D5.8: Second report on the Thematic Networks links with EU-wide

WP5 – Knowledge Management

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Abstract

The current deliverable D5.8 entitled "Second report on the Thematic Network links with EU-wide" constitutes the final report on the Thematic Network SmartProtect links with initiatives, EU projects including H2020 multi-actor approaches, Thematic Networks (TNs) in EU level. In the framework of dissemination and communication of SmartProtect's project, links to related content can stimulate and increase the knowledge flow of practical information between all interested stakeholders and end-users, in order to achieve a greater user acceptance of the collected IPM solutions. This second report contains the methodology, targets and results of the established links of SmartProtect that are conducted during the project's lifetime. It is an updated version of the already submitted deliverable D5.7 "First report on the Thematic Network links with EU-wide".

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1 Introduction

The nature and objective of SmartProtect Thematic Network project is to stimulate knowledge flow and increase the accessibility of end-users and various stakeholders to smart innovative Integrated Pest Management (IPM) technologies and methodologies for the vegetable production sector. In this way, all interested parties such as producers, farmers, farmer's associations and cooperatives may obtain access to available novel high-end information, that otherwise may not be able to get involved in such knowledge transfer.

In the framework of dissemination and communication of the project, SmartProtect consortium targeted the long-term preservation of the project's results and outcomes, via establishing strong relations with initiatives, projects, operational/working groups and further entities/bodies that operate in the sectors of agriculture, IPM, food and especially vegetable production, as well as other related sectors.

For this reason, a methodology was developed to identify potential affiliations/stakeholders for future cooperation and determining the appropriate ones, based on their relation with SmartProtect's content, scope, and general objectives. Through the aforementioned methodology and the corresponding analysis, concrete results and key elements were expected to arose, creating the base for the development of a list with related affiliations that assisted the dissemination procedure of the project by providing to end-users, information which is relative to their specific interests. Thus, this method that mainly simulates a dissemination plan, was of paramount importance for increasing the project's acceptability and project's outcomes' preservation, as it allowed targeting the most suitable audience for further connection.

The relationships that were created were then validated, in order to obtain the optimum links that would increase flow of users to diverse topics that in the same time remain relevant and may attract the interest of end-users. The result of this linking procedure empowered new connections, liaisons and contributed in succeeding the fulfilment of the project's objectives as a Thematic Network.

2 Strategy and methodology

It is commonly accepted that a website's success is strongly depending on the existence of backlinking; in order to support, reinforce and generally back up the claims and content included in a website[1]. The significance of backlinks is highlighted by the fact that based on published surveys, around 40-50% of websites are found to have backlinks[2]. As a result, content publishers nowadays widely use more and more this technique as a tool, in order to increase the potential of the websites.

Backlinks are defined as inbound links from external websites that function as a digital referral of sorts (**Figure 1**). A general rule supports the idea of fewer high-quality links, rather that many links that bring no value to the website. The majority of the backlinks are reciprocal, meaning that a link is mutually displayed in both correlated websites, in order to enhance the vice-versa flow of users in a multilateral level. Consequently, outreach is simplified and accessibility is increased. Additionally, search engines are ranking higher a website that has backlinks, allowing its faster display accompanied by a more efficient interpretation of search result. Therefore, backlinks serve as a key ranking signal for search engines.

Figure 1. *Backlinks function*[3]

Backlinks are considered to be a very effective tool for creating online communities focused on a certain niche. As a result, backlinks' development has been selected for projecting in SmartProtect's website, the links were developed with the various stakeholders/projects. Accordingly, a strategy and a methodology were exploited for selecting the appropriate links and stakeholders consequently, for adding value to the audience.

The abovementioned strategy includes collecting/identifying of candidates, assessment and evaluation of the potential links' efficiency, together with benefits and advantages, and finally, selection of the ideal ones. The procedure is described in **Figure 2**.

[1] https://www.cadenceseo.com/blog/are-backlinks-required-for-website-success/
[2] Reciprocal Links: Will They Hurt Your SEO? (A Study by Ahrefs)
[3] https://seoadministrator.com/wp-content/uploads/Backlink-Exchange-e1616086769619.jpg

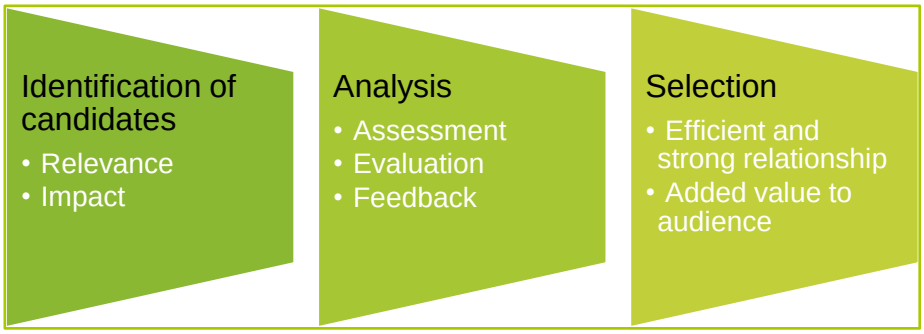


Figure 2. *Strategy for selecting links*

The selection that derived by the analysis was based on a methodology that was exploited for screening the possible candidates. Initially, candidates with relevance to the project were selected for further analysis and assessment. More specifically, the methodology for obtaining an effective result was structured in a concrete way, addressing distinct characteristics of the candidates, thus allowing definitive categorization and efficient selection. The criteria that were used in this procedure of the methodology refer to:

1. The overall relevance of the candidate with the project's objectives.
2. The impact of the candidate on the scientific community.
3. The impact of the candidate of the corresponding industry.
4. The future foreseen potential of the candidate in the current domain, with due respect to sustainability and harmonization with environmental apprehension.
5. The established networking community of the candidate under the specific domain in rural, national and regional level.
6. The level of involvement, awareness and activity of the candidate in the current and ongoing situation about IPM and vegetable production in EU level.
7. The level of adoption and alignment of the possible candidate, with EU legislation and enforcement of directives.
8. The level of extroversion of the candidate regarding actions related to the project's domain.

The aforementioned criteria shaped the analysis of the appropriate stakeholders for creating and establishing the links. An initial pool that was created, was further assessed with regard to the analysis criteria. Based on the evaluation, appropriate stakeholders were then selected. The criteria were determined in such a way, in order to cover a wide range of distinct characteristics of the potential stakeholders, thus the analysis could provide a solid overview of the suitability of each stakeholder to fulfil the purpose of the linking procedure.

Subsequently, backlinks were developed and displayed in SmartProtect's and each stakeholders' website, in order to enable the smooth users' flow. Links were placed in easily accessible parts of each website, allowing fast tracking by users.

3 Target Groups

However, the most important issue of the entire procedure remained behind the question “Who to approach?”. Consequently, a list of possible links was created and finally used as a pool for further analysis. For this reason, possible candidates that belong to scientific and commercial sectors were selected, aiming to achieve a wider diversity among the pool’s members. More specifically, Horizon 2020 projects were assessed, together with Thematic Networks, Operational Groups, initiatives and educational programs (**Figure 3**).

Final stakeholders for creating reciprocal backlinks derived by assessing possible stakeholders from the existing contacts of SmartProtect partners’ that constituted the pool of identified candidates, in addition with possible new collaborations. Thus, direct contact was facilitated, in order to investigate the potential link creation. The strategy of SmartProtect consortium was to approach potential targets groups who had the intension to create communities that offer access to the newest industry and research knowledge, in collaboration with stakeholders who share the same passion.

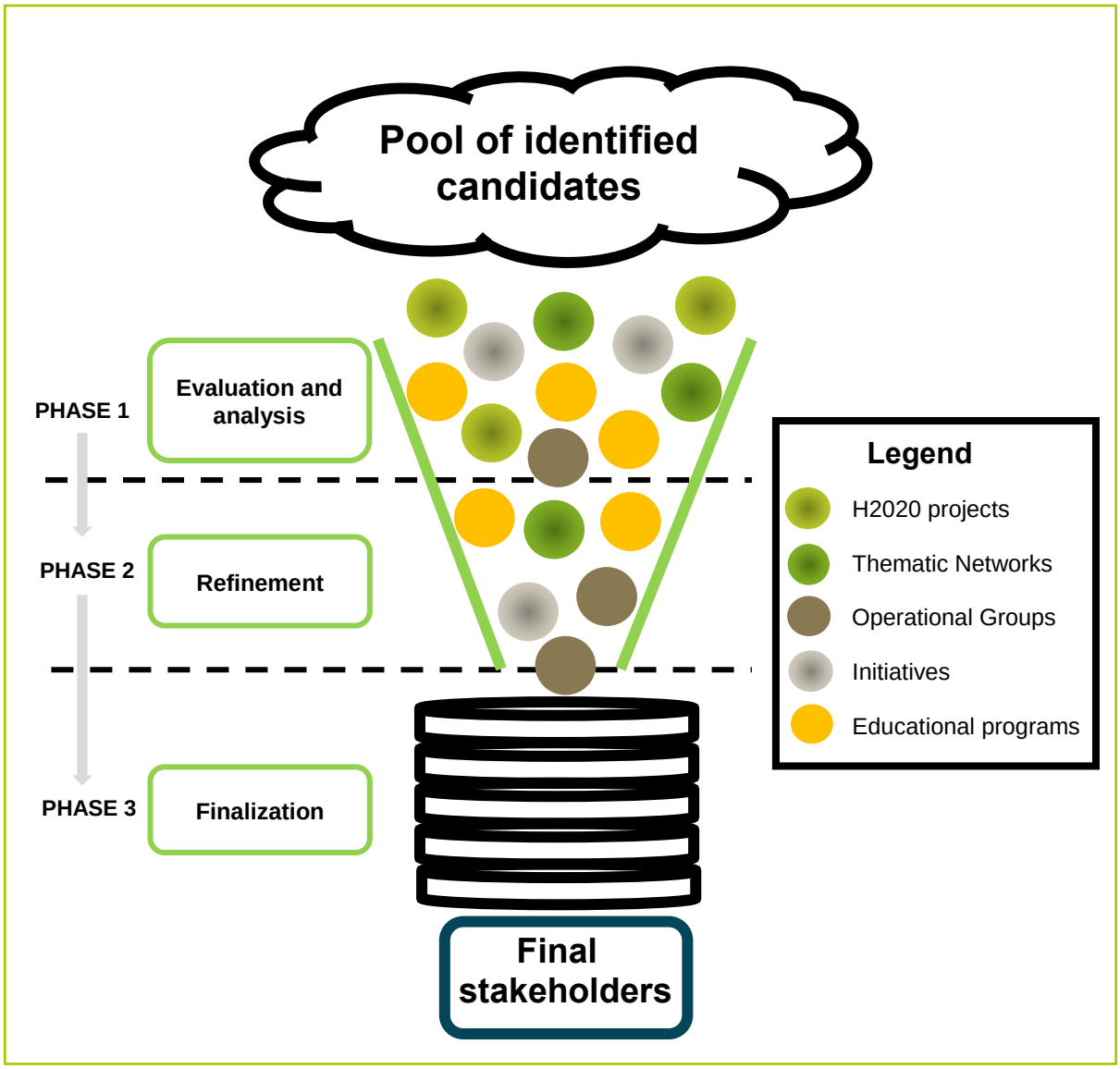


Figure 3. *Analysis of identified stakeholders*

4 Covid-19 impact

The strategy for an effective outcome was based on developing a specific approach for eliciting the acceptance of the various optimum stakeholders. Generally, the best way to approach any existing networking community, and increase the horizons by creating new contacts, is by participating in physical presence events, where communication is facilitated and possibly a sufficient number of stakeholders can be approached.

However, due to Covid-19 imposed restrictions and related impact on travelling and events' organization, SmartProtect consortium decided to investigate alternative methods for approaching the several stakeholders as this process was initiated during the first project period when the aforementioned restrictions were in action. Within this framework, the predominant solution has been proven to be the development of an e-letter that was communicated to potential stakeholders, addressing the significance and the advantages of creating reciprocal backlinks with SmartProtect. Networking opportunities were also stressed out as main benefit, while the ability of further future collaboration was also addressed. Nevertheless, the main profit that was introduced was the facilitation of end-users' access to valuable information and knowledge.

Moreover, during the second period of the project implementation, when the COVID-19 restrictions were eased, the SmartProtect partners attempted to also create links and liaisons in physical presence and face-to-face meetings.

5 Risk evaluation

During the procedure of creating links, several risk could arise. Websites are generally set up in sections, and the value of a link may be impacted by the section in which it appears. Links may not receive the same value from search engines and users when they appear in the header, footer, or sidebar of the page. This is an important factor to keep in mind when building high-quality backlinks. Preferably, links are included in the main body content of a site. The backlinks that were placed in SmartProtect official website, were placed in a visible and easily accessible menu/section of the website, and not somewhere that would encounter users to rapidly leave the website and visit the links. Such a loss of users, would of course create a significant over-flow to the links and subsequently lead to lower performance of the project's website. This risk (Risk #1) was not characterized as a major risk, due to the fact that the existence of reciprocal link on the stakeholders' websites, may redirect users back to SmartProtect's website.

In addition to that, another possible risk (Risk #2) is the survivorship bias on behalf of the stakeholders. In this case, partnership may be jeopardized, as the stakeholders may not reciprocally place a link of SmartProtect in their website. However, this risk was also considered to be minor, due to the fact that all selected stakeholders had significant interest in the aspects that SmartProtect is dealing with, while they will also be actively involved in the current domain. The link that was to be created each time would be reciprocal, and this would play a key role in their own promotion and dissemination, as well as in the projection of their level of involvement in high-end knowledge transfer.

A third possible risk (Risk #3) referred to the lack of interest for the links displayed, by the side of SmartProtect's users. Nonetheless, this was also considered to be a minor risk, because stakeholders would be carefully selected, in order to ensure their relation to SmartProtect project in addition with their potential in the operating sector. The initial identification and selection of stakeholders was strategically conducted, in order to avoid the potential users' lack of interest.

Finally, in order to avoid any GDPR issues that may arise when approaching stakeholders, all recipients of the e-letter, were either contacts of the project's partners, or new ones that received the e-letter to a publicly available email address that is displayed in their official website.

6 Approach implementation

As previously mentioned, the objective of creating links in European level, was implemented by approaching stakeholders via an e-letter that clearly described the reasons, benefits and procedure of this collaboration. For this reason, this e-letter was developed based on the fact that different stakeholders would receive it. Sometimes, minor content adjustments of the letter were needed depending on its receiver. This e-letter that was developed is presented in the following sub-chapter.

6.1 Approach e-letter

Dear [*receiver's name*],

We have obtained your name and email from your official website, while our contact has been recommended by our partners in the Horizon 2020 project entitled SmartProtect-SMART agriculture for innovative vegetable crop PROTECTion: harnessing advanced methodologies and technologies (GA 862563).

SmartProtect is a Thematic Network focusing on cross regional knowledge sharing of smart Integrated Pest Management (IPM) solutions for farmers and advisors. The aim is to stimulate knowledge flow in the regional Agriculture and Knowledge Innovation Systems (AKISs) across the EU and connect these on the innovative potential of advanced methodologies for IPM in vegetable production, integrating precision farming technologies and data analytics. For this purpose, SmartProtect has developed an online platform that functions as a freely accessible repository for IPM technologies and methodologies, and is available in https://platform.smartprotect-h2020.eu/.

SmartProtect is exploring how valuable stakeholders can contribute in the diffusion of available high-end knowledge for the benefit of diversified end-users in the agricultural sector. As a result, you are receiving this letter, since you have been identified as one of the potential stakeholders for creating links with SmartProtect, in the context of facilitating knowledge transfer in EU level.

Your relevance to plant protection, IPM and/or vegetable production, in addition with the status and prestige of your team's synthesis, along with your active involvement and impact in the current domain, has led to the selection of yours within our networking contacts. SmartProtect's main objective is to close the gap between existing innovative knowledge and its practical implementation, aiming to fulfill the needs of various parties operating in the agricultural sector.

In this framework, we would like to know, from your perspective, whether you would be interested in establishing essential liaison and networking relation with SmartProtect, by reciprocally placing links in your official website and SmartProtect's official website respectively. Due to your leading role in our common field of expertise, your collaboration is of utmost significance and your participation in this process is expected to provide the potential of further opportunities for collaborations. The cluster that will be developed, will consist of diverse participants introducing cutting edge inputs that bring value to the agricultural sector and simultaneously embrace our concerns and aspirations.

We thank you for your support and commitment to this process.

Please do not hesitate to contact us and visit SmartProtect's official website at https://www.smartprotect-h2020.eu/.

With kind regards,

On behalf of SmartProtect consortium,

Mike Kaminiaris, SmartProtect's Dissemination and Communication Manager

7 Developed links

Based on the previous approach, several e-letters were addressed to various stakeholders. Their positive reply has led to the development of reciprocal links. These links are described below, both for SmartProtect and stakeholders' websites. In SmartProtect official website, a menu entitled "Links" (https://www.smartprotect-h2020.eu/links/) has been added in the menu bar of the website to gather all developed links in the form of clickable logos (**Figure 4**). The aforementioned created links are described in the following sub-chapters.

Figure 4. *Developed links in SmartProtect website*

7.1 OPTIMA project

OPTIMA project is an EU funded Horizon 2020 project under the Grant Agreement ID 773718-2. OPTIMA develops an environmentally friendly IPM framework for vineyards, apple orchards and carrots by providing a holistic integrated approach which includes all critical aspects related to integrated disease management, such as novel bio-PPPs use, disease prediction models, spectral early disease detection systems and precision spraying techniques. The official project's website is available in http://optima-h2020.eu/, while the in the CORDIS website is available in https://cordis.europa.eu/project/id/773718.

The IPM relevance, in addition with the DSS' incorporation, highlight OPTIMA's relevance with SmartProtect for the adoption and implementation of smart innovative technologies for pest management. Consequently, after contacting OPTIMA's consortium, a link has been added in OPTIMA's official project website (https://optima-h2020.eu/related-projects/) (**Figure 5**), as well as in SmartProtect's official website.

