



smart
protect
IPM THEMATIC NETWORK

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Inagro, Belgium

28/06/2021



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 862563.



*Implementing SMART IPM methodologies
for innovative vegetable crop protection*

3

YEARS

16

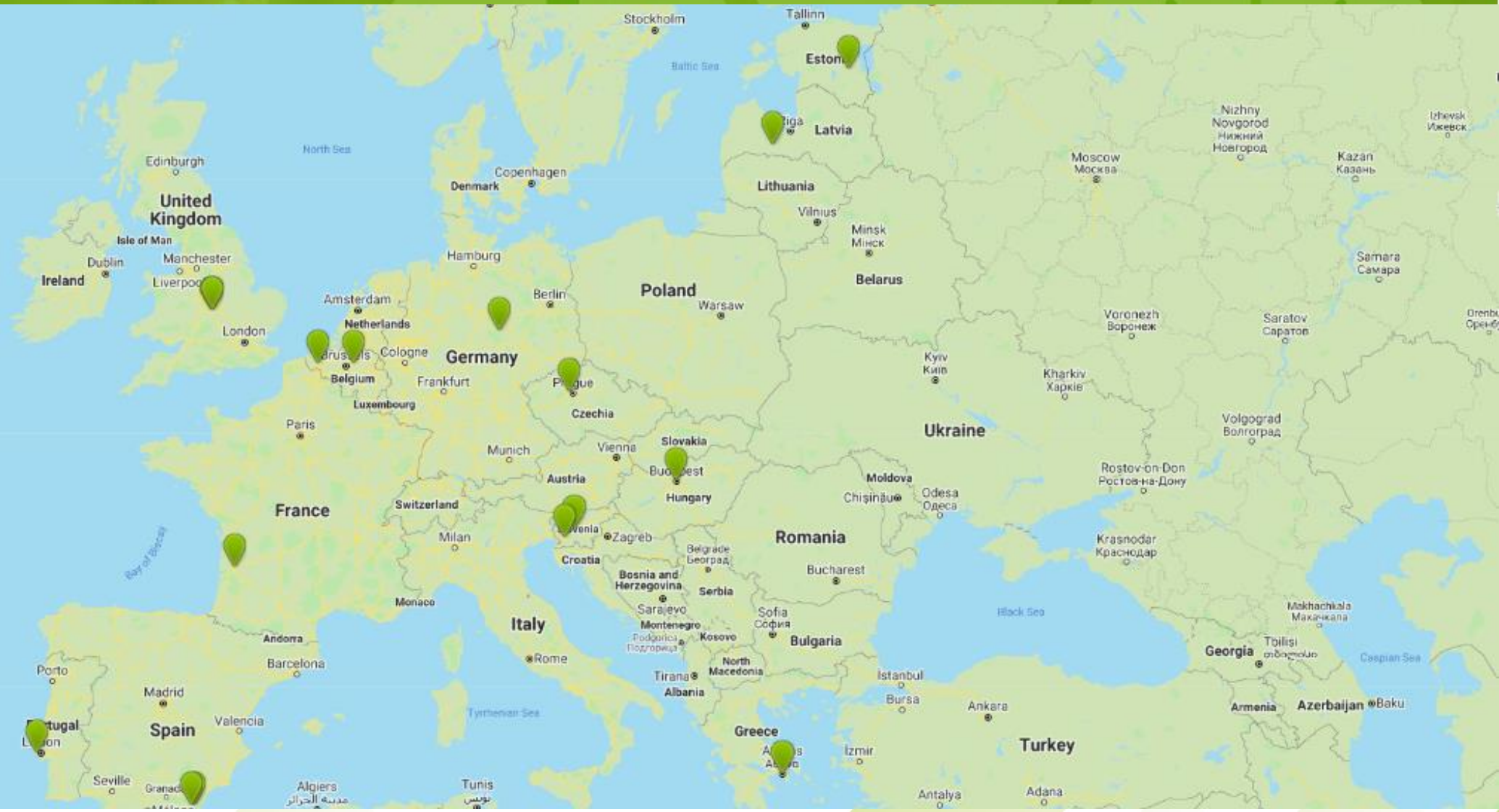
PARTNERS

12

COUNTRIES

3

REGIONAL INNOVATIVE HUBS





smart protect

IPM THEMATIC NETWORK



smartprotect-h2020.eu



@SmartProtectIPM



@SmartprotectIPM



@SmartProtect IPM



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SmartProtect - objectives

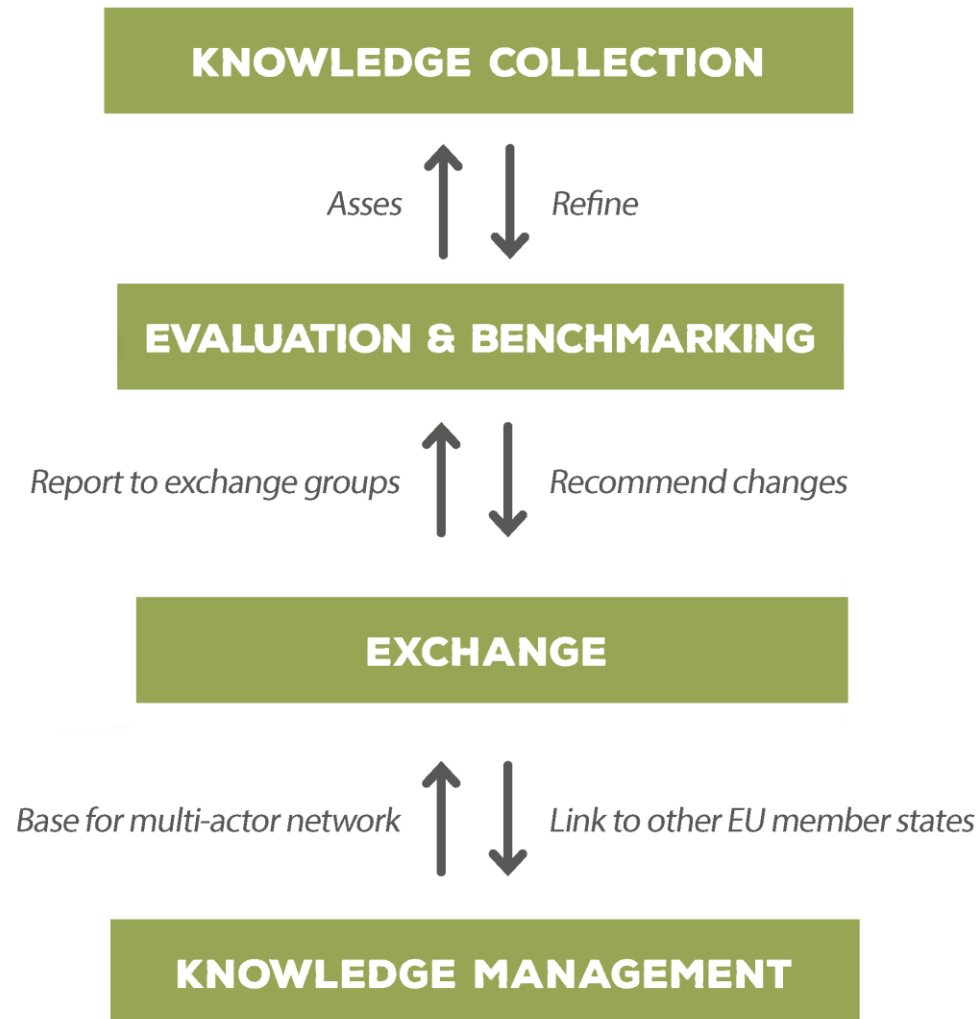
- **Build**
a sustainable platform for sharing knowledge on **greenhouse and open field vegetables**
- **Benchmark**
the best practices with the highest innovation potential for SMART IPM
- **Provide**
farmers easily accessible and understandable guidelines and materials
- **Bridge**
