



D6.1 Communication and dissemination activities

STRATAGEM ENERGY Ltd.

30/09/2022



DELIVERABLE INFORMATION	
Author(s)/ Organisation(s)	M. Zafeiropoulou (STRATA)
Document type	Report
Document code	D6.1
Document name	Communication and dissemination activities
Status	Final
Work Package / Task	WP6 / T6.1
Delivery Date (DoA)	M12
Actual Delivery Date	30 September 2022

DELIVERABLE HISTORY			
Date	Version	Author/ Contributor/ Reviewer	Summary of main changes
5/09/2022	V0.1	M.Zafeiropoulou, T. Parisis, S. Panagiotidou (STRATA), all partners	First complete edition
12/09/2022	V0.1.1	C. Zisis, Dr. Ria Pechlivani (CERTH)	Review & enrichment
21/09/2022	V0.2	Dr. Rita Barros Silva, (APEMETA)	1 st Review
27/09/2022	V0.3	Katharina Hoisl (GLOBAL)	2 nd Review
29/09/2022	V0.4	M.Zafeiropoulou (STRATA)	Final version
30/09/2022	V1.0	Dr. Ria Pechlivani (CERTH)	Final review and submission

DISSEMINATION LEVEL		
PU	Public	X
PP	Restricted to other programme participants (including the EC services)	
RE	Restricted to a group specified by the consortium (including the EC services)	
CO	Confidential, only for the members of the consortium (including the EC)	



DISCLAIMER

This document contains information and material that is the copyright of PestNu consortium parties and may not be reproduced or copied without consent.

© The information and material included in this document are the responsibility of the authors and do not necessarily reflect the opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on behalf may be held responsible for the use that may be made of the information and material contained herein.

© PestNu Consortium, 2021-2024.

Reproduction is authorized provided the present document and authors are acknowledged

PestNu • Grant Agreement: [101037128](#) • Innovation Action • 2021 – 2024 | Duration: 36 months
Topic: LC-GD-6-1-2020: Testing and demonstrating systemic innovations in support of the Farm-to-Fork Strategy

List of Abbreviations & Definitions

Abbreviation	Definition
AI	Artificial Intelligence
AOP	Agro-ecological and Organic Practices
AR	Augmented Reality
BPI	Benaki Phytopathological Institute
CMS	Content Management System
D	Deliverable
DSS	Decision Support System
DST	Digital and Space-based Technologies
EU	European Union
F2F	Farm to Fork
GA	Grant Agreement
IAB	Industrial Advisory Board
IoT	Internet of Things
KPI	Key Performance Indicator
LCA	Life Cycle Analysis
M	Month
T	Task
WP	Work Package

Executive Summary

This document, titled as 'Communication and Dissemination activities' is the first report on the communication and dissemination actions which took place within the context of PestNu project. The report presents in detail the communication and dissemination strategy of the project as well as the relevant tools which have been developed as means towards this strategy's implementation. An assessment of the effectiveness of the activities which took place within the first 12 months of the project's duration is also included in this deliverable.

Table of contents

List of Abbreviations & Definitions	ii
Executive Summary	iii
Table of contents	iv
1. Introduction.....	1
1.1. About PestNu	1
1.2. Purpose of this document	1
2. Communication and dissemination strategy	2
2.1. Introduction	2
2.2. Methodology.....	5
2.2.1. Target audience	6
2.2.2. Key messages	8
2.2.3. Development of the appropriate dissemination and communication tools	10
2.2.3.1. Visual identity.....	10
2.2.3.2. Communication toolbox	11
2.2.3.3. Digital platform.....	15
2.2.3.4. Social Media	17
2.2.3.5. Project videos	18
2.2.3.6. Newsletters, press releases and nonscientific publications	19
2.2.3.7. Publications in scientific journals	28
2.2.3.8. National workshops	29
2.2.3.9. Participation in international fairs, conferences, workshops and exhibitions	47
2.2.3.10. Events organized by the consortium partners	53
2.2.4. Assessing the effectiveness of the dissemination and communication strategy	64
3. Conclusions.....	65
4. ANNEX 1	66

List of Figures

Figure 1 PestNu project's logo.	11
Figure 2 The first version of PestNu project's brochure	12
Figure 3 The outer pages of PestNu project's trifold brochure.....	13
Figure 4 The inner pages of PestNu project's trifold brochure.....	13
Figure 5 The roll up banner of PestNu project.	14
Figure 6 PestNu project deliverable template	15
Figure 7 PestNu project presentation template	15
Figure 8a & 8b PestNu project's website.	16
Figure 9: Registration Form.....	17
Figure 10 Screenshot of Pestnu's first video on YouTube	19
Figure 11The first page of PestNu' s newsletter.	20
Figure 12 The second page of PestNu' s newsletter.	20
Figure 13 The third page of PestNu's newsletter	21
Figure 14 The fourth page of PestNu' s newsletter.	21
Figure 15 SEVT's newsletter in October 2021.	22
Figure 16 SEVT's newsletter in November 2021.	23
Figure 17 Screenshot of SEVT's newsletter in March 2022.....	24
Figure 18 Screenshot of SEVT's newsletter in April 2022.....	25
Figure 19 Screenshot of SEVT's newsletter in June 2022.	26
Figure 20 Screenshot of the internal workshops: "How to organize an effective national workshop" ..	29
Figure 21 Screenshot of the " National workshops organization task list"	30
Figure 22 Screenshot of national workshops reporting template	30
Figure 23 The first national PestNu workshop in Portugal.	32
Figure 24 Snapshot of the Portuguese National Workshop.	32
Figure 25 Presentation at the Portuguese National Workshop.	33
Figure 26 Screenshot of the agenda of the Portuguese national PestNu workshop.	34
Figure 27 Screenshot of the first page of the Spanish workshop's agenda.	36
Figure 28 Screenshot of the second page of the Spanish workshop's agenda.	36
Figure 29 Snapshot of the guided tour at Tilamur facilities.	37
Figure 30 Snapshot of Mr. Conesa presentation during the Spanish workshop.....	38
Figure 31 Snapshot of Mr. Minguez, presenting at the Spanish workshop.....	38
Figure 32 Swedish workshop agenda page 1.	40
Figure 33 Swedish workshop agenda page 2.	41
Figure 34 Ida Claesson presenting during the Swedish workshop.	42
Figure 35 Demonstration by RISE during the lunch break of the Swedish workshop.	42
Figure 36 UK's workshop agenda, page No 1.....	43
Figure 37 UK's workshop agenda, page No 2.....	44
Figure 38 UK's workshop agenda, page No 3.....	44
Figure 39 The online participants of the UK workshop.	46
Figure 40 Screenshot of PestNu coordinator Dr. Ria Pechlivani presenting the project at the Farm to Fork Conference.....	47
Figure 41 STAM participation in Ecomondo Expo.	48
Figure 42 Screenshot of Agroinsider's presentation of PestNu project at the General Assemblies of Copernicus networks.....	48
Figure 43 Anna Pollak from GLOBAL2000 presenting PestNu project.....	49

Figure 44 (a) & (b) Snapshot and screenshot of APEMETA's presentation.	49
Figure 45 SEVT participated in Alimentaria Exhibition.	50
Figure 46 CERTH's participation in 'Towards pesticide free agriculture' conference.	51
Figure 47 Mr. Anastasios Lytos from SIDROCO at MOCAS 2022.	52
Figure 48 IKH attended European Robotics Forum 2022 and disseminated PestNu project.	52
Figure 49 A snapshot of B-Blue event, in Tilmur's facilities.	54
Figure 50 Snapshot of the meeting participants at Tilmur Facilities on 14 of February 2022.	55
Figure 51 Snapshot of the visit of the students of the Polytecnic University of Valencia at Tilmur facilities.	55
Figure 52 Snapshot of the Open Day guided tour at the Greenhouse Park facilities of UTH.	56
Figure 53 The official poster of UTH's Open Day.	56
Figure 54 Professor N. Katsoulas from UTH is explaining to the Prime Minister of Greece the procedures taking place at the University's Greenhouse.	57
Figure 55 N. Frangakis from IKH, presenting to the Prime Minister of Greece the robots used at the University's Greenhouse.	57
Figure 56 Screenshot of the video of the Prime Minister of Greece visiting the UTH facilities, on the national TV channel OMEGA.	58
Figure 57 Prof. N. Katsoulas is presenting PestNu project during the event.	58
Figure 58 Snapshot of the physical attendees of CERTH's Workshop on Clustering activities.	59
Figure 59 Screenshot of the agenda of CERTH's Workshop on Clustering activities.	59
Figure 60 Presentation of PestNu project during CERTH's Workshop on Clustering activities.	60
Figure 61 Round tables during CERTH's Workshop on Clustering activities.	60
Figure 62 Snapshot of the partners' technical meeting at UTH facilities.	61
Figure 63 Snapshot of the partners visit at UTH's greenhouse facilities.	62
Figure 64 Snapshot of Dr. Ria Pechlivani, coordinator of PestNu project and Prof. Nikos Katsoulas at the greenhouse facilities of UTH.	62
Figure 65 CERTH and IKH teams during their meeting in Athens, Greece.	63

List of Tables

Table 1 PestNu project 1 st year KPIs	2
Table 2 Communication pathway per PestNu target audience	6
Table 3 Key communication messages per PestNu target audience	9
Table 4 PestNu Social Media analytics.	18
Table 5 Media means which are going to be utilized for dissemination purposes.	27
Table 6 PestNu national workshops reporting per national cluster	30
Table 7 Indicative list of events participation.	53
Table 8 ANNEX TABLE Communication and Dissemination activities.	66

1. Introduction

Research innovation is an important mean towards the improvement of the well being of the European Union (EU) citizens as well as the force of the economic growth within the EU. It is therefore of great importance to ensure that the knowledge and the achievements of the innovative research projects, such as PestNu, are appropriately spread and disseminated, through effective means of communication. This deliverable (D) titled 'Communication and dissemination activities' is the first deliverable of PestNu project which presents its communication and dissemination strategy and attempts to record and assess the effectiveness of the communication and dissemination activities which have already taken place during the first 12 months of the project's lifespan.

1.1. About PestNu

PestNu targets the field-testing and demonstration of Digital and Space based Technologies (DST) and Agroecological and Organic Practices (AOP) under a systemic approach to reduce the pesticides and fertilisers use, and loss of nutrients. All the DSTs will be interconnected to a user-centric cloud-based Farm Management System, which features a robust Decision Support System (DSS) integrated with a blockchain based system for DST data evidence, integrity, and Artificial Intelligence (AI) models verification and with a cybersecurity platform to prevent cyber-attacks and Internet of Things (IoT) vulnerabilities. The showcase of systemic DST & AOP solutions will be demonstrated and tested in aquaponic and hydroponic greenhouse and open-field vegetable cultivation in Greece and Spain. A Pesticide Reduction Program will evaluate the Maximum Residue and the Acceptable Daily Intake levels to ensure vegetable's food safety and Life Cycle Analysis (LCA) activities will be performed. All these systemic approaches will be performed under a strong collaboration among all the Farm to Fork (F2F) stakeholders and EU services.

1.2. Purpose of this document

The present document constitutes the D6.1 "Dissemination and communication activities" in the framework of Work Package (WP) 6 "Open Science and Innovation Actions", task (T) 6.1.

The purpose of this document is to present the first plan for dissemination and communication strategy of the PestNu project's results. Moreover, in this document the achievements of the project consortium partners in terms of dissemination of the project's results, vision and ideas until the 12th month of the project's duration is summarized. An updated version of the first plan for the use and dissemination of the PestNu results and products will be submitted in M24 of the project's duration in deliverable D6.3 and the final version of this deliverable will be submitted on M36 of the project in D6.4.

2. Communication and dissemination strategy

2.1. Introduction

PestNu consortium embraces that communication and dissemination activities are important to be conducted at an early stage of the project in order to reach the maximum possible awareness of the project and its preliminary results, and engagement with the targeted groups of stakeholders. Establishment of communication and dissemination activities is also important in order to design an efficient pathway towards the maximization of the overall project's impact. Additionally, an efficient dissemination and communication strategy will promote the development of new research and business relationships with external stakeholders, leading to generating new research and market opportunities. These factors present a multilateral positive impact to the scientific and nonscientific society. The scientific society benefits from further research opportunities while the nonscientific society takes advantage of environmentally sustainable solutions, market expansion, and the creation of new jobs.

The communication and dissemination plan of PestNu project is a living document which depicts the framework of the designing, monitoring, and planning process of the project's communication and dissemination strategy. An updated version of this document will be submitted on M24 by STRATA, and the final comprehensive version of it will be submitted by STRATA on M36 of the project.

Also, as D6.1 is a living document, the communication and dissemination strategy will be constantly updated according to the current COVID-19 situation and adjusted to the most recent directions of the European Union.

All the activities included in the communication and dissemination plan of PestNu project are concentrated in achieving the main quantitative goals, defined as Key Performance Indicators (KPIs) which are presented in the project's Grand Agreement (GA). These KPIs assist in measuring the performance of specific objectives, over a certain time frame. More specifically, on the following Table 1, there are the KPIs which are addressed to be achieved during the first year of PestNu project. On the third column of Table 1, the current status of each KPI is presented.

Table 1 PestNu project 1st year KPIs

Communication Routes	1 st Year KPIs	Status	Actual Quantification
Digital platform for agro-advisory and business services (Project website)	<ul style="list-style-type: none"> Design and upload the Digital Platform, operational in M3. 200 registrations Average visit duration of 2 minutes for 30% of users. 	<ul style="list-style-type: none"> The Digital Platform has been created and the functionalities are being developed/upgraded Chapter 2.2.3.3 	<ul style="list-style-type: none"> More than 121 registered users by M12
Information and links with the PestNu actions	<ul style="list-style-type: none"> Upload on the website for the consortium partners; EC services; 	<ul style="list-style-type: none"> Information and news about the Project, the Partners and the EC services are being uploaded regularly on PestNu's website: https://pestnu.eu/ 	Completed.

		<ul style="list-style-type: none"> • Chapter 2.2.3.3 	
Dissemination kit on website	<ul style="list-style-type: none"> • Publicity materials: leaflet/brochure, poster & others, finalized on M3, and update every 3 months. 	<ul style="list-style-type: none"> • Digital and printed publicity material has been created. • Chapter 2.2.3.2 • Chapter 2.2.3.2 	Completed.
Patents	<ul style="list-style-type: none"> • Initial ideas for patents related to the DST & AOP systems and methods 	<ul style="list-style-type: none"> • IPR management is in progress 	In progress.
Publications in scientific journals	<ul style="list-style-type: none"> • Submission of peer-reviewed scientific publications, target: at least 2 	<ul style="list-style-type: none"> • Three scientific articles on PestNu's experimental results have been submitted and are expected to be published soon • Chapter 2.2.3.7 	<ul style="list-style-type: none"> • Completed.
Organization of conferences and special stakeholder meetings	<ul style="list-style-type: none"> • Attend and/or host up to 1 relevant conference or special stakeholder meeting under conference umbrella 	<ul style="list-style-type: none"> • National workshops • Clustering activities • Chapter 2.2.3.8 • Chapter 2.2.3.9 • Chapter 2.2.3.10 	In progress.
Participation & presentations at international scientific conferences, workshops & symposia	<ul style="list-style-type: none"> • Attend and/or host up to 5 relevant national and international networking events or workshops. Target: 3 posters, >5 conference publications. 	<ul style="list-style-type: none"> • One scientific publication has been published up to M12 (Poster presentation). • One presentation at 5th IEEE International conference that will take place in December 2022. • Chapter 2.2.3.7 	Completed.
Participation in fairs and exhibitions	<ul style="list-style-type: none"> • Target: >2 booth participations 	<ul style="list-style-type: none"> • PestNu's partners have participated in international fairs and exhibitions. • Chapter 2.2.3.9 	Completed.
Publicity material	<ul style="list-style-type: none"> • Create publicity materials: banners, posters, brochures, leaflets, flyers & 	<ul style="list-style-type: none"> • Publicity material has been created • Chapter 2.2.3.2 	<ul style="list-style-type: none"> • 1st brochure on M1, and second trifold brochure and roll up banner before M6. • Translated trifold brochures in all the consortium

	others, in M6. Update every 6 months.		languages.
Creation of a GDPR compliant contact list	<ul style="list-style-type: none"> • Create a GDPR compliant contact list for sending dissemination related information. Target: > 200 subscribers. 	<ul style="list-style-type: none"> • Contact list from IAB members and Digital Platform subscribers has been created 	<ul style="list-style-type: none"> • More than 220
Media coverage & releasing project publications	<ul style="list-style-type: none"> • 1 newsletter • Press releases: >2 • Publications: 2-3 (articles and/or papers and/or presentations). 	<ul style="list-style-type: none"> • 1 newsletter has been released • More than 30 articles and press releases have occurred • 5 scientific publications are expected to take place the upcoming months • Chapter 2.2.3.6 • Chapter 2.2.3.7 	Ongoing.
Events and webinars	<ul style="list-style-type: none"> • Attend and/or host up to 5 relevant national networking events or webinars 	<ul style="list-style-type: none"> • National workshops • Clustering Activities • Participation in events • Chapter 2.2.3.8 • Chapter 2.2.3.9 • Chapter 2.2.3.10 	Completed.
Social Media	<ul style="list-style-type: none"> • YouTube: 500 Views • Facebook: 50 followers / 50 posts • Twitter: 100 followers / 50 tweets • LinkedIn: 50 followers 25 posts • ResearchGate: 25 followers, 100 reads 	<ul style="list-style-type: none"> • 1 YouTube video • Pages and regular activity in main social media platforms: Facebook, Twitter, LinkedIn • Chapter 2.2.3.4 • Chapter 2.2.3.5 • Table 4 	<ul style="list-style-type: none"> • YouTube: 121 Views, 28 Subscribers, 10 likes. • Facebook: 100 followers, 41 Posts. • Twitter: 28 followers, 26 tweets. • LinkedIn: 164 followers, 36 posts, 11.643 Impressions, 1249 engagement clicks. • Research gate: waiting for site's acceptance.
Video material	<ul style="list-style-type: none"> • Create 2 videos on M12 	<ul style="list-style-type: none"> • Videos uploaded on project's YouTube channel • Chapter 2.2.3.5 	<ul style="list-style-type: none"> • 1st video: 79 views • 2nd video: 20 Views
Educational programs	<ul style="list-style-type: none"> • 3PhD dissertations, 1MSc thesis, 3 Post-docs 	active	1 PhD (Neolgae), 1 Post-doc (in RISE)
Training activities	<ul style="list-style-type: none"> • 1 short term 	On track	UTH staff has trained on Tellab's

	<p>training internship to UTH – 5 key staff will be trained on PestNu DST & AOP</p> <ul style="list-style-type: none"> • 1 training seminar to students and stakeholders at UTH >100 trainees 		<p>sensor use and Moonshine system.</p>
--	---	--	---

2.2. Methodology

Communication can be distinguished in verbal, non-verbal and visual. The communication and dissemination plan of PestNu project requires the contribution of all the consortium partners, and it is tailored to fit its needs, combining all the 3 above mentioned elements of communication in order to achieve the targeted results, as they are presented in the following Chapter 2.1. The main goal of this plan is to develop a strategy which will plan and organize all the communication and dissemination activities the consortium partners will conduct, after identifying all the relevant target audiences. The dissemination plan aims at spreading the project's objectives and outcomes and achieving the project's effectiveness and sustainability.