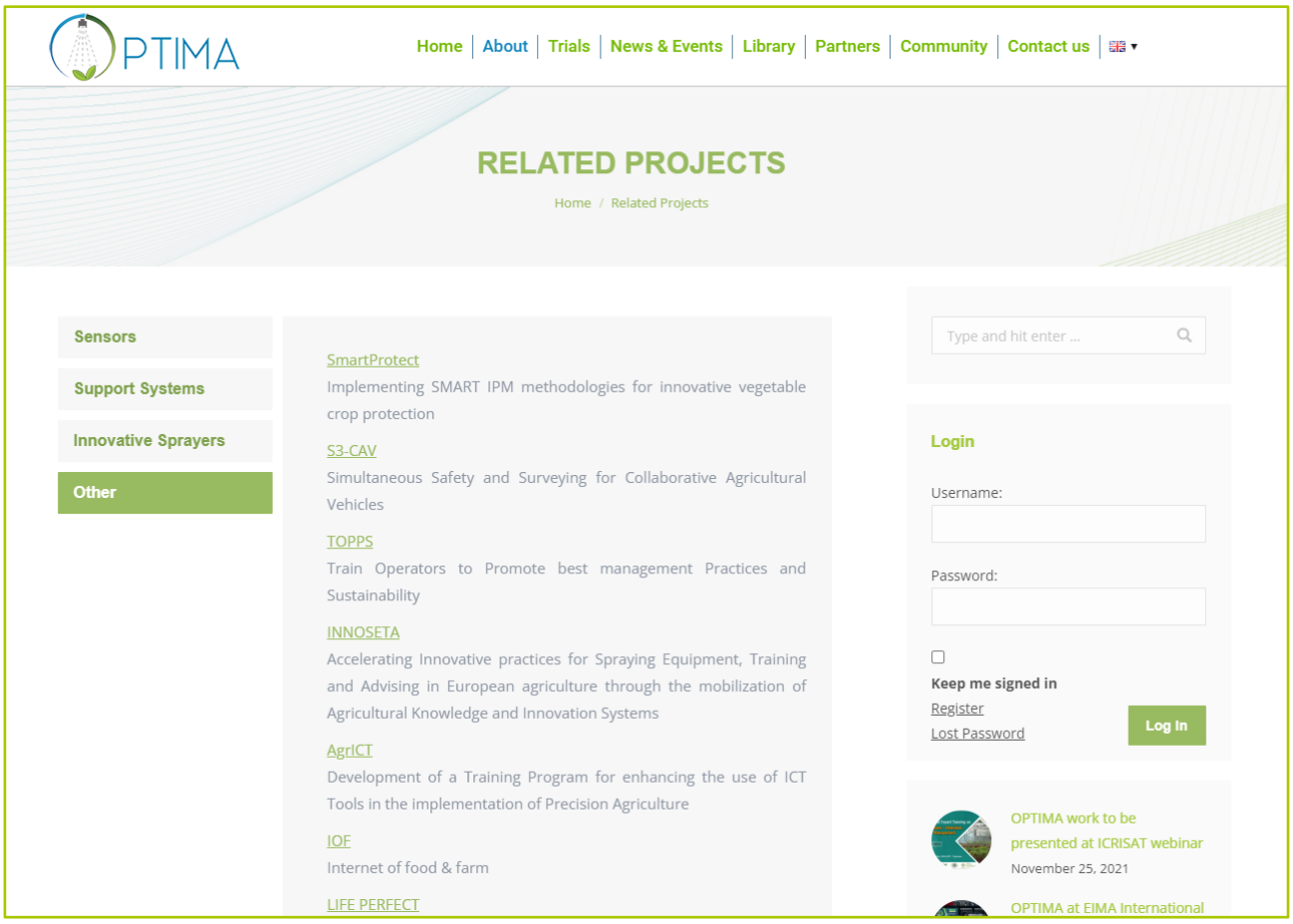


Figure 5. *SmartProtect link in OPTIMA website*

Moreover, as the OPTIMA DSS, available in http://dss.optima-h2020.eu/, provides a prediction risk for the infection of carrots as vegetables by *Alternaria dauci* fungus, this DSS was also added in SmartProtect Platform (https://platform.smartprotect-h2020.eu/en/view/ipm/305) (**Figure 6**).

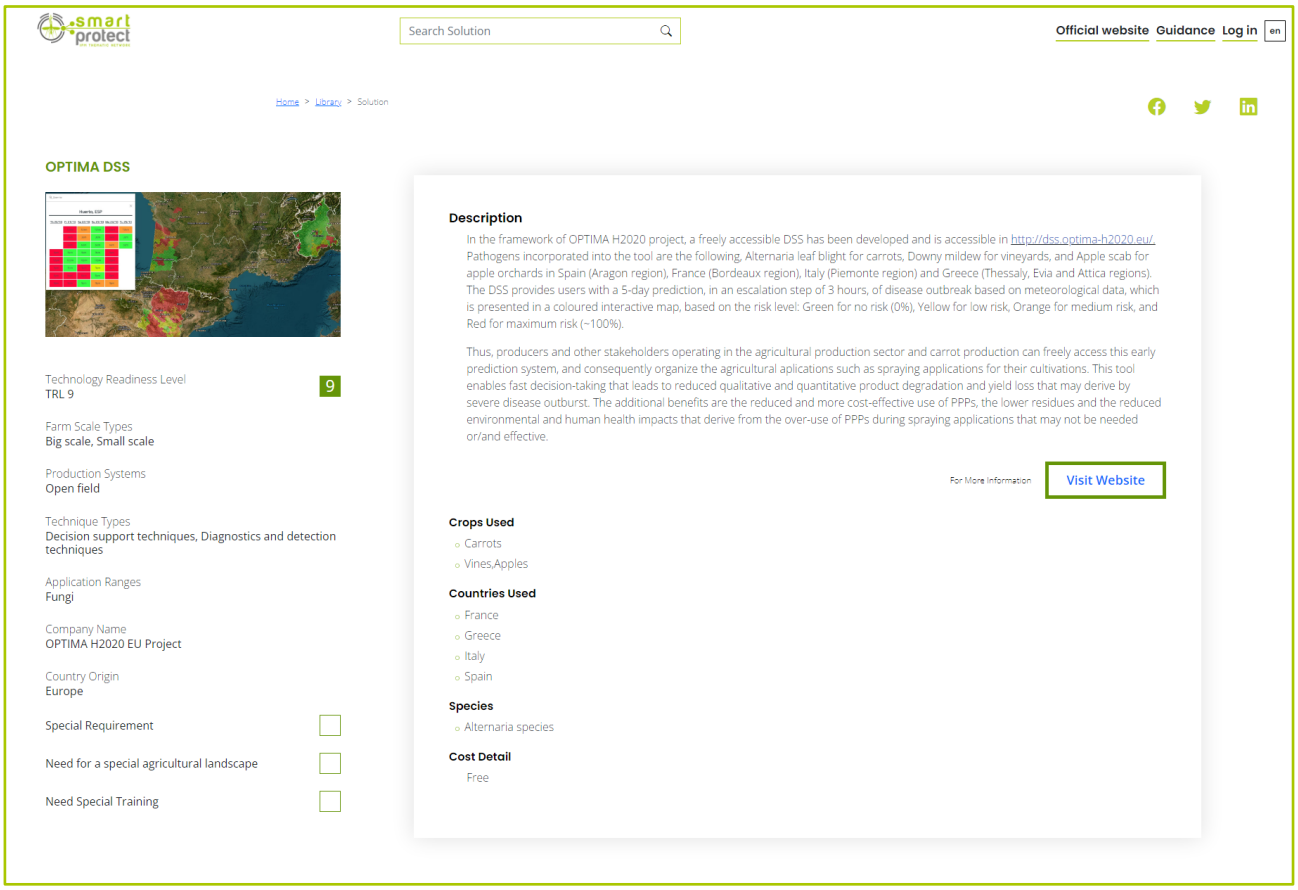


Figure 6. *OPTIMA DSS in SmartProtect Platform*

7.2 EffiSpray project

EffiSpray in a Greek national project (under the Grant Agreement ID T1EΔK-05249) that is co-funded by the EU, along with national funds, through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call Research-Create-Innovate of ESPA 2014-2020. The official project's website is available in http://about.effispray.gr/en/home-2/. EffiSpray has developed a low-cost system in order to help farmers to optimize the application of PPPs, while reducing spray drift in orchards and vineyards, accompanied by a DSS that assists farmers to select the optimum day and time for performing a spraying application based on meteorological conditions which is available in https://www.effispray.com/. This smart system allows rational spraying, taking into consideration all the important parameters that affect spraying application such as cultivation's growth stage, spaying drift, air temperature and humidity, sprayer's settings, and spray dose.

As EffiSpray is considered to be a valuable tool in the hands of farmers, producers and consultants, it is relevant with SmartProtect, as it refers to application techniques and thus is also incorporated in SmartProtect platform (https://platform.smartprotect-h2020.eu/en/view/ipm/48) (**Figure 7**).

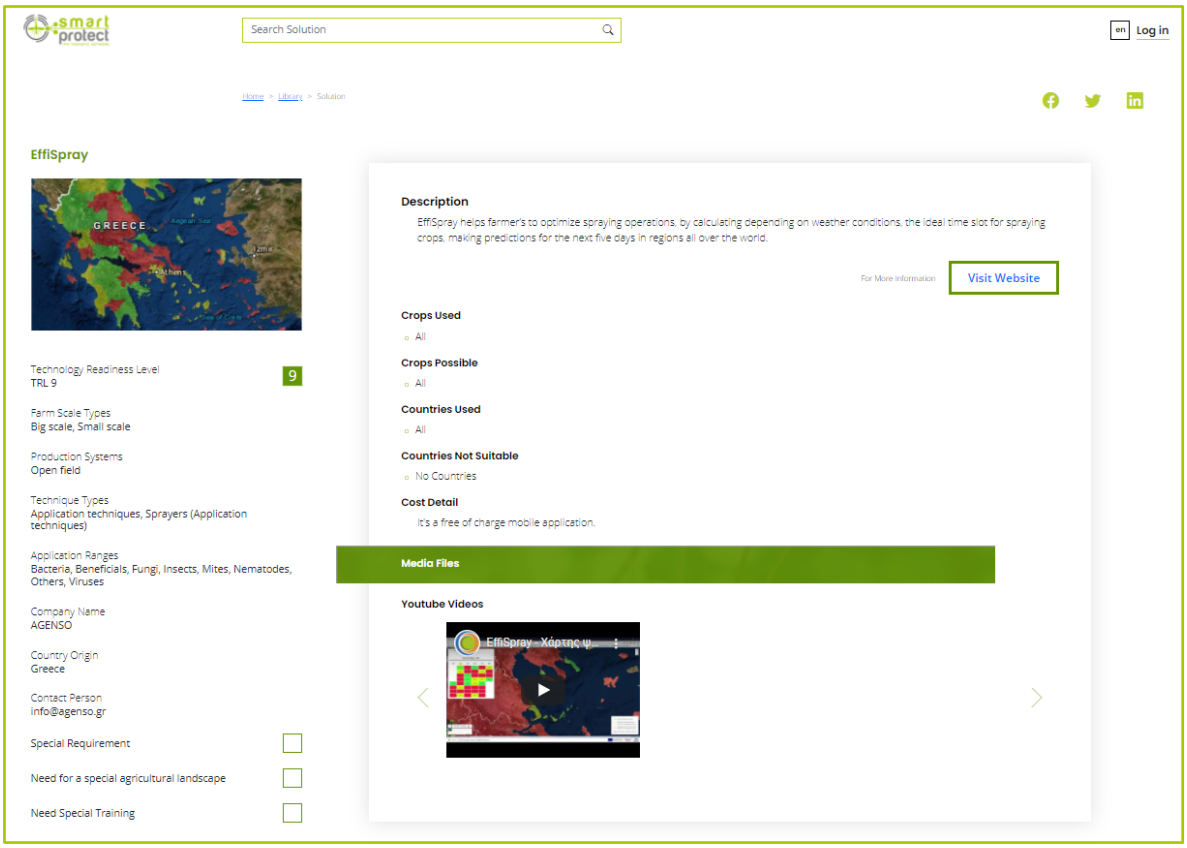


Figure 7. *Effispray in SmartProtect Platform*

Consequently, after contact with EffiSpray, a link has been added in EffiSpray's official project website (https://about.effispray.gr/en/links/) (**Figure 8**), as well as in SmartProtect's official website.

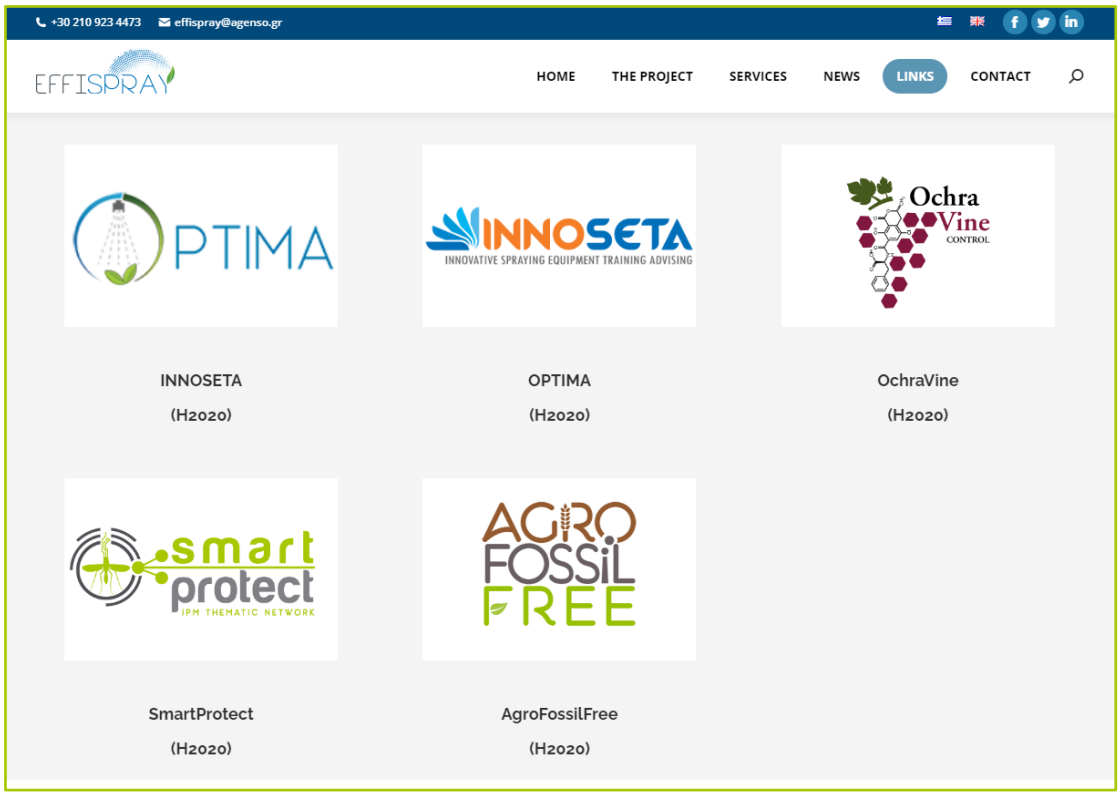


Figure 8. *SmartProtect link in EffiSpray website*

7.3 INNOSETA project

INNOSETA project (Accelerating Innovative practices for Spraying Equipment, Training and Advising in European agriculture through the mobilization of Agricultural Knowledge and Innovation Systems) is an EU funded Horizon 2020 project under the Grant Agreement 773864. The official project's website is available in http://www.innoseta.eu/, while the in the CORDIS website is available in https://cordis.europa.eu/project/id/773864. In the framework of INNOSETA, a platform has been developed and is available in https://platform.innoseta.eu/. This INNOSETA platform, operates as a freely accessible repository of innovative spraying technologies, training materials, projects, and papers, in order to provide users with valuable information about spraying application. Innoseta platform is developed as an interactive tool, just like SmartProtect platform, allowing users to upload solutions. As spraying constitutes an essential part of IPM systems, Innoseta has been evaluated as a much related project to SmartProtect's scope and objectives, with potential ability to promote users' flow between websites. Consequently, after contacting INNOSETA's consortium, a link has been added in INNOSETA's official project website (https://www.innoseta.eu/links/) (**Figure 9**), as well as in SmartProtect's official website.

Figure 9. *SmartProtect link in INNOSETA website*

7.4 OchraVine project

OchraVine Control is a joint Marie Skłodowska-Curie Actions Research and Innovation Staff Exchange (RISE) project under the Grant Agreement ID 778219 that develops a strong partnership involving 8 partners from 4 European countries (France, Greece, Italy and United Kingdom), with different technical backgrounds from the academic and non-academic sectors (SMEs). The overarching objective of this RISE project is to form an international and inter-sectoral network of organizations working on a joint research programme in the fields of agriculture and smart information technology. The official project's website is available in https://www.ochravine.eu/, while in the CORDIS website in https://cordis.europa.eu/project/id/778219. In the framework of OchraVine project, fungal, pest, host indicators, along with mapping of Ochratoxin A (OTA) emergence and prediction modelling, are investigated for the production of safe grapes, raisins/currants and wine, that will be free of Ochratoxin A. As Ochratoxin A is a severe mycotoxin, its occurrence imposes significant health issues. The research conducted on OTA management, has led to results that indicate a correlation of Ochratoxin A accumulation and pests' occurrence[4].

In holistic approaches of IPM, OchraVine and SmartProtect have common field of action, as smart IPM solutions that can be found SmartProtect platform, may be used for Ochratoxin A management. OchraVine's goals such the development of an innovative, precise, rapid and easy to use sensor system for OTA detection in vine products; and the development of a Decision Support System (DSS), for collecting real time information and effectively predict, monitor and reduce the incidence of OTA in vine, are significantly linked with the content of SmartProtect platform, which contains DSSs and detection techniques for pests.

Consequently, after contacting OchraVine's consortium, a link has been added in OchraVine's official project website (https://www.ochravine.eu/links/) (**Figure 10**), as well as in SmartProtect's official website.