the gap between European regions
- **Engage**
in the wider European innovation partnership context “Agricultural productivity & Sustainability”
- **Secure**
the long-term sustainability of produced knowledge

SmartProtect - impact

- **Conserving practical knowledge for the long term**
- **Increasing sharing of practical information** via collaborations with various growers' associations, advisors and authorities across Europe (Multi-Actor Approach).
- **Achieving greater user acceptance of collected solutions.** Farmers will participate in project's activities and will have the opportunity to give feedback.
- **Decreasing use of pesticides.** The project will have an impact on sustainability, competitiveness, food safety and economy of the European agriculture.

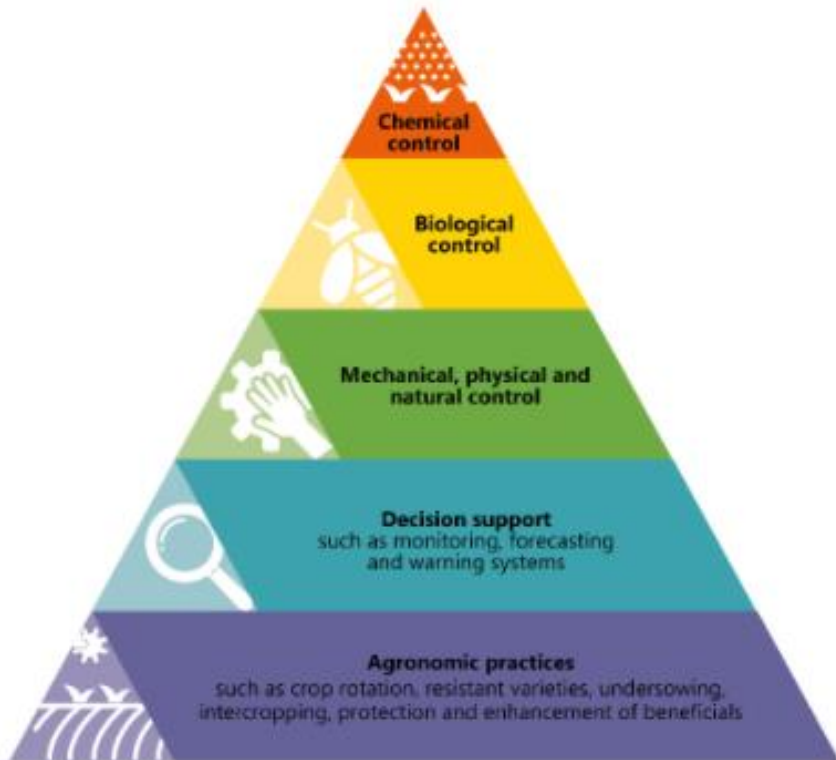
SMARTPROTECT stages

A THEMATIC Network on SMART IPM - Compile knowledge ready for practice - Multiple approach levels



