Deliverable 2.1
Operation and update of project website

primesoft

Development of innovative priming technologies safeguarding yield security in soft fruit crops through a cutting-edge technological approach

Funded by the European Union

The project has received funding from the European Union's Horizon Europe programme under Grant Agreement 101079119

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Document Summary

Deliverable number & title: D2.1 – Operation and update of project website

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Lead Beneficiary: CUT

Related Work Package: WP2

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☒ **PU** Public

☐ **CO** Confidential, only for members of the consortium (including the Commission Services)

Approved by: Steering Committee

Final version of the deliverable to be approved by the respective GA members (before submission to the EU).

☒ CUT (Coordinator) ☒ KUL ☒ CSIC ☒ NTUA ☒ UP

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Acronym: PRIMESOFT

Start date of Project: November 1, 2022

Duration: 3 years

Project coordinator: CUT

Abstract

The D2.1 entitled 'Operation and update of project website' will be provided in three editions, during M3, M17, M36 of the project, respectively. The current version is the first edition (v1) of this deliverable. It is linked with **Task 2.1: Website and other dissemination tools** and is taking place throughout the whole life span of PRIMESOFT.

Task 2.1 description: Development of a user-friendly website with continuous updating of project information, as well as the use of popular social media that are widely adopted both by the Scientific community (LinkedIn, ResearchGate) and wider (Twitter). The public Section of the website will contain an overall description of the project (objectives, structure, Consortium, methodology, etc.), the public deliverables, as well as an agenda with events, scientific papers and popular articles carried out by PRIMESOFT partners. A restricted area will also be created on the website for access and storage of confidential information by Consortium partners. The website will be continuously updated throughout the duration of the project and will additionally serve as an information tool that provides an open communication with the society, the scientific community and interested stakeholders.

The website structure has been discussed and agreed during the kick-off meeting, held in Cyprus (9-10 November 2022). The initial version of the website became available internally (https://dev.prime-soft.eu) and the pertinent feedback was considered and incorporated into the final design of the project's website.

The website aims to widely promote the objectives, activities and achievements of the project, as a communication tool for all partners and members of the project, such as scientists, end-users as well as the general public. It profiles the project including an overview, all partners and participants, activities, news, scientific outputs and other. In addition, interested parties will be able to sign up to receive an electronic newsletter once a year. The website was one of the first actions implemented upon the project's initiation and will continuously update its agenda, according to the progress. It is expected that statistics emerging from the website visibility will show the positive reception from both the research and non-scientific communities. In addition, social media in Twitter, LinkedIn and Research Gate were set-up and are fully operational with continuous updates. The social media mentioned in this deliverable act as fruitful and solid ground towards project's wider dissemination and communication of its activities.

The website was officially released on 31st of January 2023 and its domain is www.prime-soft.eu
The social media of PRIMESOFT were established within the first month of project implementation:

- Linkedin: **PRIMESOFT_Horizon Europe** https://www.linkedin.com/company/86415277/admin/
- Twitter: **PrimesoftE** https://twitter.com/PrimesoftE
- Research Gate: https://www.researchgate.net/project/Development-of-innovative-priming-technologies-safeguarding-yield-security-in-soft-fruit-crops-through-a-cutting-edge-technological-approach

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1.PRIMESOFT website

1.1 Conceptual design

The website conceptual design and actual implementation was one of the first actions carried out with the activation of the project, and it will be constantly updated as the project progresses. The idea behind the PRIMESOFT website and its development was to present and communicate in a clear manner the main activities of the project along with the possible strategies that will be followed to achieve the scientific outputs and results. The outline of the website was developed considering the concept behind the logo and the colors of the logo (**Figure 1**).

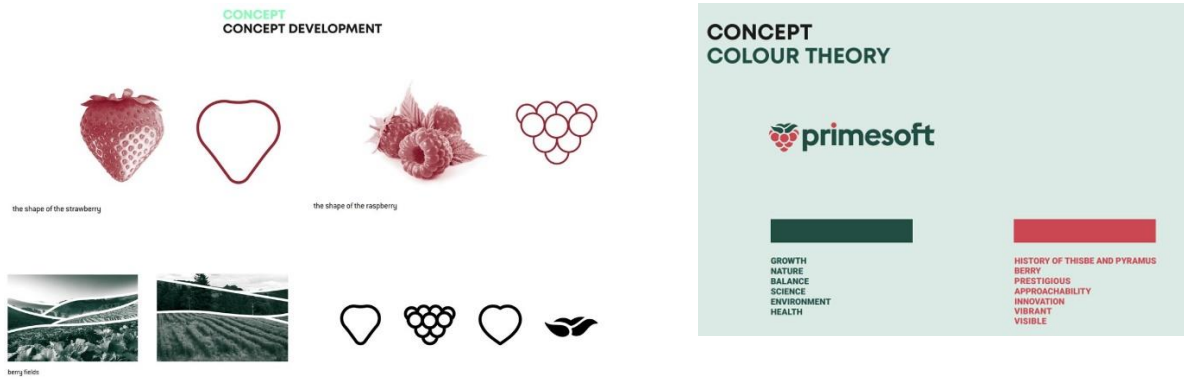

Figure 1. (a) Concept development of PRIMESOFT logo based on the shape of the two under study fruit crops: strawberry (*Fragaria* x *ananassa*) and raspberry (*Rubus idaeus*). (b) Concept color theory of PRIMESOFT logo. The green color is linked with the terms: 'growth', 'nature', 'balance', 'science', 'environment', 'health'. The red color reflects the following terms: 'history of Thisbe and Pyramus', 'berry', 'prestigious', 'approachability', 'innovation', 'vibrant', 'visible'.

As the website is considered the project's main tool of presentation of its activities and research results to audiences, the Consortium deemed best to include also links to PRIMESOFT's social media accounts (LinkedIn, Twitter, Research Gate). We additionally aim to exploit the academic repository of the Widening Institution (CUT) named KTISIS, where all the publications, newsletters, and public deliverables will be uploaded for better outreach and dissemination.

Three different options of website outline were presented to the partners, and the 3rd option was selected as the most appealing (**Figure 2**). The website was developed using interface design based on HTML5 coding. The web designer applied (i) devices responsiveness and compatibility, cross-browser testing, quality assurance, (ii) research and content development, (iii) web content set up and upload and (iv) slideshow & video applications.