More specifically, the main steps of the methodology of PestNu project's communication and dissemination plan are to:

- Define the exact targets and goals which should be reached using the developed strategy.
- Identify the “target personas” which constitute the target audiences and reveal their characteristics.
- Ensure the transfer of the right messages to the right personas at the optimal timing and on a regular basis.
- Develop an effective methodology of planning, monitoring and evaluating the day-to-day dissemination and communication activities.
- Select the most effective and preferable dissemination channels.
- Research and list dissemination and communication actions.
- Create and constantly enrich a dynamic international network of relevant to the project stakeholders and key players across the value chain in order to stimulate future collaboration potential.
- Design communication pathways in order to establish relationships and identify fields of possible collaboration with relevant research projects.

The above-mentioned elements of the strategy's methodology are going to be addressed in the sub-chapters 2.2.1 'Target audience', 2.2.2 'Visual identity' and 2.2.3 'Development of the appropriate communication and dissemination tools' of this document.

2.2.1. Target audience

PestNu project’s consortium partners are going to establish professional relationships and contacts with a wide spectrum of stakeholder groups in order to achieve engagement in a two-way exchange, from a very initial stage of the project. The key principle of this dissemination and communication strategy is to distribute the project and its results and achievements within groups of stakeholders which are interested in these topics and share the same objectives.

The most relevant communities which have been identified and to whom the dissemination and communication strategy has been tailored, are presented below.

- **The academic and research community.** Academic and research institutions, agronomists, physicists & engineers, microbiologists, toxicologists, environmental scientists, other relevant researchers MSc’s and PhDs constitute this group
- **Farmers and their agents,** such as hydroponics and aquaponic owners, farm owners and workers, unions, farmers’ associations, farm advisors and consultants, etc (special focus on young professionals of each sector)
- **Food distributors and processors,** such as food wholesalers and retailers, transport companies, food industry, etc.
- **Industries and Small Medium Enterprises (SMEs),** related to the sectors of fertilisers, biopesticides, ICT application developers, Agro and Environmental business services etc.
- **EU and national health and environmental protection agencies,** involved in policies and regulations definition and enforcement, control, etc
- **Non-Governmental Organizations (NGOs),** such as pesticide action groups, organic farming groups, fish welfare groups, consumer’s associations and others
- **Other relevant EU (co-funded) projects and initiatives,** namely other Horizon projects, LIFE, INTERREG, PRIMA, FEDER regional, etc
- **European Commission:** Directorates of agriculture/environment/health
- **Major EU and international associations/clusters/networks and platforms** such as EIP-AGRI, REA, EFSA, PAN Europe, CBE-JU and all those addressing hot topics covered in PestNu (organic food, aquaponics, digital farming tools, food safety, etc)
- **Regulatory and standardization bodies,** such as those focused on digital agricultural tools, organic farming, circular economy, wastewater
- **Public authorities,** such as ministries (environment, food, agriculture), municipalities etc.
- **General public,** namely consumers and their associations or citizens interested in food production pathways, including those who have tried to produce by their own some agricultural products (in both rural and urban areas)

On the following Table 2, the targeted audiences are presented along with the communication pathway which are going to be used in order to approach each target audience and achieve the dissemination of the project results to each of these groups.

Table 2 Communication pathway per PestNu target audience

Target audience	Communication pathway
The academic and research community	<ul style="list-style-type: none"> • Scientific publications

	<ul style="list-style-type: none"> • International conferences • National workshops • Forums • Presentation of posters • Training and educational activities • Public deliverables • Newsletters • Digital Media (social media, digital platform) • Mailing/Meeting
Farmers and their agents	<ul style="list-style-type: none"> • Training activities • Leaflets, brochures, and other communication materials • Newsletters • Workshops • Exhibitions • Traditional media (tv and radio references, public relations, press publications on newspapers, magazines etc.) • Digital media (social media, digital platform) • Mailing/Meeting
Food distributors and processors	<ul style="list-style-type: none"> • Training activities • Leaflets, brochures, and other communication materials • Newsletters • Workshops • Exhibitions • Traditional media (tv and radio references, public relations, press publications on newspapers, magazines etc.) • Digital media (social media, digital platform) • Mailing/Meeting
Industries and SMEs	<ul style="list-style-type: none"> • International fairs and exhibitions • Leaflets, brochures, and other communication materials • Newsletters • Workshops • Digital media (social media, digital platform) • Mailing/Meeting
EU and national health and environmental protection agencies	<ul style="list-style-type: none"> • White papers • Scientific publications and posters • International conferences • Public deliverables • Newsletters • Mailing/Meeting
NGOs	<ul style="list-style-type: none"> • Leaflets, brochures, and other

	<ul style="list-style-type: none"> communication materials • Newsletters • Workshops • Digital media (social media, digital platform) • Mailing/Meeting
Other relevant EU co-funded projects and initiatives	<ul style="list-style-type: none"> • EU Conferences/workshops/events • Scientific publications • Clustering activities • Digital Media (social media, digital platform) • Mailing/Meeting
European Commission	<ul style="list-style-type: none"> • White papers • Scientific publications and posters • International conferences • Public deliverables
Major EU and international associations/clusters/networks and platforms	<ul style="list-style-type: none"> • Scientific publications and posters • International conferences • Public deliverables • Newsletters • Mailing/Meeting
Regulatory and standardization bodies	<ul style="list-style-type: none"> • White papers • Scientific publications and posters • International conferences • Workshops • Public deliverables • Mailing/Meeting
General public	<ul style="list-style-type: none"> • Leaflets, brochures, and other communication materials • Open access non-scientific articles • Newsletters • Exhibitions • National workshops • Traditional media (tv and radio references, public relations, press publications on newspapers, magazines etc.) • Digital media (social media, digital platform) • Mailing/Meeting

2.2.2. Key messages

The main objective of a dissemination and communication plan is the effective transmission of the major results of the project, using clear, simple and comprehensive messages, through the most straight forward and efficient communication pathways. To this end, it will be ensured that the final targeted audiences will be approached properly, receive and assimilate the preferred messages integral and on time.

The efficiency of the key messages relies mainly on the clarity and the comprehensiveness of the messages, as well as on the correctness and the concreteness, in order the recipient to understand in an easy and concise way the main idea of the transferred content. The key messages of PestNu project have been developed in order to represent the project's main objectives and to be in line with the project's main impacts.

The key communication messages will be flexible and continuously updated as the project progresses and if it is required, so as to achieve the maximization of their effectiveness. On Table 3 below, the key communication messages for each one of the targeted audiences are presented. As the project evolves and the key communication messages will evolve respectively, upgraded and more enriched versions of this table will be included on the upcoming versions of D6.1, which will be submitted by STRATA on M24 and M36 of the project's duration.

Table 3 Key communication messages per PestNu target audience

Target audience	Key communication messages
The academic and research community	<ul style="list-style-type: none"> • Innovative technologies development, regarding the upscaling of an AI robotic trap • AI models for Botrytis detection • AI models for insect detection (e.g., white flies, black aphids) • Novel AOP and DST practices development • AI models for insect attack detection
Farmers and their agents	<ul style="list-style-type: none"> • New tools and user-friendly digital platform for decision support • New business opportunities • Effective reduction of pesticides and fertilisers use • New markets penetration (organic food markets)
Food distributors and processors	<ul style="list-style-type: none"> • Affordable food for all • New business opportunities • New markets penetrationn (organic food market)
Industries and SMEs	<ul style="list-style-type: none"> • New business opportunities • New markets penetration or development
EU and national health and environmental protection agencies	<ul style="list-style-type: none"> • Organic food promotion • Nutrients loss reduction using nutrient circularity systems • Effective reduction of pesticides and fertilisers use • Creation of an ecotox pesticide catalogue based on PestNu crops • Lower resources usage (90% less water, 70% less power consumption)
NGOs	<ul style="list-style-type: none"> • Reduction of nutrients losses using nutrient circularity systems

	<ul style="list-style-type: none"> • effective reduction of pesticides and fertilisers use • Creation of an ecotox pesticide catalogue based on PestNu crops • Lower resource usage
Other relevant EU co-funded projects and initiatives	<ul style="list-style-type: none"> • Knowledge transfer • Face common challenges and obstacles • Resource sharing
European Commission	<ul style="list-style-type: none"> • Promotion of the Green Deal, Farm to fork EU strategy, New CAP, Organic Action Plan, Soil Strategy • Support the EU targets regarding the reduction of fertilisers and pesticides use and promotion of Circular Economy • Promotion of knowledge and innovation transfer and uptake
Major EU and international associations/clusters/networks and platforms	<ul style="list-style-type: none"> • New technologies' introduction and upscaling of existing ones • Circular economy promotion • Reduced pesticide and fertiliser use
Regulatory and standardization bodies	<ul style="list-style-type: none"> • Establishment of new protocols, standards, foster policies and guidelines
General public	<ul style="list-style-type: none"> • Affordable food for all • Healthy, safe, organic food • Reduced pesticide and fertiliser use • Positive environmental impact • Enhanced management of human resources • Decrease in organic food price

2.2.3. Development of the appropriate dissemination and communication tools

Dissemination and communication tools and activities of PestNu project are tailored to reach the various target groups identified on chapter 2.2.1 of this report effectively and efficiently. The dissemination activities foreseen throughout PestNu project's duration and after its lifespan are briefly described below:

2.2.3.1. Visual identity

The visual identity of PestNu project has been developed at an early stage of the project and its main aim has been to create an appealing and eye-catching set of communication assets, such as the project's logo, colors, fonts and basic templates, which constitute its wider branding building, along all the internal and external communication activities. In particular PestNu's logo was designed in such a way to represent the philosophy and content of the project, promoting sustainability, green growth and environmental protection, which are the goals of the project. The chosen colors of the PestNu's logo are defined in order to represent the color shades of healthy nature (The exact Pantones, on the RGB basis are the following: Light Green: 160.199.0, Dark Green: 39.172.136, Blue: 39.172.194). The robust plants in the logo represent the vision for healthy crops and environment promoting sustainable agriculture.

The lines included in PestNu's logo represent the healthy soil and water supported by smart ICT technologies. The visual identity of the project will support the awareness gain procedure, as it works as the main mean of recognition, and rememberability of the project. A screenshot of the project's logo can be found below, on [Figure 1](#).



Figure 1 PestNu project's logo.

2.2.3.2. Communication toolbox

The communication toolbox is comprised of all the communication materials of PestNu project which will be used for dissemination and communication purposes. Numerous printed and digital communication materials, such as brochures, leaflets and roll up banners and templates will be developed during the project's lifetime which will present the project's overview, the project's objectives, and its results. The first communication material has been designed by STRATA supported by CERTH at M1 (October 2021) of PestNu project's lifespan and it has been a one-pager brochure. This one-pager includes the project's main information (regarding the financials and the duration), the project's overview, its main impact elements, the partners and contact information. The colors and the images used, were selected in order to relate the visual representation with the project's concept. A screenshot of the first version of the project's brochure can be found below on Figure 2.



Green Deal Horizon 2020 LC-GD-6-1-2020

Type of Action: Innovation Action Project Consortium: 20 Partners
 Project Budget: 7.438.050,100 € Project Duration: 36 Months
 Start Date: 01/10/2021 End Date: 31/09/2024

PestNu - "Field -testing and demonstration of Digital and Space based technologies with Agro-ecological and Organic practices in systemic innovation"

The Concept.

PestNu brings under systemic innovation novel Digital and Space-based Technologies (DST) combined with Agro-ecological and Organic practices (AOP) already at TRL5, which will be further deployed, upscaled, field-tested and demonstrated to TRL7, in novel circular economy food production systems, such as aquaponics and circular horticulture systems as closed/semi-closed hydroponic greenhouses, and in open-field vegetable cultivation, under different conditions, soils and crops (tomato, cucumber, pepper).

The Impact.

- 🌿 Reduction of pesticides and fertilisers use to **50%** by 2030 - with DST & AOP
- 🌿 Reduction of overall pesticides use and loss of nutrients **100%** (full organic) - using circular nutrient management systems combined with precision farming
- 🌿 Food yield improvement **> 30%**
- 🌿 **> 150** IAB members along Farm to Fork
- 🌿 Reduction of production costs by at least **30%**
- 🌿 Deliver healthy, nutritious, safe and affordable **food for all**
- 🌿 **> 20%** decrease in organic food price
- 🌿 New ecotox pesticide catalog - enrichment Okotox - Index
- 🌿 End User acceptance and satisfaction of DST and AOP **> 80%**
- 🌿 Communication **> 5.000** potential stakeholders

The Partners.

9 European Countries


Connect With Us.

www.pestnu.eu [PestNu](#) [@PestNu](#)
riapechl@iti.gr

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101037128.

Figure 2 The first version of PestNu project's brochure

Before M6 of the project, new versions of the project's brochure have been designed, along with a matching roll up banner by TRILATERAL supported by STRATA. The upgraded brochure is a trifold and contains more detailed information regarding the project's technologies and topics of interest as well as its objectives and impact elements. More specifically, the trifold brochure's three outer pages present the PestNu project's description, the contact details along with the website's QR code, the funding information, and a list of all the consortium partners. The inner pages provide more detailed information; the first page describes the 9 main goals targeted by the PestNu project. The second inner page provides comprehensive information regarding the project's concept and the third inner page presents the eleven novel PestNu technologies. The texts are accompanied by attractive images, related to PestNu project. The outer and inner page of PestNu project's brochure are presented below, on Figures 3 and 4.



Figure 3 The outer pages of PestNu project's trifold brochure

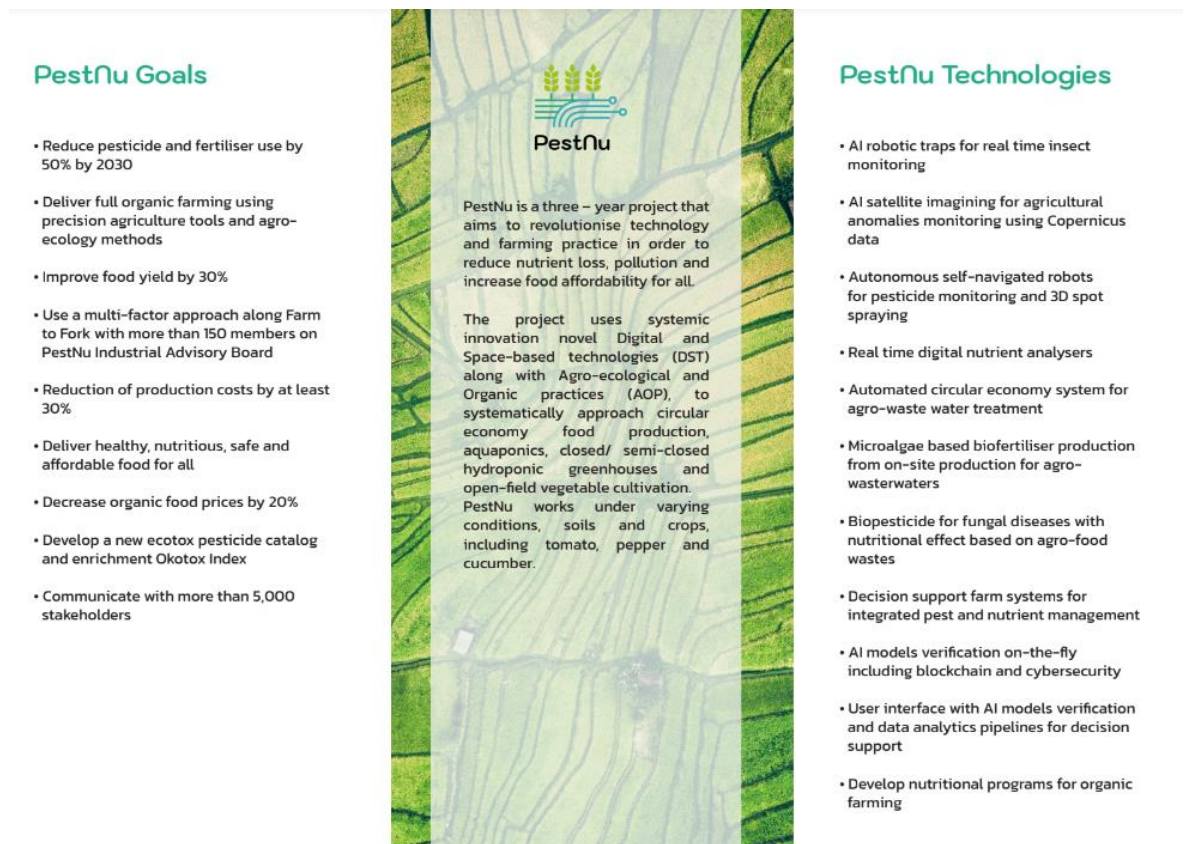


Figure 4 The inner pages of PestNu project's trifold brochure



Figure 5 The roll up banner of PestNu project.

PestNu project’s roll up banner has been designed following the principals of the trifold brochure. In terms of dimensions, its height is 210 centimeters and its width reaches the 85 centimeters. In a vertical direction, the roll up banner introduces the project’s concept and its main innovative technologies. At the bottom of the banner, the contact details, the partners and the funding details are presented. A screenshot of PestNu project’s roll up banner is presented, on Figure 5.

The basic templates have been developed by CERTH at an early stage of the project, contributing to the branding of it, offering a visually aligned presentation of the deliverables and the presentations, developed by the consortium partners. The colors and the fonts of the basic templates are following the visual identity’s principals. The basic templates are used as communication materials in public

deliverables and presentations, achieving the maximum dissemination of the project and its results. Screenshots of PestNu’s file templates can be found on Figure 6 & Figure 7.



Figure 6 PestNu project deliverable template



Figure 7 PestNu project presentation template

2.2.3.3. Digital platform

A project website where all the project’s information and news are published, has been launched on M3 of the project, following all the visual identity principles of PestNu project. The website had been initially developed on “drupal” open-source content management system and then transferred to “wordpress”

and can be reached via the link: <https://pestnu.eu/>. The website is going to be transformed into a digital platform offering agro advisory and business services as well as coaching through online courses. The website consists of six (6) tabs which provide information regarding the project and its fundamental objectives, goals and mission, the partners, the news and events organized and the contact details. Additionally, there is a repository where the public deliverables can be found under “Resources” and a tab titled as “Services” where all the services which are offered by the digital platform can be reached. Furthermore, there is a separated tab which redirects the user to the project’s newsletters’ page and also motivates him to subscribe to the project’s contact list. The information provided in the website are presented in an easy language, mainly nonscientific and completely understandable from the scientific community and from the general public. Attractive images and infographics are placed in critical locations of the website in order to ensure the information assimilation by the visitor. The website is set up in the English language. More detailed analysis of PestNu project’s digital platform has already been conducted in the context of D6.2 “PestNu digital platform” which has been submitted by CERTH, on M6 of the project.