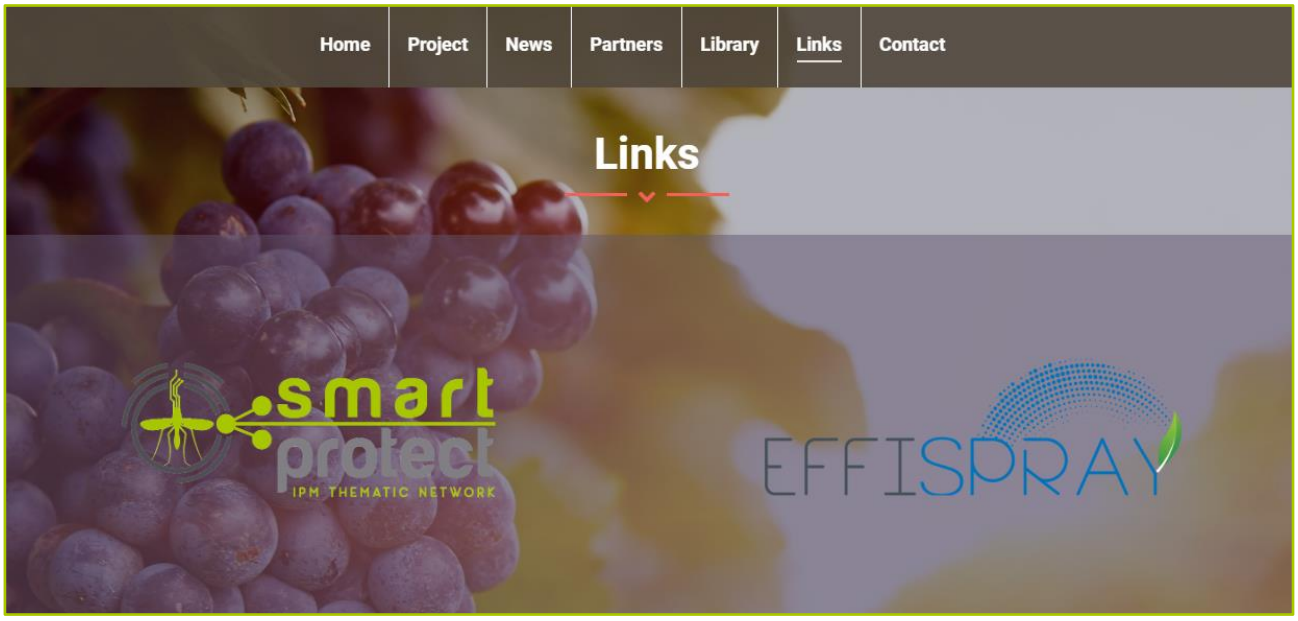


Figure 10. *SmartProtect link in OchraVine website*

[4] Toxins | Free Full-Text | Pest Management and Ochratoxin A Contamination in Grapes: A Review (mdpi.com)

7.5 IPMworks project

IPMworks is a Horizon 2020 funded EU project (under Grant Agreement ID 101000339), gathering 31 partners from 14 European countries, which is coordinated by the French National Research Institute for Agriculture, Food and the Environment (INRAE). The objective of IPMworks is to promote the adoption of IPM strategies, based on a EU-wide network of farmers, who will both progress further in the adoption of IPM – through peer-to-peer learning and joint efforts – and demonstrate to other farmers that holistic IPM "works"; i.e. allows a low reliance on pesticides with better pest control, reduced costs and enhanced profitability. IPMworks will coordinate existing networks promoting IPM and launch new hubs of farms in regions or sectors where IPM pioneers are not yet engaged in a relevant network. It will collect data for comparing IPM strategies, and share results and dissemination material through channels widely used by farmers, broadcasting IPM success stories.

The official IPMworks's website is available in https://ipmworks.net/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/101000339. IPMworks is a project with significant relevance to SmartProtect as it promotes implementation of IPM technologies, along with synergies in EU level. Consequently, after contacting IPMworks's consortium, a link has been added in IPMworks's official project website (https://ipmworks.net/partner-projects/) (**Figure 11**), as well as in SmartProtect's official website.

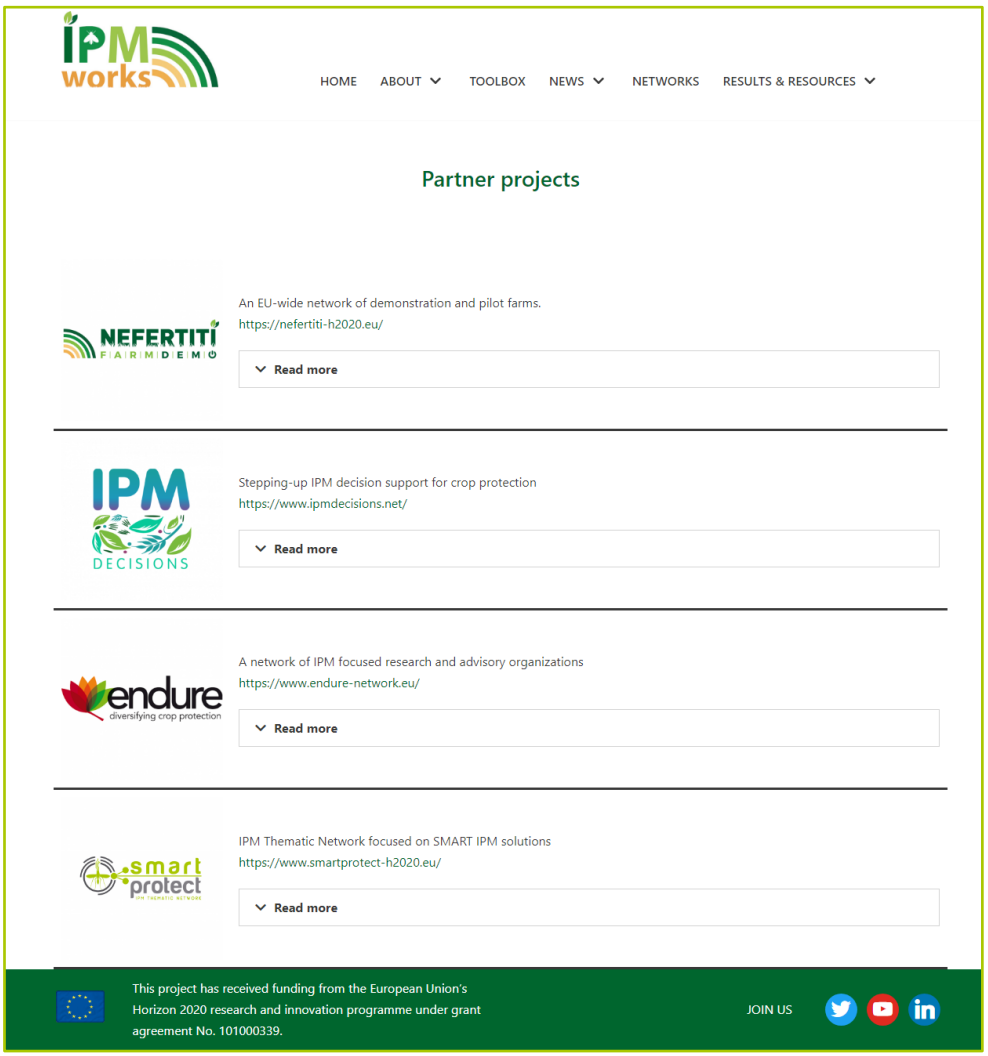


Figure 11. *SmartProtect link in IPMworks website*

7.6 IPM Decisions project

IPM Decisions project is a Horizon 2020 EU funded project under the Grant Agreement ID 817617. IPM Decisions aim to step up IPM decisions in order to support crop protection. The objective of the project is to create an online platform for monitoring and managing pests. The project provides farmers and advisors with easy access to IPM DSSs in EU level in the framework of an IPM Decisions network. The official project's website is available in https://www.ipmdecisions.net/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/817617.

The project's consortium consists of 27 EU partners and two pan-European companies that collaborate for ensuring the development of this platform. As IPM Decisions is focusing on IPM, it is significantly linked with the scope and field of expertise of SmartProtect. Consequently, after contacting IPM Decisions's consortium, a SmartProtect link has been placed in IPM Decisions official website (https://www.ipmdecisions.net/the-project/partner-projects/) (**Figure 12**). The respective link of IPM Decisions has also been placed in SmartProtect's official website.

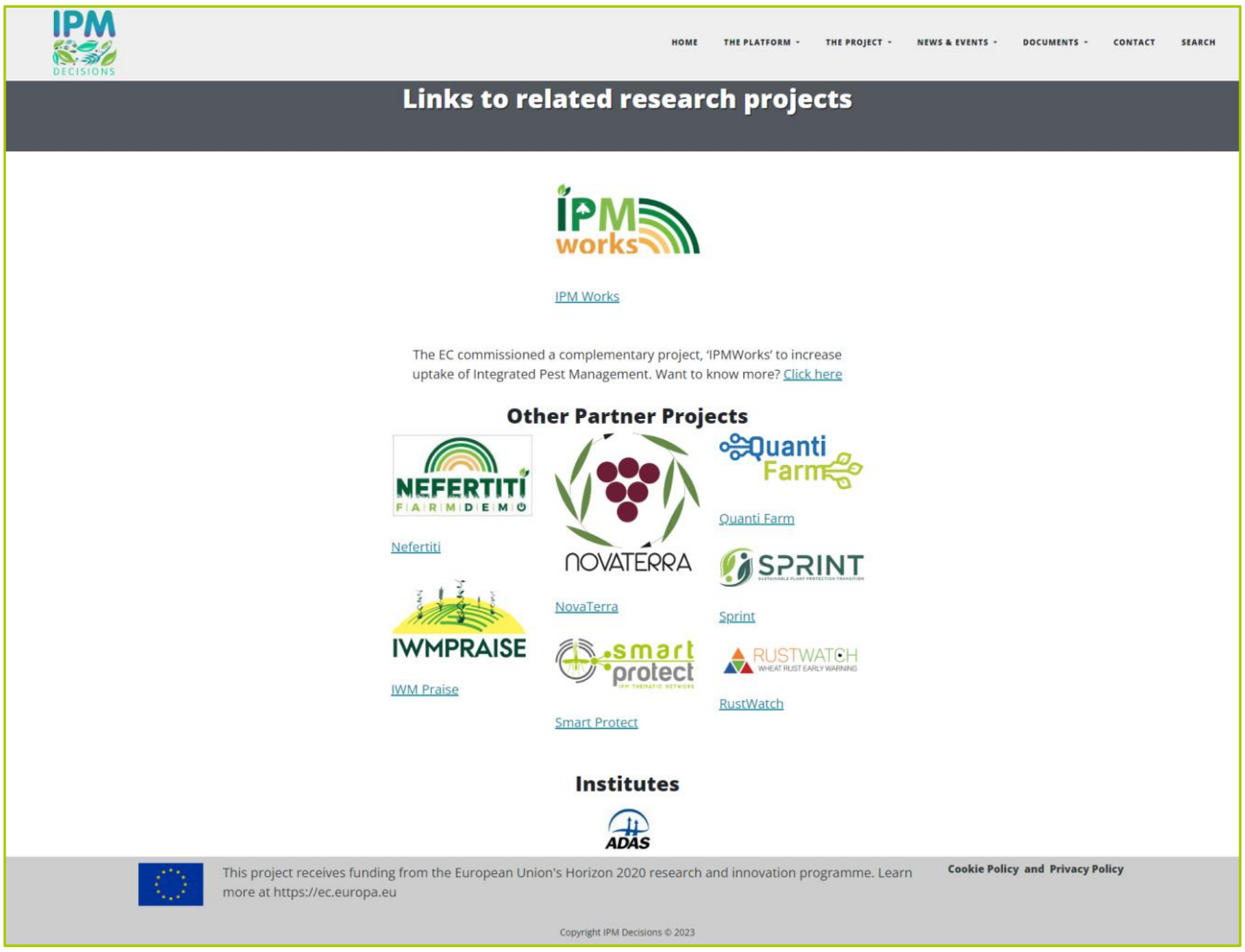


Figure 12. *SmartProtect link in IPM Decisions website*

In addition, SmartProtect's link was placed in IPM Decisions platform under the useful links section on the platform's homepage (https://www.platform.ipmdecisions.net/) (**Figure 13**).

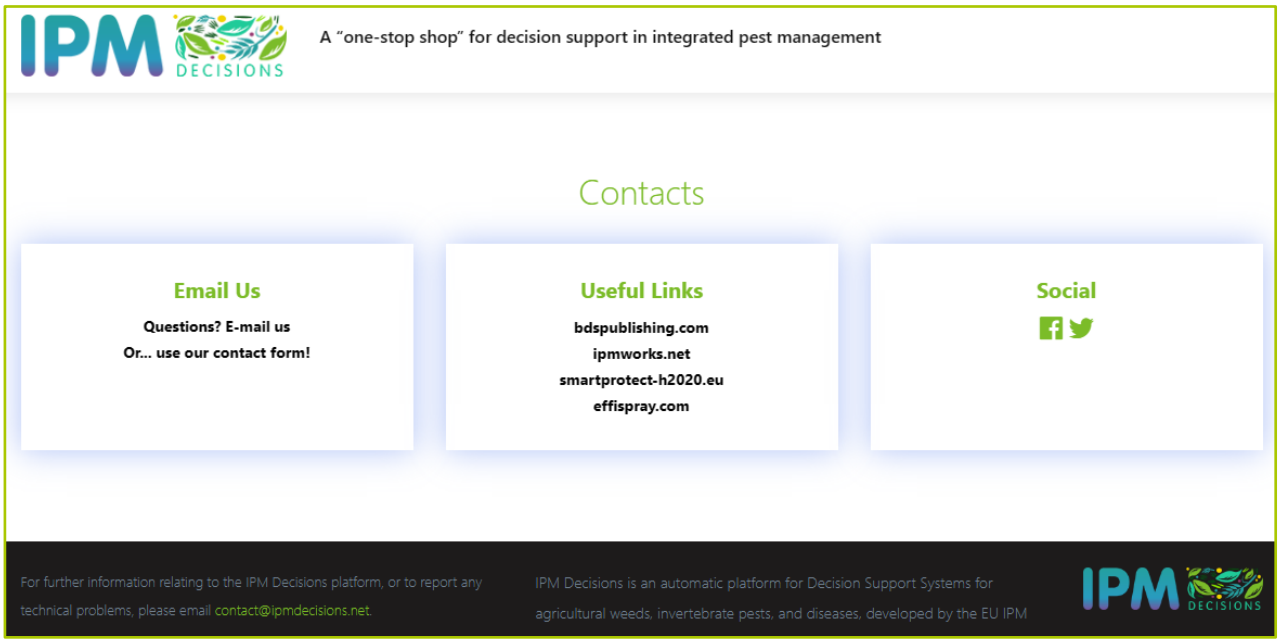


Figure 13. *SmartProtect link in IPM Decisions platform*

7.7 AgroFossilFree project

AgroFossilFree project (Strategies and technologies to achieve a European Fossil-energy-free agriculture) is an EU funded Horizon 2020 project under the Grant Agreement ID 101000496. The official project's website is available in https://www.agrofossilfree.eu/, while in the CORDIS website in https://cordis.europa.eu/project/id/101000496. In the framework of AgroFossilFree project, a platform has been developed, and serves as freely accessible online repository for fossil energy free technologies and methodologies such as scientific papers, research projects, commercial technologies, training materials, as well as financing mechanisms for clean energy supply, energy efficiency improvement, and soil carbo sequestration. The developed platform in entitled AgEnergy platform and is available in https://platform.agrofossilfree.eu/. AgroFossilFree's relevance with SmartProtect mainly refers to the existence of smart tool that can contribute in the energy efficiency of an agricultural production systems (i.e., a farm) and reduce the producer's income in terms of lower energy consumption. As energy efficiency in the case of AgroFossilFree, also refers to precision agriculture, the relevance of the two projects, allows their linking. The objective of AgroFossilFree to defossilize the agricultural sector, can be addressed by smart IPM tools and vehicles that either use renewable energy sources, or reduce the energy used for a specific agricultural practice, or integration of precision agriculture solutions. Consequently, after contacting AgroFossilFree's consortium, a link has been added in AgroFossilFree's official project website (https://www.agrofossilfree.eu/links/) (**Figure 14**), as well as in SmartProtect's official website.

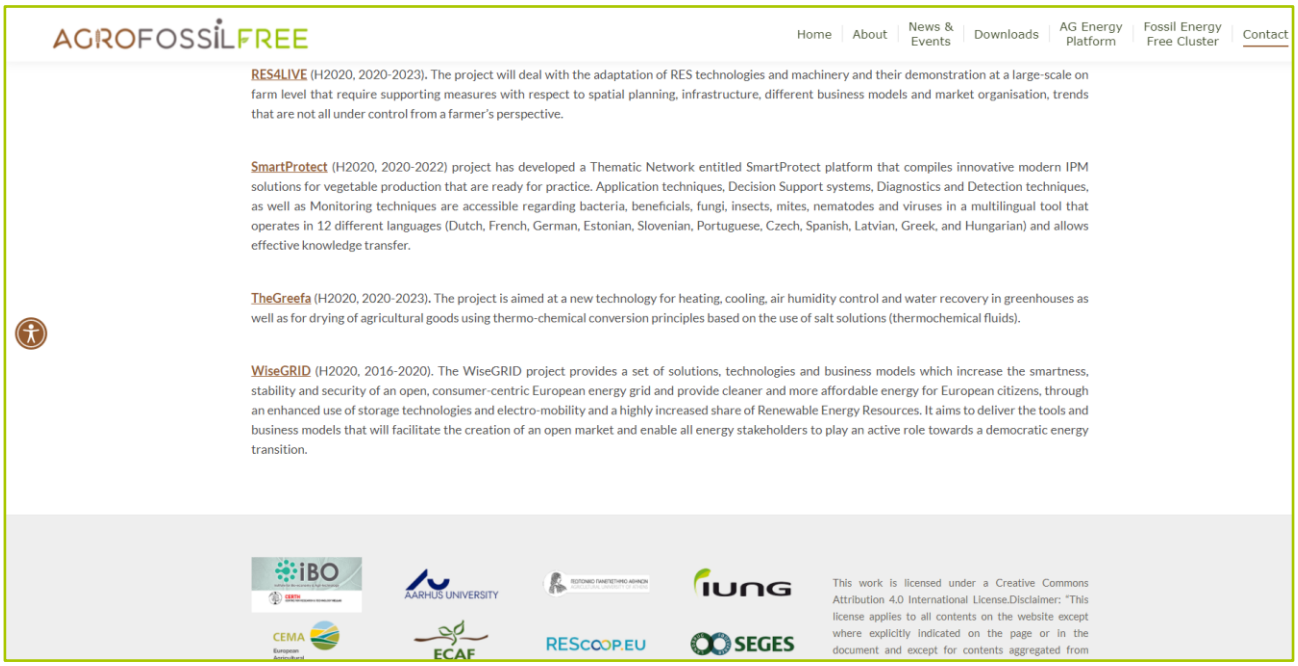


Figure 14. *SmartProtect link in AgroFossilFree website*

7.8 BIOFRUITNET project

BIOFRUITNET is a Horizon 2020 EU funded project under the Grant Agreement ID 862850. The objective of the project is to boost innovation in organic fruit production through stronger networks. These networks will be collecting and synthesizing existing local and scientific techniques on improved organic fruit farming systems. The overall aim of the project is to make best practice knowledge widely available to EU farmers. The innovative platform will enhance EU competitiveness in organic farming. The project's official website is available in https://biofruitnet.eu/ and the CORDIS website is available in https://cordis.europa.eu/project/id/862850.