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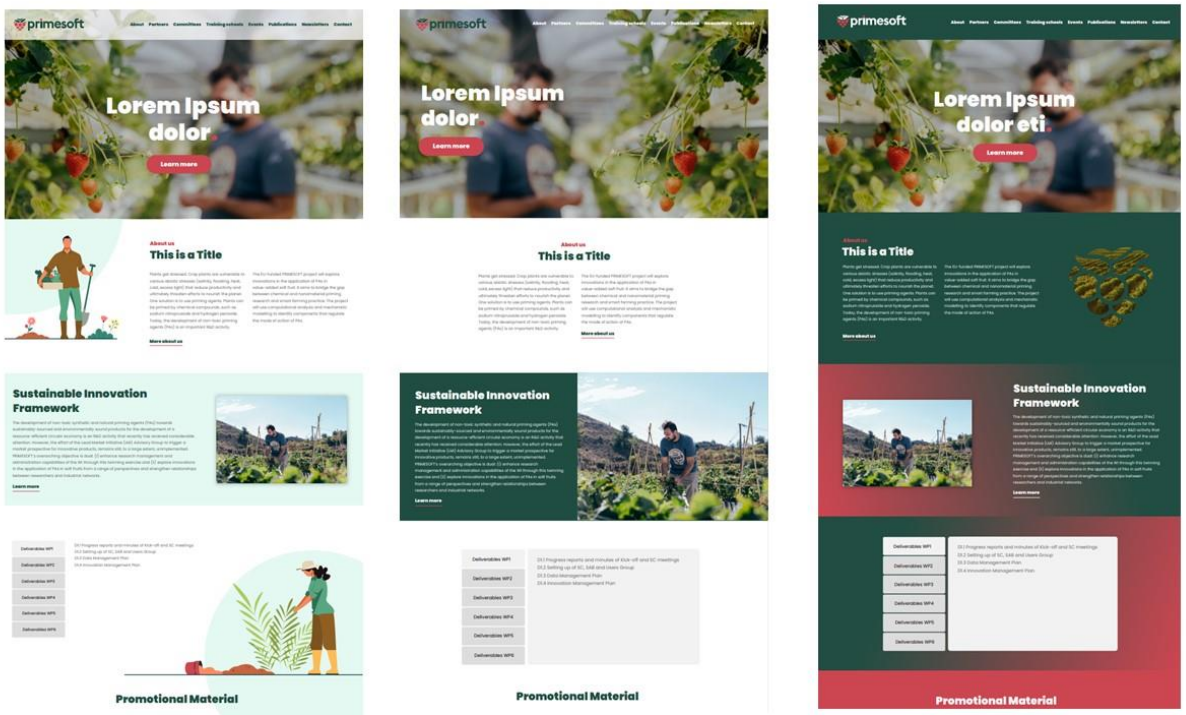

Figure 2. Different options regarding the outline of PRIMESOFT website.

1.2 Website structure

The website was built using a responsive theme, ensuring its aspect ratio won't get distorted when displayed in smaller screens (i.e. mobile phone, tablet, etc.). Visitors are being given the opportunity to read more details about the project and the Consortium, where external links redirect the visitor to personnel's webpages either to their University's or to their profile at their respective laboratories, including their personal LinkedIn accounts. Furthermore, there is a dedicated section for the outputs of the project that will be updated throughout the life span of the project with publications and posters presented in distinguished conferences/journals of the field.

The outline of the website of a Horizon 2020 project (https://ploutos-h2020.eu/) was used as an excellent paradigm for PRIMESOFT website. The navigation on PRIMESOFT website is realised through its primary menu, which is composed of the following tabs: (i) Home, (ii) About us, (iii) Partners, (iv) Committees, (iv) Training Schools, (v) Events and (vi) Contact.

Home: The dissemination video (https://www.youtube.com/watch?v=Op7qhx1d6hA) in in the forefront of the homepage that additionally provides information in brief about the project, its sustainable innovation framework and deliverables. It additionally includes in a downloadable format promotional material,

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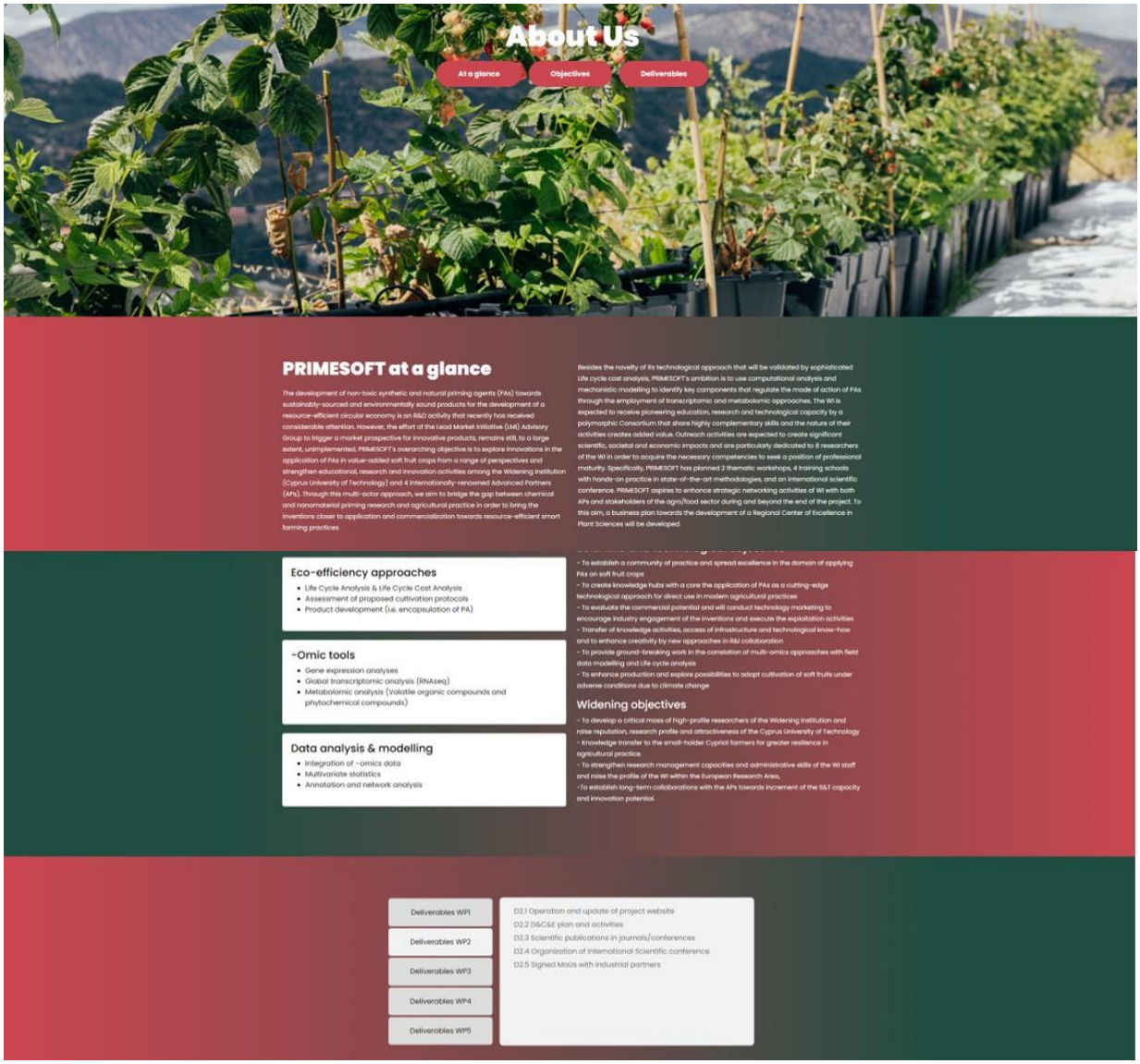
namely: (i) digital leaflet of PRIMESOFT (**Appendix I**), (ii) printed leaflet of PRIMESOFT (**Appendix II**), (iii) banner of PRIMESOFT (**Appendix III**).

