

D6.1 - Plan for the communication and dissemination



**PHYtomanagement as a sustainable feedstock
source of lignocellulosic-based high-value Bio-based
products for textile applications**

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EXECUTIVE SUMMARY

This document presents the Communication and Dissemination (CD) plan (D6.1) for the pHYBi project, designed to provide a comprehensive and strategic framework to maximize the project's visibility, enhance its impact, and promote the long-term adoption of its results.

The document is structured into four key chapters:

1. **Overall Strategy:** The first chapter outlines the overarching communication and dissemination strategy, including the main approach, identification of target groups, formulation of key messages, and a preliminary timeline for activities.
2. **Rules and Guidelines:** The second chapter establishes clear rules, guidelines, and frameworks to ensure that communication and dissemination efforts are consistent, coordinated, and impactful across all members of the pHYBi consortium.
3. **Communication Tools and Activities:** The third chapter describes the tools and activities designed to communicate the project's objectives and progress. These include the project's visual identity, website, social media channels, press releases, blog posts, articles, a project video, awareness-raising events, and related key performance indicators (KPIs) to monitor the effectiveness of these efforts.
4. **Dissemination Tools and Activities:** The fourth chapter focuses on dissemination efforts by the project partners. These include scientific publications, participation in conferences, stakeholder engagement workshops, collaboration with the Advisory Committee, clustering with other projects and networks, research training and education activities, the final event, and associated KPIs to measure their success.

By integrating these elements, the CD plan ensures a structured approach to communication and dissemination, enabling the pHYBi project to reach its target audiences effectively and achieve lasting impact.

DEVIATIONS

Please note that this deliverable has been inspired by deliverable D7.1, the "Communication, dissemination and exploitation plan" of the project FLEX4FACT (GA number 101058657) and D6.1 "Communication and Dissemination Plan" of the project BioFibreLoob (GA number 101130603), which has been authored by STEINBEIS as well.

1 INTRODUCTION

1.1 DESCRIPTION OF THE DOCUMENT AND PURSUE

This document outlines the communication and dissemination (CD) plan for the pHYBi project, providing a strategic framework to maximize the project's visibility, impact, and long-term adoption of its results through tailored communication and dissemination tools and activities.

Effective communication and dissemination are critical for ensuring the successful implementation and measurable impact of EU-funded projects. A well-structured CD strategy serves as the cornerstone for enhancing stakeholder engagement, encouraging participation, and stimulating new markets, ideas, and innovations.

The European Commission defines these terms as followed¹:

- **Communication:** “Inform, promote and communicate activities and results”
- **Dissemination:** “Make knowledge and results publicly available free-of-charge”

In this context, **communication** aims to share information about the project's activities and outcomes with a wide audience, including experts and citizens impacted by the project. Its focus is on enhancing visibility of the project using simple and accessible language, avoiding technical jargon where possible. Key communication measures include: i) development of a visual identity (logo, graphics, project brochure, etc.), ii) launch of a public website and social media channels, iii) production of a general project video, iv) publication of regular press releases and articles.

Dissemination, on the other hand, focuses on sharing knowledge and results with researchers and business professionals to encourage collaboration and facilitate the practical application of outcomes. This process ensures that stakeholders have the tools to adopt and apply the results, maximising the impact of the project on research and market deployment.

To achieve these objectives, the CD strategy of the pHYBi project implies:

1. **Identification of target audiences** at EU and national levels, involving various stakeholder groups.
2. **Definition of key messages** to inform stakeholders about objectives and results while raising awareness.
3. **Design of impact-driven actions**, formats, and communication channels.
4. **Outlining of a methodology** to ensure all project partners effectively amplify communication efforts.

¹ European Commission: European Research Executive Agency, Communication, dissemination & exploitation what is the difference and why they all matter, Publications Office of the European Union, 2023, <https://data.europa.eu/doi/10.2848/289075>.

