crops
PHENO-INSPECT

OLI-SCAN
Using thermal drones to monitor water stress in olive groves
librandi

FAMMS
AI, drones, and GIS data for monitoring illegal logging

UAInSPECT
AI-powered drone inspection for bridge damage assessment
EUCENTRE

DAEPHC
Drone-based detection of infected hop plants using optimal sensors
HMEZAD

AI4Leafhopper
Early leafhopper detection using drone multispectral data

Heidedrones
Drone monitoring for conservation at Kalmthoutse Heide
Grenspark Kalmthoutse Heide

RODENT
Non-invasive drone pest control using ultrasound and thermal imaging

LMDV
Using LIDAR and thermography to improve vineyards
LOW ALTITUDE

FLOX System
AI drone system for wildlife management in agriculture
flox

HYGRI
UAV hyperspectral imaging for fruit tree disease detection
AVT

ISFF Forest Guard
Drone service to prevent illegal dumping and logging in forests
IVSR

OC #2


HAMELEON

pade
physical-cyber drones ecosystem
agriculture • forestry • environment

ICAERUS