About us: This tab provides information regarding (1) PRIMESOFT at a glance, (2) scientific, technological and widening objectives and (3) list of deliverables per Work Package. An activated link was/will be included for each of the publicly available deliverables that will redirect accordingly the user.



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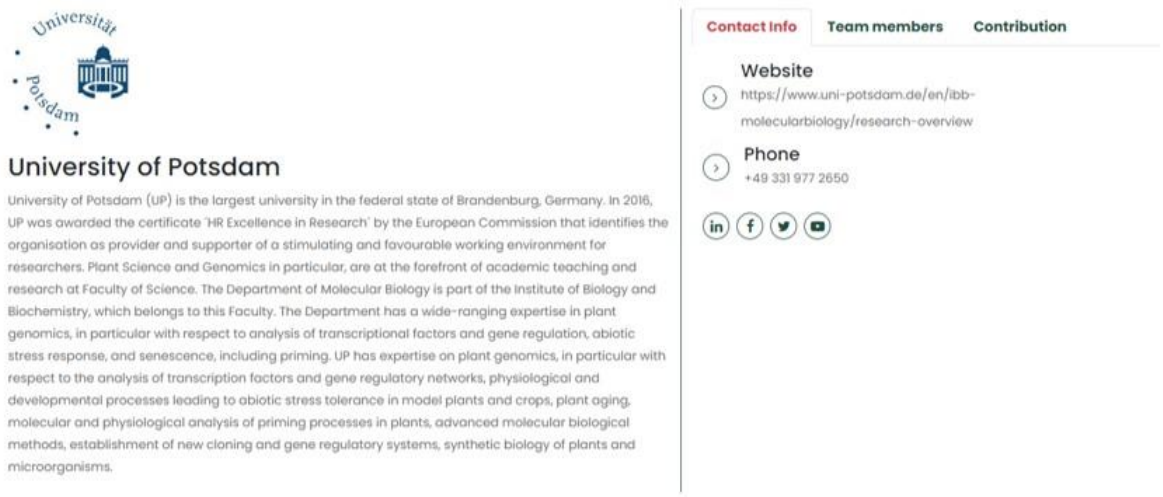
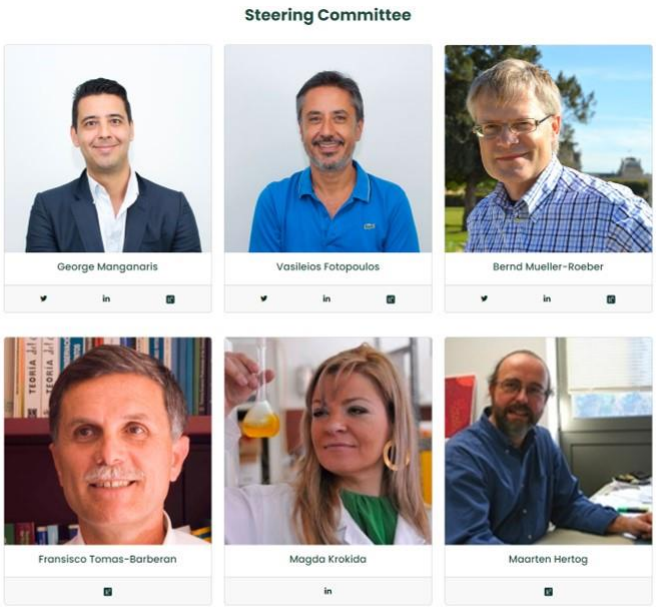
Partners: This tab includes the following information per partner: (i) description of the partner at a glance, (ii) contact information, (iii) team members, (iv) contribution to the project.



Committees: This tab includes information about (i) the Steering Committee, (ii) the Scientific Advisory Board and (iii) the User's Group.



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Training schools: The outline of the [2] exploratory workshops and [4] training schools (one per Advanced Partner) is being presented.

Events: This tab will include information regarding (i) a registration-free Scientific Conference [4-5 November 2024] entitled 'Application of priming agents on value-added fruit crops as a cutting-edge technological approach' and (ii) two info days that will take place in Cyprus targeted to local stakeholders and to the general public.

Contact us: A 'Contact-us' form was created where visitors have the option to write a message that will be sent to the Coordinator of the project, Dr. Manganaris.

Social media: Regarding the navigation of the user to the social media accounts of the project, a corresponding menu was created and placed on the website, containing the accounts of the project social networks i.e. LinkedIn and Twitter where the user by clicking on each icon is being redirected to the corresponding medium.

2. PRIMESOFT LinkedIn account

LinkedIn is a business and employment-focused social media platform that works through websites and mobile applications. The platform is primarily used for professional networking and career development, and allows job seekers to post their cv and employers to post jobs. It additionally serves as an excellent medium for communication and dissemination activities of research projects. LinkedIn has more than 830 million registered members. Leveraging on the popularity and widespread use of the social media, the Consortium has created a dedicated LinkedIn page (**Figure 3**), targeting also the non-scientific audience for purposes of optimal dissemination of the research results. Within the time frame of the first 3 months of project life span, the LinkedIn page of PRIMESOFT project is being feed continuously. European Research Executive Agency (REA) and Horizon Europe are highly visible in the majority of the posts. Some facts and figures are being presented below:

Link: https://www.linkedin.com/company/86415277/admin/
Followers: 272
Posts: 14
Impressions per post: 300-1300
Likes per post: 11-43
Hashtags: #priming, #innovation, #strawberry, #raspberry, #HorizonEU
Nature of posts: promotion of scientific and widening activities of the PRIMESOFT project, kick off meeting, presentation of members of the scientific advisory board, leaflets and brochures linked to PRIMESOFT objectives, dissemination video, the story behind the PRIMESOFT logo, experimental analysis.

