CARE 4 BIO

Horizon Europe Brokerage Event
Cluster 6 Calls 2025

Warsaw, 27 May 2025

RoboClimaLore

Support farmers and their communities build resilience for new climate and food safety risks

Kalina Stancheva

Smart Farm Robotix Ltd.

This project has received funding from the European Union's Horizon Europe research and innovation programme, under Grant Agreement No 101059839

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Commission. Neither the European Union nor the granting authority can be held responsible for them.

Topic(s) addressed:

We aim to contribute to the following 2025 Horizon Europe Cluster 6 topics:

- HORIZON-CL6-2025-02-CLIMATE-03:
  "Understanding and managing medium- and longer-term challenges and opportunities for agriculture stemming from shifting climatic zones and changing agroecological environments"
  The challenges of climate change (e.g., soil degradation, new weather patterns, natural flora and fauna changes) need extensive monitoring, data collection and analysis to help devise solutions for the future sustainable agriculture. Our robust, light, and 100% solar-powered autonomous robot can strongly facilitate this process in many different climates.

Other topics of interest:

- HORIZON-CL6-2025-02-FARM2FORK-03-two-stage :
  "Making food systems more resilient to food safety risks through the deployment of technological solutions"
  Studying these risks coming from the field (invasive species, new pests and diseases, soil degradation) requires constant monitoring, which our 100% solar-powered autonomous robot can support and advance.
- HORIZON-CL6-2025-03-GOVERNANCE-03:
  "Boosting the attractiveness of agriculture and the connection between the farming community and society"
  Our fully autonomous weeding robot can be a strong asset in demonstrating that effective technological solutions already exist to help farmers and their communities manage profitable farms with limited labor, even in remote and rural areas.

Project idea

Our project builds on our already developed innovation:
A lightweight, 100% solar-powered, fully autonomous robot using deep neural networks to identify and eliminate weeds with high precision, even in difficult terrains and hot climates. The goal is to use this platform with integrated additional smart sensors to facilitate data gathering and analysis of various types of field data.

Objectives:

- Gather information on the effects of shifting climate zones on plants, soils, and field fauna
- Analyzing patterns over several seasons and different locations, and identifying risks for food safety
- Compare with historical records and other examples from around the world
- Create predictive models on future trends
- Devise potential approaches and measures for farmers and the wider agricultural/rural communities to address the identified negative trends

Project idea

We are currently looking to form a consortium and actively seeking partners with expertise in agronomy, sensor systems, regenerative agriculture, and EU project management. Interest has been expressed by several agri-tech startups and research institutions in Southern Europe.

Agronomists

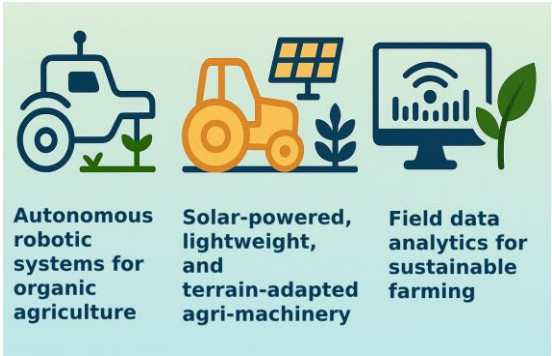
AI experts

Data Scientists

Electrical engineers

Robotics experts

Main expertise offered / sought



Expertise Offered:

Smart Farm Robotix brings cutting-edge expertise in:

- AI-based plant recognition and precision weeding (deep neural networks)
- Autonomous robotic systems for organic agriculture
- Solar-powered, lightweight, and terrain-adapted agri-machinery
- Sensor integration for extracting various types of data from field operations
- Field data analytics and prediction for sustainable farming advice

Previous/Ongoing Projects:

- **EIC Accelerator (2024–2026)**: €2.36M grant to bring RoboAiWeeder to market readiness
- National and EU-funded R&D and pilot projects (totaling €2.8M+ in grants)
- Field trials and tech validation in Bulgaria and Italy
- **Role in Project:**

  We intend to participate as a **partner**, bringing our technology, market knowledge, and data insights.

Expertise Sought:

We are seeking partners with strengths in:

- Agronomy and crop science (for testing in various soil/crop contexts)
- Sensor integration and IoT for enhanced decision-making
- Regenerative and organic farming systems
- Socio-economic impact assessment and sustainability analysis
- EU project coordination and dissemination

Contact details

- Kalina Stancheva
- Smart Farm Robotix Ltd.
- SME
- Bulgaria
- kstancheva@smartfarmrobotix.eu
- https://smartfarmrobotix.eu/en/