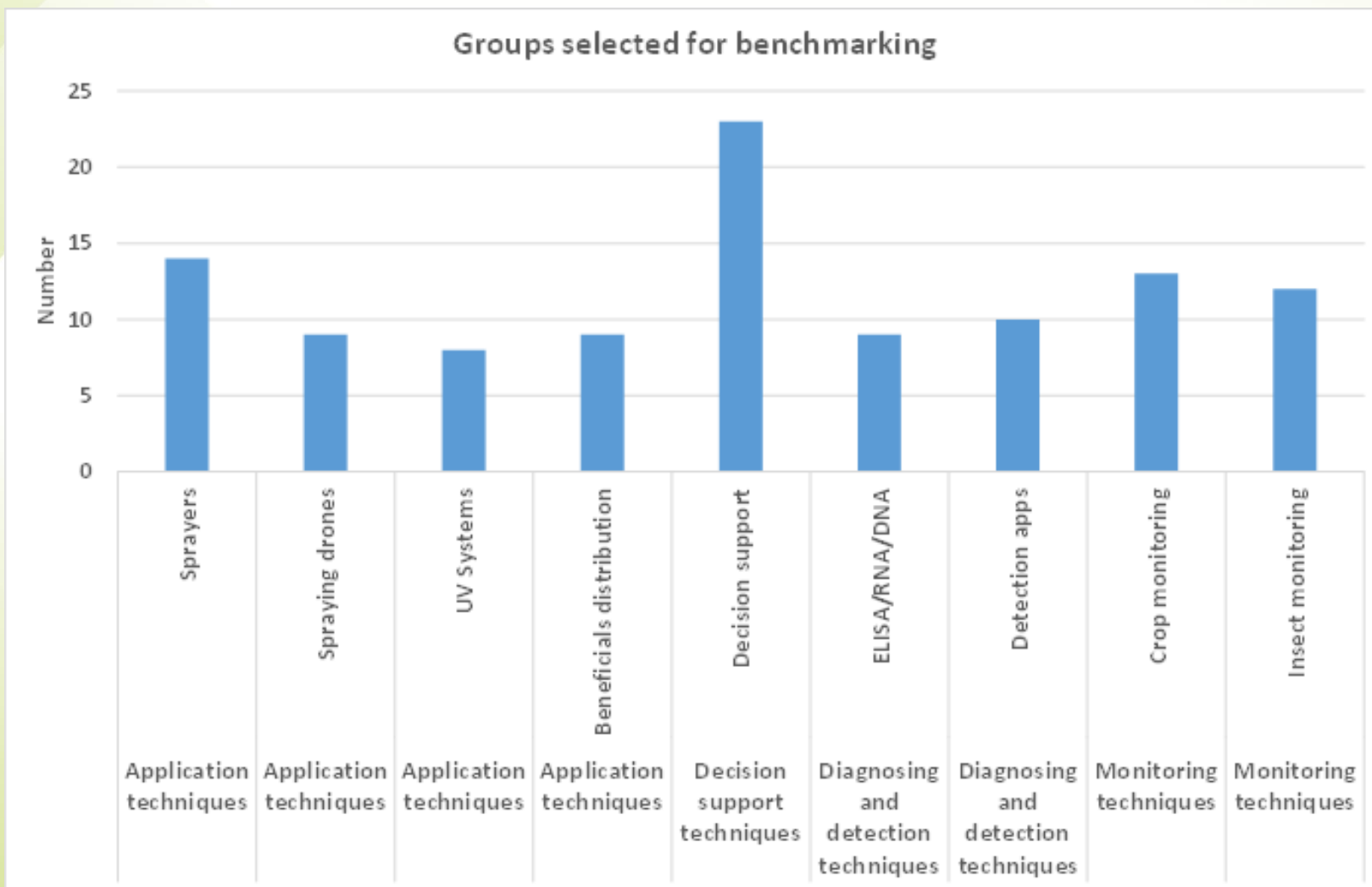
WP1 – common definition on IPM

The IPM Pyramid



The principle is that when you are planning a strategy for the management of one or more pests, you should start at the bottom of the pyramid and work upwards. At the bottom of the pyramid are the range of agronomic practices that might be used to prevent colonisation by pests and pathogens such as crop rotation and the use of pest/disease resistant varieties (prevention). Above this are approaches to forecast/monitor any pests or pathogens that do move into the crop, to assist with further decision-making (detection). Moving towards the top of the pyramid are a range of control methods, for example physical or biological control (control). The overall aim is to ensure that all other approaches to pest and disease management are considered before synthetic chemical pesticides are applied.

Knowledge Collection (Warwick)



Until now: database of 160 items

1. Application
2. Decision support
3. Diagnosing and detection
4. Monitoring

WP 2 – Knowledge Collection (Warwick)

	Identification	Monitoring	Forecasting	Pesticidal control	Biological control
Cabbage root fly			Welcome - VIPSWeb (vips-landbruk.no)		
Leaf miners	DiseaseAccuracy_en_GB.pdf (xarvio.com)				
Diamondback moth	TRAPVIEW - Automated pest monitoring	TRAPVIEW - Automated pest monitoring			
Large white butterfly	DiseaseAccuracy_en_GB.pdf (xarvio.com)				
Cabbage moth			Welcome - VIPSWeb (vips-landbruk.no)		
Pollen beetle		Yellow Trap Analysis (xarvio.com)			
Cabbage stem flea beetle		Yellow Trap Analysis (xarvio.com)			
Weevils		Yellow Trap Analysis (xarvio.com)			
Aphids/virus	DiseaseAccuracy_en_GB.pdf (xarvio.com)				
Ring spot					
Alternaria	DiseaseAccuracy_en_GB.pdf (xarvio.com)				

