



6/9

CURRENT TRL
& TARGET TRL

2000

SMART SENSORS

- 30%

ENERGY USE

- 35%

FERTILISER INPUT

COUNTRIES



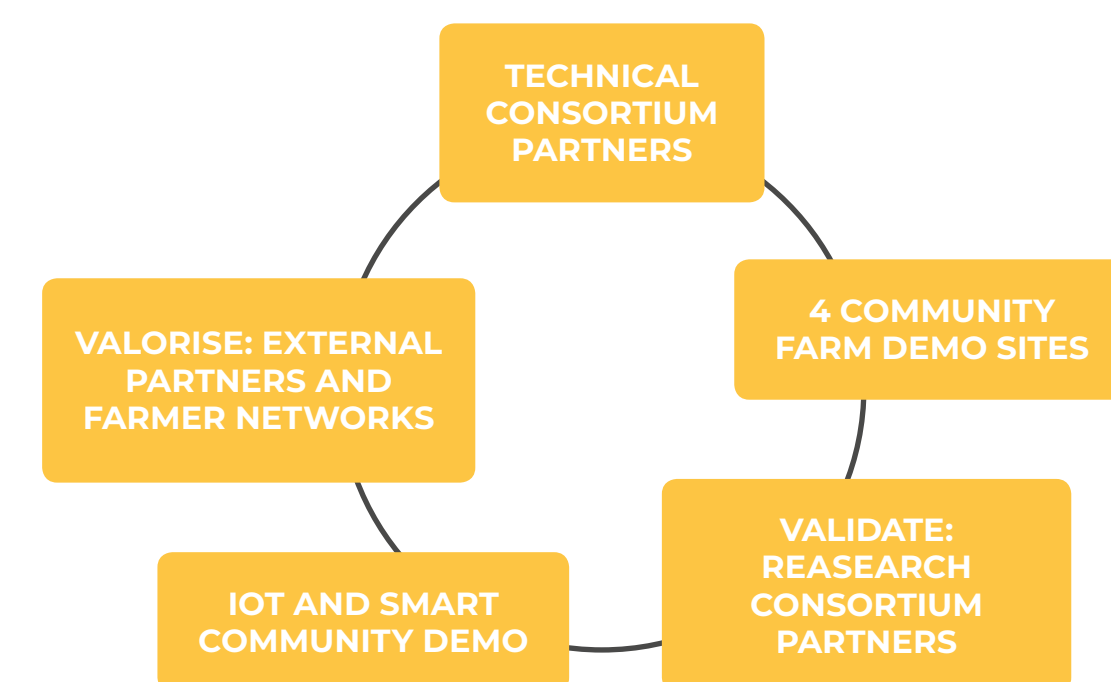
PARTNERS



1.8 SOLAR-POWERED FIELD SENSORS

The lack of access to affordable and scalable on-field diagnostics for small farmers is addressed through:

- Reduced design complexity to facilitate ease of use without the need for additional training;
- Integration of all farm information and devices in one farm manager;
- Development of sustainable marketing strategies to incentivise farmers to implement modern technology;
- Demonstration of sensor-based predictive analytics for diseases;
- Application of the solution on different crops.