BIOFRUITNET's involvement in pest control strategies, in addition with the common framework of creating a network, highlight its relevance with SmartProtect. Thus, after contacting BIOFRUITNET's consortium, a link has been added in BIOFRUITNET's official project website (https://biofruitnet.eu/our-network/#collaborations%20) (**Figure 15**), as well as in SmartProtect's official website.

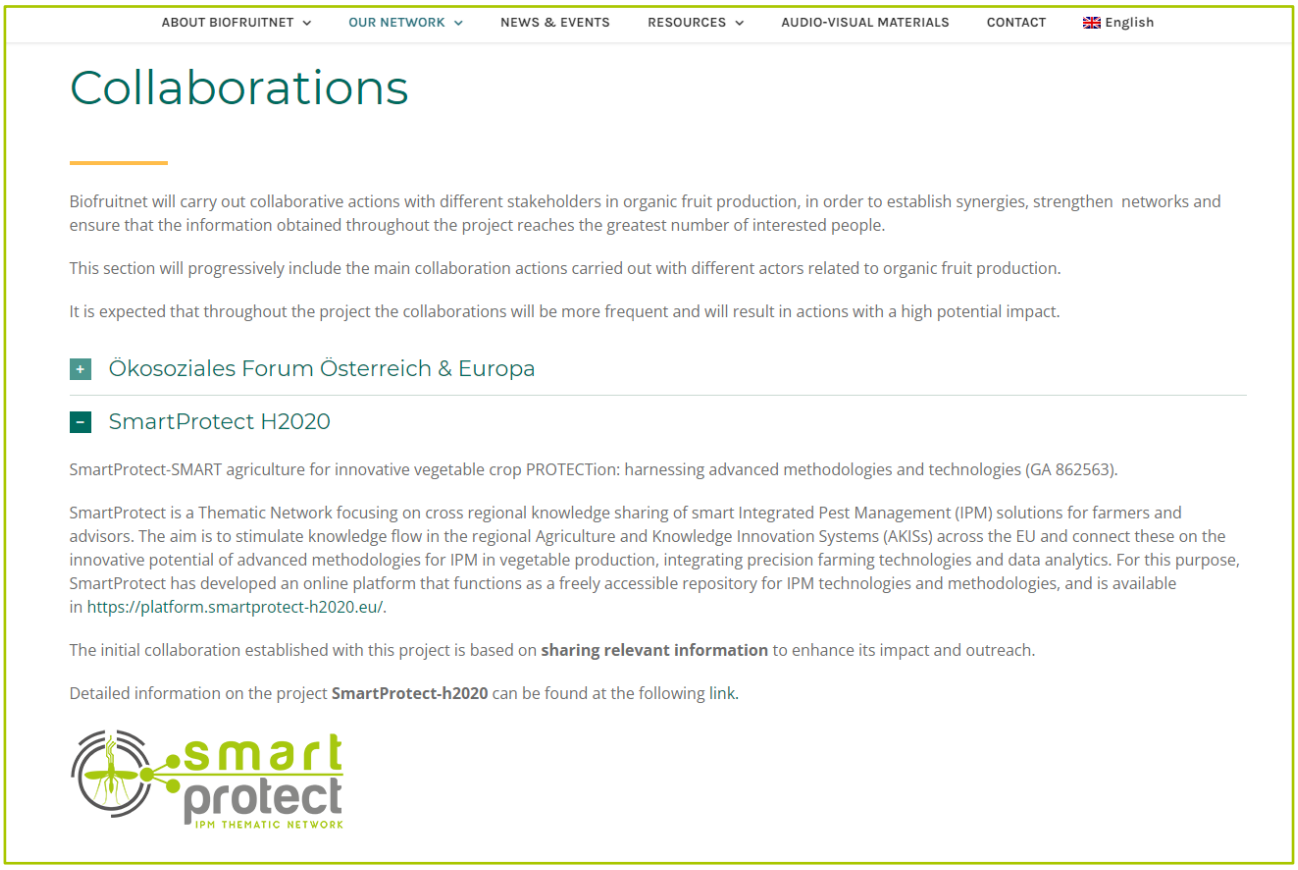


Figure 15. *SmartProtect link in BIOFRUITNET website*

7.9 Virtigation project

Virtigation (Emerging viral diseases in tomatoes and cucurbits: implementation of mitigation strategies for durable disease management) is a Horizon 2020 EU funded project under the Grant Agreement ID 101000570. Virtigation builds on increasing knowledge about the biology, pathways of entry and spread of plant viruses, as well as the development of new tools and plant materials, in a planned and concerted dialogue with the entire value chain.

Virtigation's strategic objective of developing rapid and long-lasting solutions to combat emerging viral diseases in tomatoes and cucurbits will be implemented through six specific objectives:

1. Knowledge sharing and engagement of stakeholders in research activities

2. Develop robust diagnostic tests, quarantine measures and identify ecological factors driving disease outbreaks

3. Understand plant-virus-vector interactions

4. Develop IPM solutions

5. Identify and pyramid natural resistance to viral diseases and vectors

6. Train the tomato and cucurbit value chains

The project's official website is available in https://www.virtigation.eu/, while is the CORDIS website is available in https://cordis.europa.eu/project/id/101000570. The project is coordinated by the KU Leuven University and its consortium consists of 25 partners.

As Virtigation deals with diseases in tomato and cucurbit cultivation, the relevance and added value of creating the link was demonstrated. After contacting the project consortium, a link has been placed

in the official Virtigation website (https://www.virtigation.eu/publications-media/links/) (**Figure 16**), as well as in SmartProtect's official website.

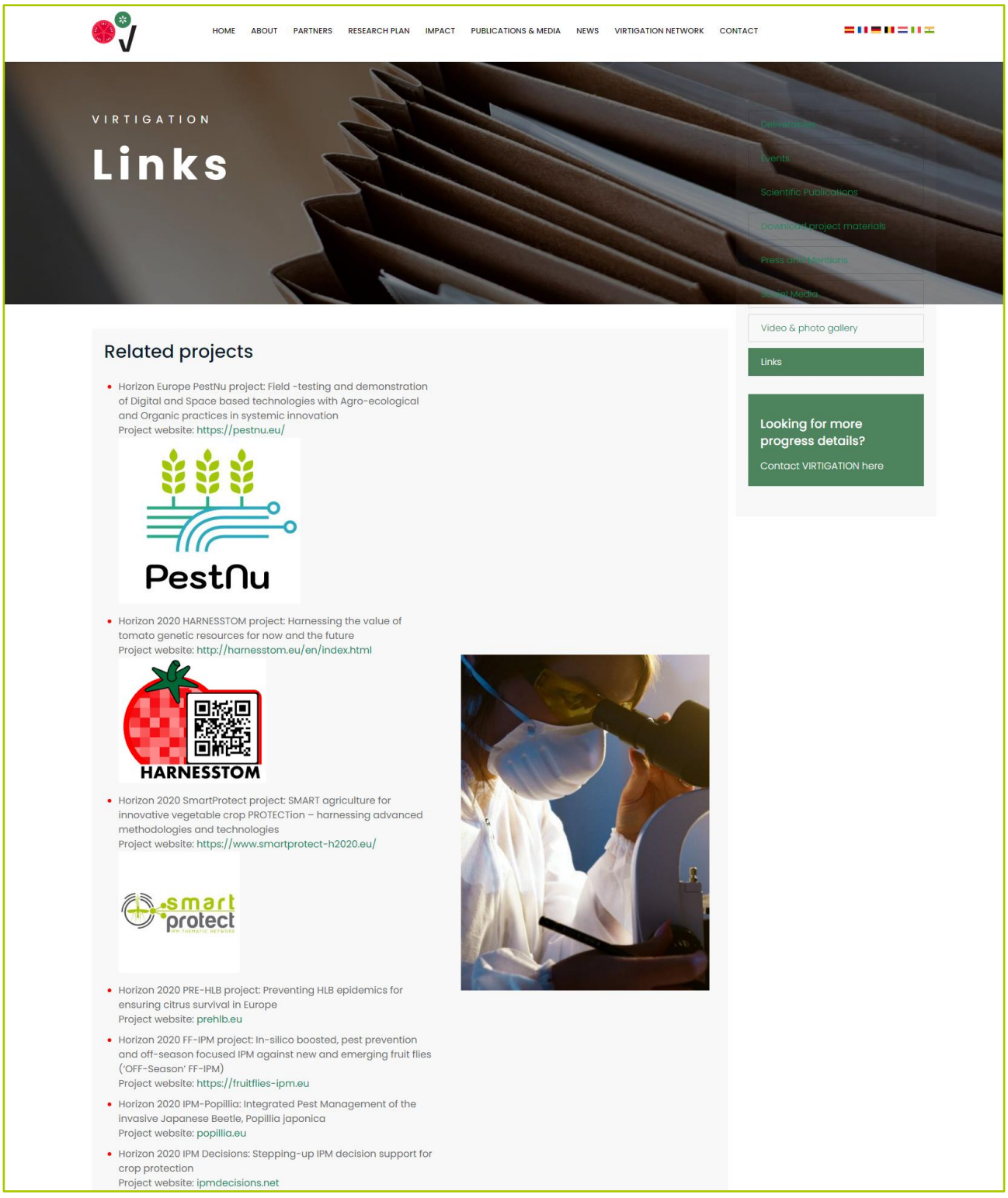


Figure 16. *SmartProtect link in Virtigation website*

7.10 NovIGRain project

The EU-funded NovIGRain project (Sustainable storage of grains by implementing a novel protectant and a versatile application technology) aims to develop a new type of Plant Protection Product (PPP)

for larvicide treatment combined with versatile dual application technology. Research will confirm that the use of the new larvicide active substance and formulation as a grain storage PPP is in line with EU regulations. The project is a Horizon H2020 EU project with Grant Agreement ID is 101000663. The official project website is available in https://novigrain.eu/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/101000663. It is coordinated by MAXILINE located in Belgium and its entire consortium is composed by 9 partners.

As NovIGRain is operating in the plant protection sector, and especially in pest management, after contacting the project's consortium, a link has been placed in the NovIGRain website (https://novigrain.eu/partners/) (**Figure 17**), as well as in SmartProtect's official website.

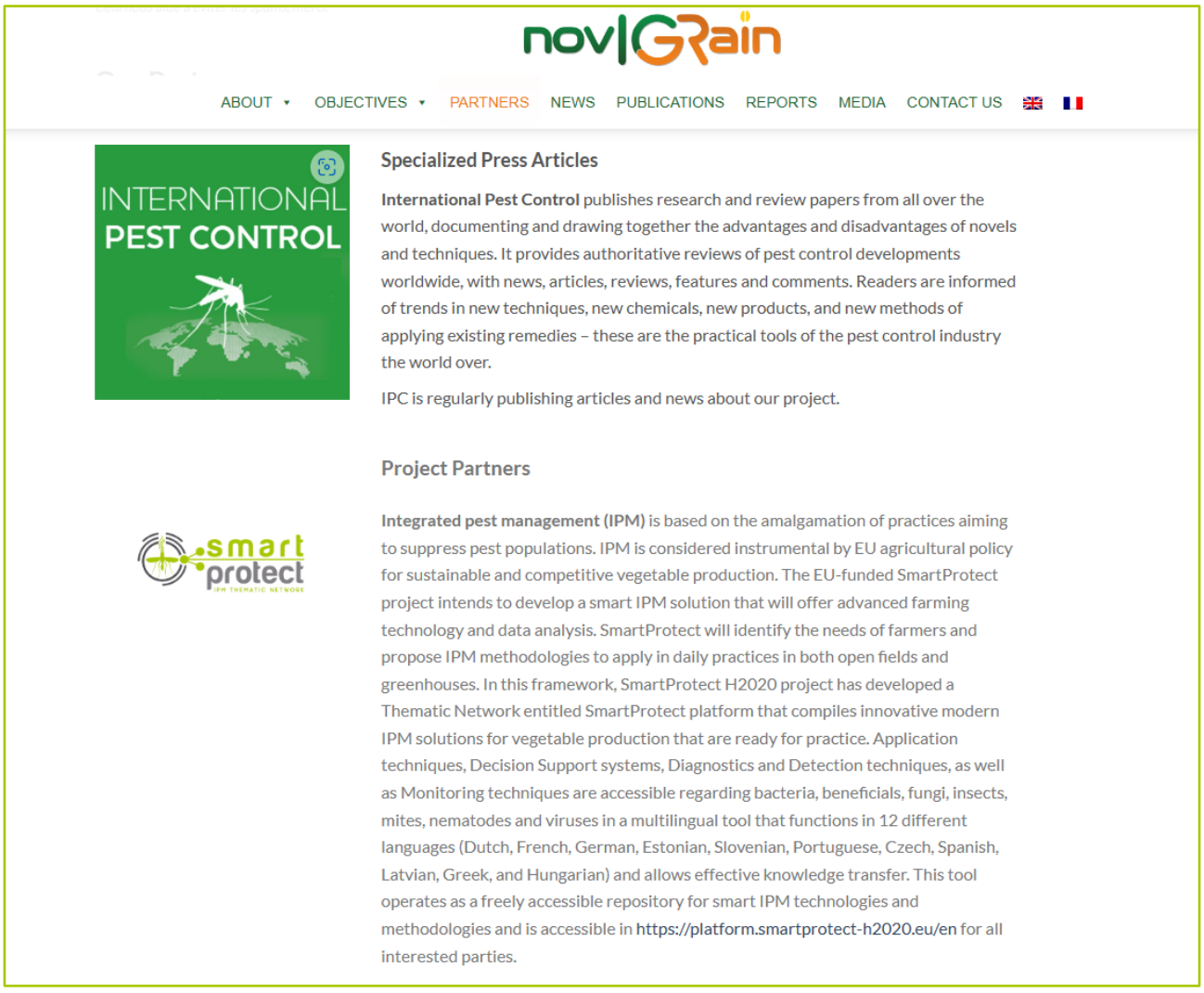


Figure 17. *SmartProtect link in NovIGRain website*

7.11 ATLAS project

ATLAS (Agricultural Interoperability and Analysis System) is an EU funded Horizon 2020 project under the Grant Agreement ID 857125. The goal of ATLAS is the development of an open interoperability network for agricultural applications and to build up a sustainable ecosystem for innovative data-driven agriculture. The technology developed in ATLAS will be tested and evaluated within pilot studies on a multitude of real agricultural operations across Europe along several use cases:

1. precision agriculture tasks
2. sensor-driven irrigation management
3. data-based soil management and
4. behavioral analysis of livestock

ATLAS will involve all actors along the food chain, simplifying and improving the processes from farm to fork. The official project website is available in https://www.atlas-h2020.eu/, while in the CORDIS website ATLAS is available in https://cordis.europa.eu/project/id/857125.

Due to its relevance to precision agriculture, and after contacting the ATLAS consortium, a link was placed in the official ATLAS website (https://www.atlas-h2020.eu/sister-projects/) (**Figure 18**), as well as in SmartProtect's official website.

Figure 18. *SmartProtect link in ATLAS website*

7.12 EURAKNOS project

EURAKNOS (Connecting Thematic Networks as Knowledge Reservoirs: towards a European Agricultural Knowledge Innovation Open Source System) in an EU Horizon 2020 funded project that has as ultimate purpose to connect Thematic Networks across EU. The aim is to facilitate and support the Thematic Networks community that are collecting agricultural knowledge. The project is coordinated by Ghent University and its Grant Agreement ID is 817863.

The official EURAKNOS website is available in https://euraknos.eu/ while in the CORDIS website is available in https://cordis.europa.eu/project/id/817863.

As SmartProtect falls under the umbrella of EURAKNOS, a link was placed in the official EURAKNOS website (https://euraknos.eu/thematic-network) (**Figure 19**), as well as in SmartProtect's official website.

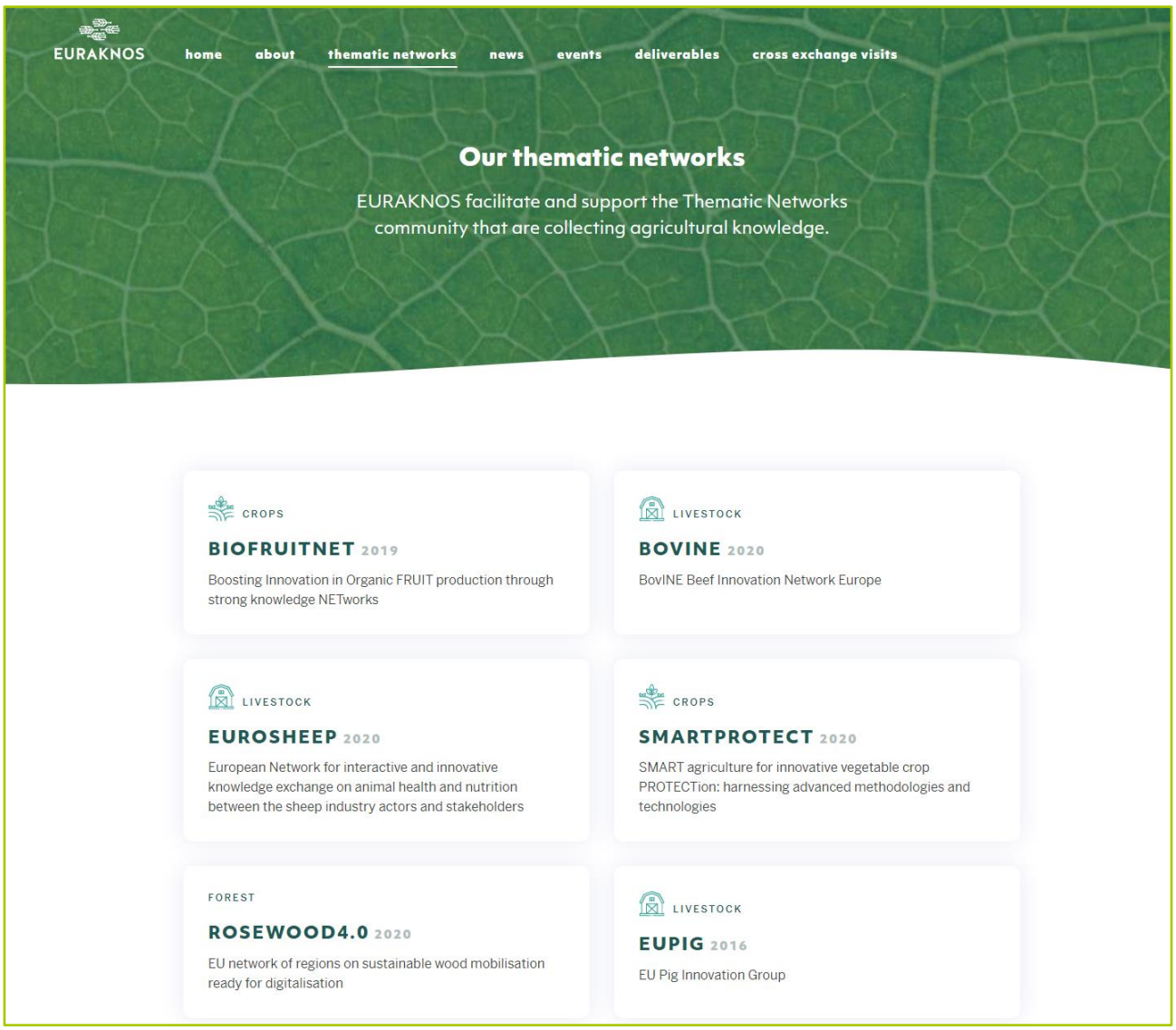


Figure 19. *SmartProtect link in EURAKNOS website*

7.13 NOVATERRA project

NOVATERRA (Integrated novel strategies for reducing the use and impact of pesticides, towards sustainable Mediterranean vineyards and olive groves) is an EU Horizon 2020 funded project under Grant Agreement ID 101000554. The official NOVATERRA project website is available in https://www.novaterraproject.eu/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/101000554.