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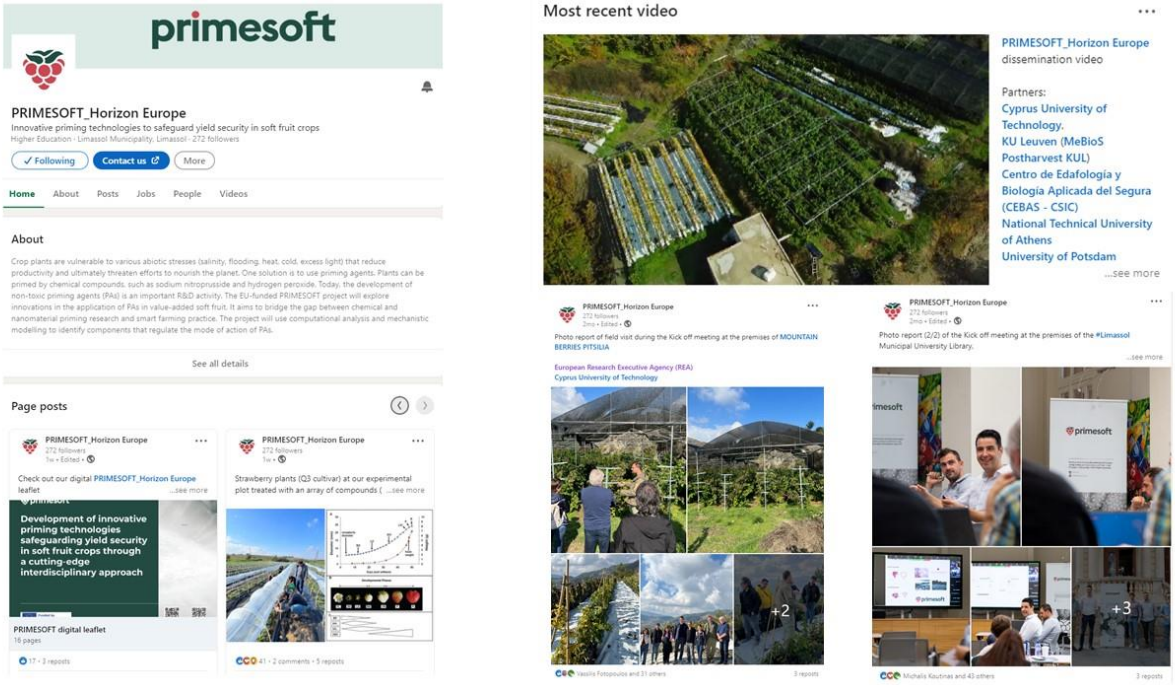

Figure 3. Outline of PRIMESOFT LinkedIn page that within 3 months upon its establishment is having nearly 300 followers.

Several posts are being additionally promoted through the personal account of the Coordinator to take advantage of the possibility the messages to reach a wider audience. Indicatively, the communication of the dissemination video and the site-visit at the experimental orchard of PRIMESOFT have received a significant number of impressions, highlighting the engagement of a wider number of interested partners (**Figure 4**). Our ultimate goal through the project's LinkedIn account is to increase visibility of PRIMESOFT to companies working with priming agents and soft fruits. The latter is tightly linked with the following deliverables:

- Deliverable 1.2 Setting up of User's Group
- Deliverable 5.4 Report on stakeholder map

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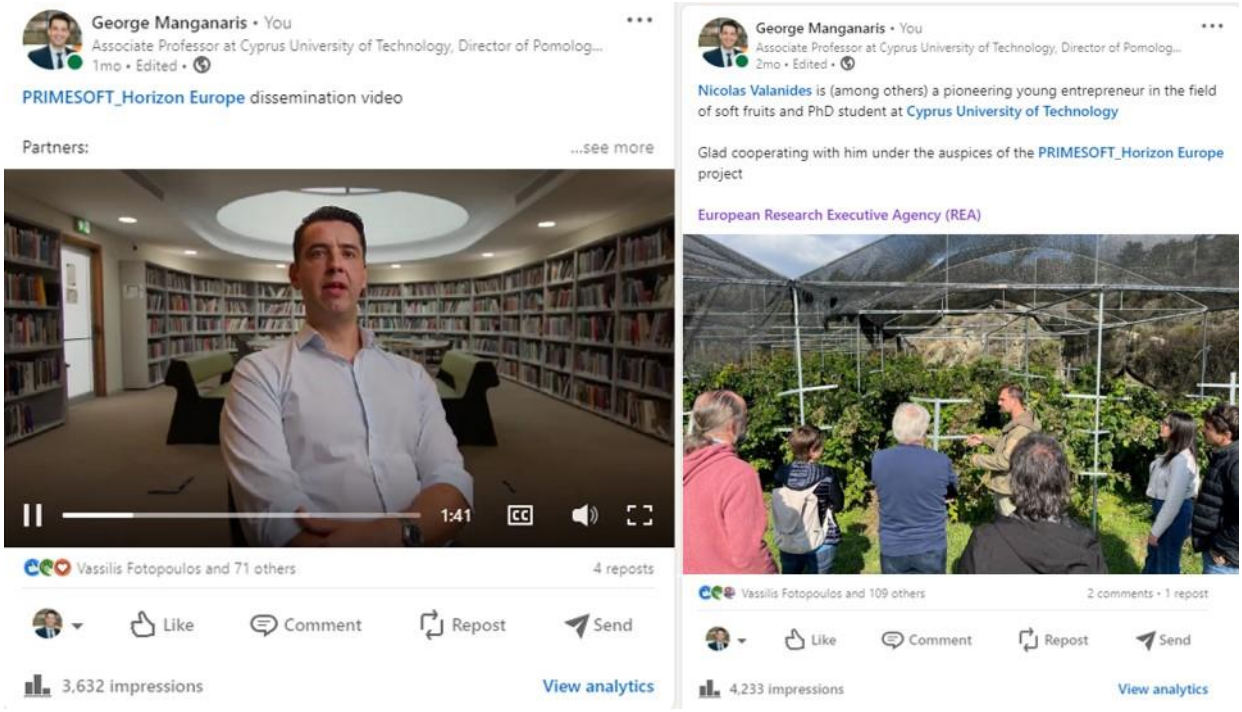

Figure 4. Communication of PRIMESOFT activities through the Coordinator's personal LinkedIn account with the aim to attract a wider audience, including companies.

3. PRIMESOFT Twitter account

Twitter is a microblogging and social networking service on which users post and interact with messages known as "tweets". It is a social medium that over time has shown significant impact to public audiences, therefore the consortium believes that is an opportunity worth exploring in order for the project to receive more attention and publicity during its running years. Thus, the Consortium members created a dedicated page (**Figure 5**), targeting also the non-scientific audience for purposes of optimal dissemination of the research results. Within the time frame of the first 3 months of project life span, the Twitter page of PRIMESOFT [@PrimesoftE] project is being feed continuously. The funding agent (European Commission) and the funding scheme (Horizon Europe) are highly visible in the majority of the posts. Some facts and figures are being presented below:

Link: https://twitter.com/PrimesoftE
Followers/Following: 44/59
Tweets: 12
Impressions per post: 160-640
Likes per post: 1-14
Hashtags: #priming, #innovation, #strawberry, #raspberry, #climatechange, #HorizonEU

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Nature of posts: promotion of scientific and widening activities of the PRIMESOFT project, kick off meeting, presentation of members of the scientific advisory board, leaflets and brochures linked to PRIMESOFT objectives, dissemination video, the story behind the PRIMESOFT logo, experimental analysis.

