Preventing HLB epidemics for ensuring citrus survival in Europe

# [D9. 1] Preliminary dissemination and exploitation plan

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|---|---|---|---|---|---|
| Deliverable No. | D9.1 | Work Package No. | WP9 | Task/s No. | 9.1 |
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| | |
|---|---|
| Deliverable version | 1.1 |

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# 1. Introduction

PRE-HLB is a project funded by the Horizon2020 Programme of the European Commission which goal is to develop and implement a holistic contingency plan to protect the citrus sector in the EU from HLB disease drivers and to co-create new solutions to manage the disease through a multidisciplinary approach and in collaboration with experienced partners from America and Asia. The Pre-HLB work plan includes three specific objectives to monitor progress:

1) Pre-HLB preventive actions and development of mid-term tools will limit HLB potential introduction, reducing the potential economic impact in EU (estimated in 7.7 billion euros) by 40%

2) The consortium will contribute to improve current HLB surveillance, contingency and control strategies. Up to 100,000 Ha of citrus cropping area will be monitored to obtain field information on potential HLB infection and the dynamics of the vector in the subareas of highest risk, thus limiting disease/infestation spread.

3) Excellent European research centres will join forces to fill research gaps in vector biology, host/vector/pathogen interactions, Aurantioideae genetics and genomics, as well as to develop new biotechnological tools, such as new effectors, metabolites, biocontrol agents and biopesticides. Results will identify HLB-resistance traits and will allow to generate long-term resistance. This is one major milestone in the field of citriculture.

The EU citriculture is threatened by the emerging disease Huanglongbing (HLB, also known as Greening), considered the most devastating citrus disease due to its rapid dispersal, severity and fast progression of symptoms, huge losses in fruit production and quality, cost and difficulty of preventing new infections, lack of resistant citrus varieties and economically feasible treatments for infected trees, and absence of durable control mechanisms. HLB generates multimillion economic losses to citrus industry and severe damages to the environment due to aggressive and numerous chemical treatments required nowadays to manage the disease. Now it is time to start the research in the EU because the vector *Trioza erytreae* has been detected and is spreading in Spain and Portugal.

The operational objectives defined to address specific challenges are the following:
Establish short-term preventive actions (ST) to monitor vector spread and risk of HLB invasion in the EU:

- Implementation of effective preventive actions to avoid the introduction in Europe of *D. citri* and the spread of psyllid vectors (*T. erytreae* and *D. citri*).
- Study and analysis of the spread and dynamics of *T. erytreae* in the EU (and associated countries) to establish efficient control measures.
- Set up an HLB information and communication network to discuss Pre-HLB results with phytosanitary authorities to facilitate the development and implementation of a new EU health policy.

Setting up medium-term mitigation actions (MT) to reduce the spread of psyllid/HLB via rapid interventions:

- Analysis of the Psyllid/Citrus/Bacterial interactions to understand the biology of the vector/disease.

- Development of Psyllid/*C*Las detection and integrated pest management strategies, as well as data- and model-based risk assessment tools adjusted to the EU and associates.
- Search for resistance against HLB-causing bacteria and/or their insect vectors.

Implementing long-term avoidance actions (LT) by biotechnological approaches.

- Exploitation of resistance to *C*Las or to insect vectors
- Generation of genetic resistance to *C*Las or to their insect vectors, and development of new biopesticides and biocontrol agents.

# 2. Objectives and approach of the dissemination and communication strategy

Communication, Dissemination and Exploitation is an important part of the Horizon2020 projects that all partners should and must take part in. Communicating European projects should aim at how research and innovation are contributing to an "Innovation Union".

In this manner, the aim of the PRE-HLB Dissemination and Communication Plan is to promulgate findings and innovation to key stakeholders to create value within the target communities and initiatives in the EU. In other words, Dissemination and Communication concerns the whole of the project because it is a way of raising awareness for the achievements targeted to the external audience, the agricultural and scientific community and the potential business users of the products and services developed. It is needed to emphasize that the organisations directly or indirectly involved in the project, count on unquestionable positioning and capacity to influence and integrate internal dissemination strategies, by involving complementary research and communication/marketing/business units to increase the impact of the project. Communication, dissemination and engagement actions will be developed, so that the strategy is integral.

The consortium will ensure that the dissemination materials prepared for the promotion of the results and benefits do not compromise the interests of the industrial stakeholders prior to disclosure. In this matter, the dissemination approach will be designed and tailored according to the nature of each partner. The findings from the PRE-HLB project will be also tailored to the specific audiences and provide a basis to fostering public support for the development of sustainable, environmentally friendly and healthy technologies. All aimed to help maximise the impact of R&I actions.

The dissemination and communication strategy of PRE-HLB will combine on-line and off-line channels and tools, and reinforcing different highlights focused on the stakeholders. In this way, the combination of different actions will reinforce the message and allow to reach our audiences.

## 2.1 Target audience and description

The identification of target audiences of PRE-HLB project is crucial in order to customise the messages and dissemination & communication activities to every different group. Each group of stakeholders

have different points of interest and demands regarding the project. According to this strategy, messages must be shaped and delivered in an effective manner.

Dissemination and Communication channels and activities described on this Plan will be clearly focused on them and the messages will be adapted.

The following audience and stakeholders of the sector have been identified before the starting of the project and they will be considered at the European, national and regional level. During its development, partners will be asked to report about contacts, networking and activities established with these groups:

| Groups | Audience |
|---|---|
| Agricultural people | Farmers, Nurseries, Agronomists, Local Government |
| Society, children and students | People who don't know about the HLB infection in the citrus plants. |
| PRE-HLB Stakeholders | Participants, project Partners and relevant stakeholders in PRE-HLB and EU projects, as well as, policy makers. |
| Mass Media | Media Outlets and specialized magazines |

Depending on the specific target audiences, the project will implement different strategies:

- **Dissemination**: This includes a stakeholders' engagement and capacity building aims at targeting more experienced audiences (mainly technical and professional audiences, investors, academia etc.) with a focus on transferring technical/technological results through peer to peer communication.
- **Communication**: It aims at lay audiences, end users and house owners, citizens and the general public (not always closely related with technological issues of PRE-HLB). The communication process covers the whole project (including results), starts at the outset of the project focused on multiple audiences and have a multiplier effect (beyond the project's own community, including the media and general public). PRE-HLB must inform and engage with society, to show how it can benefit their progress. (Legal reference Grant Agreement Article 38.1).
- **Stakeholders engagement**: Industrial stakeholders could be direct beneficiaries of the project and potentially invest in the technology developed (medium and long-term). Our industrial stakeholders will ensure that research outcomes can be aligned with their industrial vision for the development of new generation products. We will reach stakeholders through the social media channels and executing social media campaigns in a way to get their attention. Not only social media will ensure that, because our participation in key events will also be a great platform to introduce the project into the PRE-HLB possible community hub.

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## 2.2 Key dissemination and communication channels and activities

| COMMUNICATION ACTIONS | DESCRIPTION |
|---|---|
| Scientific Conferences and International Journals | |
| Scientific Conferences<br>International Journals | RTD/academia Partners will dedicate strong efforts in the publication of scientific papers under the framework of global recognized scientific conferences and high impact factor journals |
| International events for professionals /Fairs/Workshops | |
| Workshops | Technical actions to train scientists, the agricultural sector, authorities and nurseries to fight against HLB |
| Technical events | Events in Europe open to all stakeholders (e.g. scientists, regional governments, farmers, nurseries and phytosanitary companies) to discuss and develop the contingency plan and new EU citrus policy |
| Networking with European/International Initiatives related to emerging plant diseases | |
| Other EU projects | To look for synergies and new opportunities. |
| Other associations and networks | To disseminate the project results through these European platforms related to phytosanitary research. |

*Table 1 Key Diss and Comm Channels*

| COMMUNICATION ACTIONS | DESCRIPTION |
|---|---|
| Digital Marketing Strategy | |
| Project website and positioning | An advanced website, providing information about the project and the results, showcasing project´s news and acting as a communication channel with the stakeholders and the project media hub. |
| Newsletter | Information loaded electronic newsletters-project's status, developments and other news. Delivered quarterly by email and available in the website. |
| Social Media Channels | The project will develop a PRE-HLB community around the Social Media Networks more relevant to be in contact with the stakeholders and the general public. LinkedIn and Twitter. |
| | |
| Logo and presentations | HQ professional logo, visual guide, and professional presentation templates (Word for deliverables, power point, press releases, etc. for all partners). |
| Supporting Communication Material | Posters/Banners/Rollups which will present the project's concept; Flyers/Leaflets that will contain general project information, best practices and ad-hoc information for events. |
| Press releases & conferences. Articles and interviews. Media events. | Due to the socioeconomic impact of the project, it will catch interest from the Media. Work will be carried out with specialised journalists, taking full advantage of the public opinion they generate and their capacity to influence upon the rest of the targeted audiences. The project will also take into account invite the Media outlets to the events that the project does. |

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| | |
|---|---|
| Joint events, workshops, round tables & networking with other projects | Events organised/co-organised by project inviting experts, researchers, clients and industry audience.<br>Other events where project will be invited to present its work and vision will also be considered.<br>All events will have presence on the website and the most important will be communicated via Twitter |
| Training material | Free practice abstracts and technical datasheets directed to inform specific groups about the threat of HLB and the best ways to manage it. They will be designed to target each specific target group. |
| Videos | With the aim of communicating the complexity of the research activities in an educational format, three didactic videos will be produced (one for "HLB potential impact in European citriculture", the second for "Green agriculture and non-conventional management tools" and the third for "EIP practice abstracts about HLB"). They will target the stakeholders of value chain but will also be accessible by the general public. |
| Public workshops | 3 events, in the 2nd and 4th year of the project, will be organized by CREA, UNICT and CSIC to communicate general project information to be attractive to academia and the general public. |
| Open Science and educational actions | Most of the High Education partners are subscribed to the European researchers' night and other Open science organised by Marie Curie Program. PRE-HLB results will be communicated in these events through the duration of the project. |

*Table 2 Key Comm Channels*

## 2.3 DISSEMINATION AND COMMUNICATION MANAGEMENT

Martinavarro is the leader of the WP9 about Dissemination, Exploitation and Communication Activities. ZABALA Innovation Consulting will be the one executing the communication and dissemination actions. The actions and processes will be coordinated with CSIC (leader of the project), and the rest of the members of the consortium through the Communication Team, conformed by one member of each partner and the support of the Communication/Marketing/Business Departments of every organization. It is indispensable a collaboration between the partners to elaborate a meaningful communication strategy that reaches every local, regional or European sector. To make this happen and reach our objective audience every pill of information should be translated into the local languages the partner of the consortium speaks: Spanish, Portuguese, Italian, French, Dutch, Chinese, Hebrew. Every piece of information is going to be written in English.