On M9, the website was upgraded from Drupal to WordPress CMS (Content Management System), with the aim of improving the capabilities and functions of PestNu’s digital platform. The theme that is used is the “Sydney Theme”. All the website’s pages are fully responsive, and the navigation is easy to follow.

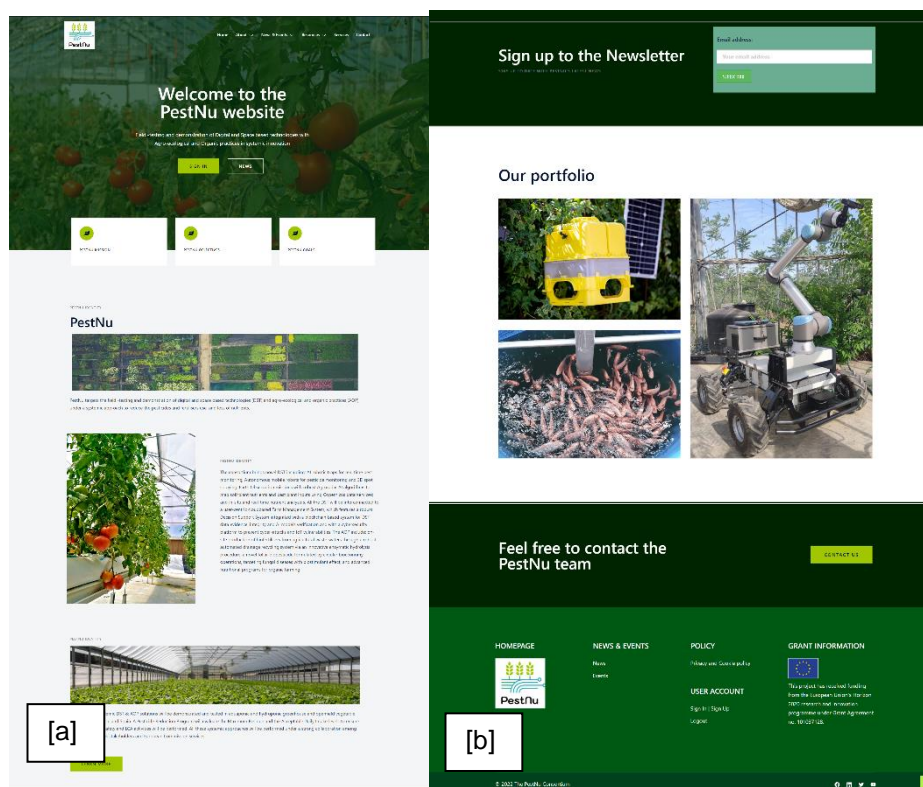


Figure 8a & 8b PestNu project's website.

Moreover, the website was enriched with the function of users’ registration. Up to M12 the registered users have overcome the number of 81.

Register

Username

First Name

Last Name

E-mail Address

Password

Confirm Password

Occupation

Figure 9: Registration Form

2.2.3.4. Social Media

Social media is considered as a very powerful communication tool in terms of mass public reaching, providing access to a wide spectrum of audiences, in low or no costs, very fast and efficiently. Social media provide many benefits to the strategists, such as the direct communication with their audiences, high levels of engagement, strict targeting opportunities, and helpful tools for feedback.

Social media pages on the platforms 'Facebook', "LinkedIn", "Twitter" and "YouTube" and have been created for PestNu project, in order to achieve increase on its awareness and also engagement with the targeted audiences and the general public. PestNu project's social media pages are getting updated regularly and this procedure will continue throughout the whole project's duration, presenting the project and its important news and progress. The social media accounts are widely advertised, through the network of the consortium partners, the project's website and its communication materials, and are intended to be of interest to potential end-users and to other interested audiences, without revealing sensitive information. The links of PestNu social media pages are the following:

Facebook: <https://www.facebook.com/PestNu>

LinkedIn: <https://www.linkedin.com/company/76532558/>

Twitter: https://twitter.com/PestNu_

YouTube: <https://www.youtube.com/channel/UCozgVwGAL4WXhP54EdXMmPw>

The social media pages of PestNu project have managed to reach the following metrics, presented on table 4:

Table 4 PestNu Social Media analytics.

	Facebook	LinkedIn	Twitter	YouTube
Followers/Subscribers	100	164	29	28
Number of Posts	41	36	26	2
Total Impressions	8.211	11.643	1.057	(Views) 121
Engagement Clicks	1.193	1.249	53	n/a

The graphics which are used during the procedure of the social media content creation, follow the principals of the project's visual identity.

2.2.3.5. Project videos

Videos combine all the elements of an effective communication strategy, as they include both verbal, nonverbal and visual communication elements. Promotional videos regarding the project, its news and its progress are planned to be developed by the consortium partners supported by STRATA throughout the whole project's lifespan. More specifically, two (2) videos are going to be produced during each one of the first two years of the project, and four (4) videos will be developed during the last year of the project. The plan is the videos to present their content through attractive animations and the information provided to be presented in an easily understandable language.

One video has been already produced on M1, presenting PestNu project, the challenges it is trying to tackle and the innovations it is introducing. The video is filmed by the EU services, presented by the project's coordinator and provides real visual content from the project's pilot sites and laboratories. The second video, published on M12 of the project, has been developed by CERTH and presents a sequence of photos of the first clustering workshop which took place in Thessaloniki, Greece, organized by CERTH. Both videos have been disseminated through the project's digital channels (website and social media).

The project videos can be found on the following links:

<https://www.youtube.com/watch?v=UCHupDmmvRw>

<https://www.youtube.com/watch?v=1xIP0ELBmIU>

On figure 10, a screenshot of the project's first video can be found.



Figure 10 Screenshot of Pestnu's first video on YouTube

2.2.3.6. Newsletters, press releases and nonscientific publications

Newsletters, press releases and nonscientific publications are publications which mainly aim to reach individuals who do not belong to the scientific community, which is, nevertheless not excluded. This kind of publications are written in simple, nonscientific language and no special or complex terms are used.

Newsletters aim in disseminating the latest project results, as they derive from the consortium's work progress, regularly and in an effective way. The initial plan is to publish one (1) newsletter until M12 of the project, and two (2) newsletters per each of the following years of the project's duration. The newsletters will consist of comprehensive information deriving from the technical project partners, graphics, pictures and infographics in order to ensure the material's visual attractiveness. The colors and the template will follow PestNu project's visual identity principals. It is important to mention that the information released via the newsletters will be verified multiple times in order to ensure that no sensitive or confidential information is released and all information, including text, graphics and schematics, is accurate.

The first newsletter of PestNu project has been developed by STRATA in September 2022, and includes and presents the most significant outcomes of the first 12 months of work, always respecting the confidentiality and relevant intellectual property rights. The first newsletter consists of four pages and follows the rules of the project's visual identity principals. The newsletter is estimated to be distributed to more than 400 relevant to the project stakeholders by e-mails and also disseminated to the general public through the project's digital channels (website and social media platforms). On the following Figures 11, 12, 13 & 14, screenshots of the pages of the newsletter are presented.



PestNu - The Concept.

PestNu targets the field-testing and demonstration of digital and space based technologies (DST) and agro-ecological and organic practices (AOP) under a systemic approach to reduce the pesticides and fertilizers use, and loss of nutrients. The consortium brings novel DST including: AI robotic traps for real time pest monitoring; Autonomous mobile robots for pesticide monitoring and 3D spot spraying; Earth Observation missions with robust Agri radar AI algorithms to map soil/plant nutrients and pest plant inputs using Copernicus data/services; and in-situ and real-time nutrient analysers. All the DST will be interconnected to a robust DSS integrated with a blockchain based system for DST data evidence, integrity, and AI models verification and with a cybersecurity platform to prevent cyber-attacks and IoT vulnerabilities. The AOP include: on-site production of biofertilisers from agricultural waste-waters through a robust automated drainage recycling system via an innovative enzymatic hydrolysis procedure; a novel foliar biopesticide formulated by circular bioeconomy operations, targeting fungal diseases with biostimulant effect; and advanced nutritional programs for organic farming. The showcase systemic DST & AOP solutions will be demonstrated and tested in aquaponic and hydroponic greenhouse and open-field vegetable cultivation in Greece and Spain. A Pesticide Reduction Program will evaluate the Maximum Residue and the Acceptable Daily Intake levels to ensure vegetable's food safety and LCA activities will be performed. All these systemic approaches will be performed under a strong collaboration among all the Farm to Fork stakeholders and European Commission services.

PestNu - The Mission.

PestNu aims to achieve the Farm to Fork strategy targets for the 50% reduction on the dependence on hazardous and chemical pesticides by 2030; and 50% reduction of the losses of nutrients from fertilisers, towards zero pollution of water, soil and air and ultimately fertiliser use by 2030 by revolutionizing novel, digital and space-based technologies (DST) with agro-ecological and organic practices (AOP) in a systemic approach. This systemic innovation approach can be applied in novel circular economy food production, such as aquaponics, as well as in hydroponic greenhouses and open-field vegetable cultivation.

You can learn more about PestNu project here.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101037128.

Figure 11 The first page of PestNu' s newsletter.



PestNu Updates

Experiments in the Greenhouse

During the 1st year of the PestNu project, University of Thessaly (UTH) conducted two experiments in the aquaponic greenhouse facility to test the effectiveness of two different biostimulants, provided by FERTINAGRO BIOTECH SL, on the growth and nutrient use efficiency of lettuce and tomato crop. These biostimulants were sprayed on plant leaves about once a month while being tested on plants fertilized with three different fertigation practices (hydroponic, aquaponic, and nutrient solution derived from aquaponics in which nutrients were dissolved). The use of both products yielded higher fresh and dry matter production compared to plants fertilized with a standard hydroponic nutrient solution. Both biostimulants resulted in higher Ca²⁺ leaf content in the aquaponic plants, a nutrient-poor treatment, proving that the use of such formulations could help increase this element in lettuce leaf tissue

In addition, several yellow sticky traps provided by Agrobotica Srl were placed inside the hydroponic greenhouse of the UTH facilities where tomato plants were grown. Using a



camera prototype also provided by Agrobotica, more than 200 photos were collected depicting greenhouse insects (black aphids and whiteflies) trapped in these traps. These images were then sent to CERTH to train the AI model for pest recognition. CERTH developed state-of-the-art deep learning object detectors (YOLOv3, YOLOv5, RetinaNet, Faster R-CNN, Mask R-CNN) to detect black aphids and whiteflies; YOLOv5 achieved the highest mean average precision of 0.75 with 3.3 ms inference.

Experiments in the Pilot sites (CDTA)

This first year of the project, CDTA has made a test of the brand-new bio fertilisers and bio stimulants on crops of tomato and pepper during the spring and summer period. As expected, the harvest of the fruits has been done successfully. In addition, CDTA has also tested a new app controlled by a satellite in which accurately located photos taken by different devices in order to build an archive of the different activities that have been done in the facilities. A few dissemination activities have also been carried out, like visits from schools and some companies interested in the project.

With the application of Fertinagro nutritional programs we have constated that it is possible to obtain quality fruits from crops such as tomato, by a completely organic approach by reducing the fertilization units used on the field and accomplishing the new legislations on the use of fertilisers in the (Mar Menor region. Fertinagro approach included organic biofertilisers and technological biostimulant solutions that were selected according to the crops needs and the nutritional and biological soil status. In addition, preventive treatments to avoid fungal diseases were applied, including a new biopesticide that is being developed under PESTNU project and, at least on that cropping season, no fungal affectations were observed.



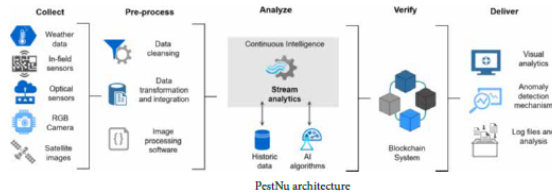
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101037128.

Figure 12 The second page of PestNu' s newsletter.

1st Newsletter
September 2022

PestNu Updates

PestNu's first publication by SIDROCO!
During the first 12 months of the project SIDROCO Holdings Ltd researched the latest technological advances in farm management and based on these findings the first draft of the PestNu architecture was designed by CERTH, supported by SIDROCO Holdings Ltd. Additionally, potential incentives for the engagement of the end-users to the smart farming practices was explored supported through the development of a data knowledge open hub on topics related to smart farming was developed (<https://openhub.smartroot.eu/>).



CERTH's first publication

CERTH will present in 5th IEEE International Conference on Image Processing, Applications and Systems (IPAS 2022), 5-7 December 2022, Genova, Italy, a recent work relevant to WP2 outcomes, titled as "White Flies and Black Aphids Detection in Field Vegetable Crops using Deep Learning". The manuscript of this work is already accepted as scientific article, and it is expected to be published in IEEE Xplore scientific journal within 2023.

What about microalgae?

Microalgae can be cultured in a wide diversity of different wastewaters. They have the ability to remove pollutants of concern, while transforming them into added-value compounds. Accordingly, the Neoalgae team used their expertise in terms of microalgae biotechnology to grow these microorganisms in aquaponics wastewater, harnessing this residue as culture medium. Moreover, the obtained microalgal cells were then processed through an optimised bio catalysis procedure to break their walls and obtain an innovative bio stimulant formulation. On this basis, Neoalgae team was able to turn an aqueous residue into a novel compound that can be used to fertilize aquaponic crops, making a pioneer approach into circular economy.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101037126.

Figure 13 The third page of PestNu's newsletter

1st Newsletter
September 2022

PestNu Updates

What is a container doing in the yard of University of Thessaly?

Microalgae can be cultured in a wide diversity of different wastewaters. They have the ability to remove pollutants of concern, while transforming them into added-value compounds. Accordingly, the Neoalgae team used their expertise in terms of microalgae biotechnology to grow these microorganisms in aquaponics wastewater, harnessing this residue as culture medium. Moreover, the obtained microalgal cells were then processed through an optimised bio catalysis procedure to break their walls and obtain an innovative bio stimulant formulation. On this basis, Neoalgae team was able to turn an aqueous residue into a novel compound that can be used to fertilize aquaponic crops, making a pioneer approach into circular economy.



PestNu workshops

The partners of PestNu project have organized 4 national workshops in the first year of its duration, aiming at disseminating the project, promoting synergies and policies initiatives. Totally 132 stakeholders from 65 different organizations have been engaged with PestNu project within the context of these national workshops. In addition to the above, 1 clustering workshop with PestNu sister projects has been organized by CERTH in July 2022 in Thessaloniki, Greece. More than 60 stakeholders, coming from a wide spectrum of sectors, participated in this clustering workshop.

What's next?

PestNu consortium partners are going to meet again in person, in Évora, Portugal on the 5th and 6th of October, in order to conduct the 12months meeting of the project.

Stay informed about PestNu!
Establish your relationship with PestNu project by following it on the digital channels!

Connect With Us.

- www.pestnu.eu
- [in PestNu](#)
- [@PestNu](#)
- riapechl@ti.gr

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101037126.

Figure 14 The fourth page of PestNu' s newsletter.

Additionally, to the newsletters, all the partners are responsible for publishing the project's news and results in the form of press releases, on their own platforms, such as their organization's or personal social media platforms or websites, and on national and international communication channels, such as newspapers, traditional and online magazines. Furthermore, consortium partners proceed to press media publications, such as magazine publications. The press releases and other non scientific publications, except for the project's newsletter, which have been published by the consortium partners, are presented in detail, in the following bullet points.

- Article on SEVT Newsletter, October 2021: Project presentation and SEVT's tasks brief description on the monthly newsletter of SEVT. The newsletter has been disseminated online, free of charge, to SEVT's members and contact list, mainly coming from the food industry. This audience counts 600 participants. A screenshot of the relevant page on SEVT's newsletter can be found on figure 15.

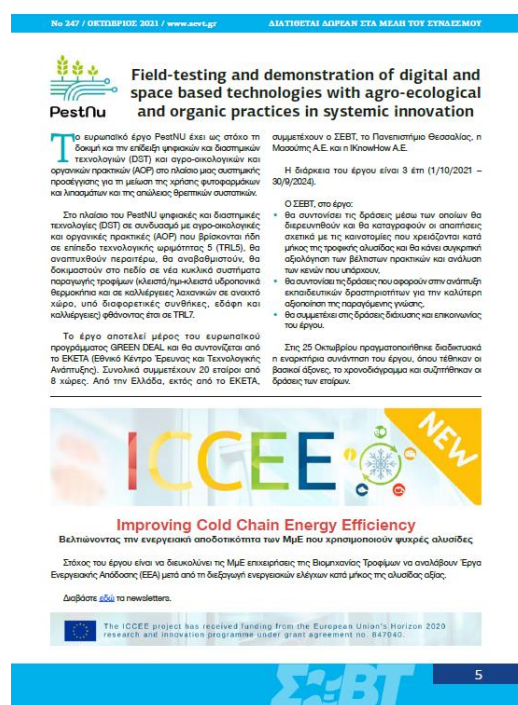


Figure 15 SEVT's newsletter in October 2021.

- Press Release on STRATAGEM's website, October 2021: Press release regarding the project's Kick-off meeting. A brief explanation of the project, the consortium and the meeting has been presented. The press release can be found [here](#).
- Press release from UTH, on agr.uth.gr, in October 2021. UTH published a press release on the website of the University of Thessaly, School of Agronomists regarding the kick of meeting of PestNu project and the university's participation and role in it.
- Article on SEVT Newsletter, November 2021. The newsletter presented PestNu project's first brochure, and it has been disseminated online, free of charge, to SEVT's members and contact list, mainly coming from the food industry. This audience counts 600 participants. A screenshot of the relevant page on SEVT's newsletter can be found on figure 16.

- Article on SEVT Newsletter, March 2022: SEVT’s monthly newsletter presented again the overview of PestNu project and also mentioned the organization and the final success of the project’s first physical meeting at Genova, Italy. The newsletter has been disseminated online, free of charge, to SEVT’s members and contact list, mainly coming from the food industry. This audience counts 600 participants. A screenshot of the relevant page of SEVT’s newsletter is presented on Figure 17 below.



Figure 17 Screenshot of SEVT's newsletter in March 2022.