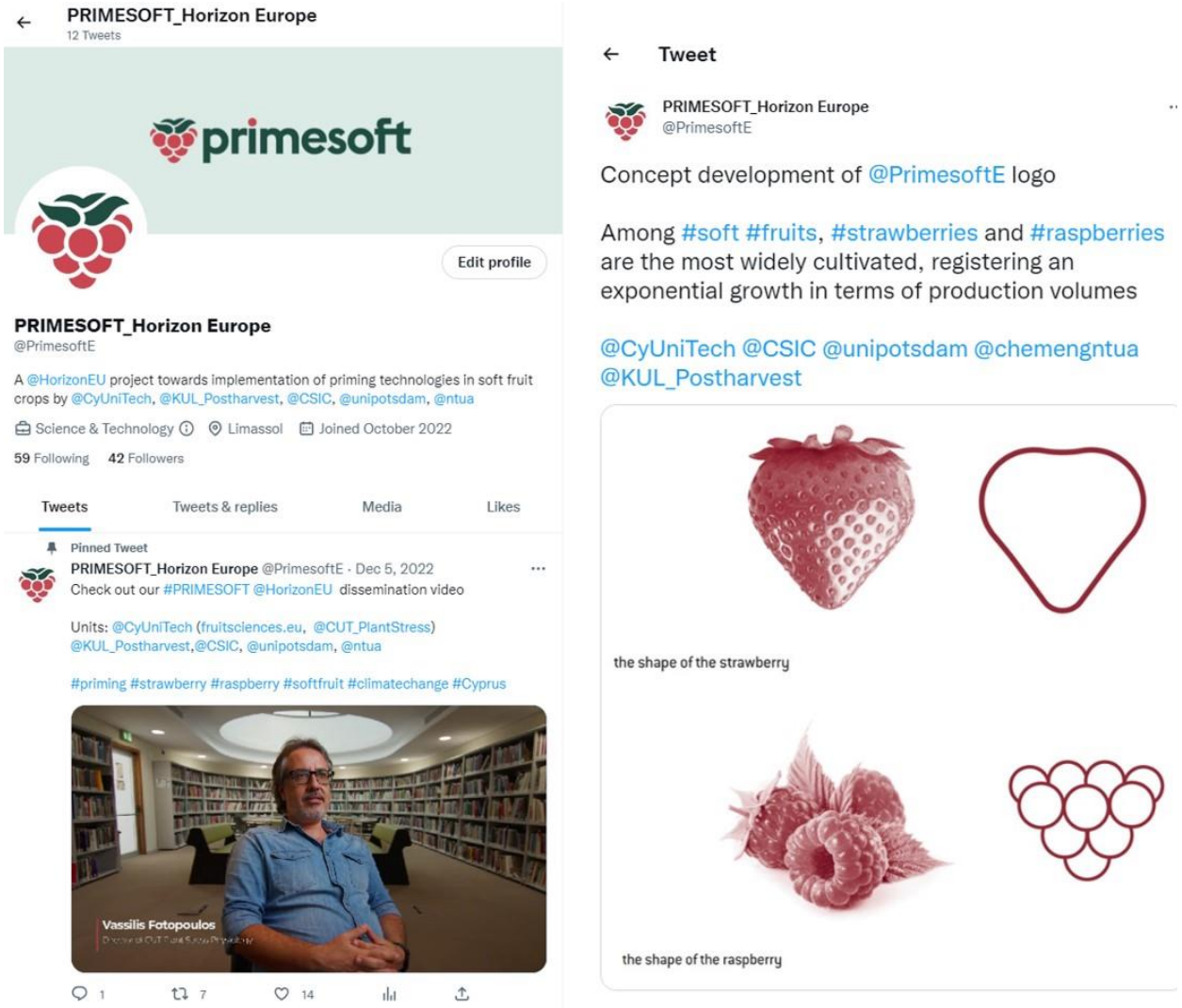

Figure 5. Outline of PRIMESOFT Twitter page that includes as pinned tweet the dissemination video that was created for the needs of the project during the kick off meeting of the Consortium.

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4. PRIMESOFT Research Gate account

Research Gate is a professional network for scientists and researchers. Over 17 million members from all over the world use it to share, discover, and discuss research, hence making it open to all. According to a 2014 study by Nature and a 2016 article in Times Higher Education, it is the largest academic social network in terms of active users. Building on the advantages of this medium, the Consortium members have created a dedicated page for PRIMESOFT project (**Figure 6**).

Link:https://www.researchgate.net/project/Development-of-innovative-priming-technologies-safeguarding-yield-security-in-soft-fruit-crops-through-a-cutting-edge-technological-approach

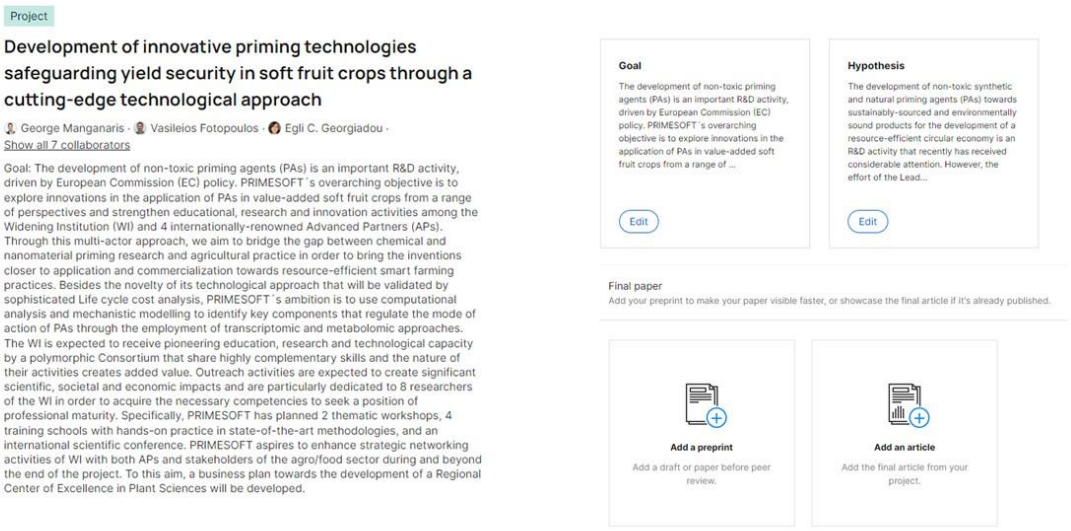

Figure 6. Outline of PRIMESOFT Research Gate page that includes information regarding the scientific, technological and widening objectives of the project.

This page will be feed with (i) experimental findings, (ii) preprints, (iii) publications with target to the scientific community. We expect a considerable increment on the followers of the project with the progress of experimentation and dissemination of key findings.

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5. Appendix

I. PRIMESOFT Leaflet [digital form]
II. PRIMESOFT Leaflet [printed form]
III. PRIMESOFT banner

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PARTNERS

primesoft

Development of innovative priming technologies safeguarding yield security in soft fruit crops through a cutting-edge interdisciplinary approach