Martinavarro and ZABALA will nominate a person as the Communication Manager of PRE-HLB to coordinate the interaction among the partners, implement and monitor the strategy and act as the main contact of reference for Media and journalists.

Additionally, some specific procedures will be designed to organise in an effective way the external communication, the generation of content in the website, the Social Media work, the review of communication and dissemination materials, and the information and reporting about the participation in events.

All the materials produced to this end by the partners will be reviewed previously its local distribution.

### 2.3.1 Distribution of responsibilities

According to the Article 29.1 of the EC-GA "Each beneficiary must – as soon as possible – "disseminate' its results by disclosing them to the public by appropriate means (other than those resulting from protecting or exploiting the results), including in scientific publications (in any medium)."
This does not change the obligation to protect results in Article 27, the confidentiality obligations in Article 36, the security obligations in Article 37 or the obligations to protect personal data in Article 39, all of which still apply.

"A beneficiary that intends to disseminate its results must give advance notice to the other beneficiaries of — unless agreed otherwise — at least 45 days, together with sufficient information on the results it will disseminate. Any other beneficiary may object within — unless agreed otherwise — 30 days of receiving notification, if it can show that its legitimate interests in relation to the results or background would be significantly harmed. In such cases, the dissemination may not take place unless appropriate steps are taken to safeguard these legitimate interests."

Therefore, every possible opportunity will be embraced by individual partners or on collective basis through joint appearance by more than one partner to make PRE-HLB known among technicians and general public as well. All partners of the consortium must contribute to the dissemination according to their foreseen role and effort and using all available tools. Thus, for instance, by participating and giving presentations at conferences, publishing papers, holding press conferences, networking and similar activities and will strive to maximize the existing dissemination channels for the purpose of project result adoption and successful future commercialization of PRE-HLB outputs. In order to manage the external communication and the publication of PRE-HLB related text/images/videos in whatsoever form (magazines, newspapers and papers for conferences, workshops and seminars, etc.) the Consortium avails itself a Communication and Dissemination Board (CDB) who has appointed a person to manage daily activities, the Dissemination and Communication Manager (DCM).

The DCM is the daily contact point for external communication, she will coordinate the interaction among the partners, implement and monitor the strategy and act as the main contact of reference for Media and journalists.

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MARTINAVARRO is the leader of the WP9 about Dissemination, Exploitation and Communication Activities and they will act as CDB coordinator to solve conflicts of interest in Dissemination and Communication action. CDB members are the following:

- Joaquín Juan, MARTINAVARRO, Coordinator
- Susana Garayoa, ZABALA Innovation Consulting
- Carla Sala, ZABALA Innovation Consulting
- Juan Salvador Torres, AVA-ASAJA
- Marcelo P. de Miranda, FUNDECITRUS

- Mª Angeles Forner, IVIA
- Vicente Dalmau, AGROAMBIENT

The Consortium acknowledges the importance of innovation management to look for new R&D actions and potential products that can be obtained from research results developed within the project. IPR management requires organization at different stages (from grant negotiation to project certification), coordinating level (WP, task), operational level (laboratory, field trials, industry) and support level; that is the reason why it has been defined the Pre-HLB management structure (see WP9). ZABALA will act as innovation manager to collect all the contributions from partners and prepare an innovation management portfolio that will be periodically analysed by the Scientific Board (SB).

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All the actions and processes will be coordinated with Scientific Board (SB, led by the project coordinator), and the partners through the Communication Team, conformed by one member of each partner and the support of the Communication/Marketing/Business Departments of every organization. It is indispensable a collaboration between the partners to elaborate a meaningful communication strategy that reaches every local, regional or European sector. To make this happen and reach our objective audience every pill of information should be translated into the local languages the partner of the consortium speaks by each speaking language partner: Spanish, Portuguese, Italian, French, Dutch, Chinese, Hebrew. Every piece of information is going to be written in English. The SB will oversee any Knowledge Protection and Intellectual Property issues every six months.

Additionally, some specific procedures will be designed to organise in an effective way the external communication, the generation of content in the website, the Social Media work, the review of communication and dissemination materials, and the information and reporting about the participation in events. All the materials produced to this end by the partners will be reviewed previously its local distribution.

### 2.3.2 Dissemination policy and rules

Dissemination activities in PRE-HLB project are deeply wedded with the intellectual property (IP) rights protection, which is clearly stated in EC-GA Articles 23a. Practical application of IP rights protection agreed among DREAM project partners is adjusted in the Consortium Agreement (CA) in Section 9.

The main aspects of IP rights protection are the following:

Common agreement on publication of other partners' confidential information or any other information subjected to their IP rights.

Setting up the dissemination rules and procedures to avoid any potential breach of any partner's IP rights, especially rules and procedures for PRE-HLB project results publications. Understanding the difference between the interests of academia and industry partners of PRE-HLB project. The academia partners tend to publish all information they have at disposal, which is caused by academia common motivation systems while the industrial partners' decision whether, when and where to publish depends on commercial considerations.

The basic regulation of the dissemination activities in the CA states that: Dissemination activities including but not restricted to publications and presentations shall be governed by the procedure of Article 29.1 of the GA subject to the following provisions.

"A beneficiary that intends to disseminate its results must give advance notice to the other beneficiaries of — unless agreed otherwise — at least 45 days, together with sufficient information on the results it will disseminate.

Any other beneficiary may object within — unless agreed otherwise — 30 days of receiving notification, if it can show that its legitimate interests in relation to the results or background would be significantly harmed. In such cases, the dissemination may not take place unless appropriate steps are taken to safeguard these legitimate interests."

For the avoidance of doubt, no Signatory Party shall have the right to publish or allow the publishing of any data which includes Foreground, Background or Confidential Information of another Signatory Party, even if such data is amalgamated with the Signatory Party's Foreground, or other information, document or material without the other Signatory Party's prior written approval. Where publications relate to jointly developed results, each Signatory Party involved must be asked for its consent to publish and such consent not to be unreasonably withheld, delayed or conditioned. All draft articles must be sent to the PC, the IM and to the DCM before publication or production for reporting and archiving purposes. This will allow checking if they fulfil the dissemination requirements or whether they conflict with other existing papers. Moreover, the Scientific Board will decide whether it is appropriate to make the document accessible on the Project website or Open Data Repository.

Each beneficiary must ensure open access (free of charge online access for any user) to all peer-reviewed scientific publications relating to its results. Furthermore, any dissemination of results (in any form, including electronic) must specifically refer to the support of the EC:

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### 2.3.3 Website

PRE-HLB design is divided into two sections:

- **General section.** It contains information about PRE-HLB consortium, project description and objectives, press releases, newsletters and events. ZABALA will update the PRE-HLB website regularly with news and events.
- **Technical section**. The Open data web platform to share the most relevant research publications, factsheets, protocols, crop management strategies, disease database, bibliography and legislation available at worldwide level. AVA will update the PRE-HLB open data web platform.

Members of the consortium are requested to promote press releases, offer information to create posts on the website, and other content and materials through their own communication tools and channels: website, Social Media profiles, newsletters, etc.). Work package leaders are also required to keep

informed ZABALA and AVA about the developments within these advances. This is a crucial request to follow during the whole implementation of the project because it's a helps the dissemination of results.

### 2.3.4 Social Media guidelines

ZABALA is responsible for the management of the Twitter and LinkedIn channels for PRE-HLB project and partner must collaborate by mentioning the PRE-HLB Twitter account, retweeting the messages about the project and sharing publications on LinkedIn. The Social Media guidelines will gather some pieces of advice and procedures about the participation of the partners in events and the promotion of their visibility on the Social Media channels.

Horizon2020 Programme has published a *Social media guide for EU funded R&I projects* with recommendations. This will be considered in the Social Media Strategy.

### 2.3.5 Communication Materials

ZABALA will develop communication materials to promote the PRE-HLB project and will be previously reviewed by the Communication Team. Partners must inform with enough time in advance if they need some of this material for the participation to events or other requirements. Each partner is responsible in the creation of scientific and research publications/communications devoted to dissemination.

### 2.3.6 Reporting events

Partners of the consortium will attend relevant events, conferences, workshops and fairs of the sector. They should be actively involved seeking opportunities to present and showcase the project in their own countries and at both local and European levels. The participation in events must be previously communicated to ZABALA (in order to make visible activities through communication channels), and after the event every partner must complete the events questionnaire with the reporting about the dissemination activity: sum-up, number of attendees, pictures, publications, presentations, press clipping, etc. (see annex).

### 2.3.7 Support of the European Union

The support to the PRE-HLB project by the European Commission must be recognised in all the dissemination and communication tools and materials including this disclaimer: *This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement 817526.*

For more information, please refer to article 29 of the Grant Agreement, which includes these and other considerations regarding the dissemination of the project and the Open Access.

All the beneficiaries of the project are committed to follow the guidelines about the use of the EU emblem using it in their communication to acknowledge the support received under EU programmes.

Scientific and research publications must include this paragraph:
"The dissemination of results herein reflects only the author's view and the European Commission is not responsible for any use that may be made of the information it contains".

PRE-HLB project partners will have to provide Open Access to all peer-reviewed scientific publications relating to its results according to Article 29.2. of the Grant Agreement

## 2.4 Relation between the work packages and the communication plan

Communication is intertwined with work packages in all areas. The communication and dissemination of results has to be present at the time of carrying out each package because it is the results that are executed and extracted from the work carried out in each field that will later have to be captured, communicated and disseminated among the stakeholders and the public of the project.

Likewise, package 9 is directly related to package 2, due to the fact that AVA-ASAJA are in charge of carrying out the work in WP2, one of the purposes of which is to execute one of the sections of the project's web page and to carry out a mobile application in order to disseminate the results extracted from the project's results.

For this reason, there is a close relationship between the work packages that are executed throughout the project and the communication and dissemination that must be done later with the results of PRE-HLB.

## 2.5 PRE-HLB BRAND

The first communication action developed after the starting of the project was to create a recognisable brand of PRE-HLB reflecting the main goals of the initiative and offering to the audience/stakeholders a clear identification of the values and messages.

### 2.5.1 Name

PRE-HLB is the branding name of the project which means: “PREVENTING HLB EPIDEMICS FOR ENSURING CITRUS SURVIVAL IN EUROPE”. The full title should be included in brackets when it is firstly mentioned in a document, then it will be used its abbreviation/acronym.

The project acronym PRE-HLB must be written in uppercase font.