- Article by UTH, on newspaper.gr, April 2022. University of Thessaly published an article introducing PestNu project to the general public, on the news website “newspaper.gr” and it can be found on this [link](#).
- Article on SEVT Newsletter, April 2022: SEVT’s monthly newsletter presented the participation of PestNu project, represented by SEVT at Alimentaria conference. The newsletter has been disseminated online, free of charge, to SEVT’s members and contact list, mainly coming from the food industry. This audience counts 600 participants. On Figure 18, there is a screenshot of the relevant page of SEVT’s newsletter.

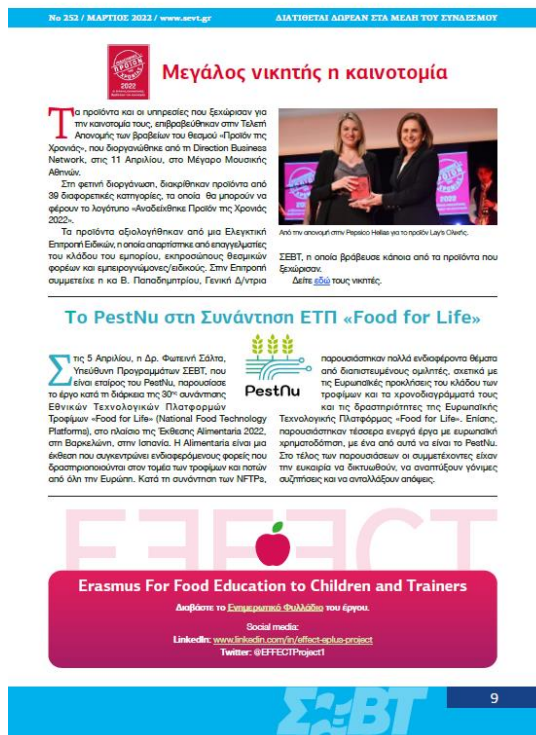


Figure 18 Screenshot of SEVT's newsletter in April 2022.

- Article from UTH, on gegonota.news, on April 2022. The article titled as “PestNu: Greenhouse production of vegetables, from the University of Thessaly” has been published free of charge, at the news website gegonota.news, aiming in disseminating the project’s overview to the general public. The article can be found [here](#).
- Article on AGRITERRA.pt, June 2022: The article promotes the project’s Portuguese national workshop in April and it can be found [here](#).
- Article on AGRITERRA.pt, April & June 2022: The two relevant articles advertise the project’s questionnaires in order to achieve expansion of the sample. The articles can be found by clicking on the following links: [link1](#) and [link2](#).
- Article on apemeta.pt, June 2022: APEMETA has added on its website an [article](#) which advertise the project's questionnaires in order to achieve expansion of the sample.
- Article on apemeta.pt, June 2022: APEMETA has added on its website an article which promotes the Spanish national workshop. The relevant article can be found [here](#).
- Press release on apemeta.pt, June 2022: APEMETA has published on its website a [press release](#) regarding the organization of the Portuguese national workshop.
- Article on smartwasteportugal.com and ovibega.pt, on April 2022, which advertise the Portuguese national workshop.
- Two articles on rederural.gov.pt, on June 2022. Rederural.gov.pt motivated by APEMETA, advertised the questionnaires of PestNu project as well as the clustering workshop which took place in Greece. The articles can be found respectively, online here: [article 1](#) and [article 2](#).
- Article on agroportal.pt, on June, 2022. Agroportal.pt motivated by APEMETA, advertised the questionnaires of PestNu project and the relevant article can be found by clicking [here](#).
- Article on AGRITERRA.pt, June 2022: The article promotes the project’s Portuguese national workshop in April, organized by the Portuguese partners and the clustering workshop in Greece in July, organized by CERTH and it can be found [here](#).

- Article on Voz do Campo magazine, June 2022: Voz do Campo is a physical magazine where Apemeta’s article, titled as “PestNu: Digitalization and agro-ecological practices in the promotion of plants and soil health” presented PestNu project. The paid magazine printed and distributed 10.000 copies and also published the article on its digital version online. Voz do Campo’s audience is constituted mainly by practitioners from the agriculture sector.
- Five articles on agroportal.pt, in March, May and June 2022. The website agroportal.pt presented three articles regarding the Portuguese national workshop which took place in April, 2022 and one article promoting the clustering workshop in Greece, in July 2022. One additional article aimed in diffusing the project’s questionnaires. This portal’s audience mainly comes from the agricultural sector of Portugal. The articles can be found on the following links: [article 1](#), [article 2](#), [article 3](#), [article 4](#), [article 5](#).
- Article on ‘Magnisia’ newspaper, in June 2022. PestNu project and the University of Thessaly have been featured in ‘Magnisia” newspaper, within the context of its special edition titled as “PERIVALLON”. The article presented PestNu project and the main role of UTH in it, as well as parts of an interview of prof. N. Katsoulas from UTH. Photos from UTH’s greenhouse also presented in this article. ‘Magnisia’ newspaper is being distributed in the wider area of Magnesia, Greece.
- Article on SEVT Newsletter, June 2022: PestNu project, its brief overview and its basic goals have been presented on SEVT’s newsletter. Furthermore, the project’s questionnaires have been advertised through this newsletter. The audience has been approximately 600 members of SEVT. A screenshot of the relevant page of SEVT’s newsletter is presented on Figure 19 below.



Figure 19 Screenshot of SEVT's newsletter in June 2022.

- Article by CDTA, on ‘La opinion’ newspaper, in June 2022. CDTA motivated the publication (free of charge) of an article, on the physical newspaper ‘La opinion’, titled as ‘El sistema PestNu

busca la optimización y sostenibilidad en el cultivo' , which presents the project's overview. It also worked as an advertisement of the first Spanish national workshop, in Murcia.

- Article by CDTA, on 'La Verdad' newspaper, in June 2022. CDTA motivated the publication of a free of charge article which presented the national Spanish workshop, on the physical newspaper 'La Verdad'.
- Article on GLOBAL2000's website, July 2022. GLOBAL2000 has published a presentation of PestNu project and its main goals, on its website www.global2000.at.

PestNu consortium partners are dedicated in disseminating the project and its results in a constant and efficient way. To this end, the dissemination manager, supported by CERTH and the rest of the consortium partners have developed a list of media means which they are going to utilize in order to diffuse the first-year results of the project. These means represent digital and traditional media of written communication, such as newspapers, magazines, online portals, online news websites, associations' websites, and others. The list of these media means can be found on Table 5. It must be clear that this list is indicative and not obligatory as other communication carriers can be added or removed, in order to reach a maximized impact of the overall communication and dissemination.

Table 5 Media means which are going to be utilized for dissemination purposes.

Name	Country	Traditional - Digital	Type of audience
Ταχυδρόμος	Greece	Traditional Newspaper	Public audience – Locals
Θεσσαλία	Greece	Traditional Newspaper	Public audience - locals
Ampienteportugal.pt	Portugal	Website	People and professionals working in and with environmental issues
Agriterra.pt	Portugal	Website	Agriculture practitioners
Alimentar.pt	Portugal	Website	Food industry practitioners
BBC	UK	Traditional Newspaper & Website	General Public
BBC Future	UK	Website	General Public
The Guardian	UK	Traditional Newspaper & Website	General Public
Business Green	UK	Website	Business Community
Carbon Brief	UK	Website & Portal	Scientific Community
Bloomberg	UK	Website	General Public
Thomas Reuters	UK	Traditional Newspaper & Website	General Public
Climate Brief	UK	Website & Portal	Scientific Community & General public
Propsect Magazine	UK	Traditional magazine	
New Scientist	UK	Website	Scientific Community & General public
Renewable Energy Magazine	UK	Magazine	Scientific Community & General public
Science Focus	UK	Website	Scientific Community & General public
Sky News	UK	Traditional Newspaper & Website	General Public

The Science Factory	UK	Website & Portal	Scientific Community
Pancyriot farmers association	CY	Website	General public and farmers.
The partners websites			

All the nonscientific publications, published during the first 12 months of the project's duration are submitted also on ANNEX 1.

2.2.3.7. Publications in scientific journals

Scientific publications consist of papers on scientific journals, which target the scientific community and are written in a more sophisticated language, including technical terms and definitions.

The technical partners of PestNu project are responsible for releasing, under the assistance of the dissemination manager, scientific publications related to the project's fields of research. The scientific articles are going to be published in accredited journals and scientific publications, or in conferences, exclusively in an open access format. According to the plan, two (2) scientific publications have to be submitted until M12 of the project, three (3) more during the second year of it and five (5) more, during the third year of the project's lifespan.

One scientific publication has already been published on M9 of PestNu project. The publication is titled as 'Integration of Information and Communication Technologies in Agriculture for Farm Management and Knowledge Exchange', and has been developed by SIDROCO. The publication has been published in the 11th International Conference on Modern Circuits and Systems Technologies (MOCASST), and has been presented as a poster.

The abstract of the publication is the following: 'The demographic growth of the last centuries has been followed by a demand for higher productivity of agriculture activities and an increase in the quality of farming products. Modern consumers seek quality by selecting foods containing high concentrations of healthy nutrients (e.g., antioxidants, vitamins, minerals) while also valuing eco-friendly practices and sustainable consumption. In line with the modern social needs, integrating Information Communication Technologies (ICT) solutions could assist in different levels of the agriculture lifecycle, such as crop monitoring, animal production, food safety, and farm management. Two aspects that are often neglected from many ICT solutions are the compilation of different data sources into the proposed software architecture and the facilitation of knowledge exchange between domain experts. In order to fill the gap of knowledge accumulation in this paper we take into consideration the PestNu architecture, as defined in section V that illustrates the different steps that are required for a complete data analysis life cycle into the development and deployment of the OpenHub platform. The OpenHub aims to cover the knowledge hub between experts with different backgrounds and promote the best practices from different users with hands-on experience.' The full article can be found following this hyperlink: <https://ieeexplore.ieee.org/document/9837534>.

CERTH will present in 5th IEEE International Conference on Image Processing, Applications and Systems (IPAS 2022), 5-7 December 2022, Genova, Italy, a recent work relevant to WP2 outcomes, titled as 'White Flies and Black Aphids Detection in Field Vegetable Crops using Deep Learning'. The manuscript of this work is already accepted as scientific article, and it is expected to be published in IEEE Xplore scientific journal within 2023.

2.2.3.8. National workshops

Each national partners' cluster (7 in total) will execute one national workshop per year. These workshops' intention is to engage the national stakeholders coming from a wide spectrum of backgrounds, such as: academics, industry, citizens of the farms, associations, other EU funded projects, investors, local authorities, policy makers and others. To this end, PestNu workshops will attempt to bring all these groups together under the umbrella of the project, in order to investigate possible paths of collaboration, not only commercially but also in terms of knowledge exchange, knowledge development and regulations promotion. These workshops consist of two thematic units, and each thematic unit is comprised of two parts; the first part includes the presentations and the lectures, and the second part includes round table discussions.

In terms of organization assistance, STRATA has prepared and conducted relevant internal workshops with each national cluster, presenting the essential steps of the organization of an effective workshop. A screenshot of this presentation can be found on Figure 20. Also, a task list which has been prepared and distributed to the consortium partners can be found on Figure 21. This task list works as a manual so as the workshop organizers will be able to keep the tasks implementation in order and in accordance with the required timeframes for each task.



Figure 20 Screenshot of the internal workshops: "How to organize an effective national workshop"

Step No	Task	Time Period	Done (Yes / No)
1	Set the WD	4 months before the WD	
2	Create a Cost Estimation (Refreshments, light snacks, Promotional Material, etc)	4 months before the WD	
3	Finalize the WS Title according to the TU (I or II)	4 months before the WD	
4	Target the ideal Speakers and invite	3 months before the WD	
5	Set the Initial Agenda	2 months before the WD	
6	Book a conference room (facilities of Lol Members if someone cannot use its own facilities)	2 months before the WD	
7	Create a Registration Form (on Google Forms or other similar platform)	2 months before the WD	
8	Target the ideal Participants and invite	2 months before the WD	
9	Arrange catering for coffee and light snacks	1 month before the WD	
10	Reminder of the invitation to the participants	1 month before the WD	
11	Print and produce all the promotional material (Roll up banners, leaflets)	1 month before the WD	
12	Receive the presentations of all speakers. Make sure they are aligned with the topic agreed	1 week before the WD	
13	Arrange the exact agenda: Certain timeframes of each speech. Communicate to speakers	1 week before the WD	
14	Reminder of the invitation to the participants	1 week before the WD	
15	Communicate with all the participants (phone call) already registered to confirm their participation	4 working days before the WD	
16	Attendands list signed by all the participants	During the WS	
17	Send the evaluation questionnaire to all the participants	2 days after the WD	

Figure 21 Screenshot of the " National workshops organization task list"

A template for reporting and quantification of the workshops results has been developed by STRATA, supported by CERTH, in order to keep record of them, their effectiveness and correspondence. The template will lead to a comprehensive report. A screenshot of this template can be found below on Figure 22. On Table 6 there are presented the main results of the national workshops which have already conducted.

Country	Title	Date	Hours	No participants	Categories of participants	No of organizations	Organizations	Sectors	Lol Members	Networking level	Speakers	Speakers Background	Speeches abstract	Publications before the workshop	Publications after the workshop	Outcomes which generated impact	The main elements of the round table discussions

Figure 22 Screenshot of national workshops reporting template

Table 6 PestNu national workshops reporting per national cluster

No	Country	WS Title	Categories of participants	No. of participants	No. of organizations	Pre WS publications	Post WS publications
1	Portugal	Digitalization and Agro-ecologic Practices for promoting plants and soil health - the contribution of PestNu technologies for	<ul style="list-style-type: none"> Investors Researchers Employees of public institutions Farmers Freelancers Business 	67	36	10	2

		agriculture transition towards sustainability	Managers • Policy makers				
2	Spain	Sustainable agriculture based on precision technologies and agro ecological practices – Innovations of the PestNu project	• Biofertilizer and biostimulant companies • Consumer groups • The federation of agricultural cooperatives • Farmers • Municipal and regional authorities	32	5		
3	UK	Ethics and Innovation in New Agriculture	• Researchers & Academics • NGOs • Solutions providers	17	8	1	1
4	Sweden	Precision tools for horticulture	• Researcher • Advisors • Technology developers • Producer organisations • Primary production / farmers • Academia • Authorities • Start-up incubator	29	16	2	1

2.2.3.8.1. The Portuguese Workshop

PestNu consortium partners APEMETA and AgroInsider organized and hosted the first Portuguese national Workshop, on the 22nd of April, 2022.

The workshop's title has been 'Digitalization and Agro-ecologic Practices for promoting plants and soil health - the contribution of PestNu technologies for agriculture transition towards sustainability', and it took place in Beja, Alentejo, in south Portugal, in synergy with a reputable agriculture fair, Ovibeja, which was organized at the same area and time, for the 38th time in a row. The topic of this wider event has been relevant to the project, as its title was "How to feed the planet?". The workshop has been hybrid, as the participants joined both physically and digitally. The event totally attracted 67 professionals from 36 organizations, representing a wide spectrum of sectors and backgrounds, such as: investors, researchers, employees of public institutions, farmers, freelancers, business managers and policy makers. The oral physical presentations have been broadcasted to the distant participants via ZOOM. Additionally, a useful platform for debating and contributing into the workshop has been provided by the wider event (Ovibeja) and has been used by the organizers in order to successfully transform the

workshop into a more interactive one. On Figures 23, 24 & 25 there are presented three photos taken during the workshop.



Figure 23 The first national PestNu workshop in Portugal.



Figure 24 Snapshot of the Portuguese National Workshop.



Figure 25 Presentation at the Portuguese National Workshop.

The workshop's main aim and focus has been the public presentation of the project's scope, approach, goals and impacts. Additionally, some PestNu innovations, namely Agroradar (by AgroInsider), and biopesticides and nutrition programs for organic farming (by Fertinagro Biotech) got presented in detail, during the workshop. On Figure 26 below, there is a screenshot of the workshop's agenda.



Digitalization and Agro-ecological practices for the promotion of soil and plants health - the contribute of PestNu Project technologies for the transition to sustainability in agriculture

9h00 - Registration and networking

10h00 - Opening Session

10h20 - The PestNu Project - goals and objectives

10h35 - The technical and regulatory framework for Innovations towards the promotion of plants and soil's health

10h55 - Financing opportunities for digitalisation for sustainable agriculture and the DIH

11h15 - Coffee break

11h30 - Round table - Everybody counts

speaker one: farmers difficulties & needs

speaker two: agri-food industry and retail role on food systems transition

speaker three: efforts addressing consumers degree of awareness & perception

12h30 - Lunch break

15h00 - The potential of D&T

Agroinsider: the importance of Earth Observation tools and variables: the AGRORADAR

Experience of using space-based technologies

Earth Observation - opportunities to agriculture

16h00 - Innovation in AOP in PestNu project (Fertinagro)

16h20 - wrap up and closure

Rita Barros Silva, APEMETA

José Rafael Marques da Silva, AgroInsider

16h45 - Coffee break

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 101037128.



apemeta
Associação Portuguesa de Produtores e
Consumidores de Agricultura Biológica

AGROINSIDER
Insights from the field

Figure 26 Screenshot of the agenda of the Portuguese national PestNu workshop.

The opening session of the workshop has been hosted by the President of APEMETA, Carlos Iglézias, and the General Director of ACOS - a farmers' association, responsible for the organization of Ovibeja.

During the morning panel, Rita Barros Silva, from APEMETA, presented PestNu Project: the innovations it introduces in the sectors of digital and space-based technologies and agro-ecological and organic practices, its objectives, its main activities and finally, its expected impacts. The technical and regulatory framework around the project has been deeply explained by the Deputy Director General for Food and Veterinary Matters (DGAV), Paula Cruz Garcia. Mrs Garcia's speech focused on the current situation of the European directives and regulations, which are transitioning to better promote integrated management, fostering and opening to innovations, relative to the sustainable use of pesticides. The following speech has been conducted by Nuno Serra, the Director of Operations at BGI and Chairman of the Board of Food4Sustainability Colab. Mr. Serra's presentation focused mainly on European Digital Innovation Hubs (DIH), in order to achieve a better understanding of the scope and competences of the Portuguese DIH for agriculture and agro-industry (which Food4Sustainability Colab is part of) and the funding opportunities for agriculture digitalization towards sustainability.

After a networking pause, the workshop continued with the conduct of a roundtable discussion, around the topic: "Everybody counts". Lots of comments and upshots derived from the discussion and the most important of them are following: Alfredo Sendim, a farmer from the Montado do Freixo do Meio, pointed out key aspects and challenges of the integrated vision of regenerative agroecology in agricultural production., when António Vasconcelos, a member of the leadership of INSURE.hub (UCP) highlighted sustainability as the driving force of introducing changes in business models of actors downstream of the farm-to-fork chain from farm to fork. Cristina Ferreira, Consultant and Trainer of the Bio area, at Lipor (an urban waste management public company), indicated the 20-year journey of this institution and its several projects in environmental education involving citizens as a key factor in the dissemination of organic farming.