The aim of NOVATERRA is to reduce the negative impact of pesticides in Mediterranean olive groves and vineyards. The project focused on ensuring food security and healthy food access for the increasing population. Through a series of case studies in Mediterranean olive groves and vineyards, the project aims to understand whether it is possible to maintain current yields and quality in Europe and in other regions while eliminating or significantly reducing the use of contentious plant protection products (also known as pesticides).

Due to NOVATERRA's relevance to pest management, and after contacting NOVATERRA consortium, a link has been placed in NOVATERRA's website (https://www.novaterraproject.eu/links/) (**Figure 20**), as well as in SmartProtect's official website.

Figure 20. *SmartProtect link in NOVATERRA website*

7.14 DIVERFARMING project

DIVERFARMING (Crop diversification and low-input farming across Europe: from practitioners' engagement and ecosystems services to increased revenues and chain organization) is an EU Horizon 2020 funded project under the Grant Agreement ID 728003. The official DIVERFARMING website is available in http://www.diverfarming.eu/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/728003.

The project aims to develop and evaluate new systems and models on different diversified cropping systems (rotations, multiple cropping and intercrops for food, feed and industrial products) under low-input practices, for conventional and organic systems for field case studies to increase land productivity and crops quality, and reduce machinery, fertilizers, pesticides, and energy & water demands.

Due to its relevance to pesticides, DIVERFARMING was selected for creating links. A link was placed in SmartProtect website after contacting the DIVERFARMING consortium and eliciting their acceptance to create such links. Unfortunately, in this case, the previously identified Risk #2 occurred. Meaning that SmartProtect logo was not placed in the DIVERFARMING official website under the related projects menu (http://www.diverfarming.eu/index.php/en/related-projects-eng) as initially agreed. Despite the constant attempts of SmartProtect's Dissemination and Communication team and the repeated contacts, due to the fact that DIVERFARMING ended in 2022, the reciprocal link was not developed. However, SmartProtect decided to maintain the DIVERFARMING link under the SmartProtect links, to allow users access the outcomes of DIVERFARMING (https://www.smartprotect-h2020.eu/links/).

7.15 FF-IPM project

FF-IPM (In-silico boosted, pest prevention and off-season focused IPM against new and emerging fruit flies ('OFF-Season' FF-IPM)) is an EU Horizon 2020 funded project under the Grant Agreement ID 818184. The official project website is available in https://fruitflies-ipm.eu/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/818184.

The project aims to introduce "in silico" supported prevention, detection and Integrated Pest Management (IPM) approaches for both new and emerging Fruit Flies, based on spatial modelling across a wide range of spatial levels, novel decision support systems, and new knowledge regarding biological traits of the target species, fruit trading and socioeconomics. Some of the fruit flies addressed are *Ceratitis capitata*, *Bactrocera dorsalis*, and *Bactrocera zonata*. FF-IPM counts 22 partners, and is coordinated by the University of Thessaly in Volos, Greece.

Due to its relevance to IPM, and after contacting FF-IPM's consortium, a link was placed in the FF-IPM official website (https://fruitflies-ipm.eu/project/alliances/) (**Figure 21**), as well as in SmartProtect's official website.

Figure 21. *SmartProtect link in FF-IPM website*

7.16 SPRINT project

SPRINT (Sustainable plant protection transition: a global health approach) is an EU Horizon 2020 funded project under the Grant Agreement ID 862568. The official project website is available in https://sprint-h2020.eu/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/862568.

The SPRINT project aims to develop a Global Health Risk Assessment Toolbox to assess impacts of Plant Protection Products (PPPs) on environment and human health and to propose several

transition pathways. The SPRINT project will make an internationally valid contribution to assess integrated risks and impacts of pesticides on environment and human health, both at regional and European level. SPRINT will inform and accelerate the adoption of innovative transition pathways towards more sustainable plant protection in the context of a global health approach.

After contacting SPRINT consortium, and as the project is highly relevant to PPPs and pest management, a link was placed in the official SPRINT website (https://www.sprint-h2020.eu/index.php/project-information/related-projects) (**Figure 22**), as well as in SmartProtect's official website.

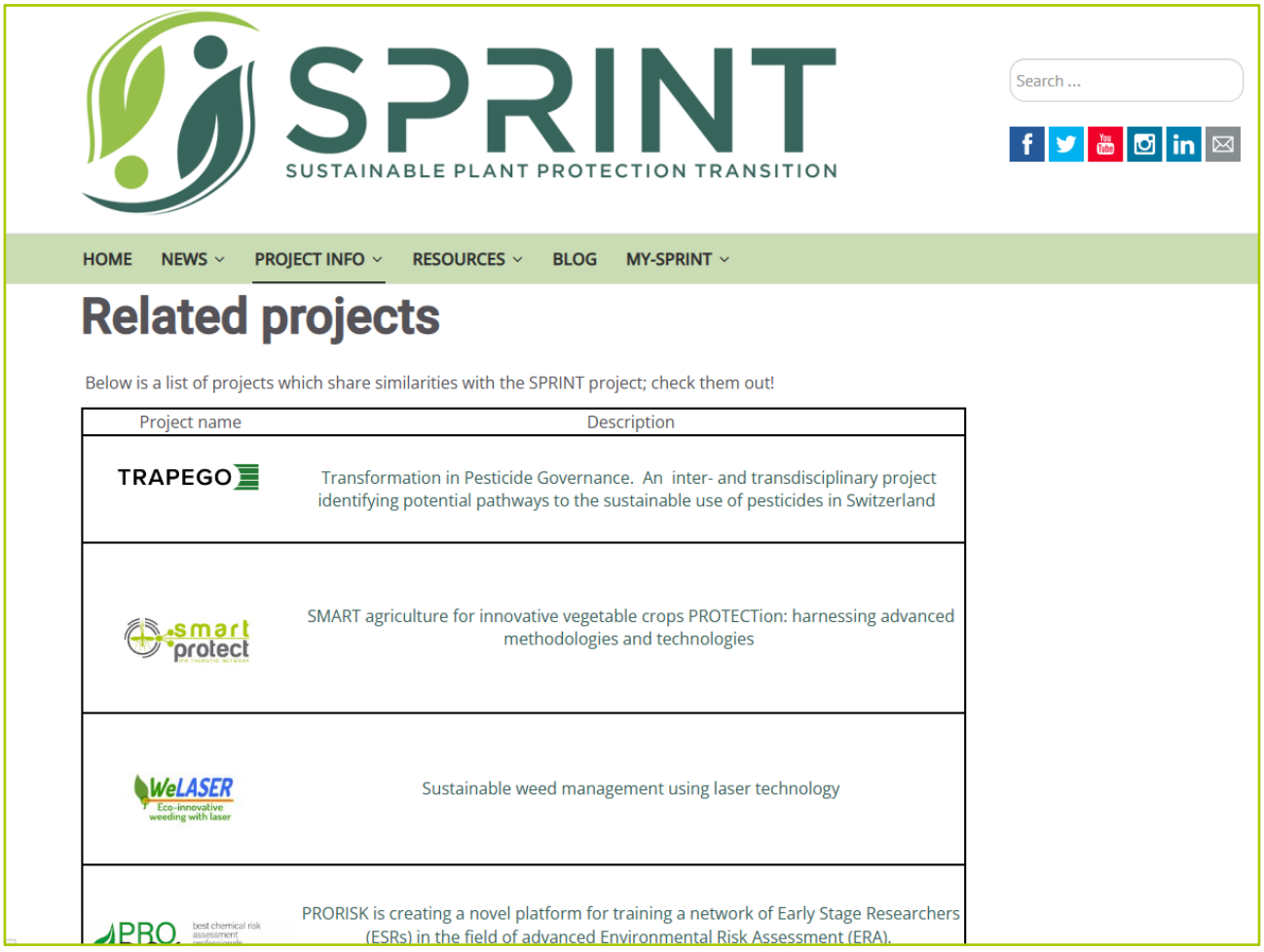


Figure 22. *SmartProtect link in SPRINT website*

7.17 NEFERTITI project

NEFERTITI (Networking European farms to enhance cross fertilization and innovation uptake through demonstration) is an EU Horizon 2020 funded project under the Grant Agreement ID 772705. The official project website is available in https://nefertiti-h2020.eu/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/772705.

The overall objective of NEFERTITI is to establish an EU-wide highly connected network of demonstration and pilot farms designed to enhance knowledge exchanges, cross fertilization among actors and efficient innovation uptake in the farming sector through peer-to-peer demonstration of techniques on 10 major agricultural challenges in Europe. It is apparent that there is a significant relevance with SmartProtect's objectives. Therefore, a link was placed in NEFERTITI's website

(https://nefertiti-h2020.eu/NefertitiPortal/#!/app-h/hubs/9) (**Figure 23**), as well as in SmartProtect's official website.

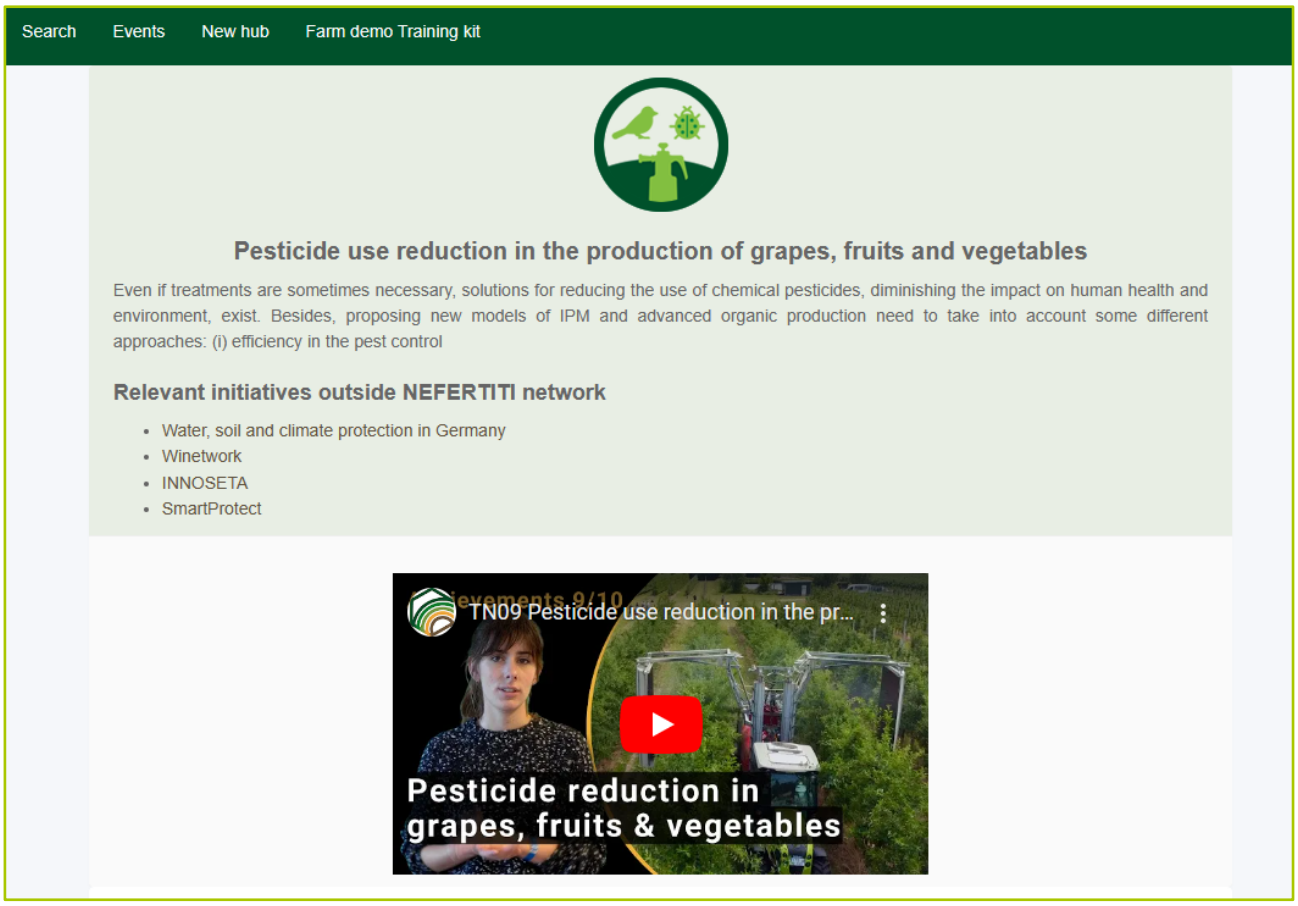


Figure 23. *SmartProtect link in NEFERTITI website*

7.18 EcoStack project

EcoStack (Stacking of ecosystem services: mechanisms and interactions for optimal crop protection, pollination enhancement, and productivity) is an EU Horizon 2020 funded project under the Grant Agreement ID 773554. The official project website is available in https://www.ecostack-h2020.eu/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/773554.

The overall objective of EcoStack is to develop and support ecologically, economically and socially sustainable crop production via stacking and protection of functional biodiversity. EcoStack has four major objectives as described in https://www.ecostack-h2020.eu/objectives/:

- Assess sustainable crop production needs, and EcoStack outcomes, based on functional biodiversity, using an interactive forum of actor groups and stakeholders, to achieve sustainable productivity gains
- Evaluate and optimize the role of main off-crop habitats supplying ecosystem services for crop production
- Design and test in-crop interventions, which support the generation of ecosystem services within the crop, and which may carry over to the next crop in the rotation
- Develop, design and implement integrated systems for optimized provision of ecosystem services and use of plant protection tools, with focus on ecological, economic and social sustainability of integrated systems

Due to the common relevance of EcoStack and SmartProtect in crop production, a link was placed in EcoStack's official website (https://www.ecostack-h2020.eu/links/) (**Figure 24**), as well as in SmartProtect's official website.

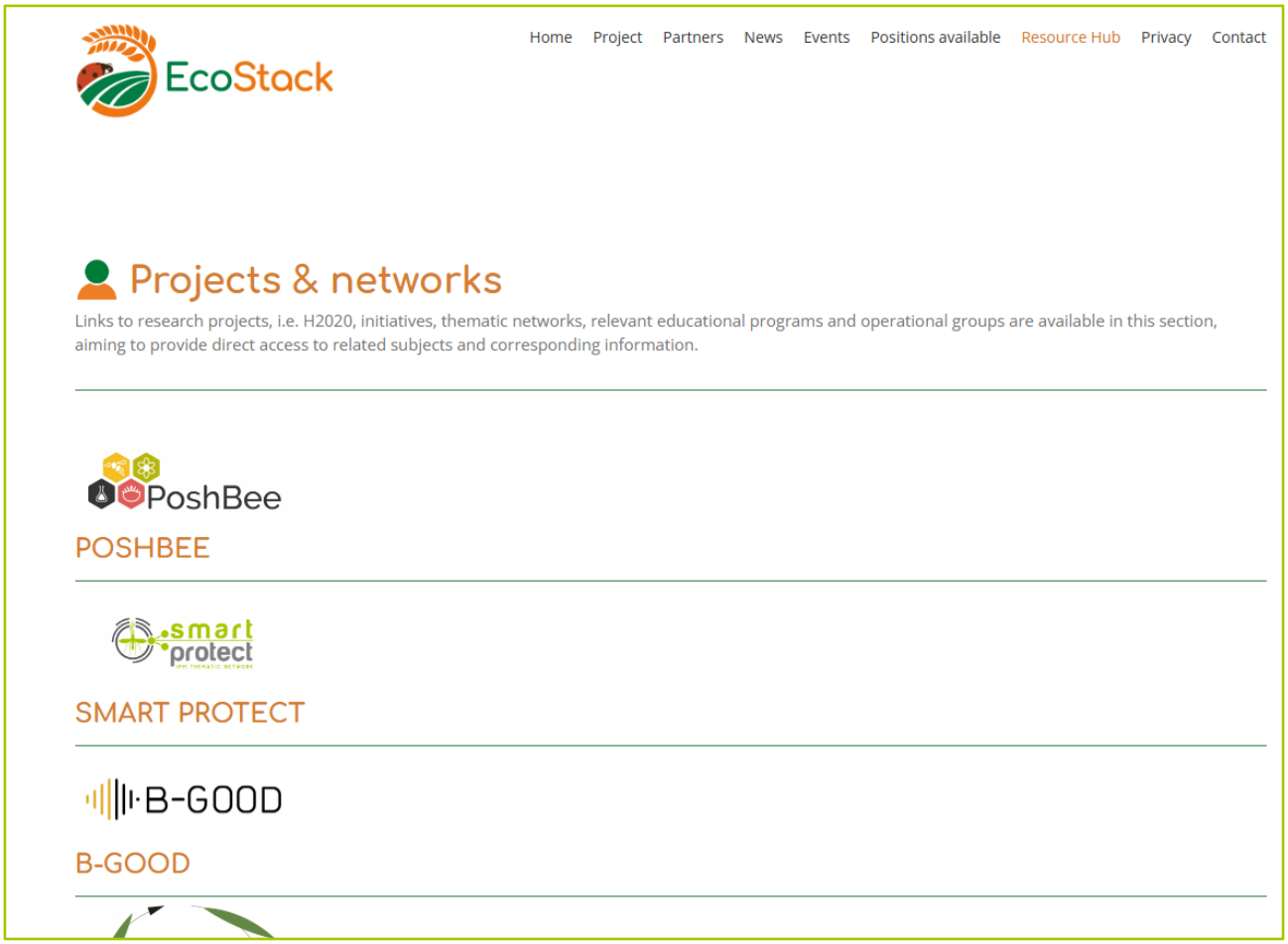


Figure 24. *SmartProtect link in EcoStack website*

7.19 MIND STEP project

MIND STEP (Modelling Individual Decisions to Support The European Policies related to agriculture) is an EU funded Horizon 2020 project under the Grant Agreement ID 817566. The official project website is available in https://mind-step.eu/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/817566.