### 2.5.2 Logo and Visual guidelines

The brand proposal for PRE-HLB is inspired by


*Figure 1 Vertical and horizontal logo*

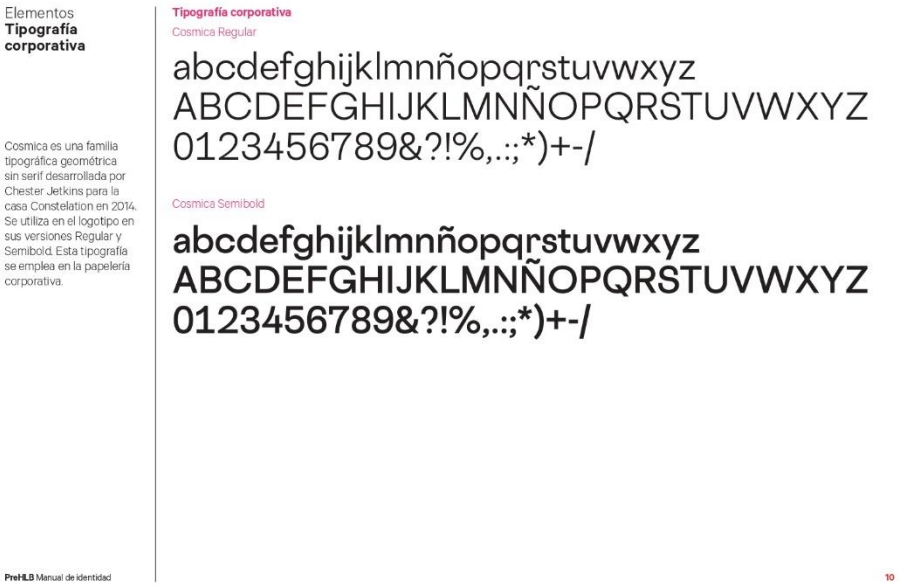


*Figure 2 Corporate typography*


*Figure 3 Corporate typography*

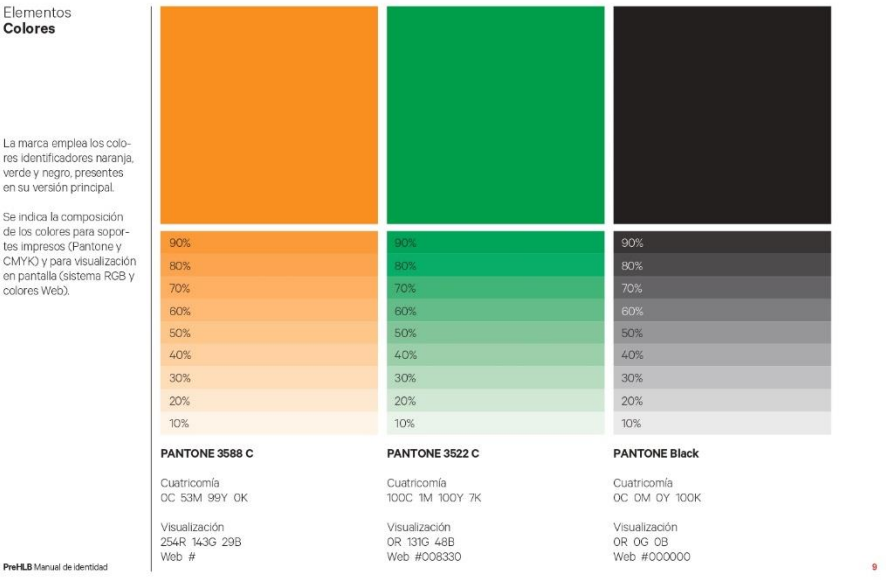


*Figure 4 Main colours of the logo*

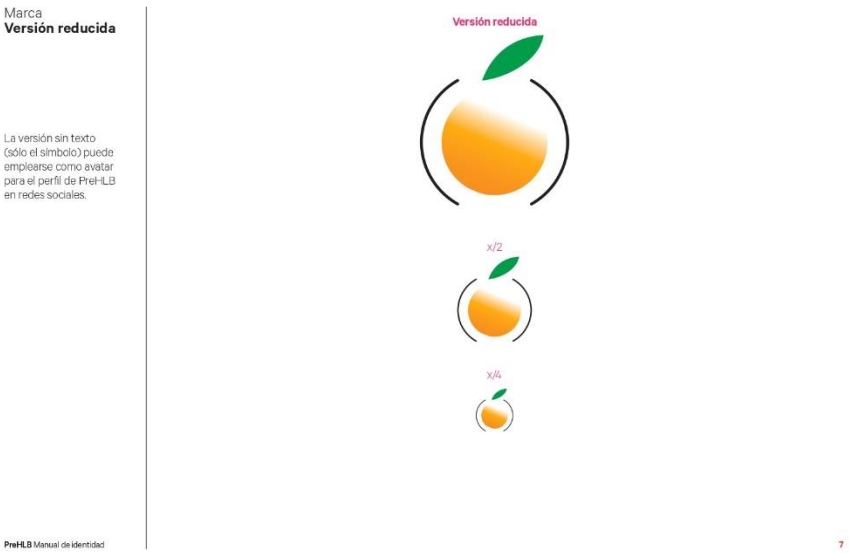


*Figure 5 Reduced brand option*

# 3 Detailed description of targeted dissemination actions

## 3.1 Targeted publications (M1-M18)

| | - | |
|---|---|---|
| **International Reference Journals Targeted** | - Frontiers in Plant Science<br>- BMC Genomics<br>- Tree Genetics and Genomes<br>- Phytopathology Journal<br>- Plant Disease Journal<br>- Virology Journal<br>- Journal of General Virology<br>- Journal of Virology<br>- Plant Biotechnology Journal<br>- New Phytologist<br>- Scientific Reports<br>- Science Advances | - Plant Physiology<br>- Pest Management Science<br>- Entomologia Experimentalis et Applicata<br>- Molecular Plant-Microbe Interactions Journal<br>- The Plant Journal<br>- Nature Plants<br>- Plos Genetics<br>- Heredity<br>- Plos One<br>- Plant Cell Reports<br>- Plant Cell & Environment |

## 3.2 Targeted conferences (M1-M18)

| | - |
|---|---|
| **Scientific** | - Plant and Animal Genome (PAG) (California, 2021)<br>- 14th International Citrus Congress (Turkey, 2020) |

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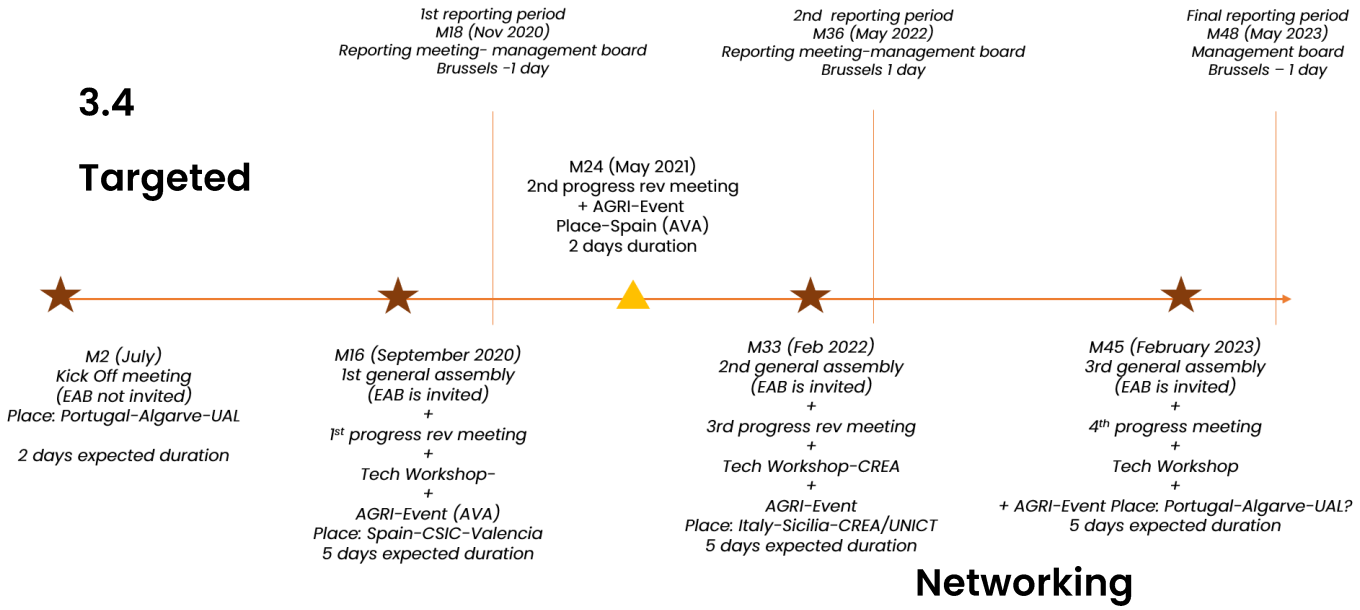
| | |
|---|---|
| **Conferences Targeted** | - V International Symposium on Citrus Biotechnology (ISCB)<br>- Congress Società Italiana Genetica Agraria (SIGA) (Italy)<br>- Congress Federation European Societies Microbiology (FEMS) (Glasgow 2019)<br>- European Congress of Entomology<br>- International Congress of Entomology<br>- Hemipteran-plant interactions symposium (Australia, 2020)<br>- International Organization of Citrus Virologists (IOCV) conferences<br>- Terpnet (Germany, 2020)<br>- Gordon Conference Plant Volatiles |

## 3.3 Targeted workshops & events (M1-M18)

- CREA will organise in February 2022 an international workshop dedicated to the use of genome information to support a healthy citriculture, aimed to guarantee plant protection and food safety. Participation of main scientific societies and stakeholders will be envisaged with a view to widening dissemination of the principal results coming from the use of genome information. The workshop will be linked to the promotion of the importance of germplasm collection and conservation as source of beneficial resistance genes. One/Two days' workshop, encouraging the participation of the main experts in plant genomics and citriculture from European countries will be opened to students, private and public sectors, researchers and delegates, breeders and producers. EIP research groups focused on fruit trees and genome research will be invited to the workshop.
- Two Project meetings will be organized by CSIC during the second year (September 2020) and by UNICT and CREA during the third year of the project (February 2022) to disseminate key Pre-HLB results. Private and public stakeholders as well as key government representatives will be invited to the meeting (plant protection services, regional governments, etc.)
- 24 events in Europe open to all stakeholders (e.g. scientists, regional governments, farmers, industries, nurseries and phytosanitary companies) to discuss and develop the contingency plan and new EU citrus policy (WP2).
- 24 technical workshops to involve the agricultural sector, authorities and nurseries to determine the plant material at risk and creation of rapid intervention teams (WP2).