After a lunch and networking break, and a visit at Ovibeja, the afternoon panel, moderated by Rafael Marques (partner and founder of AgrolInsider) followed. Patrícia Lourenço (Innovation and Project Manager at AgrolInsider) presented in greater detail Agroradar, the innovation brought by AGROINSIDER into PestNu consortium, in order to assist agricultural monitoring (of both plants and soils) and decision making. The potential of digital and space-based technologies has been further explored with the contribution of Fernando do Rosário, President of a local farmers cooperative, Cooperativa Agrícola de Beja e Brinches. Mr. Rosario, gave a testimony of the use of this type of technologies. The next speech has been conducted by Carolina Sá, who is responsible for the Earth Observation at 'Portugal Space', the Portuguese Space Agency. Ms. Sá, listed the opportunities for agriculture within the context of the agency's elaboration areas, not only in technical terms but also regarding financing. Regarding agro-ecological practices Herminia de La Varga, representative of the consortium partner Fertinagro, presented the innovations that this Spanish partner will bring into the consortium of PestNu. More specifically, Ms. Varga, presented the products that Fertinagro produces (biofertilizers and biopesticides) and the high-tech nutritional and pest management programs they have introduced, as tools for increasing production. During this last part of the workshop, various questions arised and discussions took place regarding the benefits of the application of PestNu innovations, and also regarding the challenges of their adoption, on a technical, managerial, and economic level.

2.2.3.8.2. The Spanish workshop

The first national workshop of Spain has been organized in June 23, 2022, in Murcia, Spain, by the Spanish partners Tilmur, CDTA, Neoalgae and Fertinagro. The workshop's title has been: 'SUSTAINABLE AGRICULTURE BASED ON PRECISION TECHNOLOGIES AND AGROECOLOGICAL PRACTICES. – INNOVATIONS OF THE PESTNU PROJECT'.

The event brought together representatives of biofertilizer and biostimulant commercial companies, consumer groups, the federation of agricultural cooperatives, farmers as well as municipal and regional authorities, and finally 32 unique professionals, from five organizations participated. On Figure 27 & 28, screenshots of the workshop's agenda can be found.

I Workshop PESTNU Project Murcia

Location: TCH Hotel (Lorquí)
Date: June 23, 2022
Time: 9:00 - 16:00

SUSTAINABLE AGRICULTURE BASED ON TECHNOLOGIES OF PRECISION AND AGROECOLOGICAL PRACTICES. - INNOVATIONS OF THE PESTNU PROJECT -

Agenda

09:00 Welcome and registration in the conference room Hotel TCH de Lorquí

09:30 Departure by bus to the Tilmur facilities

09:45 Arrival at the Tilmur facilities

- Presentation of the PestNu project . (Herminia de la Varga)
- Guided tour of the aquaponics and microalgae production plant (Mariano Vidal, Coordinator of Tilmur)

11:15 End of the visit and return to the Hotel

11:30 Coffee break

12:00 Opening session

- Precision agriculture in the Region of Murcia (Maria Remedios García Poveda). General Director of Agriculture, Food Industry and Agricultural Cooperatives

12:15 Opportunities and challenges to bring innovation to producers

- CDTA (Pedro Minguez)
- FECOAM Experiences and Perspectives (Pedro Sánchez)

12:45 Trends in the development of new solutions

- Fertinagro (Herminia de la Varga)
- Neoalgae (Mario Bianco)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 101027128.

Figure 27 Screenshot of the first page of the Spanish workshop's agenda.

I Workshop PESTNU Project Murcia

Location: TCH Hotel (Lorquí)
Date: June 23, 2022
Time: 9:00 - 16:00

13:30 Lunch

15:00 Round table :
 Are the conditions set to shift food systems towards sustainability?
Moderator: Mariano Vidal , Tilmur.

- Regulations and rules for organic farming. Francisco Zapater (Head of Plant Health Service of the Region of Murcia)
- Consumer demands for organic food. Isabel Muñoz (El verdicillo consumer group).
- Benefits of aquaponics. Emilio María Dolores (Head of the Murcia Region Fishing and Aquaculture Service)
- Potential market for Biopesticides and Biostimulants. Andres Mondéjar. Managing partner of Agrochemicals Mondéjar S.L.

16:00 Feedback and closing

Spanish project partners:

Participants:

Participation in this workshop is free, prior online registration through this link: <https://forms.gle/8F8hZQWf6uCL3C9>. Participants must wait for confirmation of registration (an email from Tilmur). The number of participants accepted may be conditioned by the conditions of the space and the need to comply with hygiene and safety regulations. This event will take place at the TCH hotel in Lorquí and at the Tilmur facilities and is part of the PestNu Project, an H2020 project that aims to test and demonstrate digital and spatial technologies in the open field and under greenhouse with Agroecological and Organic practices in systemic innovation.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 101027128.

Figure 28 Screenshot of the second page of the Spanish workshop's agenda.

The Spanish workshop initiated its activities, at Tilmur facilities. The first speech of the representative of Fertinagro, Ms. Herminia de la Varga has been concentrated in presenting PestNu project and its main objectives and innovations to the participants, A guided tour to the facilities of Tilmur followed, where the attendees met the opportunity to be informed regarding the aquaponics production, as well as the microalgae cultivation plant. On Figure 29, there is a snapshot of this guided tour, by Tilmur representative, Mariano Vidal.



Figure 29 Snapshot of the guided tour at Tilmur facilities.

Right after the tour, the participants of the workshop were transferred to the hotel where the rest of the Workshop took place. There, the opening session of this part of the workshop has been held by the Director of the Murcian Institute for Agricultural and Environmental Research and Development (IMIDA) Mr. Víctor Roberto Serrano Conesa, who gave a presentation regarding the importance of the digital space technology (DST) applied to agriculture in the Region of Murcia. According to Mr. Conesa, IMIDA is testing this technology in order to transfer it to the farmers, as the need to optimize water consumption and efficiency in phytosanitary treatments is very crucial. As a final part of his speech, Mr. Conesa was asked, by Tilmur' s representative and moderator of the workshop, Mr. Mariano Vidal, to answer some questions, related to the objectives of the PestNu project, covering the following topics:

- Possible barriers to the adoption of PestNu technologies by farmers.
- National and regional strategies to structured plans for the adoption of smart and organic agriculture.
- The level of awareness of consumers, regarding sustainable food production systems (using less pesticides, inorganic fertilizers while preserving soil health).

On the following Figure 30, there is a snapshot of Mr. Conesa speech during the Spanish workshop.



Figure 30 Snapshot of Mr. Conesa presentation during the Spanish workshop.

The presentation that followed has been conducted by the representative of another PestNu partner, CDTA. Mr. Pedro Mínguez, director of the organization, presented the range of CDTA's activities, which all aim in bringing innovation closer to the producers. Mr. Mínguez also pointed out existing problems in the cultivation areas that they face, as well as new challenges they meet. On Figure 31 below, there is a snapshot of Mr. Mínguez presentation during the Spanish workshop.



Figure 31 Snapshot of Mr. Mínguez, presenting at the Spanish workshop.

The following presentation has been conducted by the representative of the Murcian Federation of Agricultural Cooperatives FECOAM, who is responsible for the topics of training and funded projects,

Mr. Pedro Sánchez-Séiquer. Mr. Seiguer's presentation focused on the role of the federation of cooperatives in the Region of Murcia and how they contribute to the dissemination and adoption of innovative technologies, such as those promoted by the PestNu project. During his speech, Mr. Seigues highlighted the main areas of assistance, that FECOAM provides to the local farmers, while its activities mainly target in represent, inform, advice, train and promote them.

The last presentations of the first part of the workshop were conducted by the representatives of the consortium partners Fertinagro and Neoalgae. Ms. Herminia de la Varga from Fertinagro, presented the company, and its mission to optimize the nutritional and metabolic processes of plants through new technologies that act directly on cellular mechanisms, following the new regulations: reduction of fertilizer units and more efficient inputs. Ms. Varga also explained the definition of bio stimulants, as they are recognized by the European regulations and their beneficial effects on plants. Ms. Varga decided to close her speech expressing the vision of the organization, that that combining new technologies in nutrition and biocontrol with the digitization of agriculture, Fertinagro we can be more precise and obtain better results on the crops."

Mario Blanco, the representative of Neoalgae, chose to present the role that the cultivation of microalgae as a raw material in the production of bio stimulants, used in agriculture. Neoalgae is researching a new bio stimulant production line, using wastewater as a microalgae culture medium, thus contributing to the development and optimization of inputs in a more sustainable precision agriculture that seeks to achieve the guidelines of the PestNu project.

The second part of the workshop has been comprised of roundtable discussions. The first roundtable discussion has been comprised of the Head of the Plant Health Service of the Ministry of Agriculture of the Murcian Region, Mr..Francisco Zapater, the Head of the Aquaculture and Fisheries Service ,Mr..Emilio María Dolores of the Region of Murcia, the President of the consumer group El Verdecillo and the Managing Partner of a commercial company which sells organic fertilizers and phytosanitary products, named Mondéjar Agrochemicals.

The discussion has been initiated by Mr. Francisco Zapater, who decided to talk about a public consultation that was held on the first trimester of 2021, which aimed in revealing the opinion of the European society regarding the implementation of the regulations relevant to the sustainable use of plant protection products. Mr. Zapater highlighted the following as main results of the query:

- Pesticide users are concerned that there may be fewer pesticides available on the market. There is limited financial support under the CAP for the implementation of integrated pest management.
- There is an urgent need to protect farmers' income. It is very important to promote the new technologies by the national and the regional authorities There is a need for protection of the human health and the environment; and whether the ban on aerial spraying of pesticides should be maintained.

In the light of Mr. Zapater sayings, Ms. Isabel Vidal took the opportunity to express the need of the citizens for the introduction of upgraded and more comprehensive food labels, which are more detailed and instructive.

As the workshop also concentrates in aquaponics, the following topic of the discussion has been related to aquaponics, as a mean of sustainable farming. To this end, Mr. Emilio María Dolores, the Head of Aquaculture Service of the Region of Murcia, explained he pros and cons that this food technology shows nowadays. Mr. Dolores expressed his strong belief that the possibilities of aquaponics to promote

and stimulate development in rural areas due to depopulation are high. The discussion kept on as Mr. Adres Mondejar took the opportunity to highlight the fact that in the market, even if it is about plants and food, or not, the factor of trust between the sellers and the buyers is very important, and its role during the purchasing decision is significant.

2.2.3.8.3. The Swedish workshop

The Swedish workshop, "Precision tools for horticulture" took place on Monday 26 September 2022 between 09.00 to 15.30 at SLU, the Swedish University of Agricultural Sciences, in Skara. The workshop was a hybrid meeting with participants both online and at the University. The event was held mainly in Swedish, but several of the presentations were held in English by PestNu partners from Portugal, Ireland and Italy. On the following Figures 32 and 33, there are screenshots of the workshop's agenda.

GRÖNA MÖTEN
AGROVÄST

Precisionsverktyg för trädgårdsodling

26 SEPTEMBER 2022 09:00 - 15:30 SMEDJAN SKARA ELLER DIGITALT SKARABORG

INTEGRERAT VÄXTSKYDD I DIN ODLING

Tekniker utvecklas och anpassas efter olika klimatförhållanden. Vi berör både växtskydd och näringsanalyser för dig som odlar i växthus, på friland eller har cirkulära odlingsystem. Ta del av demonstrationer av ny teknik inom områdena satellitbaserade metoder för att bedöma vattenstatus, autonoma system för detektion av insekter samt nya mätprinciper för flytande näringslösningar. De olika frågeställningarna diskuteras därefter i en workshop där deltagarna delas in efter intresseområden.

Evenemanget är en del av SLU Skaras Smedjeveckan och är kostnadsfritt. Vänder sig till dig som är primärproducent, rådgivare, eller teknikutvecklare. Seminariet är ett samarrangemang mellan Agroväst med Tillväxt trädgård Väst, PestNu och Gröna Möten. Vissa presentationer hålls på engelska. Har du inte möjlighet att delta fysiskt så kan du delta digitalt. Inför evenemanget sänds aktuell information till mötet ut till en e-postadress du anger i anmälan. Vid frågor kontakta madeleine.vendel@agrovast.se 0761 07 81 73. Anmäl dig enkelt via www.gronamoten.se senast 20 september. Varmt välkommen!

Samarrangörer

AGROVÄST
PestNu

Gröna Möten är en oberoende mötesplats för dig i gröna näringar.

EUROPEISKA UNIONEN
Europeiska regionala utvecklingsfonden

Anmäl på gronamoten.se

Figure 32 Swedish workshop agenda page 1.

Program

09.00 Välkommen
Registrering och kaffe.

09.45 PestNu
Information om projektet avseende mål och bakgrund.

10.00 Några av de nya teknikerna som utvecklas inom projektet

Agroinsider, Portugal - satellitbaserad tjänst där bland annat vattenstress kan detekteras.

Tellab, Irland - en produkt för att mäta näringsämnen i vatten i realtid.

RISE, Sverige - metod för att detektera bakterier och alger i vatten.

Agrorobotica, Italien - robotfälla för insekter som styrs via AI.

SLU, Sverige - Omran Alshihabi, berättar om ett projekt utanför PestNu där vattenstress detekteras med hjälp av drönare och satellitdata.

11.45 PestNu framåt

Kort genomgång av övriga aktiviteter i projektet och arbetet framåt.

12.00 Lunch med mingel

13.00 Workshop

Deltagarna delas in i grupper där olika frågeställningar diskuteras.

14.30 Sammanfattning av workshopen

14.50 Kaffe

15.30 Avslut



Figure 33 Swedish workshop agenda page 2.

The event brought together 29 persons representing 16 different organizations including various tech developers, researchers, farmers and advisors in order to gain understanding of each other's needs and barriers of new technologies.

The workshop started with a welcome and general introduction by Ida Claesson Agroväst (Figure 34), of the PestNu project, mentioning its background and goals, followed by presentations of technologies that are being adapted and implemented in PestNu.



Figure 34 Ida Claesson presenting during the Swedish workshop.

From Agroinsider, José Rafael Marques da Silva presented “Monitoring, Verifying & Reporting with smartAg from Agroinsider”. During this presentation, the use of data from satellites to remotely detect water stress on crops was discussed. Following, Meritxell Grau Butinyac from Tellab, another PestNu partner, presented “Real-Time Nitrite & Nitrate Analyser” where the participants were informed about the background, technology and steps forward for their novel instrument. Thereafter Valerio Goglia, from Agrorobotica, presented the SpyFly, the robotic trap for insects that, by combination of image analyses and artificial intelligence, can identify several problematic insects. This was followed by a presentation from RISE, where Dag Ilver presented the talk “Method for detection of bacteria and microalgae in water”. During this presentation, the use of an autonomous flow cytometer for detecting bacteria or microalgae in, or close to, real time has been discussed. In the final talk, “Water stress detection” Omran Alshihabi from SLU presented a project outside PestNu, where water-stress was detected using a combination of drone-derived and satellite data. The pre-lunch session was ended with an overview from Agroväst, describing other activities in PestNu and direction of future work.

During the lunch break there were opportunities for networking, while the flow cytometer from RISE was demonstrated in the mode for counting microalgae for physical, as well as digital participants. A screenshot of this demonstration is presented below, on Figure 35.



Figure 35 Demonstration by RISE during the lunch break of the Swedish workshop.


After lunch the workshop continued with two separate round table discussion groups. The previous presentation and demonstration of Digital and Space Based technologies in the project gave the participants a good understanding of the benefits of the technologies and a good base for the round table discussions where the innovations were discussed to detect real needs in the field, various barriers for adoption of new technology and how to increase the use of IPM and INM.

2.2.3.8.4. The UK workshop

The UK cluster workshop was held as a hybrid meeting on the 23rd of September 2022 in London, UK. The theme of the workshop was “Ethics and innovation in precision agriculture” with speakers presenting ethics and governance issues around new technologies used in precision farming, followed by a roundtable discussion held with the aim to propose solutions to some of the issues identified in the presentations. The event was organized by the PestNu project’s UK partner Trilateral Research.

The event brought together 17 participants from 8 organizations. Participants were reached out to and invited based on their expertise and involvement in the field. These participants included members of the PestNu advisory board, industry stakeholders, research peers, policy experts and other interested parties, from the sectors of agriculture, farming, aggrotech, and environment. Speakers were invited using a similar method – we approached experts who had experience with policy and governance or disseminating new technologies in the field, to include more alternative ideas from outside of the project as well as include a non-EU perspective.

The day we started with an introduction to the workshop and an overview of the agenda from Matthew Hall from Trilateral Research. Snapshots of the agenda can be found on Figures 36,37 and 38.



Ethics and Innovation in New Agriculture
 September 23, 2022 10AM – 4PM
 One Knightsbridge Green, 5th Floor, London SW1X 7QA
 Virtual meeting link: <https://meet.jit.si/098159233>
 For more information about speakers and the roundtable, visit the [Workshop Webpage](#)

TIME	PRESENTATION	SPEAKER
10:00 – 10:15	Welcome and introduction to PestNu project	Matthew Hall, Trilateral Research
10:15 – 10:45	Technology Adoption: An inside Look from Aggroinsider	José Rafael Marques da Silva, Aggroinsider
10:45 – 11:15	The ethics of AI and robotics in agriculture	Matthew Hall, Trilateral Research
11:15 – 11:45	Priority Research Questions for Digital Agriculture	Professor Julie Ingram, Countryside and Community Research Institute

11:45 pm – 12:15pm – Lunch

TIME	PRESENTATION	SPEAKER
12:15 – 12:45	Standards in Smart farming: AI, Blockchain, DLT (distributed ledger technologies) information security, cybersecurity	Irma Poder, Trilateral Research
12:45 – 13:15	LEAF and integrated Farm Management	Callum Bennet, LEAF (Linking Environment and Farming)
13:15 – 13:45	Targeted silencing of pathogen C4zyme genes as a biological control strategy	Professor Katherine Denby, University of York


13:45 – 14:00: Coffee Break

TIME	PRESENTATION	SPEAKER
14:00 – 15:30	Expert Roundtable hosted by Innovation for Agriculture and Trilateral Research	
All participants	Moderated by Matthew Hall, Senior Research Analyst, Trilateral Research and Evi Arachaviti, Head of Social and Policy, Innovation for Agriculture. This roundtable and earlier discussion will be used to develop a series of policy briefs presented to the project. Discussion questions are listed on the following page.	

15:30 – 16:00 Conclusion and Wrap Up

Please see the following pages for questions and information about the roundtable discussion.

The Near Future: A Roundtable Discussion



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101037128

Figure 36 UK's workshop agenda, page No 1.