The overall ambition of MIND STEP is to support public decision making in agricultural, rural, environmental and climate policies, taking into account the behavior of individual decision-making units in agriculture and the rural society. The MIND STEP specific objectives as mentioned in https://mind-step.eu/why-mind-step are the following:

- To develop a highly modular and customizable suite of Individual Decision Making (IDM) models focusing on behavior of individual agents in the agricultural sector to better analyse impacts of policies
- To develop linkages between the new IDM models and current models used at the European Commission to improve the consistency and to broaden the scope of the analysis of policies
- To develop an integrated data framework to support analysis and monitoring of policies related to agriculture

- To apply the MIND STEP model toolbox to analyse regional and national policies and selected EU CAP reform options and global events affecting the IDM farming unit, working together with policymakers, farmers and other stakeholders
- To safeguard the governance and future exploitation of the MIND STEP model toolbox

MIND STEP's relevance to agriculture and related policies at EU and national level, led to the establishment of mutual links. A link was placed in MIND STEP's official website (https://mind-step.eu/resources) (**Figure 25**), as well as in SmartProtect's official website.

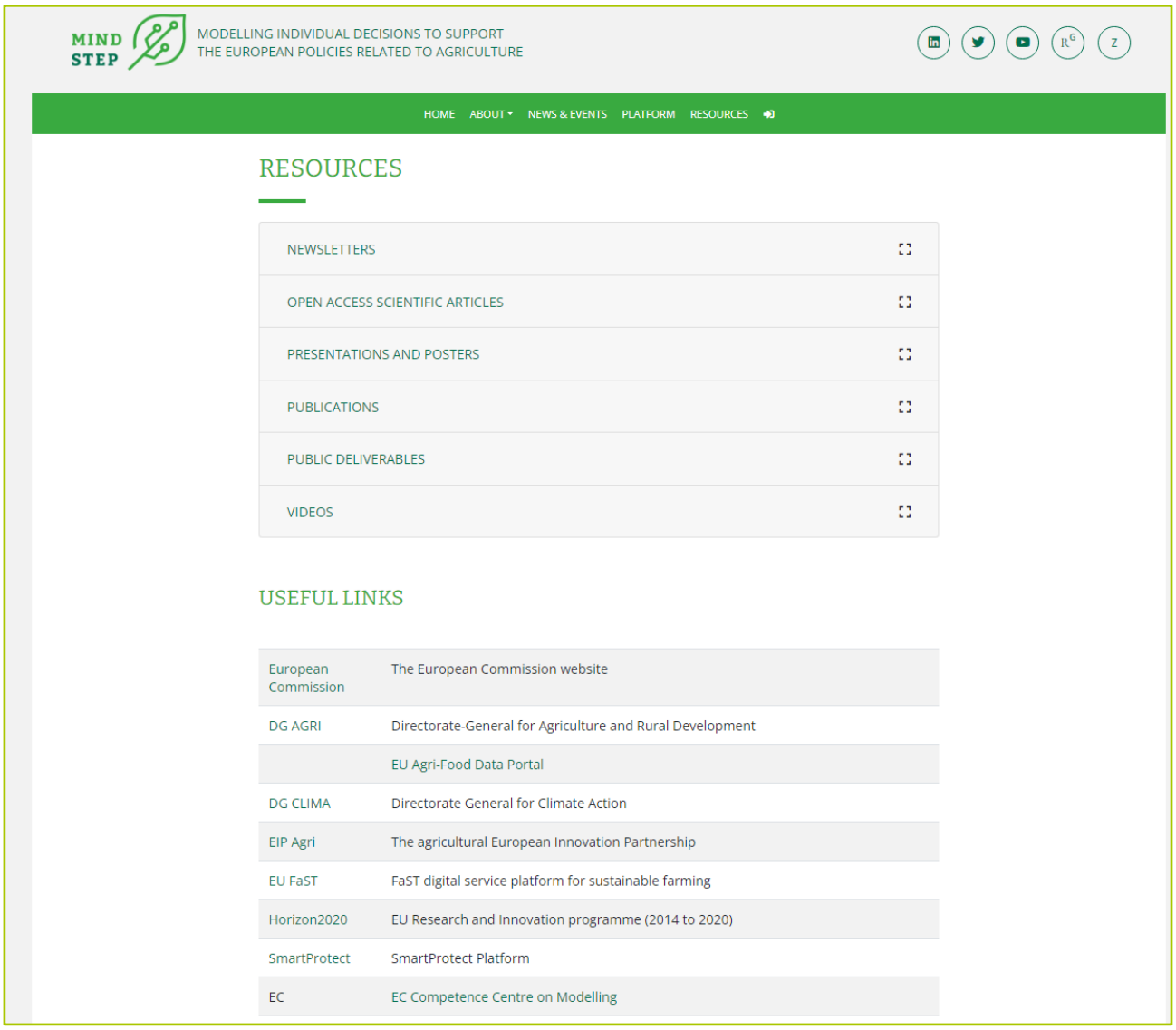


Figure 25. *SmartProtect link in MIND STEP website*

7.20 SUSFERT project

SUSFERT (Sustainable multifunctional fertilizer – combining bio-coatings, probiotics and struvite for phosphorus and iron supply) is an EU funded Horizon 2020 project under the Grant Agreement ID 792021. The official project website is available in https://www.susfert.eu/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/792021.

The main objectives of the SUSFERT are the following as presented in https://www.susfert.eu/about-susfert-project/objectives-and-expected-results/:

- Obtain compatible probiotic and sustainable solutions for phosphorus and iron fertilization.
- Achieve cost-effective enzymatically modified lignin-based coatings for product stabilization and controlled release.
- Produce microbial siderophore in a demonstration plant, for use in fertilizers.
- Develop and produce at least four fertilizer products fitting into current production and existing application technology.
- Obtain registration dossiers after field trials with developed organic formulations, granules, micro granules and liquid fertilizer solutions.
- SUSFERT will identify the economic and environmental impact of SUSFERT products, their sustainability, barriers and opportunities for their adaptation.

SUSFERT is relevant to agriculture and fertilizers, therefore, also to crop management, to which pest management and SmartProtect are much related.

Thus, a link was placed in SUSFERT project's official website (https://www.susfert.eu/related-projects/) (**Figure 26**), as well as in SmartProtect's official website.

Figure 26. *SmartProtect link in SUSFERT website*

7.21 PestNu project

PestNu (Field testing and demonstration of digital and space based technologies with agro-ecological and organic practices in systemic innovation) is an EU funded Horizon 2020 project under

the Grant Agreement ID 101037128. The official project website is available in https://pestnu.eu/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/101037128.

PestNu's main objectives, as described in https://pestnu.eu/objectives/ are the following:

- In-depth systemic analysis for improving sustainability, food resilience and safety and affordability for all
- Deployment and up scaling of digital & space based technologies (DST)
- Deployment and up scaling of agro-ecological and organic practices (AOP)
- Pre-pilot systemic set up of DST & AOP in circular economy food systems for field-testing & optimization
- Field Testing and Demonstration of DST & AOP systemic innovations in an aquaponic plant and open-field vegetable farms and evaluation of their systemic performance in daily practice
- Open Science and Innovation actions under a multi-actor and cross-sectoral approach
- Cooperation with European Commission services

It is evident, that as PestNu operates in the vegetable sector of agriculture, a relevance with SmartProtect exists. Therefore, a link was placed in PestNu's official website (https://pestnu.eu/sister-projects/) (**Figure 27**), as well as in SmartProtect's official website.

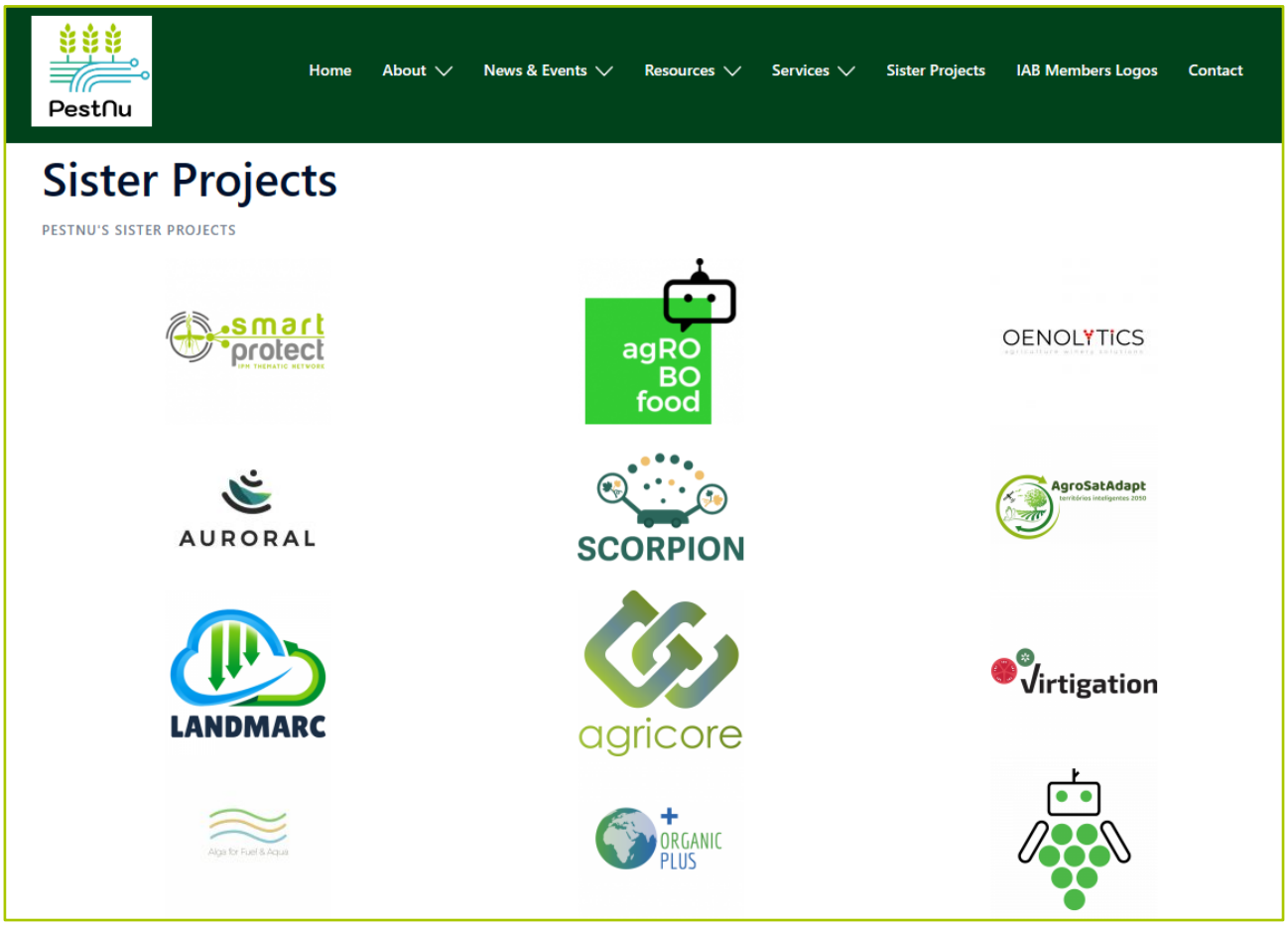
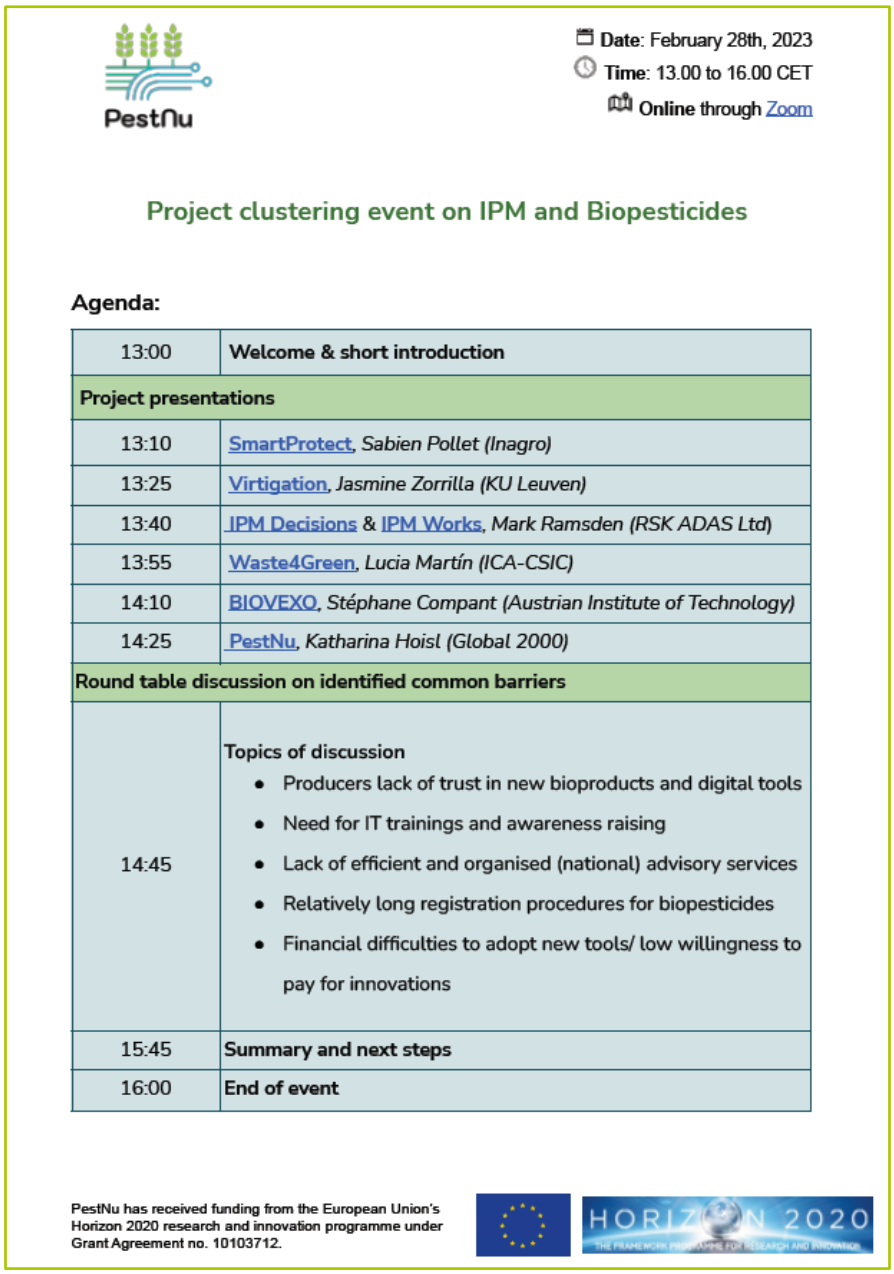


Figure 27. *SmartProtect link in PestNu website*

The fruitful link between SmartProtect and PestNu and this new contact, have allow both sides to move a step beyond and further collaborate. More specifically, an online project clustering event on Integrated Pest Management and biopesticides was organized by PestNu with the support and active participation of SmartProtect. The event was conducted on the 28th of February 2023, with a total of

around 20 participants attending the event. In this event, seven EU funded project presented their projects' objectives and main outcomes (**Figure 28**).



PestNu

Date: February 28th, 2023
Time: 13.00 to 16.00 CET
Online through Zoom

Project clustering event on IPM and Biopesticides

Agenda:

13:00	**Welcome & short introduction**
Project presentations	
13:10	SmartProtect, *Sabien Pollet (Inagro)*
13:25	Virtigation, *Jasmine Zorrilla (KU Leuven)*
13:40	IPM Decisions & IPM Works, *Mark Ramsden (RSK ADAS Ltd)*
13:55	Waste4Green, *Lucia Martín (ICA-CSIC)*
14:10	BIOVEXO, *Stéphane Compant (Austrian Institute of Technology)*
14:25	PestNu, *Katharina Hoisl (Global 2000)*
Round table discussion on identified common barriers	
14:45	Topics of discussion • Producers lack of trust in new bioproducts and digital tools • Need for IT trainings and awareness raising • Lack of efficient and organised (national) advisory services • Relatively long registration procedures for biopesticides • Financial difficulties to adopt new tools/ low willingness to pay for innovations
15:45	**Summary and next steps**
16:00	**End of event**

PestNu has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 10103712.

HORIZON 2020

Figure 28. *Project clustering event on IPM and biopesticides (agenda)*

A round table discussion followed in order to identify common barriers and drivers concerning the adoption and uptake of innovative IPM solutions. SmartProtect was represented by Sabien Pollet by INAGRO and Mike Kaminiaris by AGENSO. Different thematic areas were addressed such as development of tools, adoption of tools, business and economy, as well as training and knowledge sharing aspects. Recommendations on identified topics at local/user level, national/regional level, and EU level were introduced.

This event (**Figure 29**) enabled the establishment of strong relationships and liaisons among the participating projects as it brought together stakeholders and researchers from different EU areas with common interests and background.