There are not scheduled yet the technical workshops and events at the moment of elaborating the first version of the PDER, it is expected to discuss this during the first Webex in M4

## 3.4 Targeted Networking opportunities




PRE-HLB members are actively involved in other EU/International initiatives/projects related to plant diseases that will contribute to networking activities of the project. These initiatives/projects are:

Advanced ERC grant on underground chemical communication of plants (UVA)
H2020 SFS-2016-2 (SFS-11-2016) TROPICSAFE project "Increasing production efficiency and coping with climate change, while ensuring sustainability and resilience" (CIRAD);
ARIMNet2 2016-2019 ORPRAMed "Risk assessment of introduction of *Xanthomonas citri* subsp. citri through commercial trade of rutaceous plants in the Mediterranean basin" (CIRAD-CREA-Unict)
FEDER interreg 2015-2019 Réunion EpiBIO (CIRAD)
E-SPACE Agropolis Fondation Flag Project "Improving epidemio-surveillance of Mediterranean and tropical plant diseases" (CIRAD).

PRE-HLB has invited EPPO, EUPHRESCO and European Crop Protection Association ECPA initiatives disseminating the project results through these European platforms related to phytosanitary research. Acceptance letters as members of the External Advisory Board are attached to the proposal showing the agreement to contribute to the dissemination of the Pre-HLB results.

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# 4. Communication tools and actions

## 4.1 Digital Marketing Strategy

With the main aim of attracting and establishing a PRE-HLB community around our general public, a Digital Marketing Strategy has been established with three main pillars:

- PRE-HLB website that will be permanently updated through the section of news and events.
- Social Media and newsletters to share the advances about the project included on the website and attract visitors and users. This will also be used as a tool to interact and listen to the comments of the stakeholders of the project.
- SEO using techniques to obtain a good positioning of the website on Google.

### 4.1.1 Website

The PRE-HLB website is the main Dissemination and Communication online tool of the project, which will reflect news, advances, and results of the investigation of this project, and the rest of communication actions and the exploitation of the results. Therefore, its design, management, maintenance and generation of content are key activities. It will showcase the content of sections and defines the expected impacts for the project consortium and the final aim of the investigation of this project.

The website of PRE-HLB is an informative page and a media hub for all the public interested in the subject of the project. According to this strategy, messages will be shaped and delivered in an effective manner using Digital Marketing strategies: SEO, creation of content and Social Media channels will be the three pillars to achieve the best results.

The platform will be created to serve as a project content management system. With this aim, the website provides the following content, following guidelines and recommendations of the EC:

- General information about the project.
- Description of all the organizations members of the consortium including the main researchers involved in PRE-HLB
- Information, objectives and work packages.
- Information about public participation, and training programme (workshops for academia, business and policy makers).
- Description of events organized within the framework of the project.
- Press releases and other materials focused on the Media.
- Information about the results.
- Newsletters.
- Public deliverables.
- Latest news.
- Addressing and contact information.
- Appropriate acknowledgment and reference to the European Union's Horizon 2020 Framework Programme and disclaimer excluding European Commission responsibility.

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The PRE-HLB website has been created with specific objectives, which respond to the communication and dissemination needs of the project. Amongst them, the most highlighted are the following:

- Maintaining a **dynamic website**, all kind of contents will be periodically updated. The website will count with technical articles, investigation papers, public deliverables, pieces of news and policies of the sector, initiatives related to the European Commission, events created by this project or other projects with the same objective, workshops, etc. With this methodology it will improve positioning in Google searchers, and while sharing the content through social networks and the newsletter, more visitors will be attracted to the website.
- The PRE-HLB website is one of the **main communications and dissemination tools of the project**. To maximize the scope of the project, different strategies of digital marketing will be established.
- **SEO** – (Search Engine Optimization): the traffic of visits to the PRE-HLB website will increase progressively throughout the course of the project thanks to the implementation of strategies oriented to organic traffic, always considering the keywords identified for it. PRE-HLB website will be SEO friendly and responds to the following standards. To generate traffic through search, PRE-HLB website is focused on keywords like agriculture, citrus, Huanglongbing disease, HLB, plant biology, plant diseases, integrated pes management, psyllid, *Tryoza erytreae*, *Diaphorina citri*
- **Social networks**: the information hosted in the PRE-HLB website, will be used in the social media channels in a way to increase visits and attract newcomers to the project.
- **Newsletter**: A **quarterly newsletter** will be distributed between the consortium and the public including achievements and innovations of the project that redirect to the website. Newsletter will be also uploaded to the website in a specific section just for them.
- **Link building**: It will be able to create synergies between the PRE-HLB website and the partners' websites, as well as with other relevant agents of the sector, Horizon 2020 projects in the same field encouraging the exchange of links. Instruction to the rest of the partners will be offered with this aim.

This is the list of the partner's websites:

http://www.csic.es/
http://portal3.ipb.pt/index.php/pt/ipb
http://sito.entecra.it/portale/index2.php
https://www.cnr.it/
https://www.cirad.fr/
http://www.ivia.gva.es/es
https://www.embrapa.br/en/international
https://www.cam.ac.uk/
http://ampbiotech.com/
http://english.hunau.edu.cn/
https://www.dur.ac.uk/
https://www.uva.nl/
https://www.koppert.es/

http://www.agroambient.gva.es/es
http://www.martinavarro.es/es/empresa-historia.html
https://www.fundecitrus.com.br/
http://www.avaasaja.org/
https://www.zabala.es/
https://www.unict.it/
http://www.upv.es/
http://nova.valgenetics.com
https://ualg.pt/en
https://www.frusoal.pt/
https://www.agri.gov.il/en/home/default.aspx

- Responsive Web Design makes PRE-HLB page look good on all devices (desktops, tablets, and phones). The incorporation of the state-of-the-art techniques in design also creates a quick and intuitive user experience browsing the web.

PRE-HLB website will be SEO friendly and responds to the following standards:

- Keyword Optimization: PRE-HLB website uses keywords in the content for maximum searchability.
  - Citrus
  - Huanglongbing disease
  - Greening disease
  - Psyllid
  - Insect vector
  - Aurantoideae
  - Epidemiology
  - Breeding
  - Genomics
  - Biotechnology
  - Plant biology
  - Integrated pest management
  - Plant diseases
  - Plant protection
  - *Diaphorina citri*
  - *Tryoza eritreae*
  - Liberibacter

- Content Organization: The content is organized in a logical way and considering the European guidelines of best practices. This is not only good for SEO; it also helps visitors to find other related content easily.

- Content Promotion: Increase visibility to new content by sharing it on social networks and building links to the content (both internally and from external sites).

The website has a legal warning and a policy that promises the fulfilment of the GDPR. This is also a requirement that has been considered when sending the quarterly newsletters

### 4.1.2 Newsletter and Mailings

A quarterly newsletter will be shared with newcomers interested in being aware about the achievements/news of the PRE-HLB project. This data base will be nourished by a registration form included in the website, an existing contact list of the partners and thanks to the participation/involvement of the consortium with other EU initiatives, events, fairs, workshops, etc. The newsletter will be promoted by the partners to their whole target and database of contacts. News will be sourced from the project's website, so that in this way the visits will be increased.

In addition, it will be circulated via the European stakeholder´s associations. Mailings with invitations to relevant workshops and webinars, consultations and other information which cannot wait for the newsletter publication or that cannot appear only in the newsletter will be sent out regularly to the same database used for the newsletter.

Newsletters will be uploaded in the website. Punctual mailings on the project will also be sent to inform about events and workshops organized by PRE-HLB.

### 4.1.3 Social Media channels

The creation of a "PRE-HLB community" will increase the visibility and impact of the results attained in the project. In fact, viral marketing strategies linked with the website and its new content periodically created will be implemented based on Twitter (@PreHLB) and LinkedIn Social Media tools.

The Social Media accounts are already set and updated regularly. ZABALA leads this task with the support of all partners communication departments to facilitate the reach out to wide media and promote interaction and lines of conversation on the Social Media channels.

ZABALA will lead this task that will require inputs and support for dissemination by all partners. Recommendations and requirements of the Social media guide for EU funded R&I projects of the H2020 Programme will be followed.

#### 4.1.3.1 Twitter

People use Twitter to find out what is going on in the world right now, instantly sharing information and connecting with people and businesses across the globe. It offers a great opportunity for PRE-HLB to reach an international audience of current and potential stakeholders.

PRE-HLB is using Twitter to establish meaningful connections with an active and relevant audience (EC, policy makers, stakeholders of the industry, local authorities and general public). These connections can produce beneficial opportunities for the project across the network of stakeholders. It will serve as well to tell everybody in real time what is happening in the co-creation workshops and other activities of the project.

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The credentials for Twitter are the following:
Twitter Handler: @PreHLB
Hashtag: #PreHLB

To maximize the impact of the project on Social Media Channels, images and gifs will be crated and shared with all the partners.

Tweets can be directed to specific accounts using @TWITTER-HANDLE in tweets.
This is the list of the project partners' Twitter handles or hashtags (in case they have not Twitter account)-They will be mentioned in the PRE-HLB Twitter account to generate conversations and interactions always that is possible:


*Figure 6 Screenshot of Twitter account*

### 4.1.3.2 LinkedIn

LinkedIn is currently the main business network in the world and has more than 150 million users in more than 200 countries and territories. Stakeholders, which PRE-HLB needs to connect with, are in LinkedIn, so it is appropriate to implement some actions.

A LinkedIn company page will establish PRE-HLB public image on a global scale as a reputable and trustworthy project. Although many people view the Social Media site LinkedIn only as a site for job hunters and for growing professional network, LinkedIn is an equally effective tool for nurturing referral relationships.

By producing content that our viewers want to see about the project and share with others, our viewers become engaged advocates of PRE-HLB and can expand our global influence. The content generated by PRE-HLB project will be available in different formats such as SlideShare project presentations, website blog posts, infographics and videos to suit the viewing preferences of our target audience.

PRE-HLB should post as many status updates as our content supports. We will reach more of our audience and extend our reach as we post more often. The PRE-HLB LinkedIn profile is a supplement to the website, helps driving traffic to the site and offers a way out to promote the project.

PRE-HLB LinkedIn's page: https://www.linkedin.com/company/pre-hlb/

## 4.2 Communication materials

In order to effectively broadcast the messages of the project in events and promote the project on the website and the Social Media channels, different communication materials have been foreseen.