TECHNICAL CONSORTIUM PARTNERS

- Solarvibes
- Fraunhofer IZM

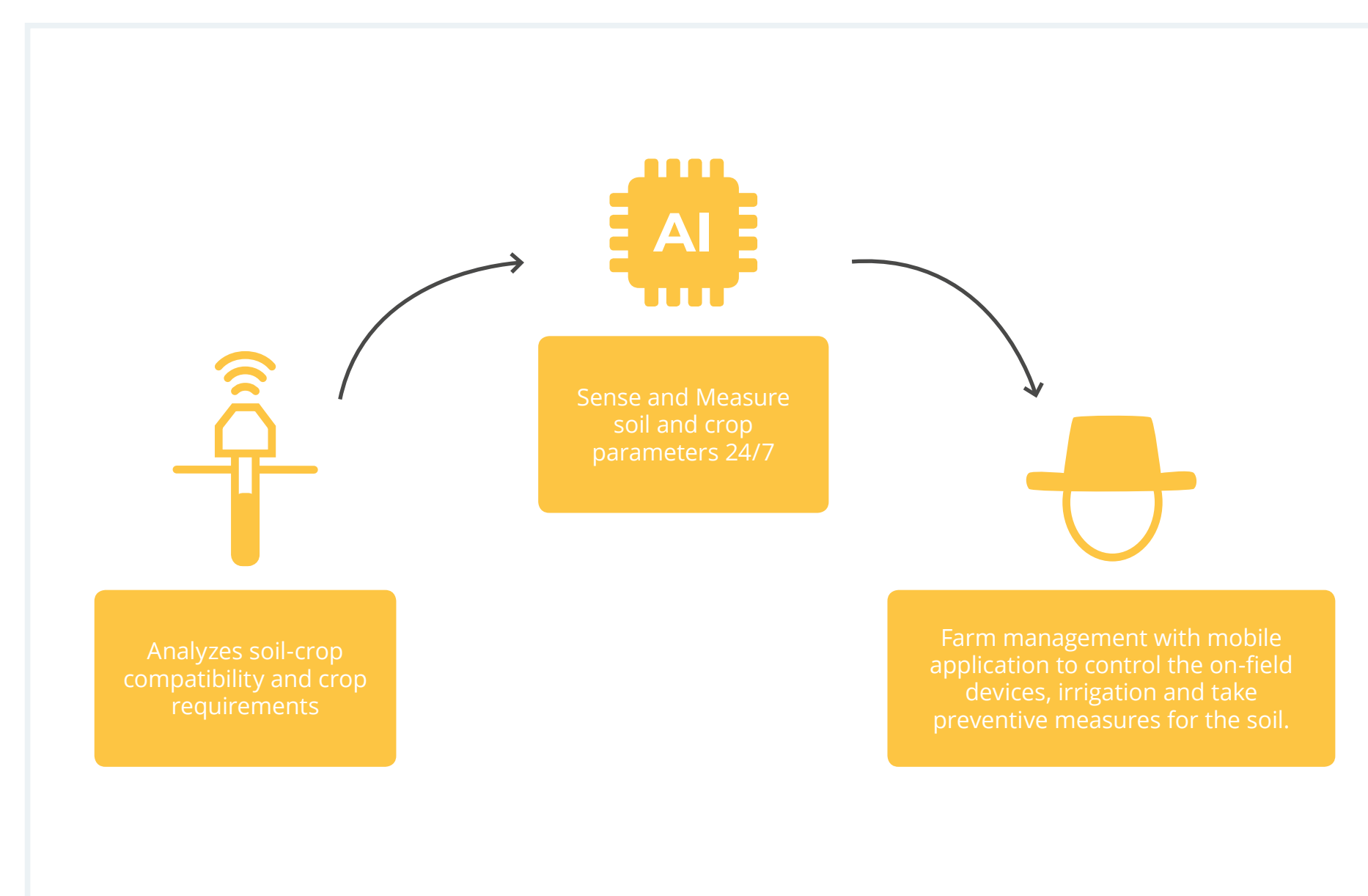
RESEARCH CONSORTIUM PARTNERS

- University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca (UASVMC)
- Hungarian Research Institute of Organic Agriculture (HRIOA)

ECOSYSTEM PARTNERS

- Farmers/ Farm community in Hungary, Romania and Germany
- BIOLAND, Germany
- Agricultural Sciences and Veterinary Medicine of Banat Timisoara, Romania
- GIZMA business school GmbH
- Mr. Friedrich Dittmar (Digital marketing)

HOW IT WORKS



Solar-powered field sensors offers plug and play IoT devices and AI-based precision farming solutions. The software analyses the soil-crop compatibility, crop requirements and nutrient deficiencies. The solution brings a soil laboratory to the fields and allows end-users to monitor and treat their crops in real time. This directly benefits farmers as it allows them to save water, minimise operating costs and reduce the risk of crop failures.

THE IMPACT

OUR OBJECTIVES

- Calibrate and certify the devices to demonstrate the product among farmer networks of 4 institutions across 3 countries;
- Conduct micro-level market research;
- Develop a smart network of 2000 sensors to help farmers adopt sustainable farm practices;
- Improve overall agricultural efficiency;
- Build self-sustainable communities.

ECONOMIC IMPACT

- Decreased farm operation and inputs costs (-30%);
- Cost saving on energy and water consumption (-35%);
- Crop productivity increase for potato, wheat, maize (+15-30%).

OTHER IMPACT

- CO2 Emissions reduction (-20%);
- Water conservation (-35% vs previous year);
- Cut down on fertilisers Ammonium Nitrate, Superphosphate, Potassium sulphate, Dolomite, and Magnesium sulphate;
- Soil health restoration;
- Reduction of pesticides usage.