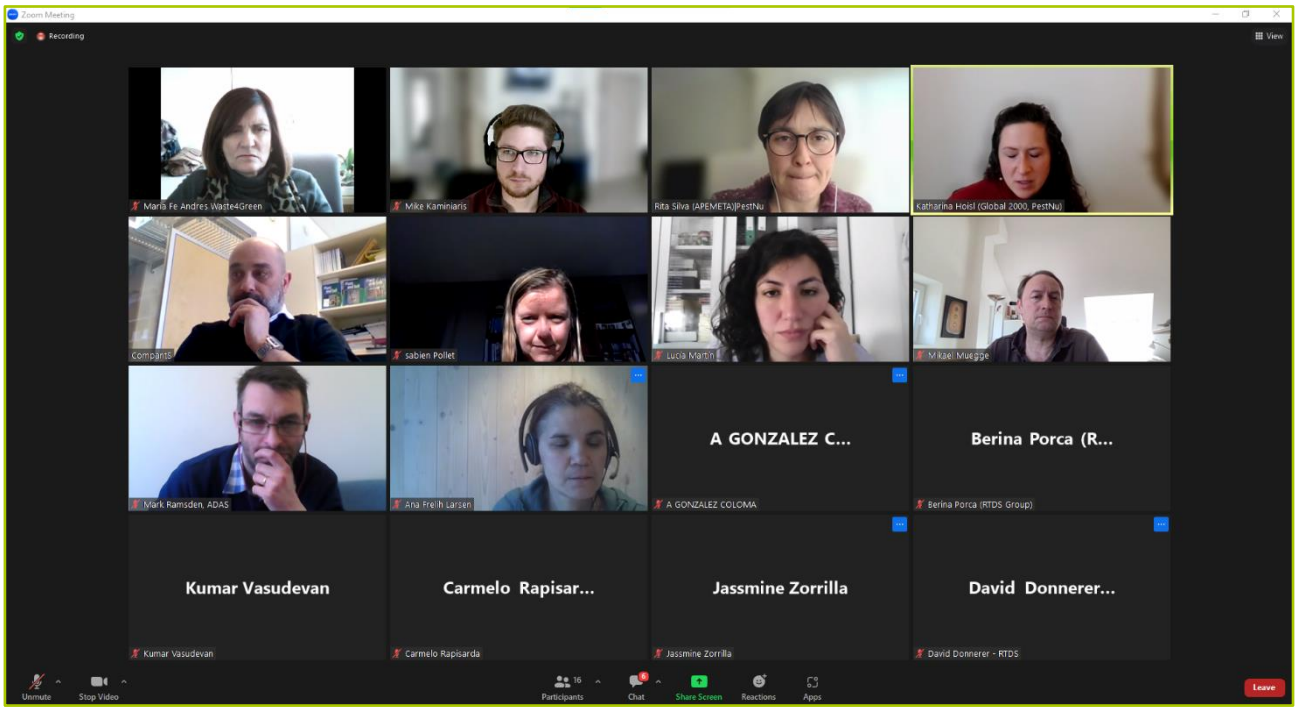


Figure 29. *Project clustering event on IPM and biopesticides (photo)*

7.22 FAIRshare project

FAIRshare (Farm Advisory digital Innovation tools Realised and Shared) is an EU funded Horizon 2020 project under the Grant Agreement ID 818488. The official project website is available in https://www.h2020fairshare.eu/, while in the CORDIS website is available in https://cordis.europa.eu/project/id/818488.

The overarching aim of FAIRshare is to ensure that farm advisors and their organizations effectively use digital tools and services for supporting a more productive and sustainable agriculture (https://www.h2020fairshare.eu/objectives/). Under this framework, FAIRshare has developed a freely accessible online inventory of Digital Advisory Tools and Services (DATS). The FAIRshare DATS inventory is available in https://fairshare-pnf.eu/tools.

SmartProtect consortium registered SmartProtect Platform as a DATS in the repository making it available in SmartProtect Platform | Fairshare (fairshare-pnf.eu). This way, FAIRshare DATS inventory's users are able to search and find SmartProtect Platform (**Figure 30**) and access information regarding its potential users, its functionalities, a direct link to the platform, and several basic information regarding the platform (**Figure 31**).

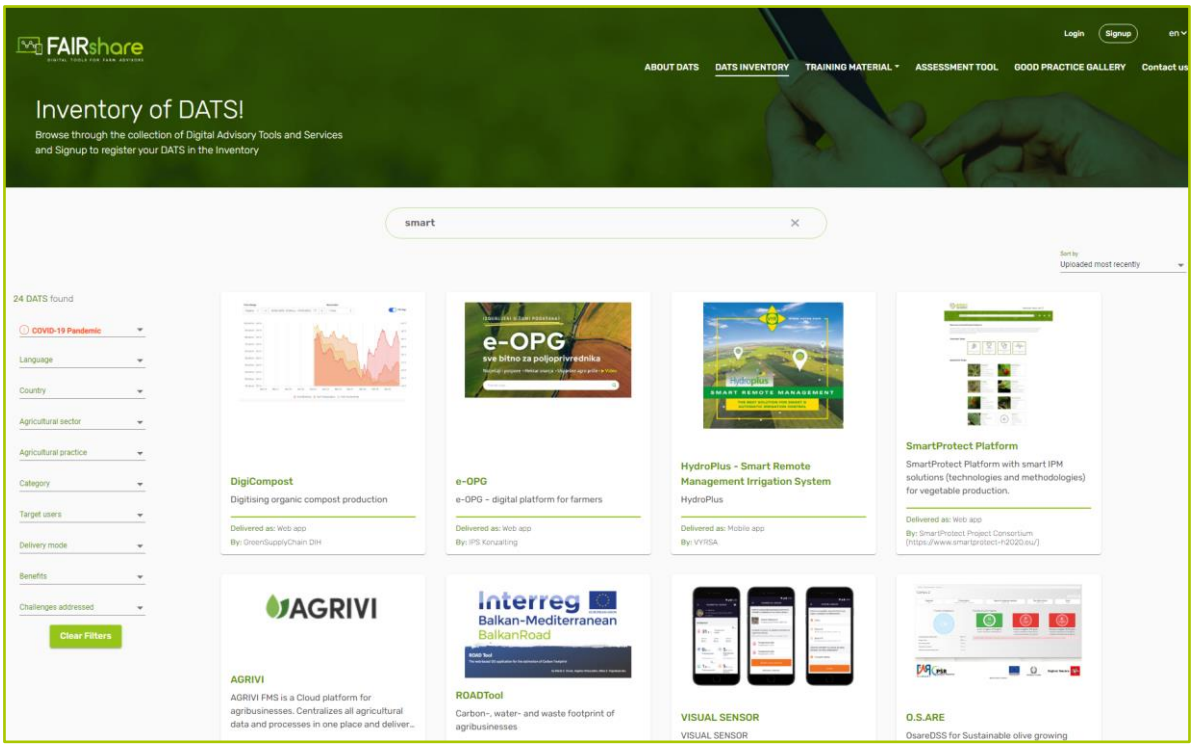


Figure 30. *Search result in FAIRshare DATS Inventory containing SmartProtect Platform*

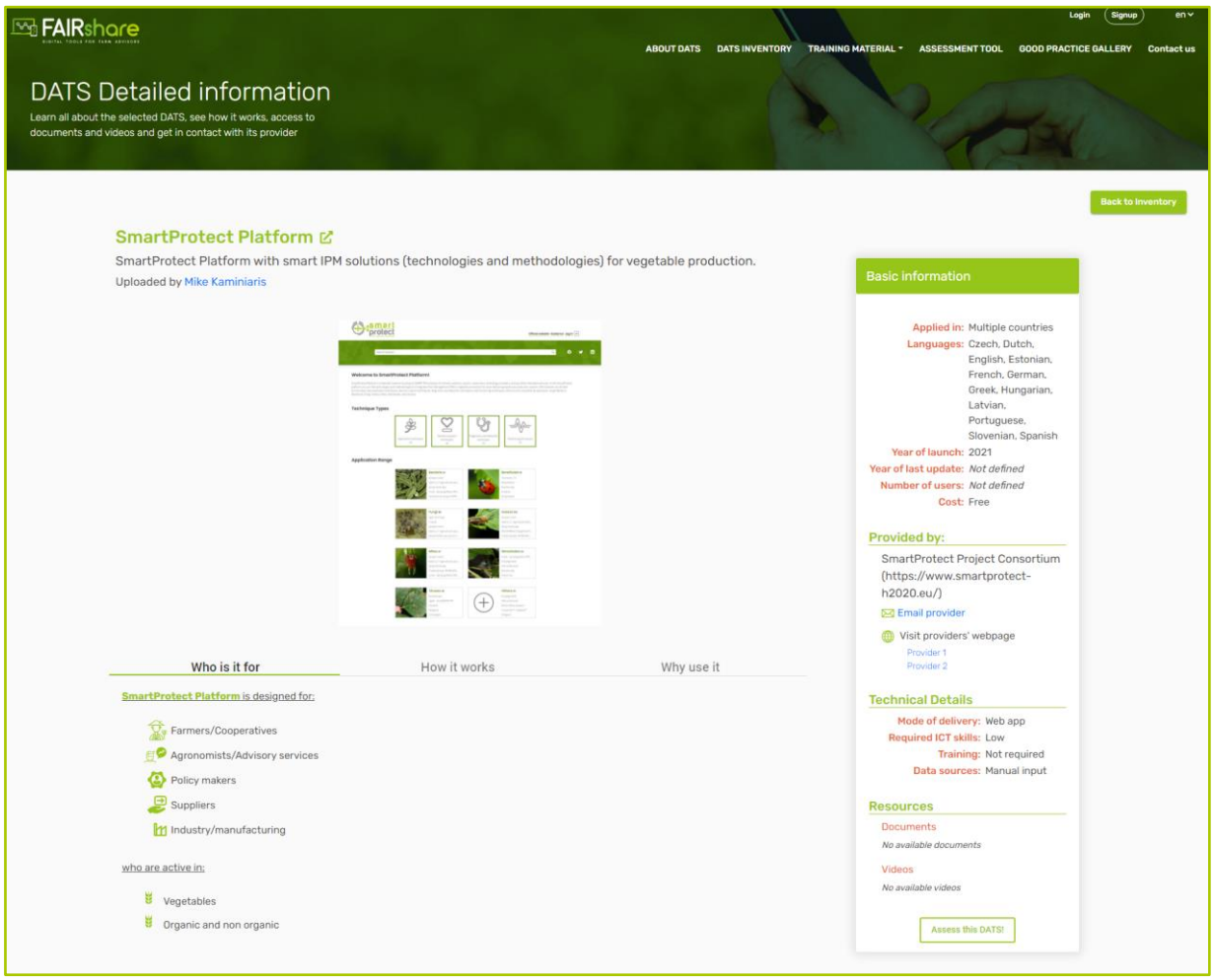


Figure 31. *SmartProtect Platform (DATS Detailed information) in FAIRshare's inventory*

7.23 WASTE4GREEN project

WASTE4GREEN (Sustainable and green agri-waste based biopesticides) is an EU funded LIFE project. The official project website is available in https://waste4green.eu/. WASTE4GREEN also participated in the PestNu's clustering event. The ultimate objective of WASTE4GREEN is to mitigate adverse effects on Environment and Human Health of chemical origin pesticides by introducing novel biopesticides.

As WASTE4GREEN operates in IPM and pesticide related aspects, a link was placed in WASTE4GREEN's official website (https://waste4green.eu/en/networking-projects) (**Figure 32Figure 27**), as well as in SmartProtect's official website.

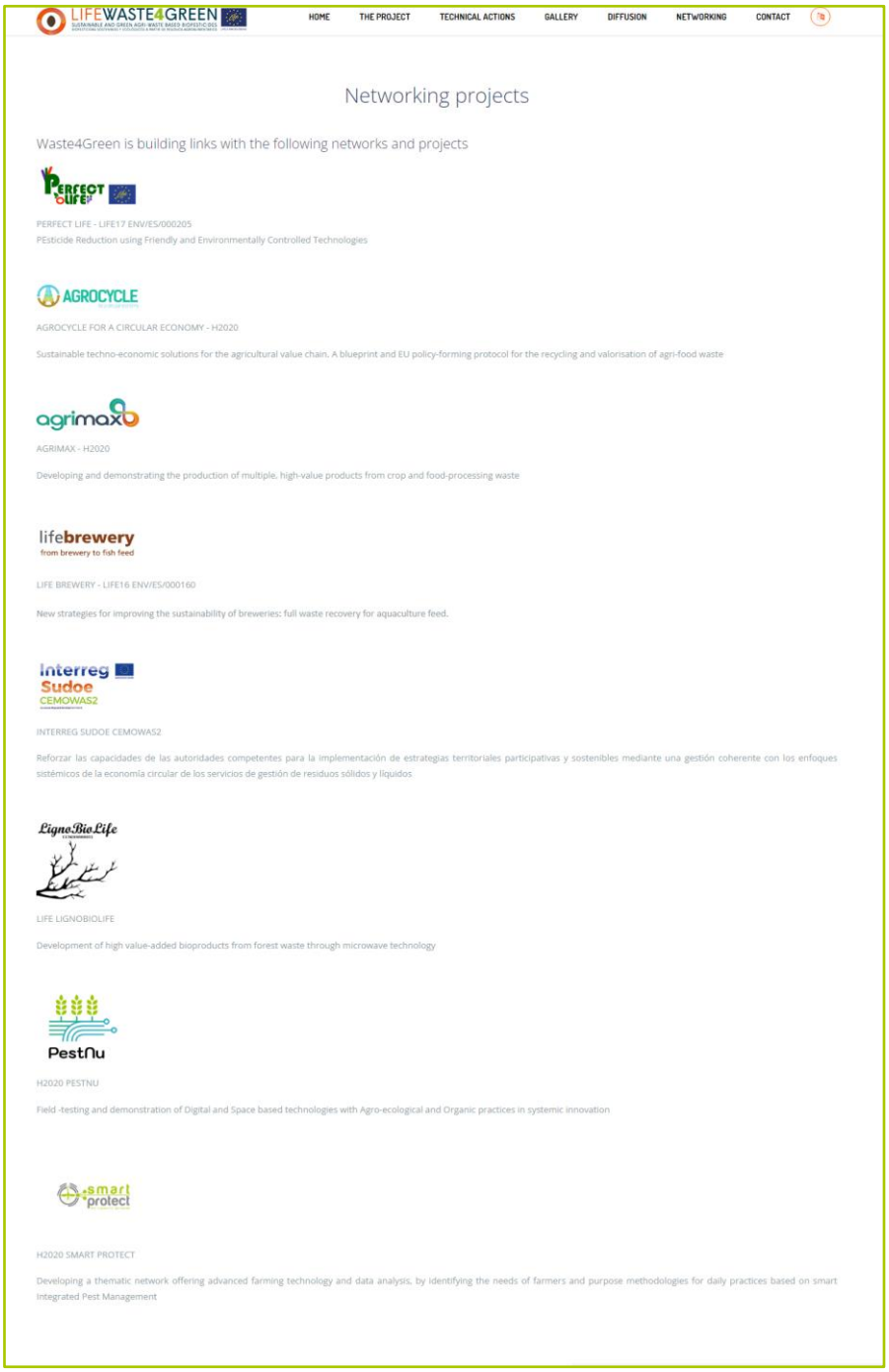


Figure 32. *SmartProtect link in WASTE4GREEN website*

7.24 EIP-AGRI

As SmartProtect's link is placed in EIP-AGRI's official website (https://ec.europa.eu/eip/agriculture/en/content/thematic-networks-%E2%80%93-closing-research-and-innovation-divide.html) (**Figure 33**), EIP-AGRI's link as also placed in SmartProtect's official website. The aim was to enable users access the entire website of EIP-AGRI including the valuable content with various projects and topics.

Figure 33. *SmartProtect link in EIP-AGRI website*

7.25 EU CAP NETWORK

However, as EIP-AGRI has become part of the EU CAP Network since April 2023, it has been decided that a link of EU CAP Network should be also placed under SmartProtect links. Therefore, the link (https://eu-cap-network.ec.europa.eu/) was placed in https://www.smartprotect-h2020.eu/links/.

Moreover, after contacting EU CAP NETWORK, it has been decided that **SmartProtect will be promoted in the EU CAP NETWORK's newsletter of September/October 2023**.

7.26 APAARI (Asia-Pacific Association of Agricultural Research Institutions)

APAARI, the Asia-Pacific Association of Agricultural Research Institutions (https://www.apaari.org/) was founded in 1990 under the initiative of the Food and Agriculture Organization of the United Nations (FAO) and Government of the following countries: China, Fiji, India, Iran, Malaysia, New Zealand, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Sri Lanka, Thailand and Western Samoa.

APAARI is a membership-based association which is apolitical, and operates under multi-stakeholder approach. Its aim is to bring together regional, national and global stakeholders to bridge gaps and strengthen agri-food research and innovation systems towards more sustainable development in the Asia-Pacific region.

After contacting APAARI and having an online meeting on June, 13th, 2023 with some staff of APAARI, a reciprocal link was decided to be placed in both websites. As of June 2023, an APAARI link was placed in https://www.smartprotect-h2020.eu/links/ and a SmartProtect link will be placed in APAARI's website during the upcoming period.

8 Additional approaches

During the linking process, there were several e-letter receivers that did not engage with the attempted connection. Nevertheless, SmartProtect continued the effort in order to ensure the successful establishment of links. Some of the receivers that did not provide a feedback/positive feedback were the following, with most of them operating in the vegetable and IPM sector. Apart from H2020 projects, organizations and associations were also approached.