### 4.2.1 General presentations of PRE-HLB

A general Power Point presentation in English is already been created to showcase the project at events. The PPT presentation should be translated, used and completed by the partners of the consortium. The content will include the project´s main mission, objectives and expected results.

### 4.2.2 Digital and Print brochures

A brochure explaining the project is already been done. This kind of communication material is an excellent practice of showcasing the main objectives and information about PRE-HLB. It's been done print and digital in a way to spread the word of the project and reach more people in the process.

### 4.2.3 Roll-up

For the participation in events will be developed for the whole project to avoid one-shot production and waste

### 4.2.4 Digital tools

PRE-HLB will create an application to complete the communication contents. It will be detailed during the first Webex meeting in M4 after revising the initial technical contents previewed.

## 4.3 Media relations

The Media and journalists are key agents to transmit information about the project to other stakeholders and the general public. They have a lot of influence and may have a positive impact to increase results, raise awareness and offer information to the rest of the society about the PRE-HLB project. Relationships with Media will be established through the Press Office of PRE-HLB, led by ZABALA and the collaboration of the rest of the partners.

This task will be accomplished at European, national and regional levels on the following way:

- ZABALA will prepare the press releases regarding the PRE-HLB milestones and other detected opportunities to communicate in English and Spanish.
- Once the press release is approved by the Communication Team, every partner will translate the press release into the local language and will send it to their contacts through its Communication Department.
- The press release will be included on their own websites and shared in their Social Media channels.
- Impacts will be monitored and included in the press-clipping (visible in the PRE-HLB website) and in the Report on Dissemination and Communication Activities

To make the most of our content, we will need to make sure we are distributing it correctly. Content promotion through some distribution platforms will allow us to win audiences and optimize our news and information.

The European platform of news CORDIS WIRE will be used as well to distribute news releases and posts generated for the website.

## 4.4 Events

The events are one of the most important parts of the dissemination and communication strategy because they allow to connect with stakeholders and the general public, encourage networking and show advances and results of the project. Events also feed of content the communication channels and tools (website, Social Media, press releases) generating great impacts on different audiences.

The strategy of participation of events will be set up at three different levels:

- By the side of each partner participating in the usual events of the sector.
- Joining presentations of the project in previously selected events organized by the EC and other key institutions/organizations.
- Events organized and promoted by PRE-HLB collaborating with other initiatives and organizations to generate synergies.

### 4.4.1 Presence at key events

International conferences, congresses, workshops, exhibitions and fairs are one of the most effective dissemination and communication actions. The partners' participation to events will generate more visibility for PRE-HLB project and will boost the contact with stakeholders and other European projects.

The following list is an example list of the kind of events that will be in the radar of PRE-HLB for communication and dissemination activities:

| Name of the event | Partner attending | Target Group | Estimated Date |
|---|---|---|---|
| Plant and Animal Genome | | scientific public, researchers, science students, stakeholders | California, 2021 |
| 14th International Citrus Congress | IBMCP (CSIC) | scientific public, researchers, science students, stakeholders | Turkey, 2020 |
| V International Symposium on Citrus Biotechnology (ISCB) | IBCMP (CSIC) | scientific public, researchers, science students, stakeholders | Unknown 2022 |

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| | | | |
|---|---|---|---|
| Congress Società Italiana Genetica Agraria (SIGA) | | scientific public, researchers, science students, stakeholders | |
| Congress Federation European Societies Microbiology (FEMS) | | scientific public, researchers, science students, stakeholders | Glasgow 2019 |
| European Congress of Entomology | | scientific public, researchers, science students, stakeholders | |
| International Congress of Entomology | | scientific public, researchers, science students, stakeholders | |
| Hemipteran-plant interactions symposium | IBMCP (CSIC) | scientific public, researchers, science students, stakeholders | Australia, 2020 |
| International Organization of Citrus Virologists (IOCV) conferences | IBMCP (CSIC) | scientific public, researchers, science students, stakeholders | Unknown 2021 |
| Terpnet | | scientific public, researchers, science students, stakeholders | Germany, 2020 |
| Gordon Conference Plant Volatiles | | scientific public, researchers, science students, stakeholders | |

*Table 3 Key Events*

The participation of partners in events will be made visible through the PRE-HLB website and Social Media channels contributing to increase the community of stakeholders and public interested in the project. General and technical presentations of PRE-HLB will be showcased in a face-to-face interaction with the stakeholders.

## 4.5 Scientific publications

It is expected that PRE-HLB project develops a significant amount of research results which will be disseminated to different key agricultural communities. Thus, RTD/Academia Partners will dedicate strong efforts in publishing scientific papers under the framework of global recognized scientific conferences and journals that count on high impact index.

It is expected to develop a significant amount of research results which will be disseminated to different key scientific communities. Thus, RTD/Academia Partners will dedicate strong efforts in publishing scientific papers under the framework of global recognized scientific conferences and journals that count on high impact index

The publications will be made freely and openly available via online repository with gold open access. Prior to publishing any scientific publication, the PRE-HLB Partner involved will contact the whole consortium for revision and validation of the publication 45 days in advance. The publications funded by the project will be uploaded to specific bibliographic social networks such as ResearchGate no later than 6 months after its original date of publication

PRE-HLB project partners will have to provide Open Access to all peer-reviewed scientific publications relating to its results according to Article 29.2. of the Grant Agreement and H2020 Guidelines on Open Access to Scientific Publications (European Commission, 2017).

Each PRE-HLB project partner will ensure Open Access (via the repository) to the bibliographic metadata that identify the deposited publication. The bibliographic metadata will be in a standard format and will include all items as it is indicated in the Article 29.2. of the Grant Agreement.

The PRE-HLB website www.prehlb.eu will include articles summarizing the scientific publications in a informative way and will be submitted to CORDIS Wire.
It is soon to estimate the possible publications derived from the project. However, after the initial meeting at least two publications are already planned:

| Type of publication | Partners involved | Title or description | Expected month of delivery | Type of audience |
|---|---|---|---|---|
| Scientific paper | IBMCP (CSIC) | Development of citrus leaf-specific regulatory sequences | 40 | Scientific public, researchers |
| Scientific papers | IBMCP (CSIC) | Setup of CRISPR-methodology for citrus | 48 | Scientific public, researchers |
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*Table 4 PRE-HLB scientific publications*

# 5. Specific campaigns

## 5.1 Digitize educational materials on the website

All educational materials developed in the project will be digitized with the aim of sharing it on our website and social media channels. This material will be uploaded in SlideShare, in order to be available for any education entity.

# 6. KPI's and Monitoring

ZABALA will coordinate the Communication Master Plan of PRE-HLB and its activities with the involvement of all the member of the consortium. Each partner will make use of its communication tools and channels, networks and collaboration with the goal of reach the stakeholders of the project and build the PRE-HLB community. The partners must provide all the relevant information and feedback

as well in order to complete the Communication Reports on a regular basis since the start of the project.

ZABALA will compile all the information about the events attended, upcoming events, other networking and collaborative activities, as well as the impacts on Media for the press-clipping and the distribution of the communication materials through a form sent by e-mail. If necessary, partners could receive calls by phone or requested emails.

These will be some of the main indicators we are going to monitor in order to measure the Return of the Investment (ROI) in communications. Monitoring and analytics will be incorporated on the web and Social Media in PRE-HLB's digital marketing and communication processes, as a source of essential information for monitoring key indicators.

| 01 | 02 | 03 | 04 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Training material | Web analytics | Social Media Analytics | Event attendance and feedback | Newsletter | Videos | Press releases |
| More than 100 directly linked to EIP AGRI website | 80.000 visits during the project | Twitter: 5 tweets/week – 500 followers. LinkedIn: 200 members | 2 annual events, 3 public workshops, 4 educational actions | 16 newsletters | 3 videos | 6 press releases |

*Table 5 KPIs*

# 7. Horizon2020 request and Coordination with the EC

According to the EC Grant Agreement participants agree to:

- Promote the action and its results, by providing targeted information to multiple audiences (including the media and the public), in a strategic and effective manner and possibly engaging in a two-way Exchange (Article 38 of the Model Grant Agreement).
- Disseminate results — as soon as possible — through appropriate means, including in scientific publications (Article 29 of the Model Grant Agreement).
- Ensure Open Access (free of charge, online access for any user) to all peer-reviewed scientific publications relating to its results. (Article 29 of the Model Grant Agreement)
- Take measures aiming to ensure 'exploitation' of the results — up to four years after the end of the project – by using them in further Research activities; developing, creating or marketing a product or process; creating and providing a service, or using them in standardisation activities (Article 28 of the Model Grant Agreement)
- Acknowledge EU funding in all communication, dissemination and exploitation activities (including IPR protection and standards) as well as on all equipment, infrastructure and major results financed by the action by using the wording and criteria specified in the Grant Agreement (Articles 27, 28, 29, 38).
- Additionally, PRE-HLB project will establish close links to the communication team of the European Commission in order to make the results of the project visible in the EC Media Outlet, and interaction on the Social Media channels.

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- All press releases and articles related to the project will be posted on Cordis Wire, to extend the audience scope that the project can reach.

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# 8. EXPLOITATION PLAN

## 8.1 Innovation Management Strategy

PRE-HLB consortium is committed to the exploitation of results and therefore it has been designed a business process in which priority will be given to the industrial exploitation of the results.

The partners will periodically report to the innovation manager the industrial exploitation questionnaires so that the scientific board (SB) can analyse the results with enough time. In this sense, the innovation manager will make available to the partners a questionnaire on the Slack platform to facilitate the task.

INNOVATION-MANAGEMENT QUESTIONNAIRE template will consist of:

- Brief description of the invention
- Partners involved
- Novelty
- Progress beyond the state of the art
- Potential industrial application
- IP challenges

The relevant industrial outcomes will go through an FTO analysis to assess whether they are patentable. If so, the procedures marked by the consortium agreement to manage the IPR will be followed (See 8.2) and a business case will be developed with the partners involved to ensure exploitation beyond the project.