This roundtable discussion will be centred around what challenges and obstacles there are to the adoption of new technology in agriculture and what solution could overcome some of these? The outcome of this discussion will form the basis of a white paper or research paper by the PestNu project.

Discussion will be moderated by Evi Arachoviti, Head of Social and Policy, Innovation for Agriculture and Matthew Hall, Senior Research Analyst, Trilateral Research. The roundtable will be recorded. What follows are questions to guide our discussion:


Trust and Adoption
What are the challenges of dissemination and adoption of the new technologies with farmers?
Have the financial aspects around new technologies been considered enough: funding support, financial incentives, other cost considerations?
Is there enough support/training around the uptake of the technologies?
A shift away from the traditional model of science providing solutions for practice in agriculture, towards a more collaborative approach where expertise and knowledge is co-created and co-developed, is well recognised. Multi-actor farm innovation networks are a good example here. Which are the key factors that successful innovation networks are depending upon?
Policy
What policy frameworks do we need?
What roadblocks are we facing and what are some opportunities?
It has been well described that policy making and research is often conducted without engaging farmers or understanding their current needs and circumstances: despite the fundamental part they are playing in adopting research findings and complying with policy measures. How do you think we could address this gap between farming and policy decisions that affect it?
How important is compatibility of UK regulation around these technologies with EU legislation?
Standards
What are some opportunities for "soft regulation" or are there areas of policy shortcomings that could be addressed by standards bodies?
What kinds of standards or best practice guidelines could support implementation?
Future of Precision Farming
Latest advances in technologies such as AI, IoT, and Big Data, among others, have supported the adoption of smart farming practices that emphasize the use of ICT in farm management, but they
 This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101037128

Figure 37 UK's workshop agenda, page No 2



have also led to an explosion of data availability which brings forward new challenges. Which do you think are the challenges that this new development brings?
What innovations in agriculture are on the horizon in next five years?
What investment do we need?
Affordability and accessibility in precision farming: Who has access and what needs to change?



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101037128

Figure 38 UK's workshop agenda, page No 3

This introduction was followed by a presentation from Jose Rafael from Agroinsider introducing their work as well as their role in the PestNu project and what challenges the project should address. He focused on his company's products and the feedback they often receive, as well as how they've gone about modelling and producing the product. From Rafael's perspective, to be successful, a product must have three things: firstly, it must be simple and easy to use, it must be cheap, and it must be useful – it must actually work.

The next presentation was on ethics of AI and robotics in agriculture, presented by Matthew Hall from Trilateral Research. This included an overview of the main ethical questions that are relevant to technology in agriculture: data ownership; distribution of power (from data asymmetry; licensing of products; advantage to big corporations); and impacts of life and society (hard and soft impacts like food security, jobs, demographic changes). The cross-cutting issue for adoption was found to be trust. The presentation offered potential solutions to the ethical questions raised through ethics by design, legal frameworks, reflection with end users, and responsible innovation.

The last presentation before lunch was on the subject of Priority Research Questions for Digital Agriculture presented by Professor Julie Ingram from Countryside and Community Research Institute. She presented the Agricultural Knowledge and Innovation System Framework (AKIS) and the stakeholders involved in innovating; the narratives around digitalization in agriculture; priority questions including data governance and management; from a collaboration perspective of who should be involved in creating and enabling governance; farm identities and digital divides concerned with autonomy and forgetting the existing practices.

After lunch the first presentation was on standards in precision farming presented by Irma Poder from Trilateral Research. The presentation was an introduction into the standards making process and an overview of the landscape relevant to developers of new agricultural technologies. It was established that these standards are not directly relevant to farmers themselves as they are outside their scope of work but could be relevant to developers of new tools and potential procurers of the new tools if they are expected to meet a certain quality or need assurances around interoperability.

The next presentation from Callum Bennett of Linking Environment and Farming (LEAF) on Integrated Farm Management . The presentation was on the subject of what LEAF do and the idea of integrated farm management. LEAF provide education through demonstration farms for UK youths and also enables peer-to-peer learning for farmers. The LEAF network aims to increase awareness around sustainable practices in farm management. Integrated pest and fertilizer management includes requirements for a management plan that shows an emphasis on efficiency, recording practices and good training of staff. On Figure 39, a picture of the online participants can be found.



Figure 39 The online participants of the UK workshop.

The last presentation of the day was from Professor Katherine Denby from the University of York on using double stranded RNA as an alternative pesticide. She presented the molecular biological science behind the concept as well as some of the challenges around uptake. The solution itself is still quite far from widespread uptake due to the financial burden as well as the public perception and distrust around gene editing being used in agricultural products.

Each presentation was immediately followed by a short question and answer session; however the aim of the presentations was to inform the roundtable discussion at the end of the day, led by Matthew Hall and Evi Arachoviti from Innovation for Agriculture. This roundtable discussion was structured around themes of trust and adoption, standards, policy and legal frameworks, and the future of agricultural innovation. The themes that were present throughout all the discussions were on the subject of establishing infrastructure that supports the new technologies in their different aspects as well as trust and transparency through at all levels of the innovation. Often these concerns stem from farmers fearing they may lose autonomy over their own farms and practices, as well as digital solutions furthering power imbalances between small and large scale farms. The discussion highlighted how farming is a social practice and knowledge exchange happens on the ground. This means that greater emphasis needs to be put on training and specialist support that would need to be readily available to implement the new technologies. The key points emphasized for the uptake of the new solutions were that the tool has to be cheap, useful and easy to understand.

Participants were also asked to fill out a PESTLE table at the end of the workshop with keywords relating to the different aspects that might affect uptake of PestNu technologies. For more information on the PestNu project and its developments participants were directed to the PestNu website and informed of the possibility to register to keep up to date with the project proceedings.

2.2.3.9. Participation in international fairs, conferences, workshops and exhibitions

The consortium partners plan to participate in various events, such as conferences, fairs and workshops related to PestNu project's topic, and the technologies developed within it. Despite the COVID-19 situation which caused many restrictions in travelling and physical participation on such events, PestNu project partners have managed to participate in numerous conferences and exhibitions aiming in communicating the project and its objectives, as well as disseminating its potential results and impact. A detailed list of the events that the consortium partners participated is following. Additionally, all the events are summarized on ANNEX 1.

- CERTH participated in the online conference 'Farm to Fork Conference – building sustainable food systems together', on the 14th and 15th of October 2021. PestNu project Coordinator, Dr. Ria Pechlivani from CERTH, presented the scope of the project in the European Commission's Farm to Fork Conference, the video presentation (a screenshot of it can be found on Figure 40) focused on the systemic innovation solution that PestNu delivers for the reduction of pesticide use and nutrient loss by leveraging digital and space technologies with agroecological tools.



PestNu Project Presentation by Project's Coordinator, Dr. Ria Pechlivani

Figure 40 Screenshot of PestNu coordinator Dr. Ria Pechlivani presenting the project at the Farm to Fork Conference.

- STAM participated in 'Ecomondo Expo' on 26-29 of October 2021. The exhibition, which took place in Rimini, Italy, deals with technological and industrial innovation. It is an international event with an innovative format that brings together all sectors of the circular economy on a single platform: from the recovery of materials and energy to sustainable development. Ecomondo Expo elaborates mainly in the topics of Waste and Resources, Circular bioeconomy, Reclamation and hydrogeological risk and Water. PestNu partner Stamtech, presented the project at their stand, to the participants of the Exhibition and distributed brochures. A photo of the stand of STAM at Ecomondo Expo can be found below on Figure 41.



Figure 41 STAM participation in Ecomondo Expo.

- Agroinsider participated in the event of the General Assemblies of Copernicus networks, on the 24th of November 2021 which took place online. Copernicus is the European Union's Earth observation programme, looking at the planet and its environment to benefit all European citizens. It offers information services that draw from satellite Earth Observation and in-situ (non-space) data. Agroinsider presented PestNu project and the novel technologies which are introduced within its context. All the participants of this meeting have been women. On Figure 42 below, a screenshot of Agroinsider's presentation can be found.



Figure 42 Screenshot of Agroinsider's presentation of PestNu project at the General Assemblies of Copernicus networks.

- GLOBAL2000 attended on December 09th and 10th, 2021, the EIP-AGRI free of charge workshop: 'Farm data for better performance'. The workshop has been organized by the European Commission through the Agricultural European Innovation partnership (EIP-AGRI) and took place online and about 100 people from EU funded projects, Operational groups and other researchers participated. The main objective of the workshop has been the exchange of information between EIP-AGRI Operational groups and other projects which work on digitalization on agriculture. PestNu project has been disseminated in this event as GLOBAL2000 conducted a presentation of it.



Figure 43 Anna Pollak from GLOBAL2000 presenting PestNu project.

- APEMETA attended on 6th of December 2021, a 7 hour, paid seminar titled as 'Sustainability of Environmental Compartments: Soil, Water and Air; challenges and solutions', which took place physically in Lisbon. The audience of the seminar has been comprised of private companies, universities, municipalities, and NGOs, mainly operating in the field of soil and related subjects and 40 individuals participated. PestNu project has been disseminated by sharing an overview of it, highlighting its under development technologies, and the plans for communication, dissemination and exploitation of its potential results. On Figure 44a and 44b there are two photos which present the physical and the digital presentation of APEMETA.

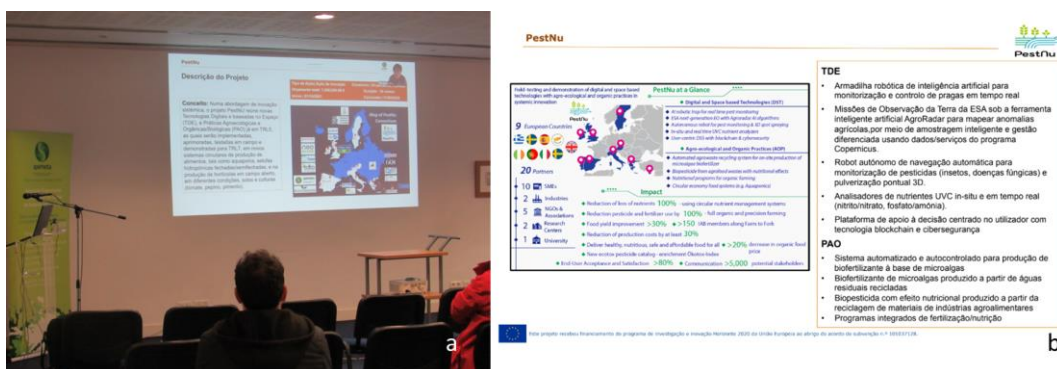


Figure 44 (a) & (b) Snapshot and screenshot of APEMETA's presentation.

- STAM has attended the conference "ReThink Circular Economic Forum", which took place in Milan, Italy in February 2022. The event was held hybrid, and 40 professionals of the topics of Environment and sustainability technologies participated physically and 100 more participated digitally.
- GLOBAL2000 participated in the free online conference titled as "Best4Soil Conference", on February, 2022. 80 people representing operational groups, researchers and farmers also participated and the main mean of dissemination of PestNu project has been the networking with operational groups and other projects which work on digitalization in agriculture.
- STAM has attended the "The circular economy stakeholder conference" on 1-2 of March 2022. The conference was held online and STAM managed to have an online Booth. Joining this Booth the participants were able to have quick discussions with the representatives of STAM,

and ask them information regarding the project. The audience size has been 150 persons coming mainly from the Academia, Industry, SMEs, NGOs and Policy Makers.

- SEVT participated in Alimentaria Exhibition, in April 2022, and presented PestNu project during the National Food Technology Platforms meeting. Alimentaria exhibition took place in Barcelona, Spain and about 25 professionals from the food sector participated in the meeting where PestNu has been presented. A photo of SEVT's participation in Alimentaria can be found on Figure 45.



Figure 45 SEVT participated in Alimentaria Exhibition.

- TELLAB has participated in a workshop titled as 'Sensors for water interest group (SWIG) workshop on nutrient monitoring', which took place in a hybrid mode, in the United Kingdom, on the 22nd of April 2022. The main topic of the workshop has been the improvement of the water catchment management using remote nitrite and nitrate analysers and attracted professionals mainly from the water industry and the environmental sector. About 30 individuals attended physically and 10 more online, and TELLAB achieved the project's dissemination mainly through networking.
- APEMETA participated in a workshop which took place in Matosinhos, Portugal, in June 2022. The workshop's title has been 'Workshop Ibérico de RM, Gestão de Resíduos e Economia Circular (Iberian Workshop on Risk Management, Waste Management and Circular Economy)', and the main objective of this participation has been the presentation of PestNu project along with APEMETA's developed activities, and also the investigation of shared initiatives and good practices regarding circular economy, among the 30 participants. '
- CERTH participated in the European scientific conference 'Towards pesticide free agriculture', which took place on June 2nd and 3rd, at Dijon, France. The main objective of the conference has been to provide science-based solutions in response to the ambitious pesticide reduction

objective laid out in the Farm to Fork strategy. PestNu coordinator Dr. Ria Pechlivani along with the representative of the Ministry of Agriculture, Rural Development and Environment of Cyprus, Mrs Margarita Hadjistyli, discussed the European GreenDeal priorities to deliver an environmentally friendly, sustainable, fair and competitive agri-food sector across the whole value chain. The conference attracted several project coordinators from European funded Farm to Fork projects, policy makers, representatives of relevant public authorities, academics and other professionals. PestNu project participated in the conference with a poster, which presented the project's main topic, objectives, and innovative technologies. PestNu attended also a special workshop for clustering activities between EU coordinators working on pesticide related projects, to identify urgent research needs to move towards Green Digital Transition in pesticide free agriculture together with EC policy officers. On Figure 46, there is a combination of snapshots of this participation.



Figure 46 CERTH's participation in 'Towards pesticide free agriculture' conference.

- SIDROCO participated in the 'International Conference on Modern Circuits and Systems Technologies (MOCASST) on Electronics and Communications' which took place on the 9th of June 2022, in Bremen, Germany. The conference attracted 100 individuals from the ICT sector, and SIDROCO presented the PestNu's DSS architecture to 15 of them, who participated in the relevant session. On figure 47 below, there is Mr. Anastasios Lytos from SIDROCO in front of the poster at MOCASST 2022.



Figure 47 Mr. Anastasios Lytos from SIDROCO at MOCAS 2022.

- GLOBAL2000, attended on June 9th, 2022, the 'Farminar; Innovation Farm days'. Approximately 50 professionals for the agro ecological sector participated online and PestNu project dissemination has been achieved through the networking procedures.
- IKH participated in 'European Robotics Forum 2022' which took place on 28-30 June, 2022 in Rotterdam, Netherlands. 850 participants from the robotic and agroecological sector participated physically and IKH disseminated PestNu project by distributing trifold flyers and presenting its business case. On Figure 48 below, there is a photo of the stand which IKH used in order to disseminate PestNu project to the exhibitors and the participants of the Forum.



Figure 48 IKH attended European Robotics Forum 2022 and disseminated PestNu project.

- TELLAB participated actively in a conference titled as 'Aquaculture Europe 2022 - Oral Presentation: MAXIMISING BIOMASS GAIN AND FEED CONVERSION EFFICIENCY IN

RECIRCULATING AQUACULTURE SYSTEMS USING A NEW REAL-TIME NITRITE AND NITRATE MONITOR' which took place in Rimini, Italy, on the 27th of September 2022. The conference attracted about 1000 professionals coming from the aquaculture and aquaponics sectors and TELLAB proceed with an extended dissemination of PestNu project, by having an oral presentation within the conference's context, presenting the project and the use of the new in situ nutrient analysers for monitoring RAS facilities. Also, TELLAB owned a stand at the site of the conference, which have been used in order to achieve further dissemination by distributing flyers and presenting the project personally, to the participants of the conference.

During the project's lifetime the consortium partners plan to participate in numerous events. The most important of them are presented on Table 6 below. It must be pointed out that the list of the events can be updated anytime, when a partner feels that an interesting and ambitious event should be added or removed for reasonable causes. The kind of these events vary, covering a wide spectrum of conferences with European and international attendees, to industry and clustering with other EU-projects events. The main aim of attending this kind of events is to disseminate the project and its results to targeted audiences and relevant stakeholders, who can be reached there. Table 7 below summarizes an indicative list of events where the partners will examine participation (based on relevance, costs and available resources) in order to present and promote the PestNu project:

Table 7 Indicative list of events participation

No	Event title	Date	Organiser	Place
1	Food Safety conference	5-6/10/2022	NewFood	London, UK
2	Farm to Fork conference 2022	TBA	EU	TBA
3	World Conference on Food Science & Technology	21/08/2023	The people events	Rome, Italy
4	Ecomondo 2022	November 2022	Italian Exhibition Group	Italy
5	Agriculture conference 2023	1-4/02/2023	Goetheanum Sector for Agriculture	Online

2.2.3.10. Events organized by the consortium partners

PestNu consortium partners present a clear concentration of targeting the maximization of its impact. To this end, they take the initiative to develop their own events, meetings and other actions, in order to achieve the optimized dissemination of the project and its results. Below, there is a detailed list of all the events or other dissemination actions the consortium partners organized for this purpose. These activities are also included in the comprehensive list of dissemination activities, which is presented on Annex 1.

2.2.3.10.1. Events and meetings with external parties

- Tilamur organized B-Blue event at its facilities, on the 21st of November 2021 and utilized the opportunity to present PestNu project to the participants. The main objectives of B-Blue event have been the in-situ presentation of successful cases of research transfer initiatives related to innovation in aquaponics and algae cultivation, as long as the encouragement of new initiatives and synergies between companies, academics and regional government authorities in the sector of Blue Biotechnology, and the promotion and dissemination of algae products with a farm to fork approach. The representative of Tilamur, Mr. Mariano Vidal presented PestNu

project to the participants of the event, which were mainly professors from the University of Murcia and the General Director of Research of the Autonomous Community of the Murcia region. The attendees have shown extensive interest in the project and discussed about the benefits that PestNu will bring to Murcia Region. There is a snapshot of the presentation on Figure 49.