Surveys on smart IPM techniques

<https://www.smartprotect-h2020.eu/>



Invitations

Visitors

Responses

Completed

Canceled

510

173 33.92%

132 25.88%

41 8.04%

0

510

173 33.92%

132 76.30%

41 23.70%



Invitations

Visitors

Responses

Completed

Canceled

441

247 56.01%

179 40.59%

68 15.42%

0

441

247 56.01%

179 72.47%

68 27.53%



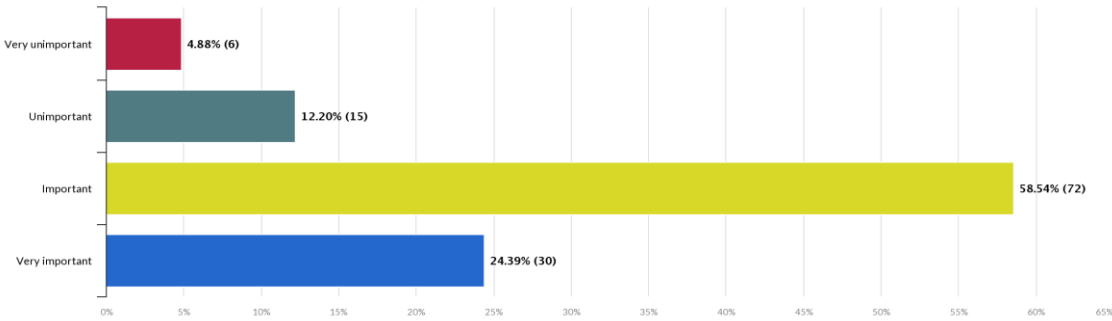
Stakeholders Survey Questionnaire

Experts Survey Questionnaire

Status of the surveys in WP3

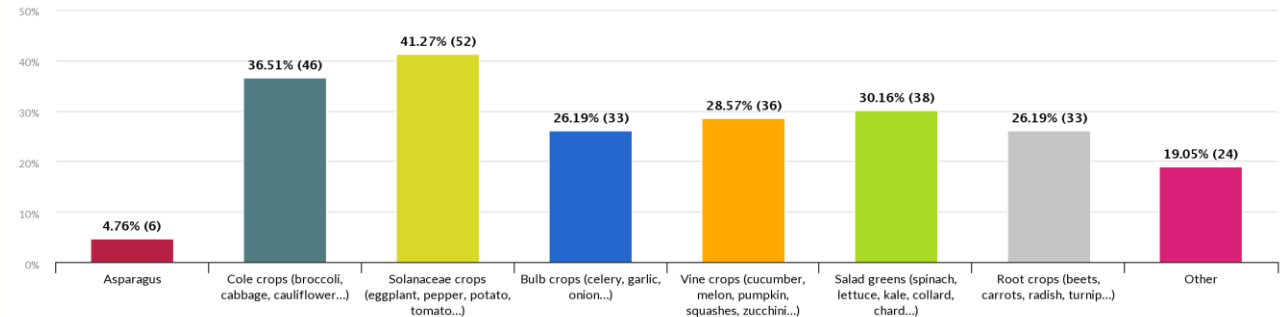
Stakeholder survey

According to your opinion: how important is using smart technology in plant protection?



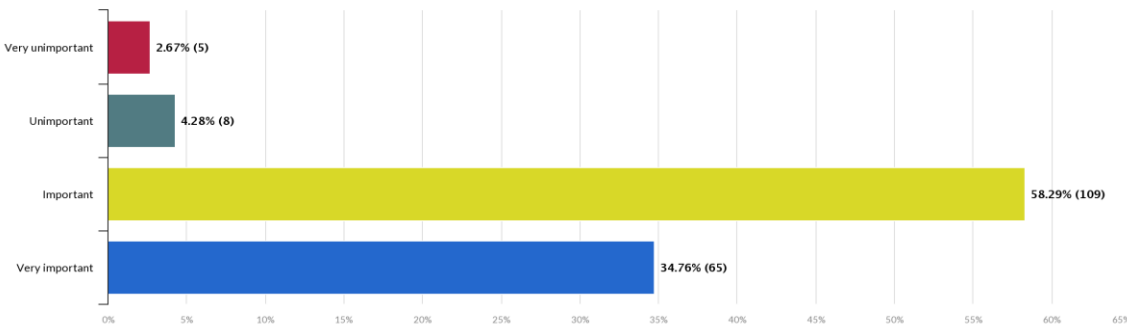
What are the vegetable crops you usually grow?

(Please indicate only the three most important crops)



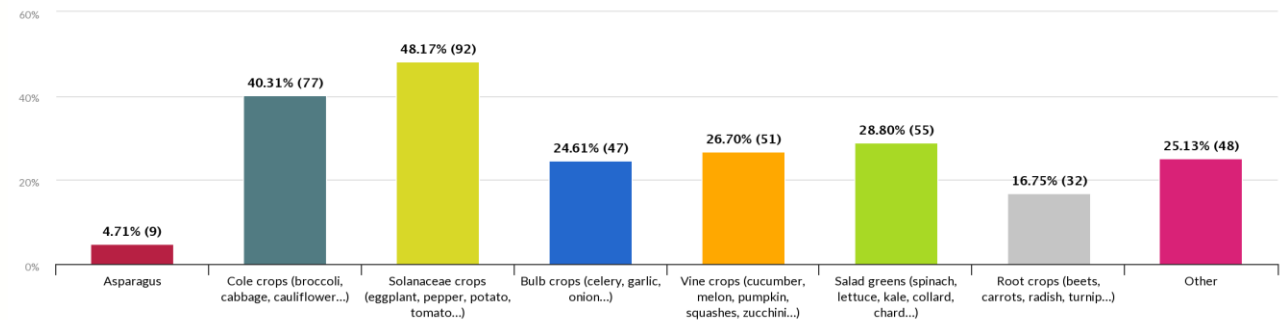
Expert survey

According to your opinion: how important is using smart technology in plant protection?



In which vegetable crops do you work most?