Successful communication and dissemination also involve tracking and monitoring activities, to ensure their outreach and effectiveness. A monitoring table, set up by work package leader SEZ, will track CD actions by all project partners, using KPIs to assess impact.

The strategy defined in this document builds on the communication and dissemination measures outlined in the Grant Agreement and incorporates feedback gathered from project partners through a questionnaire. This input has been instrumental in shaping a customized CD plan that aligns with the needs and expectations of all stakeholders. Developed at an early stage of the project (M4), the plan provides clear guidance for partners to communicate project activities and outcomes effectively. Subsequent updates to the strategy will be included in the intermediate report (D6.5) at M24 and the final report (D6.6) at M48.

1.2 WPS AND TASKS RELATED WITH THE DELIVERABLE

This deliverable refers to Task 6.1, 6.2, 6.3 and 6.4 included in WP6: Communication, dissemination and exploitation.

The CD plan will support the main objectives of WP6:

- I. To raise awareness, ensuring project visibility via effective communication actions (Communication).
- II. To engage with key stakeholders, creating the conditions for effective mobilization and engagement of end users (Communication & networking).
- III. To foster an effective outreach of the project results and findings across Europe through the development of a large community around the project objectives, maximizing the impact of the project work and outcomes (Dissemination)
- IV. To influence decision makers by sharing and transferring relevant conclusions derived from the activities and project outcomes (Dissemination).

2 OVERALL COMMUNICATION AND DISSEMINATION STRATEGY

2.1 MAIN APPROACH

The primary aim of the Communication and Dissemination Plan for the pHYBi project is to provide clear guidelines for targeted and effective CD activities. It provides the necessary rules and framework to ensure consistent and effective CD efforts across the pHYBi consortium. By implementing this plan, the aim is to achieve maximum visibility of the project's activities and results, thereby ensuring the conversion of outputs into tangible outcomes and impacts in line with the European Commission's objectives.

The CD strategy will evolve to meet the specific needs of each project phase. Updated versions of the CD Plan will be provided throughout the project, documenting completed actions and outlining new activities as required. During the first four months of the project, the consortium focused on developing the CD strategy presented in this document. In parallel, essential activities have been carried out to establish the project's communication infrastructure, including:

- The creation of the project's **visual identity**, which includes a logo and guidelines to ensure a consistent and recognizable image.
- The development and launch of the **project website** as a central platform for communication and dissemination.
- The setup of **social media channels** to extend outreach to a broader audience and foster online engagement.
- The preparation of **promotional materials**, including a project brochure and templates for presentations, press releases.

These activities lay the groundwork for the active communication phase, starting in M4 with the launch of the project website. In the initial months of active communication, efforts are primarily focused on raising general awareness about the pHYBi project. This includes communicating basic project information, its objectives, and its anticipated impacts to key audiences. The aim is to establish a strong foundation of visibility and interest among stakeholders, ensuring that they are aware of the project's scope and significance.

As the project progresses, the CD strategy will increasingly emphasize stakeholder engagement and impact amplification. Subsequent efforts will shift towards deeper interaction with

stakeholders and active dissemination of project results. Key objectives during this phase include:

- Engaging stakeholders through tailored events, workshops, and collaborative opportunities.
- Sharing findings and updates to maintain interest and encourage involvement.
- Ensuring that project outcomes are widely shared and accessible to stakeholders in industry, academia, and policymaking.
- Preparing for the transfer and exploitation of results by promoting their application in relevant fields.



Figure 1 – Communication and dissemination phases of the pHYBi project.

To ensure comprehensive outreach, CD activities will operate on two levels:

- **Project Level:** The project will utilize its centralized communication platforms, such as the official website, social media accounts and press releases.
- **Partner Level:** Partners will leverage their individual networks and communication channels, including translating materials into local languages where possible/feasible.

The combination of these levels maximizes the outreach and impact of the project by utilizing the strengths of each partner's network. Project partners are required to inform SEZ and relevant partners about their planned CD actions. This ensures coordinated efforts, comprehensive tracking for reporting purposes, and the prevention of accidental disclosure of confidential information. All CD guidelines and resources are available to partners via the MS Teams SharePoint, ensuring transparency and accessibility.

