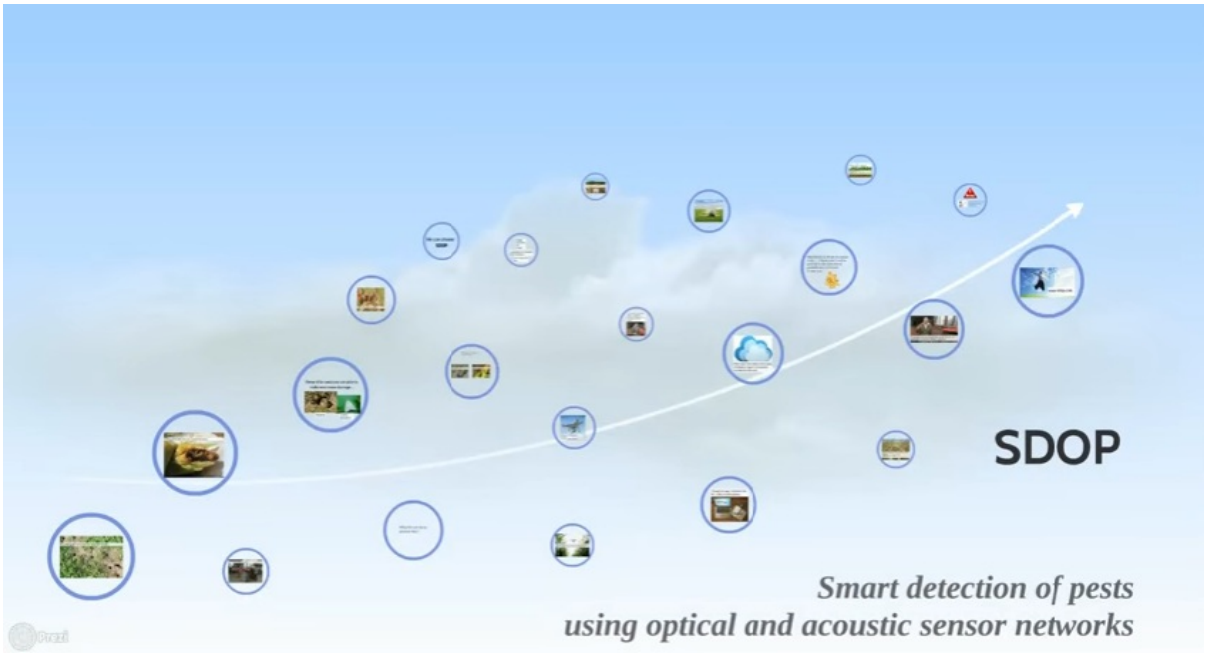
THIS PROJECT HAS RECEIVED FUNDING FROM THE **EUROPEAN UNION'S HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME** UNDER GRANT AGREEMENT N. 696294

Smart detection of pests using optical and acoustic sensor networks - SDOP



Title	Smart detection of pests using optical and acoustic sensor networks - SDOP
Title (native language)	
Category	• Recording or mapping technology • Reacting or variable rate technology • Farm Management Information System
Short summary for practitioners (Practice abstract) in English)	SDOP is the solution for identifying rodents and harmful lepidoptera in fields at the optimal moment, before their overproduction. It enables fast and affordable remote detection of pests on large agricultural fields using combination of optical and acoustic detectors. By deploying acoustic detectors in the soil and above the ground and combining the measured values with the visible and infrared video feeds from drones, the decision if the area is affected with pests is made. The detection methods can be adopted to other types of pests depending on the geographical regions, type of crops or other parameters.
Short summary for practitioners	
Website	
Audiovisual material	
Links to other websites	
Additional comments	
Keywords	Farming practice | Biodiversity and nature management
Additional keywords	detection of pests; lepidoptera; smart sensors
Geographical location (NUTS)	RS
Other geographical location	
Cropping systems	

Field operations	Pesticide application | Crop protection | Crop and soil scouting
SFT users	Farmer
Education level of users	Secondary education | Apprenticeship or technical school education | University education
Farm size (ha)	>500

Company info

Company name	Prozone doo Novi Sad
Address	Puškinova 26, Novi Sad, Serbia
Website	www.prozone.rs
Patent status	no patent

Effects of this SFT

Productivity (crop yield per ha)	Some increase
Quality of product	Some increase
Revenue profit farm income	Some increase
Soil biodiversity	Some increase
Biodiversity (other than soil)	Some increase
Input costs	Some decrease
Variable costs	Some decrease
Post-harvest crop wastage	Some decrease
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	No effect
Fertilizer use	No effect
Pesticide use	Large decrease
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	Large decrease
Weed pressure	No effect
Pest pressure (insects etc.)	Large decrease
Disease pressure (bacterial fungal viral etc.)	Some decrease

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	agree
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	no opinion
The SFT has effects that can be directly observed by the farmer	agree
Using the SFT requires a large time investment by farmer	disagree
The SFT produces information that can be interpreted directly	agree

View this technology on the Smart-AKIS platform

SMART AKIS PARTNERS:

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