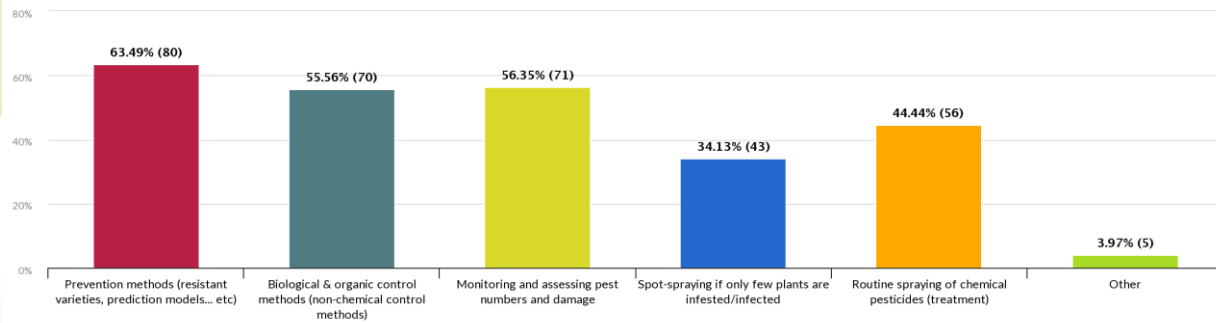
(Please indicate only the three most important crops)



Status of the surveys

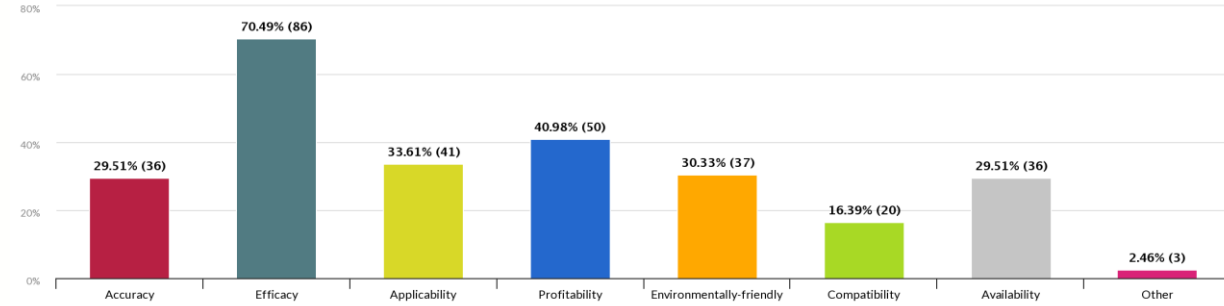
Stakeholder survey

How do you manage pests and diseases?



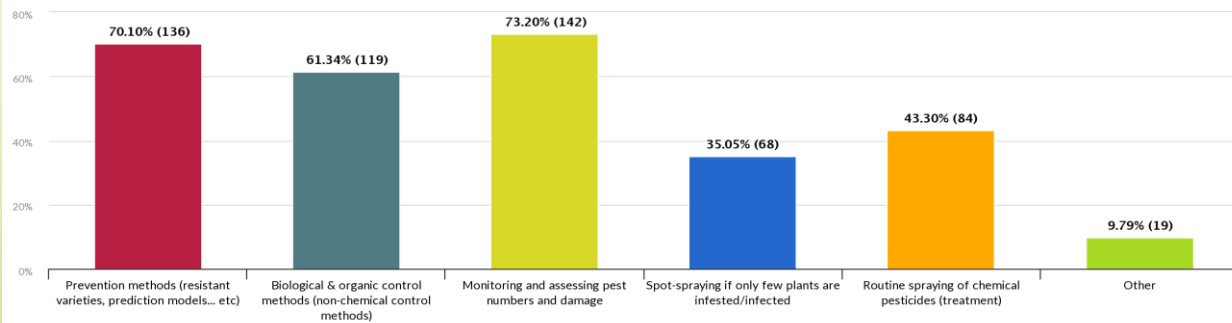
What would be most important for you regarding the use of smart technology in plant protection?

(Please indicate only the three most important options)



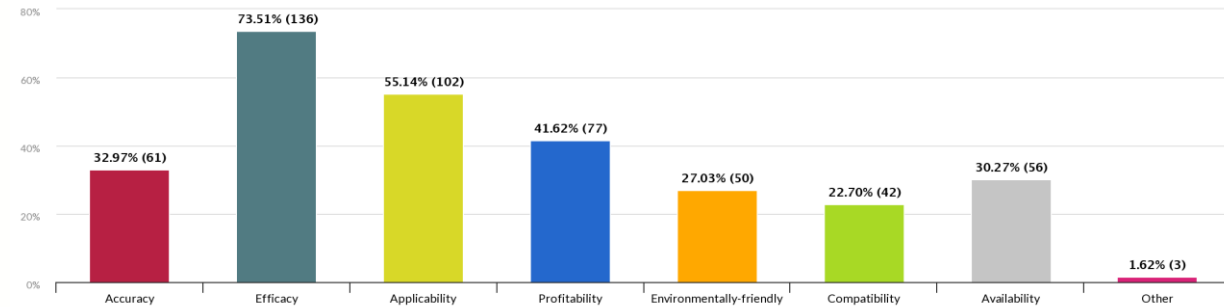
Expert survey

How do you manage pests and diseases?



Which characteristics are most important for a smart technology in plant protection?

(Please indicate only the three most important options)



Benchmarking: data acquisition and integration in web-page



Search Solution

Log In



Home > [IPM](#) > Solution

Trapview



Description ★★★★★

TRAPVIEW is an automated pest monitoring system that can be used to monitor remotely any kind of insect that can be lured into an insect trap. It works on all continents in any area covered by the GPRS or 3G network. Cameras powered by solar cells send pictures from the traps to a central database where they can be viewed, processed and are securely archived. The pests that are recognized are marked automatically and there are a range of tools to manage the information.