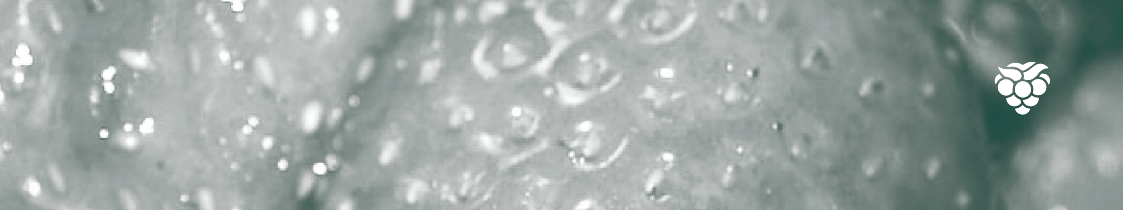
Funded by the European Union

LinkedIn

twitter

PRIMESOFT at a glance

The development of non-toxic synthetic and natural priming agents (PAs) towards sustainably-sourced and environmentally sound products for the development of a resource-efficient circular economy is an R&D activity that recently has received considerable attention. However, the effort of the Lead Market Initiative (LMI) Advisory Group to trigger a market prospective for innovative products, remains still, to a large extent, unimplemented. PRIMESOFT's overarching objective is to explore innovations in the application of PAs in value-added soft fruit crops from a range of perspectives and strengthen educational, research and innovation activities among innovation activities among the Widening Institution (Cyprus University of Technology) and 4 internationally-renowned Advanced Partners (APs). Through this multi-actor approach, we aim to bridge the gap between chemical and nanomaterial priming research and agricultural practice in order to bring the inventions closer to application and commercialization towards resource-efficient smart farming practices. Besides the novelty of its technological approach that will be validated by sophisticated Life cycle cost analysis, PRIMESOFT´s ambition is to use computational analysis and mechanistic modelling to identify key components



that regulate the mode of action of PAs through the employment of transcriptomic and metabolomic approaches. The WI is expected to receive pioneering education, research and technological capacity by a polymorphic Consortium that share highly complementary skills and the nature of their activities creates added value. Outreach activities are expected to create significanat scientific, societal and economic impacts and are particularly dedicated to the researchers of the WI in order to acquire the necessary competencies to seek a position of professional maturity. Specifically, PRIMESOFT has planned 2 thematic workshops, 4 training schools with hands-on practice in state-of-the-art methodologies, and an international scientific conference. PRIMESOFT aspires to enhance strategic networking activities of WI with both APs and stakeholders of the agro/food sector during and beyond the end of the project. To this aim, a business plan towards the development of a Regional Center of Excellence in Plant Sciences will be developed.

Scientific and technological objectives

- To establish a community of practice and spread excellence in the domain of applying PAs on soft fruit crops.
- To create knowledge hubs with a core in the application of PAs as a cutting-edge technological approach for direct use in modern agricultural practices.
- To evaluate the commercial potential and conduct technology marketing to encourage industry engagement of the inventions and execute the exploitation activities.
- Transfer of knowledge activities, access of infrastructure and technological know-how and to enhance creativity by new approaches in R&I collaboration.
- To provide ground-breaking work in the correlation of multi omics approaches with field data modelling and Life cycle analysis.
- To enhance production and explore possibilities to adapt cultivation of soft fruits under adverse conditions due to climate change.

Widening objectives

- To develop a critical mass of high -profile researchers of the Widening Institution and raise reputation, research profile and attractiveness of the Cyprus University of Technology.
- Knowledge transfer to the small-holder Cypriot farmers for greater resilience in agricultural practice.
- To strengthen research management capacities and administrative skills of the WI staff and raise the profile of the WI within the European Research Area.
- To establish long-term collaborations with the APs towards increment of the S&T capacity and innovation potential.

PRIMESOFT scientific strategy:

overview of experimental approaches

Agronomic, Physiological Features

- Yield, net photosynthesis, time of flowering
- Qualitative attributes
- Cellular damage indicators
- Assays of enzymatic & non-enzymatic antioxidants

Data analysis & modelling

- Integration of –omics data
- Multivariate statistics
- Annotation and network analysis

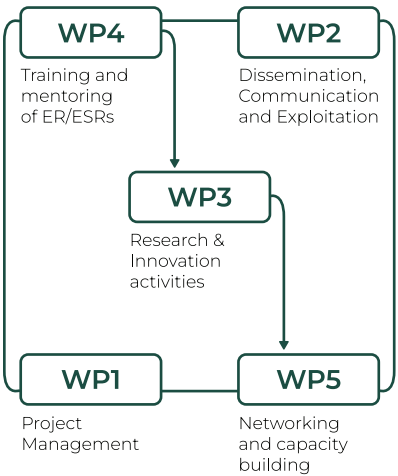
Omic tools

- Gene expression analyses
- Global transcriptomic analysis (RNAseq)
- Metabolomic analysis (Volatile organic compounds and phytochemical compounds)

Eco-efficiency approaches

- Life Cycle Analysis & Life Cycle Cost Analysis
- Assessment of proposed cultivation protocols
- Product development (i.e. encapsulation of PA)

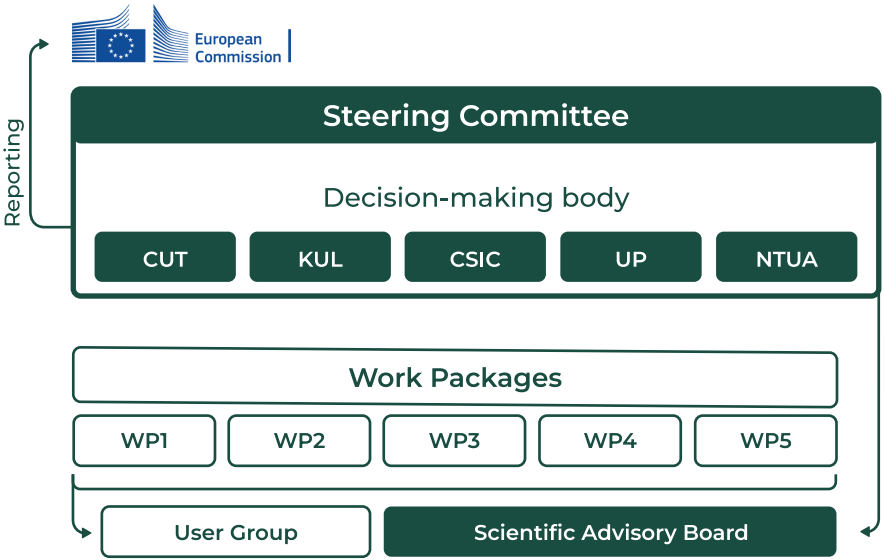
Work packages



Training schools – Exploratory workshops

- Grant proposal writing & implementation (University of Potsdam)
- Priming in plants – agents, processes, molecular settings (University of Potsdam)
- LCCA as a decision support tool on agro/food value chain (National Technical University of Athens)
- Volatile Organic Compounds analysis: techniques, data processing and statistical tools (Katholieke University of Leuven)
- Phytochemicals, food quality and health-promoting effects (CSIC)

Project management scheme for PRIMESOFT



Coordinator

CUT is a dynamic University with six leading Schools/Faculties and 13 Academic Departments, able to offer education and high-level research, in primary branches of science and applied technology. CUT has set as its strategic target the design and development of research activities both within the University and in cooperation with Advanced research Institutes in Cyprus and abroad. CUT Fruit Sciences/Postharvest Group [www.fruitsciences.eu] and CUT Plant Stress Physiology Group [http://plant-stress.weebly.com/] belong at the Department of Agricultural Sciences, Biotechnology and Food Science. These groups have highly complementary expertise on fruit crops, priming effect in plant systems, plant adaptation to abiotic stress conditions and postharvest physiology and technology. A PRIMESOFT key impact is to develop a business plan towards establishment of a Regional Center of Excellence in Plant Sciences for the whole Eastern Mediterranean region through the merging of CUT Fruit Sciences and Plant Stress Physiology groups in a single entity. This Center will tackle research, educational and communication/outreach activities related to the agricultural and food sector and will gradually establish close and productive relationships with key national academic and research centers as well as international agencies and specialized academics/personnel.