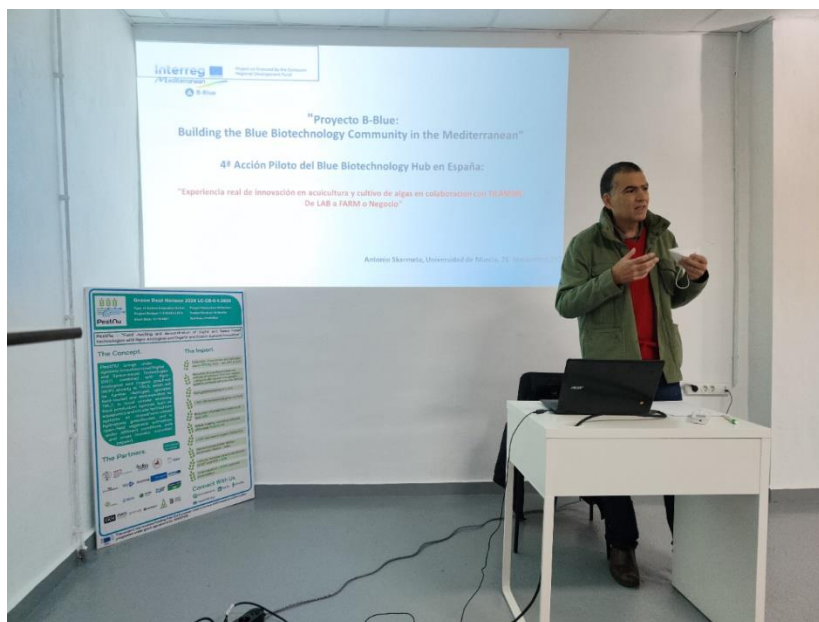


Figure 49 A snapshot of B-Blue event, in Tilamur's facilities.

- Agrovast organized a meeting with the steering Committee of Science and Innovation program Tillväxt trädgård Väst, in January, 2022, in Skara, Sweden, in order to inform them about PestNu project and investigate possibilities for synergies. Five people totally participated in the meeting representing the educational and the research sector. Also, in February 2022, Agrovast conducted another relevant meeting with the project group for Smart Agri innovation project, in order also to present PestNu project and investigate possibilities of synergies.
- Tilamur organized a meeting at its facilities in Murcia, Spain, on the 14th of February 2022, hosting the Minister of Agriculture Mr. Antonio Luengo, the General Director of Agriculture of the Murcia region, María Remedios García Poveda and the Mayor of Murcia, Lorquí Joaquín Hernández. During the visit, Mr. Mariano Vidal, the representative of Tilamur, presented an overview of the PestNu project and offered a guided tour of the Tilamur facilities, to the honorable guests. Throughout his visit at Tilamur facilities, the Minister of Agriculture, Mr. Luengo, reaffirmed his commitment and interest in projects which provide innovative technological solutions, for the development of sustainable plantations. Also, Mr. Luengo confirmed the immediate need for changes in the European regulations, in order to ensure that products from aquaponics can be classified as organic farming. In addition, the Minister expressed his intention to follow the news and the progress of PestNu project. A snapshot of the honorable visit is presented on Figure 50 below.



Figure 50 Snapshot of the meeting participants at Tilmur Facilities on 14 of February 2022.

- Tilmur hosted 63 Biotechnology students coming from the Polytechnic University of Valencia, in its facilities, on Thursday, 5th of May, 2022, in order to learn about the new technologies that PestNu project will implement in Murcia. During their visit, the students were able to see the operational system of aquaponics plantation, as well as the production of the spirulina microalgae. A snapshot of the visit is presented below, on Figure 51.



Figure 51 Snapshot of the visit of the students of the Polytechnic University of Valencia at Tilmur facilities.

- UTH organized an Open Day at its Greenhouse Park facilities, on the 23rd of May 2022, in Volos, Greece. The main objective of this open day has been to disseminate the project to the general public. The target achieved by attracting 116 individuals from the wider area of Volos. PestNu project, its novelties, its expected impacts, and its news got presented and the participants had the opportunity to have a guided tour at the university's Greenhouse Park. On Figure 52 below, there is a snapshot of the Open day and on Figure 53 there is the official poster of the event.



Figure 52 Snapshot of the Open Day guided tour at the Greenhouse Park facilities of UTH.

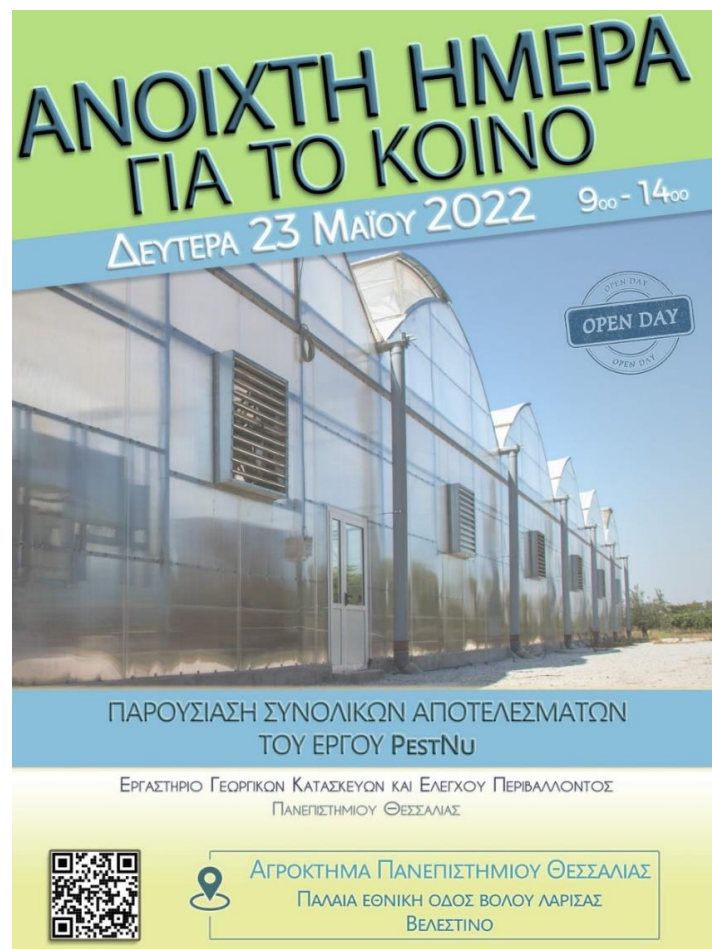


Figure 53 The official poster of UTH's Open Day.

- UTH and IKH welcomed the Prime Minister of Greece, on May 27th, 2022, at the University's Pilot Greenhouse, in Volos, Greece. The event organized, attracted, except for the Prime Minister, representatives of the local authorities, students, professors, and individuals from the general public. PestNu project has been presented and its novelties have been explained in detail. The audience reached the 100 persons, and its main objective has been to present the pilot site of the University's Greenhouse where PestNu testings take place and also to present

to accredited attendees the importance and the significance of the developed technologies and the projected results of the project. On Figure 54 & 55 below, two snapshots of this events are presented.



Figure 54 Professor N. Katsoulas from UTH is explaining to the Prime Minister of Greece the procedures taking place at the University's Greenhouse.



Figure 55 N. Frangakis from IKH, presenting to the Prime Minister of Greece the robots used at the University's Greenhouse.

The visit of the Prime Minister has been covered from the local and national TV channels, and a screenshot of the presentation of the national channel 'OMEGA' can be found on Figure 56.



Figure 56 Screenshot of the video of the Prime Minister of Greece visiting the UTH facilities, on the national TV channel OMEGA.

- SEVT organized their general assembly on June 8th, 2022, in Athens, Greece and brochures and trifold flyers of PestNu project have been distributed for internal communication purposes. The communication materials have been distributed to all the 150 participants of the general assembly. The event has been widely exposed to the local media.
- UTH organized the event titled as 'Averofio Agri-Food Technology Park of Thessaly: synergies, challenges & dynamics of agri-food', on the 30rd of June 2022, in Larissa, Greece. During the event, PestNu project got presented. The event audience has been constituted of academics, and representatives of the general public. On Figure 57 a snapshot of Prof. Katsoulas presenting PestNu project is being presented.



Figure 57 Prof. N. Katsoulas is presenting PestNu project during the event.

- CERTH organized on the 7th of July 2022 the 1st Workshop on Clustering Activities of PestNu' s Sister Projects. During the event speeches & presentations of the relevant EU research projects, discussions on strategies concerning the Green Deal objectives, as well as round tables for broadening policy context took place.

The objectives of this workshop are twofold:

- foster exchanges between the participants and identify and promote potential synergies between European projects to help meet the objective of the European Green Deal: reducing the dependence on hazardous pesticides; reducing the losses of nutrients from fertilizers, towards zero pollution of water, soil, and air and ultimately fertilizer use
- create a broader policy framework in Integrated Pest Management (IPM) and Integrated Nutrient Management (INM), in organic farming, food wastes, and in novel circular economy food production systems

The event, with a duration of 8:30 hours, brought together approximately 60 people both physically and virtually. A snapshot of the attendees who participated physically to the workshop is presented on Figure 58.



Figure 58 Snapshot of the physical attendees of CERTH's Workshop on Clustering activities.

The hybrid Workshop consisted of almost 17 project coordinators presenting more than 24 relevant projects. There is a screenshot of the workshop's agenda on Figure 59.

1 st WORKSHOP ON CLUSTERING ACTIVITIES OF PESTNU'S SISTER PROJECTS			THURSDAY 7 JULY 2022		
Time (EEST)	Presentation	Speaker (s)			
9:00 - 9:15	Welcome of Participants Green Deal objectives on Pesticides and Fertilizers	Dr. Effthimia Maria Pechlivan, CERTH			
9:15 - 9:20	Positive - H2020 (2021-2024)				
9:20 - 9:25	Actions of Health Physicochemical Institute in the frame of the European Green Deal	Dr. Ioanna Markidou, IRI			
9:25 - 9:30	Demands, Challenges and Sustainability Goals for the Fertilizer Industry	Aggel Katsoulis, SRFI Dr. Chrysokostas Fotis, SRFI			
9:30 - 9:45	The European Strategy Forum to Pesticide and the challenges for the Greek Food Industry	Dr. Fotini Sidi, SRFI			
9:45 - 9:55	For a world without toxins - 40 years of dedicated work towards a healthy environment	Elaine Zampieri, Okeanos Katharina Bink, Ginko2000			
9:55 - 10:00	Food market: policy and regulations on residues and customer behavior	Argantina Gkaltopoulou, Mammits S.A.			
10:00 - 10:15	BACCHUS - H2020 (2020-2023)	Dr. Dimitrios Glabounis, CERTH Prof. Edouard A. Ili			
10:15 - 10:25	Coopropager - H2020 (2019-2023) Oxoflytic - GR FP447K (2021-2023)	Nikos Frangoulis, IRIE			
10:25 - 10:40	TERMINET - H2020 (2020-2023) SMARTFOOT - Erasmus KA2 (2020-2023) MARKS - GR NSRF (2018-2021) HARS - GR NSRF (2018-2021) SMART - GR NSRF (2020-2023)	Prof. Nargizhan, COVM			
10:40 - 10:50	AURORA - H2020 (2021-2024)	Pavla Piri Garcia, Alantje			
10:50 - 11:00	SCORPION - H2020 (2021-2023)	Dr. Filipe Neves dos Santos, EVSETEC			
11:00 - 11:10	Coffee Break				
11:10 - 11:40	AgriWaste4 - H2020 (2019-2023)	Dimiter Popov, IRI			
11:40 - 11:50	AgroWaste - LAC Area (2018-2022)	Dr. Dimitris Lourenco, AgriWaste4 Dr. Diego Alaguir, UVAORA			
11:50 - 12:00	Lambory - H2020 (2020-2024)	Dr. Jimmy Lim, IRI Delt			
12:00 - 12:10	AGRIWASTE - H2020 (2019-2024)	Prof. Konstantinos Mattias, ATH			
12:10 - 12:20	VIRIGATION - H2020 (2021-2023)	Prof. Harif Vandenbroucke, KULLEUVEN Dr. Koen Vanvolsem, KULLEUVEN			
12:20 - 12:30	CaPi - GR NSRF Green - Economy related project (2018-2021) FoodOasis - GR NSRF (2018-2021) AgriFoodAgri - GR NSRF (2018-2021) Organic PLUS - H2020 (2019-2023)	Prof. Nikolas Katsoulis, IRI			
12:30 - 12:45	PRECDIME - PRIMA (2019-2022)	Dr. Maria Fernanda Ortolan Gallo, CSIC			
12:45 - 12:55	AGRENOVEL - LIP (2019-2022)	Dr. Polgarita Contreras, CARI			
12:55 - 13:05	WASTE4GREEN - LIFE (2019-2022)	Dr. Anacondia Carolina, ICA, CSIC			

1 st WORKSHOP ON CLUSTERING ACTIVITIES OF PESTNU'S SISTER PROJECTS			THURSDAY 7 JULY 2022		
Time (EEST)	Presentation	Speaker (s)			
13:05 - 13:15	NOVATERA - H2020 (2020-2024)	Dr. Felicidad de Hozabal, IRTA			
13:15 - 13:25	AgroCircular - H2020 (2020-2024)	Luigi Marinato, CINEC			
13:25 - 14:15	Launch Break				
14:15 - 15:45	Round Tables (RT) on strategies to reduce pesticides & fertilisers use and loss of nutrients				
			RT1: Agriculture 4.0 (regarding the introduction of pesticide fertilizers)	RT2: Pesticide-free agriculture & Organic Farming	RT3: Food Wastes
			PEST, BACCHUS, AURORA, Coopropager, Oxoflytic, TERMINET, SMARTFOOT, MARKS, BACCHUS, Lambory, AgroWaste4, AGRIWASTE, SCORPION, AgriWaste4, PRECDIME	PEST, Organic PLUS, CaPi, FoodOasis, NovGlam, AgriFoodAgri, VIRIGATION, AGRENOVEL, NOVATERA, SRFI, IRI	AgroCircular, WASTE4GREEN, Food Waste Project, PEST, FoodWaste, PEST, SETTER, CheStress, NovGlam
15:45 - 16:30	Action plan creation based on clustering activities				
16:30 - 16:45	Conclusions - Sum Up				
16:45 - 17:30	Guided tour of CERTH facilities				
17:30	End of event				

Figure 59 Screenshot of the agenda of CERTH's Workshop on Clustering activities.

Dissemination and promotion of PestNu Project were made to the entire audience as well as clustering activities. Further potential collaborations for the 2nd year of the project, were discussed. Within the context of the project's dissemination, on Figure 60 below, there is a snapshot of the presentation of PestNu project during the workshop and on Figure 61 there is a snapshot of the round table discussions which took place.



Figure 60 Presentation of PestNu project during CERTH's Workshop on Clustering activities.



Figure 61 Round tables during CERTH's Workshop on Clustering activities.

- SEVT organized on the 7th of July 2022, a national innovative agrifood competition titled as 'ECOTROPHELIA', in Athens, Greece. During the event, which was held physically, the representatives of SEVT distributed flyers of PestNu project to all the 200 participants, for dissemination purposes.
- CDTA hosted during May and June, a wide spectrum of visits, coming from different sectors and presented PestNu project and CDTA's evolvement. The visitors have been representatives of the business sector (the fertiliser producers 'Abomin' and the fruit producers 'Frutas Esparza'), local stakeholders, agricultural associations, and also schools from the near areas.

2.2.3.10.2. Technical meetings among the consortium partners

- Technical meeting in Volos (02/11/2021). Dr. Ria Pechlivani, Project Coordinator of the PestNu Project and the robotics team of IKNOWHOW SA visited the University of Thessaly (UTH) Greenhouse Park at Velestino, Volos, Greece. The Technical Meeting at UTH facilities took place on the 1st and 2nd day of November 2021. Professor Nikos Katsoulas from UTH, leader of the pre-pilot activities in Greece, demonstrated the existing novel circular economy food production systems, such as aquaponics and circular horticulture systems as closed/semi-closed hydroponic greenhouses, where the novel systemic innovation, novel DSTs combined with AOPs will be tested and optimized. The main topic of the technical meeting was the determination of the greenhouse's specifications and the identification of restriction parameters. Based on the greenhouse's characteristics decisions on the construction of the robot were made. The topics discussed included:
 - The robots platform design. for operation both indoor and outdoor, identifying many restrictions in the case of greenhouse requirements.
 - The navigation of the robots will be achieved by a suitable system of wheels both on rails inside the greenhouse and on the ground outside the greenhouse.
 - Some of the components to be integrated on the robot were the LIDAR system, an RGB Camera, a hyperspectral camera.
 - Time management and scheduling also took place, in order to meet any approaching deadlines.

Following, on Figures 62, 63 & 64, snapshots of the partners' meeting and visit at the greenhouse are presented.



Figure 62 Snapshot of the partners' technical meeting at UTH facilities.



Figure 63 Snapshot of the partners visit at UTH's greenhouse facilities.



Figure 64 Snapshot of Dr. Ria Pechlivani, coordinator of PestNu project and Prof. Nikos Katsoulas at the greenhouse facilities of UTH.

- Technical meeting in Crete (02/11/2022). On the 25th of February 2022 (M5), members from CERTH's and IKH's team visited QCELL's facilities in Chania, Crete, Greece to define the specifications needed for the customized camera that will be designed and assembled with required components for efficient botrytis inspection via PestNu Autonomous self-navigating robot for pesticide monitoring. QCELL's subcontracting team based on the requirements and needs of the specific application, demonstrated an on self-camera for botrytis detection in infested plants and afterwards propose the specific modifications needed to be performed.
- Technical meetings in Athens (29/06/2022). On the 29th of June 2022 (M9) PestNu project's Coordinator and her team visited IKH's facilities in Athens, Greece to discuss the design and assembly of Pestnu's Autonomous self-navigating robot for pesticide monitoring and 3D spot spraying. In this technical meeting decisions were made on the Robot's design platform and the navigation system.

The topics discussed included:

- The materials to be used in each component.
- Inspection of OMNI steering system.
- The final position of the integrated sensors.
- Finalization of the design and the specify the final dimensions of all elements of the robot.
- The MS camera tender.

On Figure 65, a snapshot of the meeting of CERTH and IKH team is presented.



Figure 65 CERTH and IKH teams during their meeting in Athens, Greece.

The same day, CERTH team visited SEVT's facilities in Athens to discuss about the design of the first regional Workshop in Greece. In the framework of this meeting the results and the outcomes of PestNu questionnaires, under the framework of T1.1 were analysed. Also, discussions regarding their contribution to the DST and AOP technical deployment took place.

Finally, CERTH visited PestNu project's IAB member Benaki Phytopathological Institute (BPI), located in Athens. The main topic of the technical meeting has been the involvement of BPI in Botrytis detection using the Robot's hyperspectral camera. More specifically, under the framework of WP2-T2.3, BPI will assist in botrytis detection via the creation of image datasets. By infecting healthy plants with botrytis in lab and controlled conditions, an annotated dataset of different stages of the fungi and response symptoms in plant stems, leaves, and crop, are planned to be created, to collect images essential for AI training.

2.2.4. Assessing the effectiveness of the dissemination and communication strategy

Numerous important indicators have been identified in order to assess the effectiveness of PestNu project's dissemination and communication strategy. The use of these indicators feeds the dissemination and communication strategists with significant feedback and empowers their ability to determine if the strategy is progressing as planned or if it needs update and reconstruction.