For More Information [Visit Website](#)

Crops Used

- All

Crops Possible

- All

Countries Used

- All

Countries Not Suitable

- No Countries

Species

- Autographa gamma
- Plutella xylostella
- Delia platura
- Agrotis segetum
- Any species captured with pheromone trap

Tech Requirement Comment

Each Trapview automated trap is fully automated, energy independent and can be extended with basic weather data sensors. Integrated 2G, 3G and LTE connectivity allows reliable automatic data collection.

Landscape Comment

N/A

Training Comment

Based on instructions provided with each trap, users should be able to assemble and install TRAPVIEW in the field. No specific training is needed but customer support is provided with the package.

Cost Detail

Subscription based prices, starting from 10 € per hectare, depending on crop, pest insect species and geography.

Example Cases

Traps have been used by Bonduelle, Princes, PepsiCo, Adama, FMC, G's Fresh, University of Warwick and other organisations.

The Trapview system has been used in the UK with pheromone traps for: *Autographa gamma*, *Plutella xylostella*, *Agrotis segetum*
https://projectblue.blob.core.windows.net/media/Default/Research/9420Papers/Horticulture/P/9420440_Report_Final_2017.pdf
 There is some current work to develop/improve a system for *Delia platura* using coloured sticky traps.

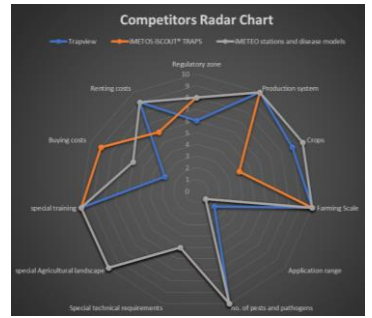
It has been used with sticky traps for: *Delia platura*.

Keywords

- Insect monitoring

Media Files

Youtube Videos



Plant Control Dashboard

Quinten Emard

ipm Methodologies

ipm Methodologies + Add

ipm status

All 200 Draft Submitted Published Edited Rejected

Show 12 entries

ID	Title	State	Owner	Email	Created At	
1	Trapview	Published	Mohamed Baklawa	mohamed.baklawa@julius-kuhn.de	2020-02-19 09:38:00	Edit Delete
11	Dropleg lechler	Published	Mohamed Baklawa	mohamed.baklawa@julius-kuhn.de	2020-03-06 11:56:00	Edit Delete
12	FungAlert	Published	Liga Lepse	liga.lepse@llu.lv	2020-03-13 12:31:00	Edit Delete
13	Dacom Farming Intelligence	Published	Liga Lepse	liga.lepse@llu.lv	2020-03-13 12:11:00	Edit Delete
14	Planticus (app by Ask-Atis)	Published	Liga Lepse	liga.lepse@llu.lv	2020-03-13 12:31:00	Edit Delete
15	GM virus resistant tomato	Published	Jaroslav Ovesna	ovesna@vruv.cz	2020-03-13 12:12:00	Edit Delete
16	IMETOS ISCOU7 TRAPS	Published	Mohamed Baklawa	mohamed.baklawa@julius-kuhn.de	2020-03-18 14:19:00	Edit Delete

Plant Control Dashboard

Collier Rosemary

IPM Methodologies

Users

Technique Types

Production Systems

Application Ranges

Crops

Countries

Species

Farm scale types

Keywords

Renting Cost Units

Pages

Settings

System logs

Logout

Search

Edit IPM Methodology

State: Published

Created At: 2020-02-19 09:38:00

Owned By: Mohamed Baklawa

Last Modified At: 2021-05-18 18:45:22

Last Modified By: Collier Rosemary

Translatable Fields: General Fields Picture

English français Deutsch nesti slovenščina português Čeština español latviešu magyar Ελληνικά Nederlands

Solution Name

Trapview

Short Description

TRAPVIEW is an automated pest monitoring system that can be used to monitor remotely any kind of insect that can be lured into an insect trap. It works on all continents in any area covered by the GPRS or 3G network. Cameras powered by solar cells send pictures from the traps to a central database where they can be viewed, processed and are securely archived. The pests that are recognized are marked automatically and there are a range of tools to manage the information.

Tech Requirement Comment

Readiness Level 9

Types

Small scale

Systems

Open field

Types

Monitoring and prediction models, Traps and detection techniques, Monitoring

Ranges

Name

rmacjske resitve d.o.o.

Region

Person

Boštjan Božić@trapview.com VP Marketing P: +386 5 757 75 42

Requirement

Special agricultural landscape

Special Training

Platform for users

The screenshot shows the user interface of the smart protect IPM Thematic Network platform. At the top, there is a logo for 'smart protect IPM THEMATIC NETWORK' and a 'Log in' button. Below the logo is a search bar with the placeholder text 'Search solution' and social media icons for Facebook, Twitter, and Instagram. The main content area is divided into two sections: 'Technique Types' and 'Application Range'.