Partner

National Technical University of Athens (NTUA) is the top Technical University in Greece. The Laboratory of Process Analysis and Design (LPAD) is the oldest laboratory of the School of Chemical Engineering at NTUA, which has systematically contributed in the development of the School, since 1908. The area of expertise of LPAD can be summarized in (a) the development of novel, functional food products, including product design, quality and sensory control of the final product, as well as shelf-life determination, (b) toolbox development for functional foods and novel processes - development of user-friendly database systems including literature data on food properties, (c) analysis of data, (d) development of mathematical models describing the physical processes and thermo-physical properties of materials, (e) experimental and applied study of the physical industrial processes, such as drying methods, extraction methods, novel encapsulation methods, etc. applied in the food industry, (f) process scale-up, (g) recovery of functional compounds from various natural sources, (i) *in vitro* digestion studies, and (k) life cycle assessment and environmental management for the determination of the economic and environmental impact of several products and processes.

Partner

University of Potsdam (UP) is the largest university in the federal state of Brandenburg, Germany. In 2016, UP was awarded the certificate ´HR Excellence in Research´ by the European Commission that identifies the organisation as provider and supporter of a stimulating and favourable working environment for researchers. Plant Science and Genomics in particular, are at the forefront of academic teaching and research at Faculty of Science. The Department of Molecular Biology is part of the Institute of Biology and Biochemistry, which belongs to this Faculty. The Department has a wide-ranging expertise in plant genomics, in particular with respect to analysis of transcriptional factors and gene regulation, abiotic stress response, and senescence, including priming. UP will coordinate analyses on how priming agents exert their function at the genome or biochemical/physiological levels and will provide its expertise in unravelling the cellular control points underlying the priming process. This will in particular cover priming-dependent transcriptome studies and the identification of transcription factors that control priming-affected genes, e.g. using yeast one-hybrid screens. The UP will lead the organization of two exploratory workshops in grant proposal writing and implementation and one hands-on training school entitled ‘Priming in plants – agents, processes, molecular settings’.

Partner

KU Leuven participates through its research division MeBioS which investigates the interaction between biological systems and physical processes. MeBioS is one of the leading postharvest research groups worldwide. Half of its research is in collaboration with the agro-food industry. These activities are founded in a deep knowledge on physiological behavior of fruits and vegetables after harvest combining omics techniques with advanced biostatistics and biophysics models to interpret the results. MeBioS has a longstanding experience on non-destructive fruit quality evaluation and has been at the front of developments like NIR spectroscopy, hyperspectral imaging and acoustic firmness detection.

In addition, MeBioS has put much effort in optimizing fast profiling techniques for fruit aroma and taste. Aroma is a key quality indicator for soft fruits and KU Leuven has a long-standing experience on such analysis. KU Leuven will support a training school entitled “VOCs analysis: techniques, data processing and statistical tools” and WI staff will have access to the relevant infrastructure (HS-SPME-GCMS, TDU-CIS-GCMS, SIFT-MS). Knowledge and expertise on the analytical technology, data processing and multivariate data analysis will be shared with the WI staff.

Partner

The Spanish National Research Council (CSIC) is the largest public institution dedicated to research in Spain and the third largest in Europe. CEBAS-CSIC has expertise on phytochemical analysis with advanced analytical chromatographic methods, bioavailability and metabolism of food bioactives, pharmacokinetics; biological mechanisms of action of phytochemicals and their metabolites; interaction of phytochemicals with gut microbiota and metabolomic approaches. CSIC will assess the potential beneficial effect of priming agents in phytochemicals and nutraceutical properties of horticultural commodities, a research area of prime importance with significant technological implications. To this aim state-of-the-art infrastructure (UPLC-Q-TOF-MS; UPLC-QQQ-MS; HPLC.IT-ESI-MS-MS; HPLC-TOF MS- NMR; GC-MS) will be used. In addition. CSIC will organize a training school in the fields of phytochemicals, food quality and health-promoting effects. Training sessions in metabolomics studies for identification of biomarkers related to food quality, safety and bioactivity will be also performed. In addition, based on the available infrastructure, CSIC will accomplish a cost/benefit analysis and propose infrastructure that will render CUT autonomous in a series of analysis.

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overview of experimental approaches

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Eco-efficiency approaches

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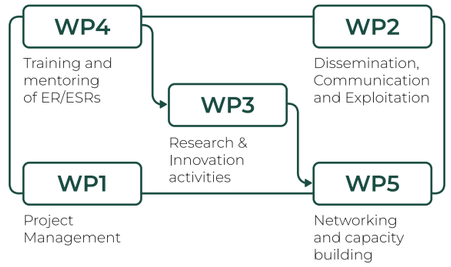
- Assessment of proposed cultivation protocols
- Product development (i.e. encapsulation of PA)

Data analysis & modelling

- Integration of – omics data
- Multivariate statistics
- Annotation and network analysis

Work packages



Training schools – Exploratory workshops

- Grant proposal writing & implementation (University of Potsdam)
- Priming in plants – agents, processes, molecular settings (University of Potsdam)
- LCCA as a decision support tool on agro/food value chain (National Technical University of Athens)
- Volatile Organic Compounds analysis: techniques, data processing and statistical tools (Katholieke University of Leuven)
- Phytochemicals, food quality and health – promoting effects (CSIC)

PRIMESOFT at a glance

Besides the novelty of its technological approach that will be validated by sophisticated Life cycle cost analysis, PRIMESOFT's ambition is to use computational analysis and mechanistic modelling to identify key components that regulate the mode of action of PAs through the employment of transcriptomic and metabolomic approaches. The WI is expected to receive pioneering education, research and technological capacity by a polymorphic Consortium that share highly complementary skills and the nature of their activities creates added value. Outreach activities are expected to create significanat scientific, societal and economic impacts and are particularly dedicated to the researchers of the WI in order to acquire the necessary competencies to seek a position of professional maturity. Specifically, PRIMESOFT has planned 2 thematic workshops, 4 training schools with hands-on practice in state-of-the-art methodologies, and an international scientific conference. PRIMESOFT aspires to enhance strategic networking activities of WI with both APs and stakeholders of the agro/food sector during and beyond the end of the project. To this aim, a business plan towards the development of a Regional Center of Excellence in Plant Sciences will be developed.

The development of non-toxic synthetic and natural priming agents (PAs) towards sustainably-sourced and environmentally sound products for the development of a resource-efficient circular economy is an R&D activity that recently has received considerable attention. However, the effort of the Lead Market Initiative (LMI) Advisory Group to trigger a market prospective for innovative products, remains still, to a large extent, unimplemented. PRIMESOFT's overarching objective is to explore innovations in the application of PAs in value-added soft fruit crops from a range of perspectives and strengthen educational, research and innovation activities among the Widening Institution (Cyprus University of Technology) and 4 internationally-renowned Advanced Partners (APs). Through this multi-actor approach, we aim to bridge the gap between chemical and nanomaterial priming research and agricultural practice in order to bring the inventions closer to application and commercialization towards resource-efficient smart farming practices.