The CD strategy's effectiveness will be continuously monitored to evaluate its progress and impact. Adjustments will be made as necessary to optimize outcomes.

2.2 TARGET GROUPS

The CD activities and actions of the pHYBi project are strategically designed to generate broad awareness and interest among diverse audiences and stakeholders. These initial efforts are essential to foster engagement and encourage active participation in the project's themes and objectives. The project has identified a number of target groups that are essential to the success of its objectives and long-term impact. Each target group has unique roles, interests and benefits

from the project. Table 1 provides an overview of the main target groups and their main benefits from the project.

A comprehensive stakeholder mapping will be outlined in Deliverable 6.4, the "Multi-Stakeholder Engagement and Community Building Plan" (M6). The deliverable will provide more detailed information about the diverse stakeholder groups, their specific interests, and tailored engagement strategies to effectively connect with each group, ensuring that the communication efforts are as impactful as possible.

Table 1 – List of different target groups, involved stakeholders and their benefits from the pHYBi project.

Target Groups	Involved Stakeholders	Benefits from pHYBi
TG1: End-users	a) farmers, foresters and other landowners	➤ Access to innovative business models for cultivating high-yield industrial crops on degraded, polluted, or salt-affected land.
	b) lignocellulosic biorefineries and textile industry	➤ New and reliable supply of high-yielding biomass, ➤ Optimised valorisation processes for applications in the textile industry ➤ Replicable models to improve environmental footprint and product safety.
	c) additional industry sectors that could profit from new bio-based production	➤ New and reliable supply of high-yielding biomass ➤ Replicable models to improve environmental footprint and product safety.
TG2: Umbrella Organisations	Forest/farmers organisations, bio-based industry clusters	➤ Access to innovative solutions and knowledge that can benefit their members, ➤ Training, and knowledge-sharing opportunities
TG3: Industrial solution providers	Equipment manufacturers, IoT and data solution providers, logistics experts.	➤ New market opportunities for specialised machinery ➤ Integration of digital tools for smart agriculture ➤ Development of efficient, sustainable logistics models for biomass supply chains.
TG4: Researchers and Academia	Scientific community, particularly researchers in agronomy, phytoremediation, plant physiology, soil remediation, microbiology, bioinformatics, and environmental science	➤ Access to publications and data for knowledge-sharing and further research. ➤ Basis for exploring new research directions and validating findings. ➤ Opportunities to develop new applications based on pHYBi's

		results.
TG5: Environmental, Health, and Safety NGOs	Environmental and health/safety NGOs, and initiatives targeting citizens and policymakers	➤ Access to clear scientific insights and data on sustainability, public health, and safe practices. ➤ Tools and resources to promote sustainability and agricultural best practices to influence policymakers and educate the public on sustainable development.
TG6: Policy makers and Regulators	Policy makers and public authorities (at regional, national and EU level)	➤ Access to scientific evidence for informed policy and regulatory frameworks. ➤ Insights into effective, safe, and lower-cost pollution management and bioremediation strategies. ➤ Alignment with EU goals of environmental autonomy and sustainability
TG7: Investors	Government and Public Funds, Institutional Investors, Angel Investors, Development Banks focused on sustainability, green tech, or bio-based industries.	➤ Cost-effective pollution management solutions with commercial potential. ➤ Investment opportunities in sustainable markets, especially textiles. ➤ Contribution to green job creation and economic growth.
TG8: General Public	Wider EU population, local communities, consumers, multipliers etc.	➤ Increased knowledge of pHYBi's innovative methods and their benefits for sustainable clothing and environmental safety. ➤ Economic opportunities and improved local environmental conditions. ➤ Encouragement of public understanding and support ➤ Promotion of sustainable and bio-based practices and behaviours across the wider EU population.