Technique Types

- Application techniques: 65
- Data clustering and prediction models: 11
- Diagnostics and detection techniques: 107
- Monitoring techniques: 45

Application Range

- Bacteria 31**
farmwise app
Sprayer vision
Hybrix 2.1 Agricultural spre...
The Spray Assist app
Spraying Robot SPE 200/236
- Beneficials 23**
"Umsau: benedictstrieberer...
"Umsau: Akkubetriebene La...
Biospreeder 2.0
Bioverlazer
Buntaka App
- Fungi 67**
farmwise app
Sprayer vision
Hybrix 2.1 Agricultural spre...
Bunkard DNA auto spore tr...
The Spray Assist app
- Insects 153**
farmwise app
Sprayer vision
Hybrix 2.1 Agricultural spre...
The Spray Assist app
FDCONTROLO.BugsmanAPP
- Mites 34**
Sprayer vision
Hybrix 2.1 Agricultural spre...
The Spray Assist app
Trailed sprayer WHR/ WIN...
Spraying Robot SPE 200/236
- Nematodes 17**
Spraying Robot SPE 200/236
Hardi drop nozzle
360 Undercover
Buntaka App
Cipi/Genie Genie II
- Others 20**
ClimateApplication - Climate
Hardi drop nozzle
360 Undercover
Dubok Wave
CropSurfer
- Viruses 26**
A Plant disease Identifier
Bioscience Laboratories
Buntaka App
FLASH HIT508
Aniparty988 xR1

Platform for users



Search Solution



[Home](#) > Library

[Newest](#) ▾

Filters ▾

[Clear All](#)

Technology Readiness

[Clear](#)



Production System

[Clear](#)

- Greenhouse
- Open field

Technique Type

[Clear](#)

- Application techniques
- Data clustering and prediction models
- Diagnostics and detection techniques
- Monitoring techniques
- Others

Application Range

[Clear](#)

- Bacteria
- Beneficials
- Fungi
- Insects

Active Filters

Technique Type: Application techniques ×



Sprayer vision ★★★★★

There are few pieces of equipment in a farming operation that see a field as often as a sprayer during the growing season. We believe that we could leverage the current hardware initially built for harvest and software initially built...



Hybrix 2.1 Agricultural spraying Drone ★★★★★

Drone that can transport 10l of product to make spraying treatments from the air



The Spray Assist app ★★★★★

The Spray Assist app for mobile devices was developed as part of agrochemical manufacturer Syngenta's initiative to harness the potential for digital agriculture. In its original form, the app links to live local weather data to analyse the factors that...



Platform for users

EffiSpray



Technology Readiness Level
TRL 9

9

Farm Scale Types
Big scale, Small scale

Production Systems
Open field

Technique Types
Application techniques

Application Ranges
Bacteria, Beneficials, Fungi, Insects, Mites, Nematodes,
Others, Viruses

Company Name
AGENSO

Country Origin
Greece

Description

EffiSpray helps farmer's to optimize spraying operations, by calculating depending on weather conditions, the ideal time slot for spraying crops, making predictions for the next five days in regions all over the world.

For More Information

[Visit Website](#)

Crops Used

- o All

Crops Possible

- o All

Countries Used

- o All

Countries Not Suitable

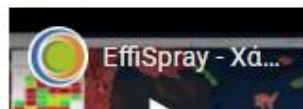
- o No Countries

Cost Detail

It's a free of charge mobile application.

Media Files

Youtube Videos

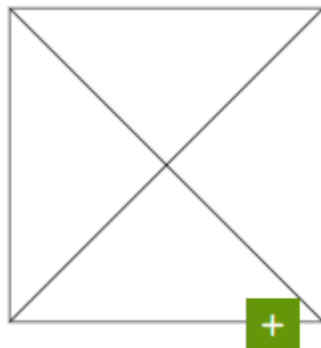


Platform for users

Image

Please upload an image to help our users identify your solution more easily. The image needs to be square. The size cannot be larger than 35MB.

Global Value: Changing this value will affect in all languages.



Technique Types

Technique Type refers to lorem ipsum dolor sit amet, consectetur adipiscing elit. Please click on the icon that best describes the technique type of your solution.

Application Ranges

Application Range refers to lorem ipsum dolor sit amet, consectetur adipiscing elit. Please click on the icon that your solutions belongs to. If none of them describes it, choose Other.

Farm Scale Types

Farm Scale Type is lorem ipsum dolor sit amet, consectetur adipiscing elit. The available options are Open Field, Greenhouse, Both and Other. Pick the Production System that best describes your solution and your choice will appear next to title.

Platform for users

Language

Choose another language to fill in the form. Some of the fields are universal, which means that if you change them, they will change in all languages. To help you we have marked them distinctively.



Solution Name

Please type in the full name of the solution.

Technology Readiness Level

Technology Readiness Level, or TRL for short, is lorem ipsum dolor sit amet, consectetur adipiscing elit. TRL <7 means that vestibulum congue nulla lectus. TRL = 8 means that fusce rhoncus pellentesque nisi. TRL = 9 is lorem ipsum dolor sit amet, consectetur adipiscing elit. Pick the TRL level of your solution and it will appear next to title.

Global Value: Changing this value will affect in all languages.