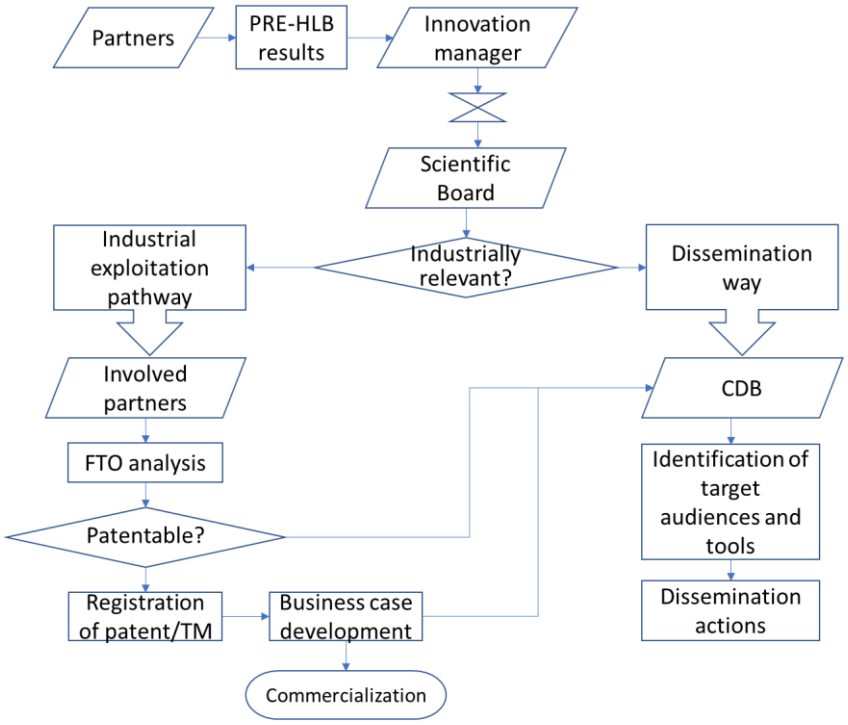


*Figure 7 PRE-HLB Innovation Management Process*

PRE-HLB must ensure the compatibility between dissemination and exploitation. Therefore:

- The SB will directly authorise the Communication and Dissemination Board (CDB) to disseminate the scientific results that are not industrially relevant.
- The partners involved in potentially patentable results will inform the CBD if the FTO result is negative to facilitate the dissemination.

## 8.2 IPR MANAGEMENT

The management of IPR is strictly ruled by the Consortium Agreement (CA) which includes all provisions related to the management of IPR including ownership, protection and publication of knowledge, access rights to knowledge and pre-existing know-how as well as questions of confidentiality, liability and dispute settlement. In the CA the Partners have identified the background knowledge included and excluded. The CA regulates the ownership of results (Section 8 of the CA). Below is a summary of the main IPR management issues:


- Results are owned by the Party that generates them. Where several Partners have jointly carried out work generating Results and where their respective share of the work cannot be ascertained, they shall have joint ownership of such Results
- Results and where their respective share of the work cannot be ascertained, they shall have joint ownership of such
- Results. Joint ownership is governed by Grant Agreement Article 26.2 with the following additions:

Unless otherwise agreed:
- each of the joint owners shall be entitled to use their jointly owned Results for non-commercial research activities and academic teaching purposes on a royalty-free basis, and without requiring the prior consent of the other joint owner(s), and- each of the joint owners shall be entitled to otherwise Exploit the jointly owned Results and to grant non-exclusive licenses to third parties (without any right to sub-license), if the other joint owners are given:

(a) at least 45 calendar days advance notice; and
(b) Fair and Reasonable compensation.

The CA also regulates the transfer of results ownership (Section 8.3 of the CA).

Each Party may transfer ownership of its own Results following the procedures of the GA-Article 30:

- It may identify specific third parties it intends to transfer the ownership of its Results to in Attachment 3 to this Consortium Agreement. The other Parties hereby waive their right to prior notice and their right to object to a transfer to listed third parties according to the Grant Agreement Article 30.1.
- The transferring Party shall, however, at the time of the transfer, inform the other Parties of such transfer and shall ensure that the rights of the other Parties will not be affected by such transfer. Any addition to Attachment (3) after signature of this Agreement requires a decision of the General Assembly.

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- The Parties recognize that in the framework of a merger or an acquisition of an important part of its assets, it may be impossible under applicable EU and national laws on mergers and acquisitions for a Party to give the full 45 calendar days prior notice for the transfer as foreseen in the Grant Agreement.
- The obligations above apply only for as long as other Parties still have - or still may request - Access Rights to the Results.

## 8.3 Business Case and Exploitable Results

PRE-HLB will prepare a confidential document called Business Case to describe the patented outcomes, its potential exploitation and benefits but also the necessary investments and risks.

The business case template will include the following elements:

- Technical state: description of the current state of the invention
- Consideration of options: what options were considered before this course of action (undertaking the project) was adopted.
- Expected benefits and timescales: what benefits will the consortium receive once this project is complete and how long will these benefits take to achieve.
- Costs: what is the project estimated to cost and how will this be funded.
- Return on Investment: based on the expected benefits and costs, what is the expected return on investment.
- Risks: what are the risks that could affect the business case.

PRE-HLB preliminary plan proposes eight potential products that could be patented to reduce HLB impact and generate direct worldwide sales to be sustainable:

1. New viruses infecting the insect and bacteriophages with lytic activity could act as biocontrol agents. The use of these infectious agents as biocontrol agents could be patented. CNR and CSIC will lead the potential patent application at the end of the studies addressing characterization of viruses, endosymbionts and phages.

2. Novel biopesticides. UDURHAM has already patented “Fusion protein technology” that converts naturally derived peptide toxins into orally toxic biopesticides, and they could be effective against HLB. UDURHAM will lead the potential patent application.

3. New entomopathogenic fungi and other potential natural enemies including bacteria and viruses with an insecticidal effect and parasitic and predatory insects and mites against *T. erytreae* will be tested by KOPPERT in field experiments. KOPPERT will lead the potential patent application as industrial partner.

4. New bactericide formulations effective against HLB. AMPBIOTECH has experience synthesising functional peptides with proven bactericidal activity and they could prepare the future product for licensing thereby enabling exploitation by global players (e.g. Bayer, Nufarm, Syngenta).

5. The discovery of *D. citri* effectors or metabolites that can discriminate between susceptible and resistant genotypes could be patented as fast and reliable tools for breeders to screen germplasm for resistance. This will be led by UVA.

6. Identification of volatiles recruiting *D. citri* natural enemies could lead to license lures useful in biological control. This will also be led by UVA.

7. Future rootstocks resistant to HLB obtained by somatic hybridization. They should be propagated by seeds if they are highly apomictic or by in vitro micro-cutting. CIRAD will coordinate the development of the potential patent application.
8. Resistance genes will be identified, thus opening the possibility of developing new citrus cultivars resistant to *C*Ls, psyllids or both. Methods for developing non-transgenic resistant citrus cultivars, with good acceptance by consumers, will be developed. CSIC will be in charge of this part.

This plan can be updated during project implementation because PRE-HLB consortium has identified the following potential outcomes:

| WP | PARTNER | KEY EXPLOITABLE RESULTS | EXPLOT. TYPE |
|---|---|---|---|
| 2 | AVA-ASAJA<br>IVIA<br>AGRO | - Web platform about HLB disease (AVA-ASAJA)<br>- Early warning system about HLB risk (IVIA)<br>- Training workshops (AVA-ASAJA, IVIA, AGRO) | - Open access area offered to farmers, nurseries and agriculture sector professionals.<br>- Free training contents to associated partners and payment per use of certain tools for other subscribers. |
| 3 | CSIC<br>IPB<br>VOLCANI | - Guidelines for IPM and sustainable farming (CSIC)<br>- Research data about psyllid population and dynamics (CSIC, IPB, VOLCANI)<br>- Development of new sampling methodologies (CSIC, IPB, VOLCANI) | - Know-how transferred to EIP-AGRI using "Practices Abstracts"<br>- Metadata transferred to WP5<br>- Scientific papers, congress communications. |
| 4 | FUNDECITRUS<br>HUNAN<br>EMBRAPA<br>UVA<br>IVIA<br>CIRAD | - Identification of citrus relative genotypes resistant to *C*Ls and/or to *D. citri* (FUNDECITRUS, HUNAN, EMBRAPA, IVIA)<br>- Identification of effectors and/or elicitors of the bacteria and the insect vectors (UVA, FUNDECITRUS).<br>- Identification of metabolites critically involved in citrus-psyllid-bacterial interactions (UVA, FUNDECITRUS)<br>- Data about relative transmission efficiency and Acquisition Access Period of *C*Ls by *T. erytreae* nymphs and adults (CIRAD) | - Scientific papers, congress communications.<br>- Basic knowledge directly transferred to WP7 that will contribute to develop HLB resistant citrus in the long term.<br>- Participation in the resulting patents or royalties received. |
| 5 | UCAM<br>FUNDECITRUS<br>IVIA | - Algorithms for epidemiological modelling of HLB spread<br>- Simulation results to predict the invasion of vectors and HLB disease into and across EU<br>- Surveillance reports about HLB epidemiology and best practices | - Scientific papers, congress communications<br>- Technical workshops to discuss new EU policy to manage HLB<br>- Basic knowledge to manage HLB spread |
| 6 | CSIC<br>FUNDECITRUS<br>UALG<br>KOPPERT<br>AMPBIOTECH<br>IPB<br>AVA-ASAJA | - New management tools and control strategies against HLB (FUNDECITRUS, CSIC, MARTINAVARRO, UALG, FRUSOAL, AVA-ASAJA) | - Scientific papers, congress communications and technical publications.<br>- Production and direct sales of biological systems against HLB |

| | | | |
|---|---|---|---|
| | MARTINAVARRO<br>FRUSOAL<br>VALGENETICS | - Knowledge about natural enemies against *T. erytreae* (KOPPERT, IPB, UALG)<br>- Proof of AMPBIOTECH peptides formulations effectiveness against HLB (AMPBIOTECH)<br>- Proof of concept for the use of novel biopesticide(s) to control the psyllid vectors (UDURHAM, FUNDECITRUS)<br>- New diagnosis Kit for *C*Ls and improved sampling and detection protocol (VALGENETICS) | - Peptides license fees with large companies<br>- Development by industry required for formulation and commercial scale production.<br>- Work field results disseminated using WP2 assets and dissemination events<br>- Direct sales of diagnostic Kit |
| 7 | CREA<br>CIRAD<br>FUNDECITRUS<br>CSIC<br>UPV<br>HUNAN | (International collaborative research in genomics)<br>- De novo sequence of *Microcitrus* and *Eremocitrus* assembled in pseudomolecule<br>- Identification of candidate genes for resistance against HLB through transcriptomic and genomic analyses.<br>- Database on haplotypic and genotypic diversity of *C*Ls resistance candidate genes.<br>- Databases of SNPs for further pangenomic selection in interspecific introgression breeding schemes. | - Scientific papers, congresses and technical publications.<br>- Metadata about genomics and genetics as incomes for future projects on citrus diseases.<br>- Participation in the resulting long-term patents or royalties received from HLB resistant citrus |
| 8 | CSIC<br>CNR<br>EMBRAPA<br>CIRAD<br>UNICT | - Identification of the most promising citrus relative interstocks/rootstocks.<br>- Tetraploid somatic hybrids genetically characterized with potential direct use as rootstock and as parents for tetraploid rootstock and triploid variety breeding.<br>- *C*Ls resistant/susceptible segregating *Eremocitrus*/*Citrus* *Microcitrus*/*Citrus* hybrid populations and backcrossings onto *C. sinensis* to generate sweet orange types resistant to *C*Ls.<br>- Procedures for citrus cisgenics and non-transgenic CRISPR-citrus edition.<br>- Identification of rationally designed and highly stable anti-HLB proteins. Gene constructs coding for proteins with anti-HLB activity and suitable for their phloem targeted expression.<br>- Catalogue of viruses infecting *T. erytreae* populations from different geographic origin.<br>- Characterization of endosymbionts and prophages/phages associated with *T. erytreae*. | - Scientific papers, congresses and technical publications.<br>- Metadata about genomics and genetics as incomes for future projects on citrus diseases.<br>- Participation in the resulting long-term patents or royalties received from HLB resistant citrus<br>- New methods to develop cisgenic and edited citrus cultivars |