- CropLife Europe (https://croplifeeurope.eu/)
- Eufrin (https://eufrin.eu/frontpage)
- Freshfel, the European Fresh Produce Association (https://freshfel.org/)
- IPM popillia H2020 project (https://www.popillia.eu/)
- Viroplant H2020 project (https://cordis.europa.eu/project/id/773567)
- SuperPests H2020 project (https://www.superpests.eu/)
- i2connect H2020 project (https://i2connect-h2020.eu/)
- contracts2.0 H2020 project (https://www.project-contracts20.eu/)
- BIOBESTicide H2020 project (https://www.biobesticide.eu/)
- EUCLID IPM H2020 project (http://www.euclidipm.org/)
- Lowinfood H2020 project (https://lowinfood.eu/)
- Co-fresh H2020 project (https://co-fresh.eu/)
- Foodrus H2020 project (https://www.foodrus.eu/)
- Fairchain H2020 project (https://www.fairchain-h2020.eu/)
- CACAARI (https://cacaari.org/)
- SCORPION H2020 project (https://scorpion-h2020.eu/)

9 API for SmartProtect Platform content sharing

SmartProtect Platform contains a wealth of available high-end innovative IPM solutions. Therefore, during the project implementation, SmartProtect consortium evaluated several options for ensuring the sustainable preservation of this valuable knowledge in the long-term. Under this framework, AGENSO developed an application programming interface (API) (**Figure 34**) that is able to directly transfer the entire content of the platform in any other online platform/application/website.

title: "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. It is a solution that efficiently powers your plant protection decision-making process. It can provide you with real-time and crystal clear situation overview, it can also forecast future pest situation and simulate different plant protection measure scenarios. "
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 allow reliable automatic data collection."
landscape_comment: null
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, Q's Fresh, University of Warwick and other organisations.\r\n\r\nThe 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%20Papers/Horticulture/PV%20448_Report_Final_2017.pdf. \r\nThere is some current work to develop/improve a system for Delia platura using coloured sticky traps.\r\n\r\nIt has been used with sticky traps for: Delia platura."
youtube_links:
0: "https://www.youtube.com/watch?v=VGOtOgTWU-Q"
website: "http://www.trapview.com/en/#monitor"
attachments: []
special_requirement: 1
need_special_agr: 0
need_special_training: 0
company_name: "EFOS informacijske rešitve d.o.o."
contact_person: "Boštjan Božic. Bostjan.bozic@trapview.com VP Sales and Marketing P: +386 5 757 75 42"
picture: "https://platform.smartprotect-h2020.eu/storage/files/ipms/picture/e3dc-trapviewworwick.jpg"
productionSystems:
0: "Greenhouse"
1: "Open field"
techniqueTypes:
0: "Decision support techniques"
1: "Diagnostics and detection techniques"
2: "Monitoring techniques"
3: "Insect monitoring"
applicationRanges:
0: "Insects"
farmScaleTypes:
0: "Big scale"
1: "Small scale"
cropsUsed:
0: "All"
cropsPossible:
0: "All"
species:
0: "Autographa gamma"
1: "Plutella xylostella"
2: "Delia platura"
3: "Agrotis segetum"
4: "Any species captured with pheromone trap"
5: "Any species captured with sticky trap"
countriesUsed:

Figure 34. *SmartProtect API*

For security reasons the API link is not public, however, upon request and further inquiry evaluation by the SmartProtect consortium, the API link can be provided to any interested party.

As of May 2023, this API has been provided to the IPMworks H2020 project consortium. This way, the IPM solutions of SmartProtect Platform are fed into the IPMworks Toolbox. This toolbox is a significant IPM solutions' repository developed under the IPMworks project. This Toolbox is available in https://ipmworks.net/toolbox/en/#/home. In the left side area of the user interface, several filters exist in order to allow fine-tuning of search process. One of the available filters is the "Project" filter, under which, SmartProtect is accessible. Upon the selection of SmartProtect in this filter, all SmartProtect Platform's IPM solutions are displayed (**Figure 35**). Further filtering is also available in order to allow an optimum query to be performed.

It is worth mentioning that at the time that the current deliverable is written, SmartProtect consortium, mainly through INAGRO as the project coordinator and AGENSO as the Dissemination and Communication leader, attempts to create further bridges with platforms in order to transfer and sustain SmartProtect platform's content via the developed API.

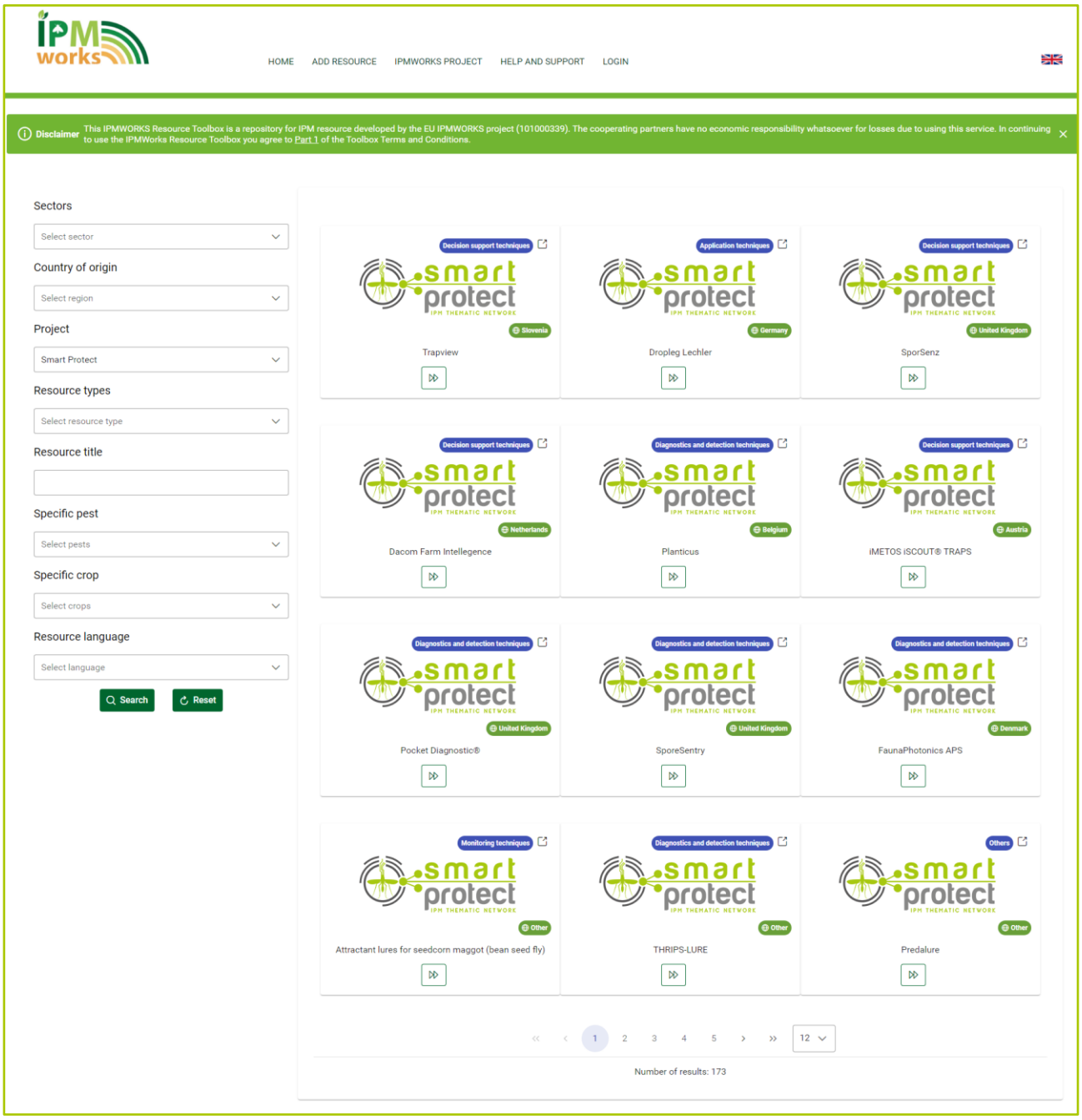


Figure 35. *SmartProtect Platform's content displayed in IPMworks Toolbox through API*

10 SmartProtect's position

The objective of links' establishment is considered to be twofold. Initially, the establishment of links enhances the development of clusters and synergies with significant potential in the transfer of knowledge and the creation of communities. Under this framework, common activities may be conducted, or even mutual enrichment of the various networks by stimulating the elaboration of contacts' creation, as happened in the case of SmartProtect.

However, apart from this objective, the links assist users to access valuable information. In addition, as the online search engines rank websites in order to display them higher in the ranking links; hyperlinks play a crucial role in the promotion of a given website. Thus, when searching online for a specific website, its position depends on its various interconnections, backlinks and performed clicks in it. As a result, the SmartProtect links' establishment process enhances the position of SmartProtect in search engines.

In order to monitor SmartProtect's online position, Google Search Console was used. Based on the respective insights, the project **website** (https://www.smartprotect-h2020.eu/) has **198 external links** in 62 different domains (**Figure 36**), while the project **platform** (https://platform.smartprotect-h2020.eu/) has **184 external links** in 53 different domains (**Figure 37**). This means that the website and platform **appear in 382 linking sites** (assessed 14 June 2023).

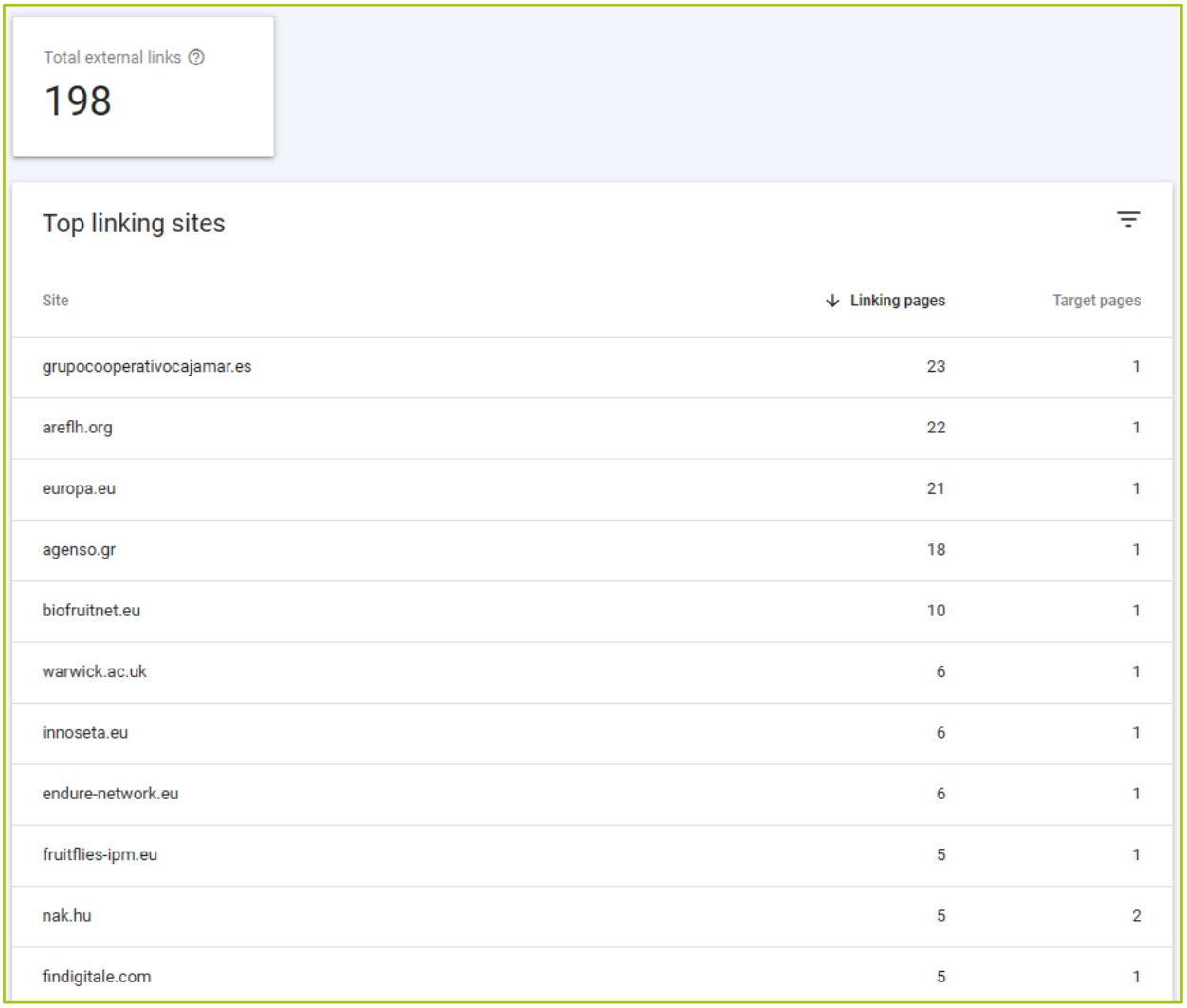
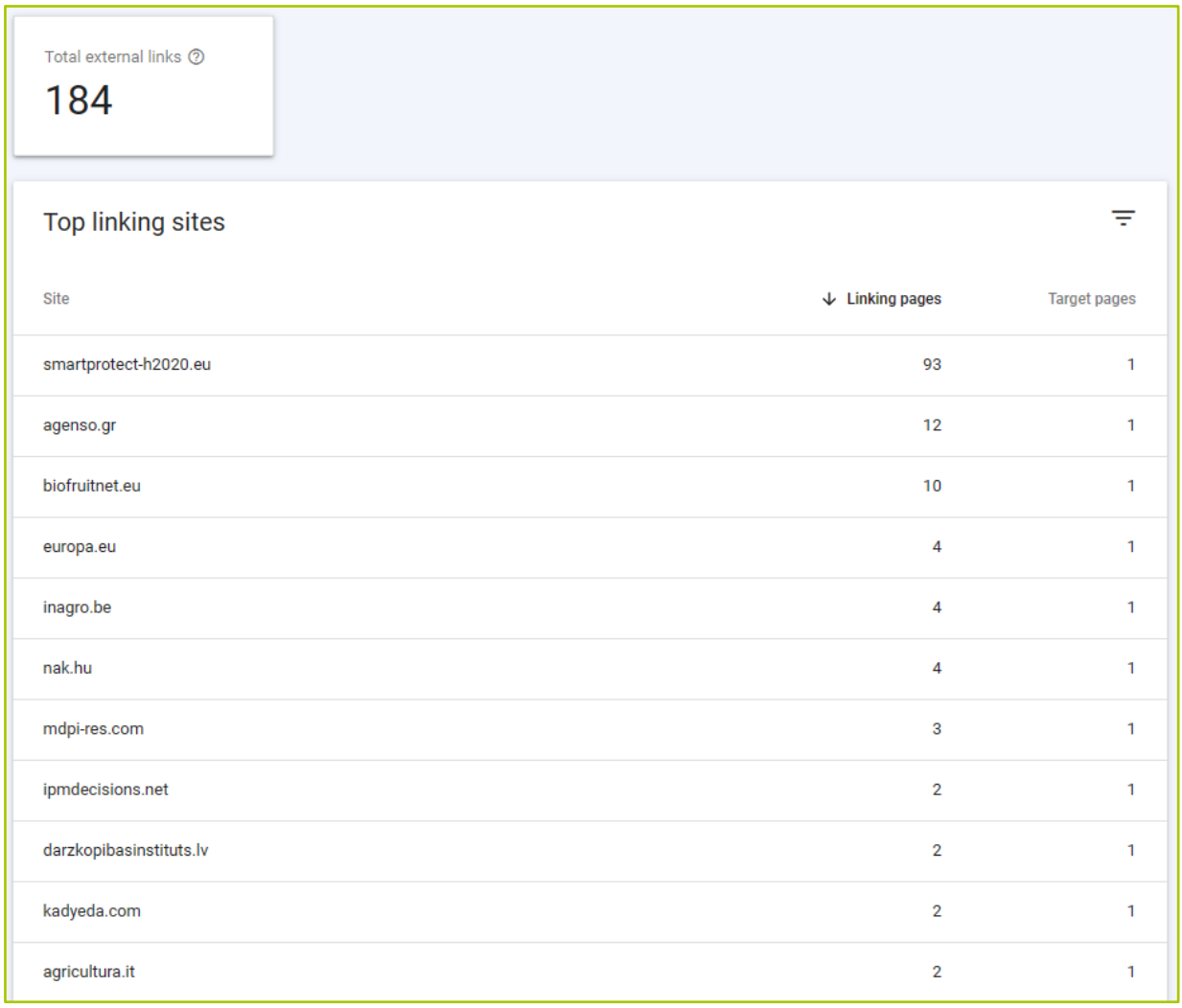


Figure 36. *External links of www.smartprotect-h2020.eu*



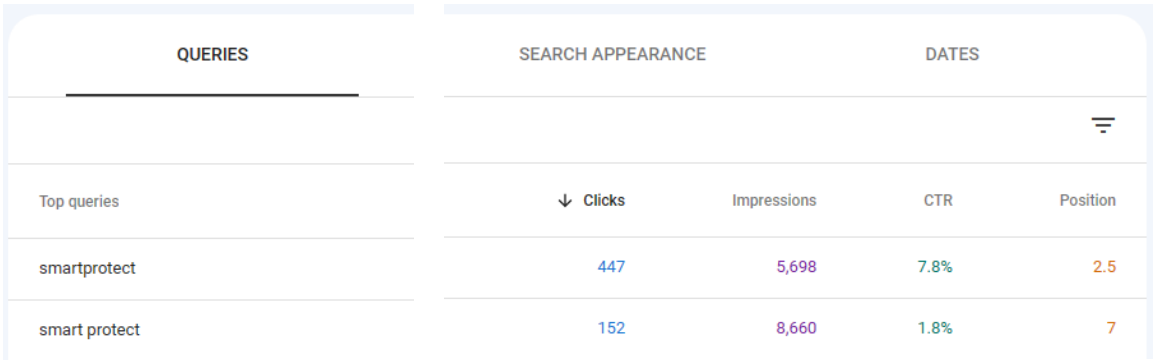
Total external links
184

Top linking sites

Site	Linking pages	Target pages
smartprotect-h2020.eu	93	1
agenso.gr	12	1
biofruitnet.eu	10	1
europa.eu	4	1
inagro.be	4	1
nak.hu	4	1
mdpi-res.com	3	1
ipmdecisions.net	2	1
darzkopibasinstituts.lv	2	1
kadyeda.com	2	1
agricultura.it	2	1

Figure 37. *External links of platform.smartprotect-h2020.eu*

Moreover, SmartProtect's domain (smartprotect-h2020.eu/) appears second (2.5) in Google after a "smartprotect" query, and seventh (7) after "smart protect" search (**Figure 38**), which is considered to be a high ranking.



QUERIES | SEARCH APPEARANCE | DATES

Top queries	Clicks	Impressions	CTR	Position
smartprotect	447	5,698	7.8%	2.5
smart protect	152	8,660	1.8%	7

Figure 38. *Ranking position of smartprotect-h2020.eu/*

11 Conclusions

The current deliverable constitutes the second and final report on the Thematic Network SmartProtect links that have been established during the project's lifetime. It also includes a description of the methodology for screening the potential stakeholders for collaboration and the strategy for the entire procedure.

Concerning the target (key performance indicator [KPI]) that was initially set, a total of 20 links was foreseen. However, due to the interest by the side of further projects, and the achievement of the target earlier that foreseen during the project's implementation, the KPI was updated to 25 links. The updated KPI was successfully fulfilled by developing 26 links (104% of the KPI) and simultaneously appearing in 382 linking sites. Along with this, the elaboration of the API for the SmartProtect's Platform content sharing enabled the project consortium to move a step beyond towards the platform's sustainability.

The entire process of linking played a crucial role in the dissemination of SmartProtect, by allowing engagement with a broader audience and enabling to sustainably preserve and share the knowledge collected and compiled in the SmartProtect Platform both in the short-term and the long-term.