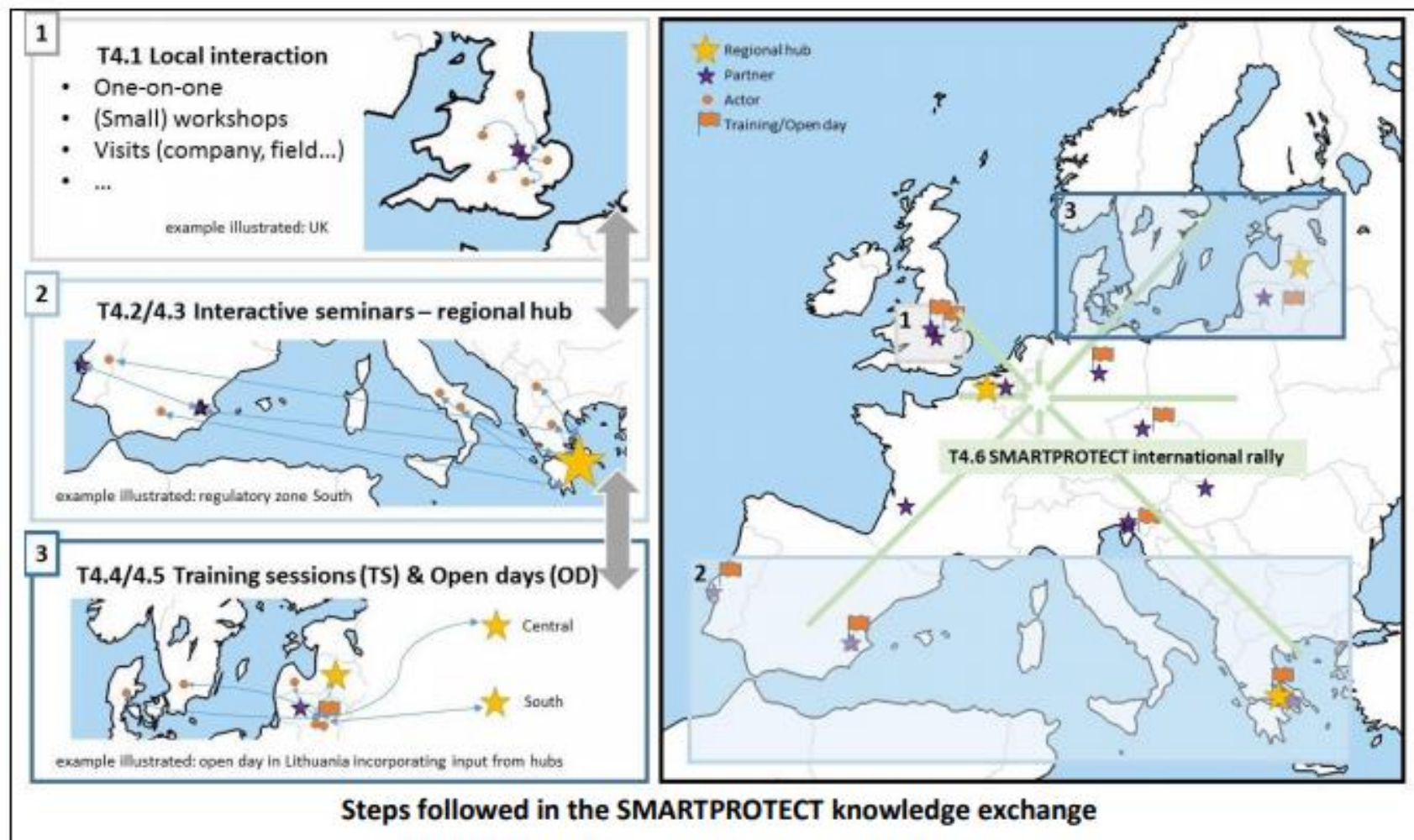
Image

Please upload an image to help our users identify your solution more easily. The image needs to be square. The size cannot be larger than 35MB.

Global Value: Changing this value will affect in all languages.



Knowledge exchange 2021-2022



Steps followed in the SMARTPROTECT knowledge exchange

Dissimination: Poster on ISCP 18 May, 2021 Ghent

SMARTPROTECT: Horizon 2020 Thematic Network for innovative vegetable crop protection

Pollet S. (1), De Mey J. (1) and Bleyaert P. (1) Inagro vzw, Ieperseweg 87, 8800 Rumbeke-Beitem, Belgium

Introduction

SmartProtect is a thematic network focusing on cross regional knowledge sharing of SMART Integrated Pest Management (IPM) solutions for farmers and advisors in **vegetable production** (open field and greenhouses in different crops (tomato, cucumber, bell pepper, lettuce, alliums and cabbages).
16 Partners from 12 countries take part in it.

Objectives

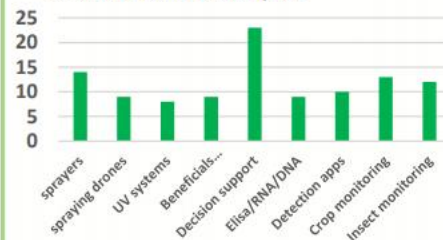
- **Build**
a sustainable platform for sharing knowledge on greenhouse and open field vegetables
- **Benchmark**
the best practices with the highest innovation potential for SMART IPM
- **Provide**
farmers easily accessible and understandable guidelines and materials
- **Bridge**
the gap between European regions

Impact

- Decreasing use of pesticides

Results

Database of 160 smart IPM items divided in 4 groups: Application, Decision support, Monitoring and Diagnosing and detection techniques



Surveys for stakeholders and expert are running:

<https://www.Smartprotect-h2020.eu>

Platform for users will be launched soon



Near Future

Benchmarking results of surveys on smart IPM techniques including **workshop**

Knowledge exchange

Discuss and disseminate smart IPM approaches in meetings, study clubs, workshops, seminars, regional innovation hubs,

2022: join our SmartProtect Innovation Rally!

IPM Pyramid



The SmartProtect-project has received funding from the European Union's Horizon 2020 research and innovation programme under grand No 862563.



Social Media – LinkedIn, Facebook and Twitter



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Smartprotect Thematic Network

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SMART agriculture for innovative vegetable crops PROTECTION: harnessing advanced methodologies and technologies

📍 EU, Europe [smartprotect-h2020.eu](#) 📅 Joined January 2020

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SmartProtect IPM Thematic Network

SmartProtect is a H2020 Thematic Network enhancing advanced methodologies for IPM in vegetable production in Europe.
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smart
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IPM THEMATIC NETWORK

Thank you!

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