



smart **AKIS**
Smart Farming Thematic Network



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THE EUROPEAN UNION'S HORIZON 2020 RESEARCH
AND INNOVATION PROGRAMME UNDER GRANT
AGREEMENT N. 696294

AgriSENSact



Title	AgriSENSact
Title (native language)	
Category	<ul style="list-style-type: none">• Recording or mapping technology• Farm Management Information System
Short summary for practitioners (Practice abstract) in English)	An integrated Precision Agriculture (PA) system for the precise management of crops integrating several of the main practices of PA. The AgriProbe concept is a modular device featuring specific modules for sensors, energy supply and communications, tailored for each specific agricultural application.
Short summary for practitioners	
Website	http://www.agrisensact.eu/index.html
Audiovisual material	
Links to other websites	
Additional comments	
Keywords	Farming practice Fertilisation and nutrients management Energy management
Additional keywords	

Geographical location (NUTS)	EU
Other geographical location	
Cropping systems	
Field operations	Fertilization Crop and soil scouting
SFT users	Farmer Contractor
Education level of users	All
Farm size (ha)	0-2 2-10 10-50 50-100 100-200 200-500 >500

Project info

Project name	AGRISENSACT: A new generation of wireless sensors for integrated precise agriculture
Project coordinator	GRANDESIGN - DESIGN NA INDUSTRIALDA (PT)
Project partners	KUNGLIGA TEKNISKA HOEGSKOLAN ADVAMAT SRO WAYDIP ENERGIA E AMBIENTE LDA INSTITUTO PEDRO NUNES, ASSOCIACAO PARA A INOVACAO E DESENVOLVIMENTO EM CIENCIA E TECNOLOGIA ENVX SRO BODEGA MATARROMERA SL ISA - Intelligent Sensing Anywhere S.A
Project period	2014 - 2016
Project status	finished
Objective of the project (native language)	The ever-growing demand for more agricultural products forced farmers to adopt resource-intensive and unsustainable practices which increased economic and environmental costs. Precision agriculture considers the spatial and temporal needs of soil and crop, but the lack of adequate sensors for soil fertilizers sensing prevented the implementation of WSNs for site specific fertilization. The project aims in the development of new processes both for soil nitrogen sensing and energy harvesting and new product concepts including modular sensor probes and contact-connection systems.
Objective of the project (in English)	The ever-growing demand for more agricultural products forced farmers to adopt resource-intensive and unsustainable practices which increased economic and environmental costs. Precision agriculture considers the spatial and temporal needs of soil and crop, but the lack of adequate sensors for soil fertilizers sensing prevented the implementation of WSNs for site specific fertilization. The project aims in the development of new processes both for soil nitrogen sensing and energy harvesting and new product concepts including modular sensor probes and contact-connection systems.

Effects of this SFT

Productivity (crop yield per ha)	Some increase
Quality of product	No effect
Revenue profit farm income	Large increase
Soil biodiversity	No effect
Biodiversity (other than soil)	No effect
Input costs	Some decrease
Variable costs	No effect
Post-harvest crop wastage	No effect
Energy use	Some decrease
CH4 (methane) emission	No effect
CO2 (carbon dioxide) emission	No effect
N2O (nitrous oxide) emission	No effect
NH3 (ammonia) emission	No effect
NO3 (nitrate) leaching	Some decrease
Fertilizer use	Some decrease
Pesticide use	No effect
Irrigation water use	No effect
Labor time	Some decrease
Stress or fatigue for farmer	Some decrease
Amount of heavy physical labour	No effect
Number and/or severity of personal injury accidents	No effect
Number and/or severity of accidents resulting in spills property damage incorrect application of fertiliser/pesticides etc.	Some decrease
Pesticide residue on product	No effect

Weed pressure	No effect
Pest pressure (insects etc.)	No effect
Disease pressure (bacterial fungal viral etc.)	No effect

Information related to how easy it is to start using the SFT

This SFT replaces a tool or technology that is currently used. The SFT is better than the current tool	agree
The SFT can be used without making major changes to the existing system	no opinion
The SFT does not require significant learning before the farmer can use it	agree
The SFT can be used in other useful ways than intended by the inventor	agree
The SFT has effects that can be directly observed by the farmer	no opinion
Using the SFT requires a large time investment by farmer	disagree
The SFT produces information that can be interpreted directly	disagree

[View this technology on the Smart-AKIS platform](#)

SMART AKIS PARTNERS:



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