2.3 KEY MESSAGES

Key messages are a cornerstone of effective communication and dissemination and serve as the foundation for all CD activities within the pHYBi project. They ensure that the project's goals, progress, and outcomes are communicated in a way that is clear, engaging, and relevant to the intended audiences.

Key messages should be²:

- **Direct:** Focused on the main idea without unnecessary complexity.
- **Simple:** Avoiding jargon to ensure accessibility for all stakeholders.
- **Action-Oriented:** Inspiring engagement or prompting specific actions.
- **Concise:** Short and to the point, making them memorable.
- **Consistent:** Aligned with the overall objectives and narrative of the project.

In the context of pHYBi, key messages are tailored to address the interests and priorities of various target groups (chapter 2.2), ensuring their relevance and impact. By leveraging key messages, the project aims to:

- Raise awareness of its activities and outcomes.
- Engage stakeholders, including industry, policymakers, and the scientific community.
- Encourage the adoption of sustainable practices and innovative solutions developed within the project.

Each message is linked to specific project activities and communicates the value and benefits of the project in areas such as phytoremediation, feedstock valorisation, modelling and replication and sustainability assessment. Figure 2 illustrates the various project areas and the stakeholder groups that have most interest in each area.

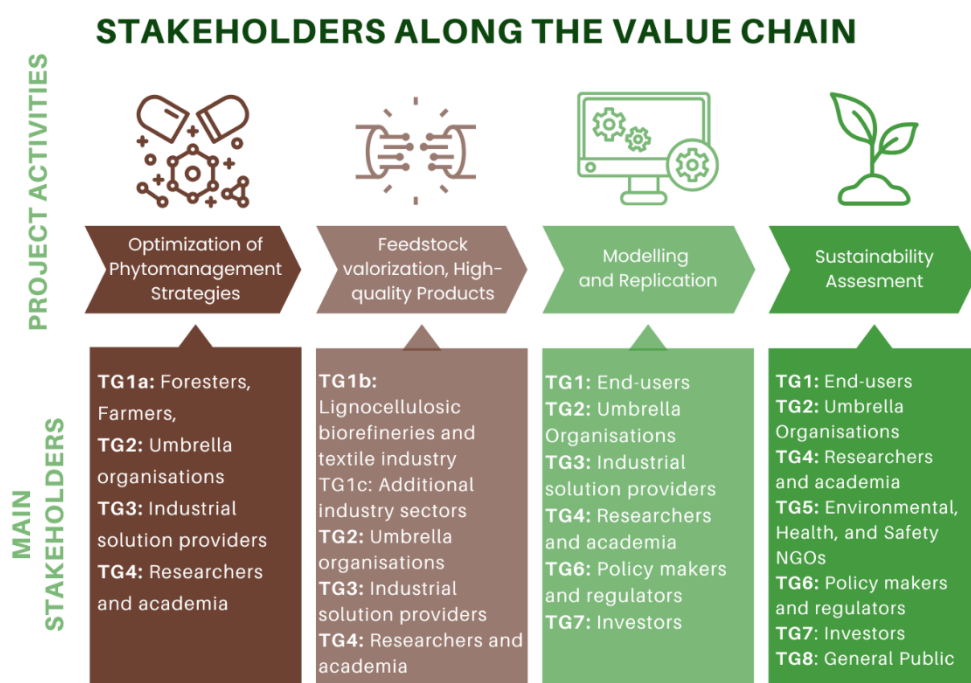


Figure 2 - Key stakeholders along the pHYBi value chain, highlighting the project activities of most interest to each target group.