- **Digital channels statistics:** The statistics provided by Google Analytics will reveal the website's traffic and engagement level with the visitors. The Social media statistics are able to proof the reach of each posted piece of content, the engagement of the visitors (the number of people who viewed, liked, shared, commented and reposted each post and the total number of followers).
- **Dissemination materials:** This indicator counts the number of brochures, leaflets, posters, banners etc. which have been printed and distributed to stakeholders in various events.
- **Dissemination activities:** This measure records the exact number of dissemination activities which have been conducted by the consortium partners. It consists of press releases, newsletters, articles, scientific publications, participation in conferences/ fairs/ exhibitions etc. In order to keep track and always be up to date regarding this metric, the dissemination manager of PestNu has developed a file, on the project's shared files repository, titled as "communication and dissemination data entry file". This file is open for editing by all the consortium partners, and the direction is to add every conducted or planned dissemination activity.

3. Conclusions

PestNu project's Communication and Dissemination activities conducted by M12, have been presented in detail in this report, including its progress and achievements, as well as the communication and dissemination strategy for the following year. It has to be pointed out that this report is a living document, which is constantly updated through an ongoing process, as the project progresses.

4. ANNEX 1

On the following Table 8, there are listed all the communication and dissemination activities which have been conducted by the consortium partners, grouped by the type of each activity. The types are the following:

- PRESS RELEASE / NEWSPAPER ARTICLE
- NON SCIENTIFIC AND NON PEER REVIEWED PUBLICATION
- JOURNAL PUBLICATION
- TRAINING
- SOCIAL MEDIA
- WEBSITE
- EXHIBITION
- PARTICIPATION TO A CONFERENCE
- ABSTRACT TO A CONFERENCE
- PARTICIPATION TO A WORKSHOP
- PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP
- PITCH EVENT
- OTHER

There are 6 columns on the table. The second is the increasing numbering of the activities, when the third presents the partner involved in each activity. The date when each activity was held is appeared on the fourth column of the table, when the fifth column refers only to Journals and includes the relevant names and affiliations.

Table 8 ANNEX TABLE Communication and Dissemination activities.

<i>TYPE</i>	<i>No</i>	<i>Partner involved</i>	<i>Date</i>	<i>Title</i>	<i>Names & Affiliations (For Journals)</i>
ABSTRACT TO A CONFERENCE	1	TELLAB	Sept-22	Aquaculture Europe 2022	

EXHIBITION	2	STAMTECH	26-29/10/21	<i>ECOMONDO Expo</i>	
OTHER	3	APEMETA	Jun-22	<i>PestNu questionnaire for citizens - participate</i>	
OTHER	4	STAMTECH	Jun-22	Brokerage event on the framework of the CBE JU info day	
OTHER	5	FERTINAGRO	Oct-21	Live radio participation	Radio La Comarca
PARTICIPATION TO A CONFERENCE	6	CERTH	Oct-21	<i>Farm to Fork Conference – Building Sustainable food systems together</i>	
PARTICIPATION TO A CONFERENCE	7	TELLAB	Sep-22	Aquaculture Europe 2022 - Oral Presentation: MAXIMISING BIOMASS GAIN AND FEED CONVERSION EFFICIENCY IN RECIRCULATING AQUACULTURE SYSTEMS USING A NEW REAL-TIME NITRITE AND NITRATE MONITOR. We will also have an exhibitor stand and will disseminate information about the PestNu project	
PARTICIPATION TO A CONFERENCE	8	SEVT	Jul-22	Project brochure promoted/distributed at the ECOTROPHELIA National Competition organized by SEVT	
PARTICIPATION TO A CONFERENCE	9	APEMETA	Jun-22	<i>Workshop Ibérico de RM, Gestão de Resíduos e Economia Circular (Iberian Workshop on Risk Management, Waste Management and Circular Economy)</i>	
PARTICIPATION TO A CONFERENCE	10	SIDROCO	Jun-22	International Conference on Modern Circuits and Systems Technologies (MOCAST) on Electronics and Communications	

PARTICIPATION TO A CONFERENCE	11	SEVT	Jun-22	Project brochure promoted/distributed at the General Assembly of SEVT
PARTICIPATION TO A CONFERENCE	12	TELLAB	Apr-22	<i>Sensors for Water Interest Group (SWIG) workshop on Nutrient monitoring - UK</i>
PARTICIPATION TO A CONFERENCE	13	STAMTECH	Mar-22	<i>The Circular Economy Stakeholder Conference</i>
PARTICIPATION TO A CONFERENCE	14	GLOBAL	Feb-22	Best4Soil Conference
PARTICIPATION TO A CONFERENCE	15	STAMTECH	Feb-22	<i>ReThink Circular Economic Forum</i>
PARTICIPATION TO A WORKSHOP	16	APEMETA	Dec-21	<i>Sustainability of Environmental Compartments: Soil, Water and Air Challenges and Solutions</i>
PARTICIPATION TO A WORKSHOP	17	GLOBAL	Dec-21	EIP-AGRI workshop Farm data for better farm performance
PARTICIPATION TO A WORKSHOP	18	GLOBAL	Oct-22	1st National Workshop Austrian Cluster
PARTICIPATION TO A WORKSHOP	19	GLOBAL	Sep-22	Dilag - Digitalisation in Crop production
PARTICIPATION TO A WORKSHOP	20	GLOBAL	Sep-22	Dilag- Digitalisation in Agriculture
PARTICIPATION TO A WORKSHOP	21	UTH	Jul-22	<u>1st #Workshop on clustering activities of PestNu Sister projects</u>
PARTICIPATION TO A WORKSHOP	22	GLOBAL	Jul-22	<u>1st #Workshop on clustering activities of PestNu Sister projects</u>
PARTICIPATION TO A WORKSHOP	23	CDTA	Jun-22	Participation in the 1st PestNu Spanish workshop
PARTICIPATION TO A WORKSHOP	24	FERTINAGRO	Jun-22	Participation in the 1st PestNu Spanish workshop
PARTICIPATION TO A WORKSHOP	25	GLOBAL	Jun-22	Innovation Farm Days -Farminar
PARTICIPATION TO A WORKSHOP	26	SEVT	Apr-22	<i>Project presented by SEVT during National Food technology platforms mtng in</i>

				<i>the context o ALIMENTARIA Exhibition</i>	
PARTICIPATION TO A WORKSHOP	27	FERTINAGRO	Apr-22	Participation in the 1st PestNu Portugal workshop	
PARTICIPATION TO A WORKSHOP	28	SEVT	Mar-22	<i>Project presented during digital event organized by SEVT on EU Green Deal and its consequences to the Greek Food Industry</i>	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	29	UTH	Nov-21	The PestNu Technical Meeting at UTH facilities	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	30	AGROVAST	Jan-22	<i>Meeting with the steering Committee of Sience and Innovation program Tillväxt trädgård Väst</i>	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	31	AGROVAST	Feb-22	<i>Meeting with the project group for Smart Agri innovation project</i>	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	32	AGROVAST	Feb-22	<i>Skills development meet for growers</i>	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	33	UTH	May-22	Open Day	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	34	CDTA	May-22	Visit from fertiliser producer Abomin	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	35	UTH, IKH	May-22	Visit of the Prime Minister of Greece to the Pilot Greenhouse Park of the University of Thessaly	
PARTICIPATION TO AN EVENT OTHER THAN A	36	CDTA	May-22	Visit from Gregal's stakeholders	

CONFERENCE OR A WORKSHOP					
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	37	CDTA	Jun-22	Visit from Sagrado Corazón Primary School	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	38	CDTA	Jun-22	Visit from stakeholders from Gregal, agricultural consultancy Áfila and artichoke producer Olé	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	39	IKH	Jun-22	European Robotics Forum 2022	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	40	CDTA	Jun-22	Visit from seed company Fitó and pepper producer Frutas Esparza	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	41	UTH	Jun-22	Averfio Agri-Food Technology Park of Thessaly: synergies, challenges & dynamics of agri-food	
PARTICIPATION TO AN EVENT OTHER THAN A CONFERENCE OR A WORKSHOP	42	CDTA	Jul-22	CDTA staff participation in a report from regional TV 7TV	
PRESS RELEASE / NEWSPAPER ARTICLE	43	SEVT	Oct-21	<i>SEVT newsletter #October 2021</i>	
PRESS RELEASE / NEWSPAPER ARTICLE	44	FERTINAGRO	Oct-21	newspaper article	Agronegocios
PRESS RELEASE / NEWSPAPER ARTICLE	45	FERTINAGRO	Oct-21	newspaper article	Empresa agraria
PRESS RELEASE / NEWSPAPER ARTICLE	46	FERTINAGRO	Oct-21	newspaper article	Infoagro
PRESS RELEASE / NEWSPAPER ARTICLE	47	FERTINAGRO	Oct-21	newspaper article	Diario de Teruel
PRESS RELEASE / NEWSPAPER ARTICLE	48	FERTINAGRO	Oct-21	newspaper article	La comarca
PRESS RELEASE / NEWSPAPER ARTICLE	49	FERTINAGRO	Oct-21	newspaper article	Fruticultura

PRESS RELEASE / NEWSPAPER ARTICLE	50	FERTINAGRO	Oct-21	newspaper article	Noticias agrícolas
PRESS RELEASE / NEWSPAPER ARTICLE	51	FERTINAGRO	Oct-21	newspaper article	Interempresas
PRESS RELEASE / NEWSPAPER ARTICLE	52	FERTINAGRO	Oct-21	newspaper article	Heraldo de Aragón
PRESS RELEASE / NEWSPAPER ARTICLE	53	SEVT	Nov-21	SEVT newsletter #November 2021	
PRESS RELEASE / NEWSPAPER ARTICLE	54	APEMETA	Dec-21	"PestNu: for the sustainability of agriculture on Farm 2 Fork chain" - reproduction of apemeta's news by a media partner	
PRESS RELEASE / NEWSPAPER ARTICLE	55	APEMETA	Dec-21	"PestNu: for the sustainability of agriculture on Farm 2 Fork chain" - reproduction of apemeta's news by a media partner	
PRESS RELEASE / NEWSPAPER ARTICLE	56	APEMETA	Jan-22	PestNu: questionnaire for operators until 25/01/2022	
PRESS RELEASE / NEWSPAPER ARTICLE	57	SEVT	Mar-22	SEVT newsletter #March 2022	
PRESS RELEASE / NEWSPAPER ARTICLE	58	APEMETA	Mar-22	PestNu: Beja hosts the first national workshop	
PRESS RELEASE / NEWSPAPER ARTICLE	59	SEVT	Apr-22	SEVT newsletter #April 2022	
PRESS RELEASE / NEWSPAPER ARTICLE	60	UTH	Apr-22	PestNu": Greenhouse production of vegetables, from the University of Thessaly	
PRESS RELEASE / NEWSPAPER ARTICLE	61	UTH	Apr-22	Smart agriculture meets space technology, organic farming and the circular economy	
PRESS RELEASE / NEWSPAPER ARTICLE	62	UTH	Apr-22	Smart agriculture meets space technology, organic farming and the circular economy. Meeting place: Velestinou Farm Pilot Greenhouse Park	

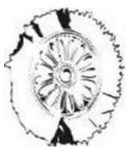
PRESS RELEASE / NEWSPAPER ARTICLE	63	APEMETA	Apr-22	<i>PestNu: first national workshop takes place in Beja in the 22 of april</i>	
PRESS RELEASE / NEWSPAPER ARTICLE	64	APEMETA	Jun-22	<i>PestNu promotes workshops in Spain and Greece</i>	
PRESS RELEASE / NEWSPAPER ARTICLE	65	SEVT	Jun-22	<i>SEVT newsletter #June 2022</i>	
PRESS RELEASE / NEWSPAPER ARTICLE	66	UTH	Jun-22	Special edition PERIVALLON released with "Magnesia" newspaper	
PRESS RELEASE / NEWSPAPER ARTICLE	67	APEMETA	Jun-22	<i>PestNu: Digitalization and agro-ecological practices in the promotion of plants and soil health</i>	
PRESS RELEASE / NEWSPAPER ARTICLE	68	APEMETA	Jun-22	<i>PestNu promotes survey on the use of pesticides and fertilizers and agro-ecological practices</i>	
PRESS RELEASE / NEWSPAPER ARTICLE	69	CDTA	Jun-22	"El sistema PestNu busca la optimización y sostenibilidad en el cultivo" ('The PestNu system seeks for crop optimisation and sustainability')	La Opinión
PRESS RELEASE / NEWSPAPER ARTICLE	70	CDTA	Jun-22	"Nuevas tecnologías para garantizar la sostenibilidad ambiental" ('New technologies for environmental sustainability assurance')	La Verdad
PRESS RELEASE / NEWSPAPER ARTICLE	71	GLOBAL	Sep-22	Article in GLOBAL 2000 magazine	GLOBAL News
SOCIAL MEDIA	72	STRATAGEM	Oct-21	Facebook Page	
SOCIAL MEDIA	73	STRATAGEM	Oct-21	Linkedin Page	
SOCIAL MEDIA	74	STRATAGEM	Oct-21	Kick Off Meeting Post	
SOCIAL MEDIA	75	APEMETA	Dec-21	Linkedin Page	
SOCIAL MEDIA	76	APEMETA	Dec-21	Facebook Page	
SOCIAL MEDIA	77	AGROVAST	Mar-22	Agroväst webpage and facebook page	

SOCIAL MEDIA	78	STAMTECH	May-22	Presentation of PestNu project	
SOCIAL MEDIA	79	STAMTECH	Jun-22	1st workshop on clustering activities of PestNu's sister projects	
SOCIAL MEDIA	80	FERTINAGRO		Linkedin Page	
SOCIAL MEDIA	81	FERTINAGRO		Linkedin Page	
SOCIAL MEDIA	82	FERTINAGRO		Linkedin Page	
SOCIAL MEDIA	83	FERTINAGRO		Linkedin Page	
SOCIAL MEDIA	84	FERTINAGRO		Linkedin Page	
SOCIAL MEDIA	85	FERTINAGRO		Facebook Page	
SOCIAL MEDIA	86	FERTINAGRO		Facebook Page	
SOCIAL MEDIA	87	FERTINAGRO		Facebook Page	
SOCIAL MEDIA	88	FERTINAGRO		Facebook Page	
SOCIAL MEDIA	89	FERTINAGRO		Facebook Page	
SOCIAL MEDIA	90	FERTINAGRO		twitter	
SOCIAL MEDIA	91	FERTINAGRO		twitter	
SOCIAL MEDIA	92	FERTINAGRO		twitter	
SOCIAL MEDIA	93	FERTINAGRO		twitter	
SOCIAL MEDIA	94	FERTINAGRO		twitter	
SOCIAL MEDIA	95	STRATAGEM		Posts on Facebook and Linkedin about the project's Kick Off Meeting	
TRAINING	96	UTH	Jun-22	Visit of the 2nd GEL N. Ionia to the pilot greenhouse park of the University of Thessaly	
WEBSITE	97	STRATAGEM	Oct-21	Website post about PestNu's Kick Off Meeting	
WEBSITE	98	APEMETA	Dec-21	<i>Project description on APEMETA's website</i>	
WEBSITE	99	APEMETA	Dec-21	<i>"PestNu: for the sustainability of agriculture on Farm 2 Fork chain" - News on APEMETA's website</i>	

WEBSITE	100	APEMETA	Dec-21	"PestNu: for the sustainability of agriculture on Farm 2 Fork chain" - News on Ambiente Portugal platform	
WEBSITE	101	APEMETA	Jan-22	PestNu – Technologies and practices for the reduction of fertilisers' dependency and that of nutrient losses	
WEBSITE	102	APEMETA	Jan-22	PestNu project invites answering a survey on the subject of fertilisers and soils nutrients	
WEBSITE	103	APEMETA	Jan-22	PestNu project invites answering a survey on the subject of fertilisers and soils nutrients	
WEBSITE	104	APEMETA	Jan-22	PestNu project invites answering a survey on the subject of fertilisers and soils nutrients	
WEBSITE	105	APEMETA	Mar-22	PestNu 1st workshop in PT	
WEBSITE	106	APEMETA	Mar-22	PestNu will have it's first workshop in Portugal	
WEBSITE	107	APEMETA	Mar-22	PestNu Workshop: the contribution of Project's technologies for the sustainability in agriculture - 22 abril - beja	
WEBSITE	108	APEMETA	Apr-22	Workshop PestNu Building a low-carbon, climate resilient future	
WEBSITE	109	APEMETA	Apr-22	workshop pestnu programme	
WEBSITE	110	APEMETA	Apr-22	National PestNu Workshop approaches te contribution of Project's technologies for the sustainability in agriculture	
WEBSITE	111	FERTINAGRO	Jun-22	website /blog	

WEBSITE	112	FERTINAGRO	Jun-22	website /blog	
WEBSITE	113	APEMETA	Jun-22	<i>PestNu Workshop Múrcia, Espanha, 23 June 2022</i>	
WEBSITE	114	APEMETA	Jun-22	<i>PestNu ongoing Questionnaires for citizens and public and private institutions</i>	
WEBSITE	115	APEMETA	Jun-22	<i>PestNu ongoing Questionnaires for citizens and public and private institutions - help us!</i>	
WEBSITE	116	APEMETA	Jun-22	<i>PestNu promotes survey on the use of pesticides and fertilizers and agro-ecological practices</i>	
WEBSITE	117	APEMETA	Jun-22	<i>PestNu promotes workshops in Spain and Greece</i>	
WEBSITE	118	APEMETA	Jun-22	<i>PestNu promotes survey on the use of pesticides and fertilizers and agro-ecological practices</i>	
WEBSITE	119	APEMETA	Jun-22	Projecto PESTNU: Agricultura Sostenible Basada en Tecnologías de Precisión Prácticas Agroecológicas – 23 de junho – Múrcia	
WEBSITE	120	APEMETA	Jun-22	PestNu: Clustering Activities of Pestnu's Sister Projects – 7 de julho – Grécia	
WEBSITE	121	GLOBAL	Jul-22	PestNu Landing Page embedded into the GLOBAL 2000 Website	
WEBSITE	122	APEMETA	Dec-22	<i>PestNu: for the sustainability of agriculture on Farm 2 Fork chain</i>	
WEBSITE	123	AGROVAST	Dec-22	<i>Project description on Agroväst webpage</i>	
WEBSITE	124	APEMETA	mai-22	<i>PestNu – APEMETA promoted the first national</i>	

				<i>workshop for project dissemination and promotion of synergies</i>	
WEBSITE	125	APEMETA	mai-22	<i>PestNu – APEMETA promoted the first national workshop for project dissemination and promotion of synergies</i>	
WEBSITE	126	APEMETA	mai-22	APEMETA has promoted the first national workshop for dissemination and promotion of synergies of PestNu project	
WEBSITE	127	MASOUTIS	Sep-22	Masoutis website: PestNu, steps to a sustainable future	



CERTH
CENTRE FOR
RESEARCH & TECHNOLOGY
HELLAS



RI SE | Research
Institutes
of Sweden



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 101037128.