# 9.Timetable

| | 2019 | | | | | | | 2020 | | | | | | | | | | | 2021 | | | | | | | | | | | 2022 | | | | | | | | | | | 2023 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jun | Jul | Aug | Sept | Oct | Nov | Dec | Ja | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec | Ja | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec | Ja | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Ju | Jul |
| Communication material | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Logo and visual guidelines | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Poster and roll-up | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Templates | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| General Brochure | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Social Media | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Twitter and LinkedIn go live | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Events Management | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Community Management | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Social Media Campaigns | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Website | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Go live | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Marketing tools implementation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| News/content update | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Events and networking | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Event tools and implementation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Networking other initiatives | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Co-creation workshops | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Work with Media | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Data Base of Media | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Press Release and milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Newsletter | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design template | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Delivery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Communication Master Plan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Communication Report | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

*Table 6 Timetable*

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# 10. Annex

## 10.1 Communication Visual Guidelines


Marca
**Versiones principales**

El logotipo se puede utilizar según el propósito y el soporte en sus versiones en vertical o horizontal.

Vertical


Horizontal


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Marca
**Versión reducida**

La versión sin texto (sólo el símbolo) puede emplearse como avatar para el perfil de PreHLB en redes sociales.

Versión reducida

x/2

x/4

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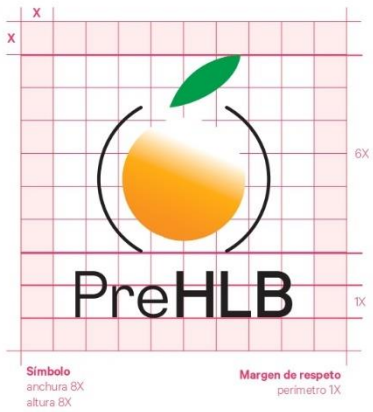
Construcción
**Espacio de respeto**

Las proporciones de la marca deberán respetarse siempre, evitando alteraciones y deformaciones del símbolo sobre cualquier soporte. La cuadrícula tomada como base se ha calculado a partir de la altura de la letra 'e' para establecer el módulo 'x'. Alrededor del símbolo se establece un margen de respeto equivalente a la medida 'x', en el que no se podrá colocar ningún elemento gráfico.





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Elementos
**Colores**

La marca emplea los colores identificadores naranja, verde y negro, presentes en su versión principal.

Se indica la composición de los colores para soportes impresos (Pantone y CMYK) y para visualización en pantalla (sistema RGB y colores Web).

| | | |
|---|---|---|
| 90% | 90% | 90% |
| 80% | 80% | 80% |
| 70% | 70% | 70% |
| 60% | 60% | 60% |
| 50% | 50% | 50% |
| 40% | 40% | 40% |
| 30% | 30% | 30% |
| 20% | 20% | 20% |
| 10% | 10% | 10% |
| **PANTONE 3588 C** | **PANTONE 3522 C** | **PANTONE Black** |
| Cuatricomía<br>0C 53M 99Y 0K | Cuatricomía<br>100C 1M 100Y 7K | Cuatricomía<br>0C 0M 0Y 100K |
| Visualización<br>254R 143G 29B<br>Web # | Visualización<br>0R 131G 48B<br>Web #008330 | Visualización<br>0R 0G 0B<br>Web #000000 |

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Elementos
**Tipografía corporativa**

Cosmica es una familia tipográfica geométrica sin serif desarrollada por Chester Jetkins para la casa Constelation en 2014. Se utiliza en el logotipo en sus versiones Regular y Semibold. Esta tipografía se emplea en la papelería corporativa.

**Tipografía corporativa**

Cosmica Regular

abcdefghijklmnñopqrstuvwxyz
ABCDEFGHIJKLMNÑOPQRSTUVWXYZ
0123456789&?!%,.:;*)+-/

Cosmica Semibold

**abcdefghijklmnñopqrstuvwxyz**
**ABCDEFGHIJKLMNÑOPQRSTUVWXYZ**
**0123456789&?!%,.:;*)+-/**



Aplicación
**Tipografías web y de sustitución**

Poppins es una familia tipográfica geométrica sin serif similar a la que se utiliza en el logo, disponible para descargar en Google Fonts. Se utiliza en la web y en las presentaciones.
Arial se utiliza en documentos de ofimática sustituyendo a Poppins, cuando ésta no pueda utilizarse.

**TABLA DE EQUIVALENCIAS**
Tomando la altura de la "x" de las dos familias se calcula las equivalencias en tamaño

| Poppins | Arial |
|---|---|
| 11pt | 12pt |
| 16pt | 17pt |
| 18pt | 19pt |
| 20pt | 22pt |
| 50pt | 53pt |

**Tipografía para la web y presentaciones**

Poppins Regular →

abcdefghijklm
nñopqrstuvwxyz
ABCDEFGHIJKLM
NÑOPQRSTUVWXYZ
0123456789&?!%,.:;*)+-/

**Poppins Semibold** →

**abcdefghijklm**
**nñopqrstuvwxyz**
**ABCDEFGHIJKLM**
**NÑOPQRSTUVWXYZ**
**0123456789&?!%,.:;*)+-/**

**Tipografía de sustitución**

Arial Regular

abcdefghijklm
nñopqrstuvwxyz
ABCDEFGHIJKLM
NÑOPQRSTUVWXYZ
0123456789&?!%,.:;*)+-/

**Arial Bold**

**abcdefghijklm**
**nñopqrstuvwxyz**
**ABCDEFGHIJKLM**
**NÑOPQRSTUVWXYZ**
**0123456789&?!%,.:;*)+-/**



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Reproducción
de la marca
**Versión**
**a 1 tinta**

Esta versión simplificada de la marca se emplea en soportes a una tinta. En ella, el elemento circular no emplea degradado.




Reproducción
de la marca
**Versión**
**en negativo**

La versión en negativo permite utilizar la marca sobre fondos de color, fotografías en duotono y fotografías en color, siempre que el contraste permita que la legibilidad de la marca sea óptima.