Funded by the European Union

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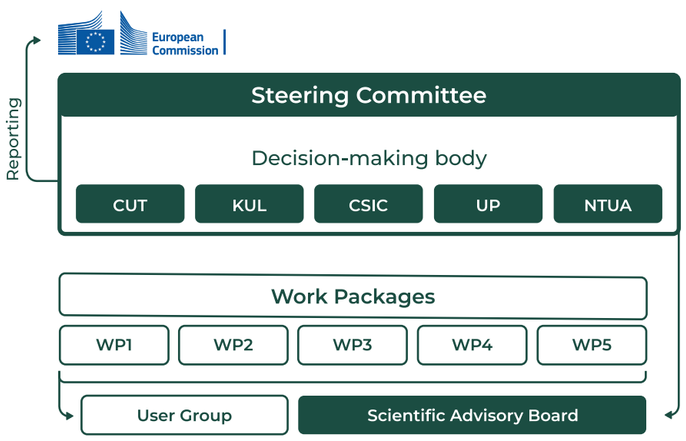
Project management scheme for PRIMESOFT



Coordinator

CUT is a dynamic University with six leading Schools/Faculties and 13 Academic Departments, able to offer education and high-level research, in primary branches of science and applied technology, CUT has set as its strategic target the design and development of research activities both within the University and in cooperation with Advanced research Institutes in Cyprus and abroad. CUT Fruit Sciences/Postharvest Group [www.fruitsciences.eu] and CUT Plant Stress Physiology Group [http://plant-stress.weebly.com/] belong at the Department of Agricultural Sciences, Biotechnology and Food Science. These groups have highly complementary expertise on fruit crops, priming effect in plant systems, plant adaptation to abiotic stress conditions and postharvest physiology and technology. A PRIMESOFT key impact is to develop a business plan towards establishment of a Regional Center of Excellence in Plant Sciences for the whole Eastern Mediterranean region through the merging of CUT Fruit Sciences and Plant Stress Physiology groups in a single entity. This Center will tackle research, educational and communication/outreach activities related to the agricultural and food sector and will gradually establish close and productive relationships with key national academic and research centers as well as international agencies and specialized academics/personnel.

Cyprus University of Technology

Cyprus University of Technology

Partner

National Technical University of Athens (NTUA) is the top Technical University in Greece. The Laboratory of Process Analysis and Design (LPAD) is the oldest laboratory of the School of Chemical Engineering at NTUA, which has systematically contributed in the development of the School, since 1908. The area of expertise of LPAD can be summarized in (a) the development of novel, functional food products, including product design, quality and sensory control of the final product, as well as shelf-life determination, (b) toolbox development for functional foods and novel processes - development of user-friendly database systems including literature data on food properties, (c) analysis of data, (d) development of mathematical models describing the physical processes and thermo-physical properties of materials, (e) experimental and applied study of the physical industrial processes, such as drying methods, extraction methods, novel encapsulation methods, etc. applied in the food industry, (f) process scale-up, (g) recovery of functional compounds from various natural sources, (i) *in vitro* digestion studies, and (k) life cycle assessment and environmental management for the determination of the economic and environmental impact of several products and processes.

National Technical University of Athens

National Technical University of Athens

Partner

University of Potsdam (UP) is the largest university in the federal state of Brandenburg, Germany. In 2016, UP was awarded the certificate ´HR Excellence in Research´ by the European Commission that identifies the organisation as provider and supporter of a stimulating and favourable working environment for researchers. Plant Science and Genomics in particular, are at the forefront of academic teaching and research at Faculty of Science. The Department of Molecular Biology is part of the Institute of Biology and Biochemistry, which belongs to this Faculty. The Department has a wide-ranging expertise in plant genomics, in particular with respect to analysis of transcriptional factors and gene regulation, abiotic stress response, and senescence, including priming. UP will coordinate analyses on how priming agents exert their function at the genome or biochemical/physiological levels and will provide its expertise in unravelling the cellular control points underlying the priming process. This will in particular cover priming-dependent transcriptome studies and the identification of transcription factors that control priming-affected genes, e.g. using yeast one-hybrid screens. The UP will lead the organization of two exploratory workshops in grant proposal writing and implementation and one hands-on training school entitled 'Priming in plants – agents, processes, molecular settings'.

University of Potsdam

Universität Potsdam

Partner

KU Leuven participates through its research division MeBioS which investigates the interaction between biological systems and physical processes. MeBioS is one of the leading postharvest research groups worldwide. Half of its research is in collaboration with the agro-food industry. These activities are founded in a deep knowledge on physiological behavior of fruits and vegetables after harvest combining omics techniques with advanced biostatistics and biophysics models to interpret the results. MeBioS has a longstanding experience on non-destructive fruit quality evaluation and has been at the front of developments like NIR spectroscopy, hyperspectral imaging and acoustic firmness detection. In addition, MeBioS has put much effort in optimizing fast profiling techniques for fruit aroma and taste. Aroma is a key quality indicator for soft fruits and KU Leuven has a long-standing experience on such analysis. KU Leuven will support a training school entitled "VOCs analysis: techniques, data processing and statistical tools" and WI staff will have access to the relevant infrastructure (HS-SPME-GCMS, TDU-CIS-GCMS, SIFT-MS). Knowledge and expertise on the analytical technology, data processing and multivariate data analysis will be shared with the WI staff.

KU Leuven

KU LEUVEN

Partner

The Spanish National Research Council (CSIC) is the largest public institution dedicated to research in Spain and the third largest in Europe. CEBAS-CSIC has expertise on phytochemical analysis with advanced analytical chromatographic methods, bioavailability and metabolism of food bioactives, pharmacokinetics; biological mechanisms of action of phytochemicals and their metabolites; interaction of phytochemicals with gut microbiota and metabolomic approaches. CSIC will assess the potential beneficial effect of priming agents in phytochemicals and nutraceutical properties of horticultural commodities, a research area of prime importance with significant technological implications. To this aim state-of-the-art infrastructure (UPLC-Q-TOF-MS; UPLC-QQQ-MS; HPLC.IT-ESI-MS-MS; HPLC-TOF MS- NMR; GC-MS) will be used. In addition. CSIC will organize a training school in the fields of phytochemicals, food quality and health-promoting effects. Training sessions in metabolomics studies for identification of biomarkers related to food quality, safety and bioactivity will be also performed. In addition, based on the available infrastructure, CSIC will accomplish a cost/benefit analysis and propose infrastructure that will render CUT autonomous in a series of analysis.

Spanish National Research Council

CSIC
Consejo Superior de Investigaciones Científicas

primesoft

Development of innovative priming technologies safeguarding yield security in soft fruit crops through a cutting-edge technological approach

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Cyprus University of Technology

Universität Potsdam

National Technical University of Athens

KATHOLIEKE UNIVERSITEIT LEUVEN

CSIC Consejo Superior de Investigaciones Científicas

Funded by the European Union

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