Versión sobre fondo negro

Versiones monocromáticas, utilizando los colores principales

Versión sobre imágenes



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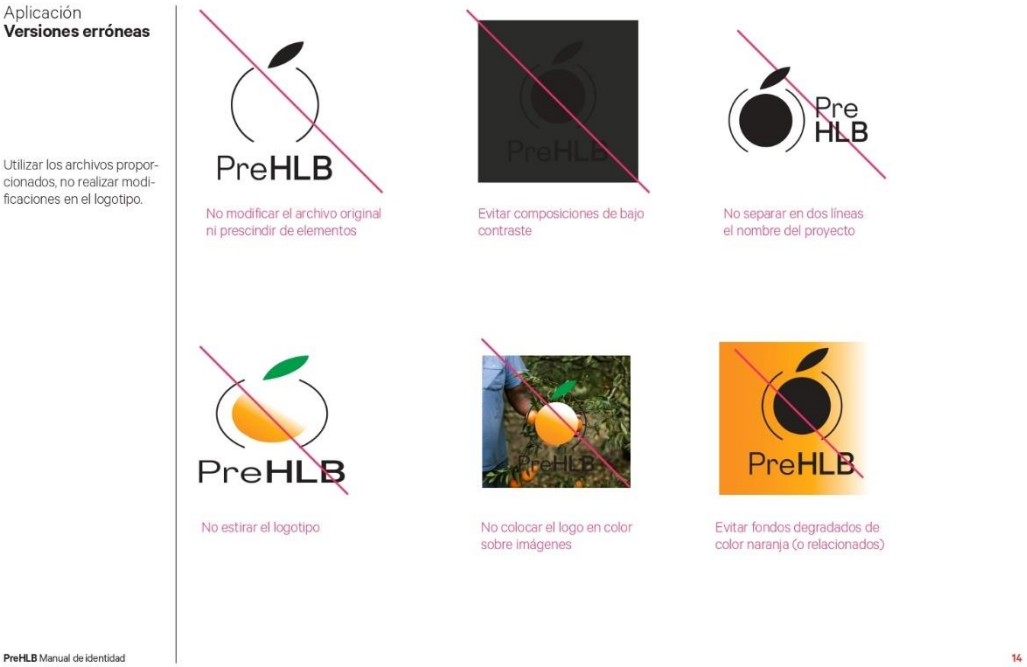
Aplicación
Versiones erróneas
Utilizar los archivos proporcionados, no realizar modificaciones en el logotipo.
PreHLB
No modificar el archivo original ni prescindir de elementos
Evitar composiciones de bajo contraste
Pre HLB
No separar en dos líneas el nombre del proyecto
PreHLB
No estirar el logotipo
No colocar el logo en color sobre imágenes
PreHLB
Evitar fondos degradados de color naranja (o relacionados)
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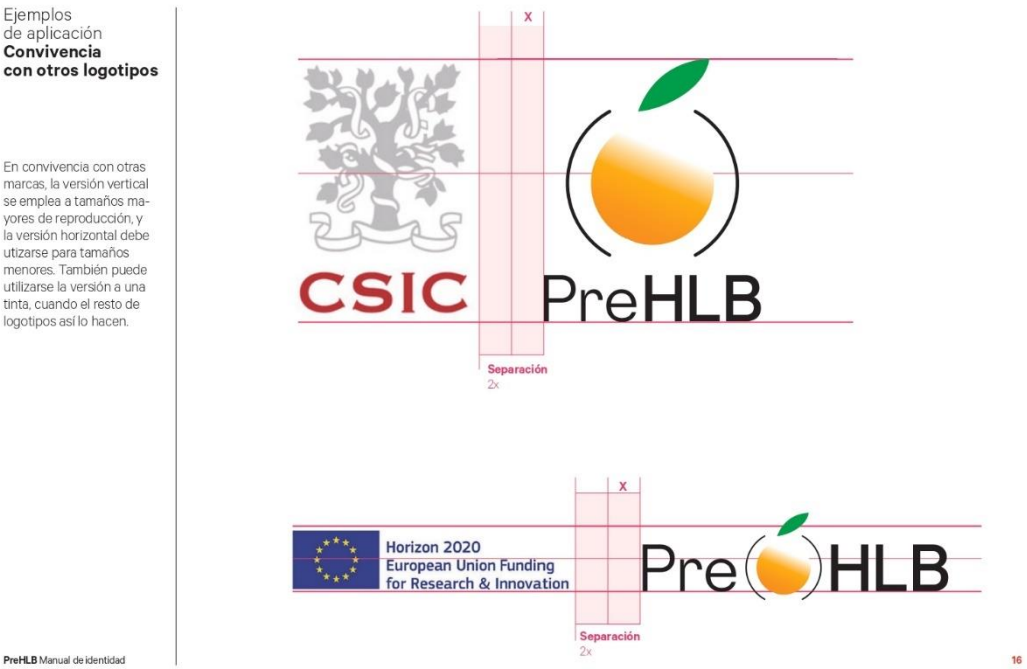
Ejemplos de aplicación
Convivencia con otros logotipos
En convivencia con otras marcas, la versión vertical se emplea a tamaños mayores de reproducción, y la versión horizontal debe utizarse para tamaños menores. También puede utilizarse la versión a una tinta, cuando el resto de logotipos así lo hacen.
X
CSIC
PreHLB
Separación
2x
X
Horizon 2020
European Union Funding
for Research & Innovation
PreHLB
Separación
2x
PreHLB Manual de identidad
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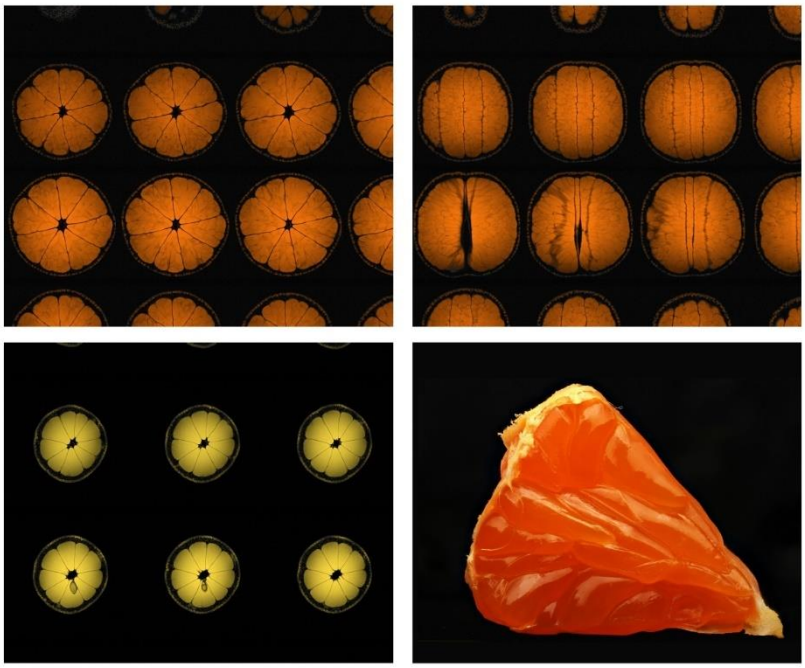
Ejemplos
de aplicación
**Recurso**
**de imágenes**
**de fondo**

Estas son las fotografías que se han de emplear en portadas, presentaciones y otros elementos que ilustran y presentan el proyecto PreHLB.
El leit motiv de las imágenes es el interior de un cítrico, que transmite la idea del fruto sano que es necesario conocer para proteger.

Si se tuviese que colocar el logotipo encima se pondría en negativo.





Ejemplos
de aplicación
**Uso y creación**
**de imágenes**

Para apoyar otro tipo de informaciones se permite el uso de imágenes en color y en duotono (estas últimas, utilizando los colores señalados en la página 9 de este manual.

Si se tuviese que colocar el logotipo en las imágenes, tendría que tener suficiente contraste y el logo colocarlo en negativo.

Imágenes en color

Imágenes en duotono



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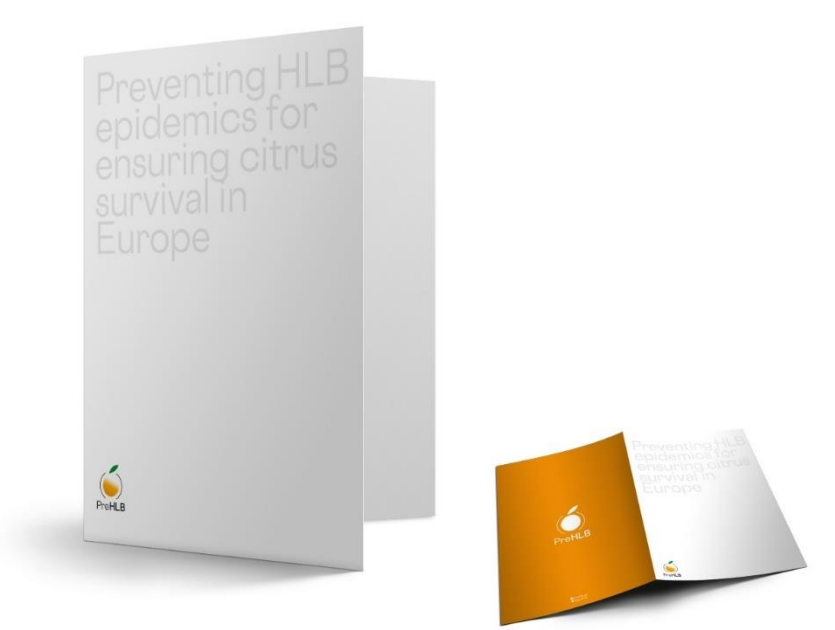
Ejemplos
de aplicación
**Carpetas**

Carpetas en A4 con el fondo de la contraportada en color.






Ejemplos
de aplicación
**Carpetas**

Carpeta A4 con el fondo mencionado en "Recurso de imágenes de fondo" y el logo en negativo.

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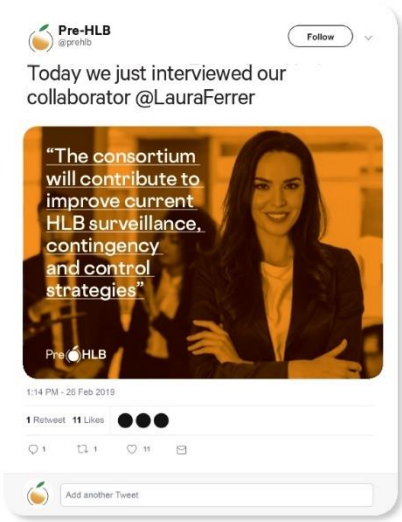
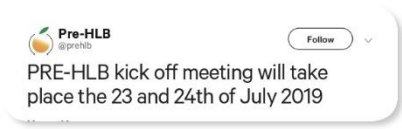
Ejemplos
de aplicación
**Avatar**

La versión sin texto (sólo el símbolo) se emplea exclusivamente como avatar para el perfil de PreHLB en redes sociales.






Ejemplos
de aplicación
**Plantillas**
**de PowerPoint**

A modo de ejemplo, este manual muestra las plantillas de portada de la presentación en PowerPoint. Se puede utilizar los fondos proporcionados con las imágenes de los cítricos.





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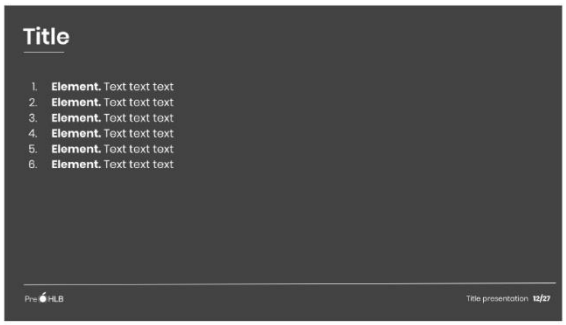
Ejemplos
de aplicación
**Plantillas**
**de PowerPoint**

Ejemplos de plantillas interiores de la presentación en PowerPoint. Esta primera opción tiene un fondo gris oscuro con elementos en el color corporativo (como el mundo).

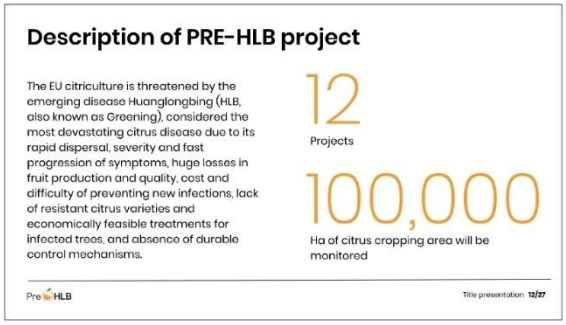






Ejemplos
de aplicación
**Plantillas**
**de PowerPoint**

Ejemplos de plantillas interiores de la presentación en PowerPoint. Esta primera opción tiene un fondo gris oscuro con elementos en el color corporativo (como el mundo).







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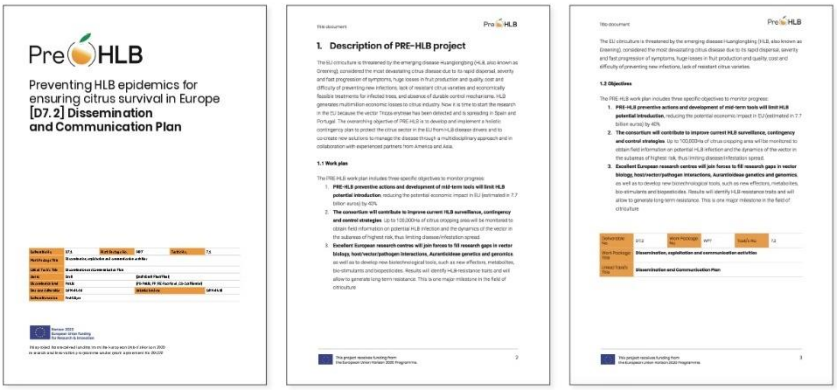
Ejemplos
de aplicación
**Plantillas**
**de Word**

Se muestran las plantillas
de Word con los estilos.



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