² Wilson, P.M., Petticrew, M., Calnan, M.W. et al. Disseminating research findings: what should researchers do? A systematic scoping review of conceptual frameworks. Implementation Sci 5, 91 (2010). <https://doi.org/10.1186/1748-5908-5-91>

The defined key messages are:

- **Optimisation of phytomanagement strategies:**
 - "Phytomanagement strategies create economic opportunities for industrial crop production on degraded land while fostering a cleaner environment and healthier communities."
 - "Innovative science-based approaches, including GEM models, novel organisms and microbial communities, and efficient analytical techniques and protocols, drive the future of soil phytoremediation."
- **Feedstock valorisation:**
 - "Sustainable feedstock production on polluted and salt-affected land transforms marginal areas into valuable resources."
 - "Valorising feedstock from marginal lands supports the circular economy, enabling sustainable material flows without compromising food security."
 - "Innovative valorisation pathways for lignocellulosic biomass unlock new markets for bio-based products, increasing the economic viability of using degraded lands."
 - "Utilisation of lignocellulosic biomass to develop bio-based coatings for textiles can replace fossil-based alternatives. "
- **Modelling and Replication:**
 - " Data-driven approaches provide stakeholders with actionable insights to optimise plant management and feedstock valorisation, while tailoring solutions to local needs."
 - "Robust modelling tools enable the replication of project strategies across diverse regions, ensuring scalability and impact."
- **Sustainability assessment:**
 - "The project's strategies significantly reduce environmental impacts and contribute to EU goals such as improved soil health."
 - "Environmental and social benefits are at the core of the pHYBi solutions, inspiring recommendations for new, supportive regulations."
 - "Integrated sustainability assessments provide evidence-based recommendations for stakeholders to adopt environmentally and socially beneficial practices."

2.4 TIME SCHEDULE

The image below (Figure 3) outlines the planned communication and dissemination activities within the pHYBi project, along with their preliminary timeline. It highlights the key actions scheduled throughout the project, ensuring effective engagement with stakeholders and the dissemination of results at the right time.

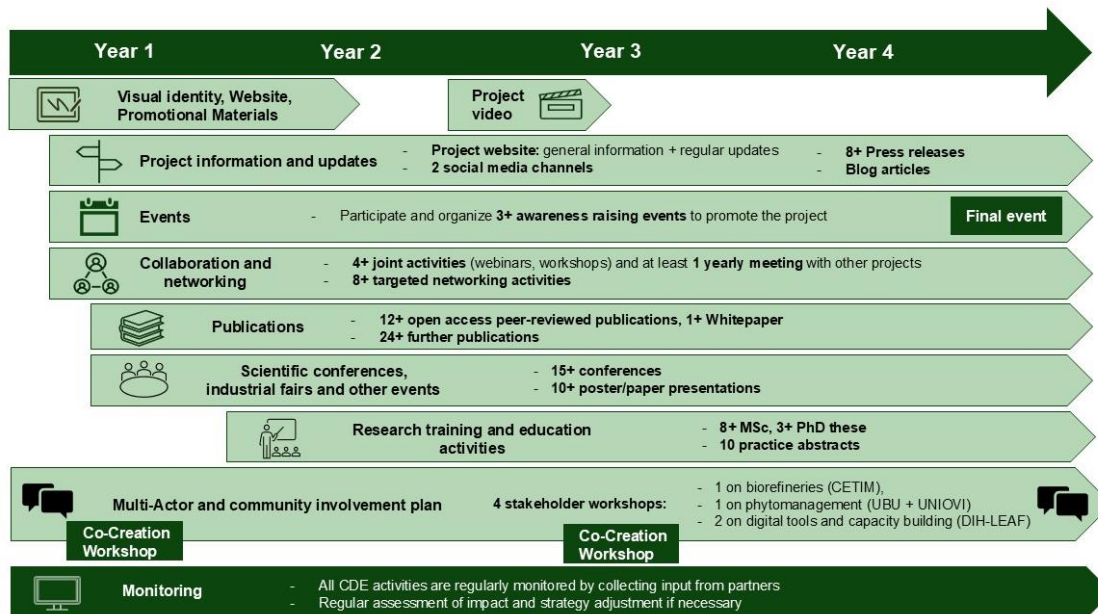


Figure 3 - Overview of planned pHYBi communication and dissemination activities with a preliminary timeline.

3 COMMUNICATION AND DISSEMINATION GUIDELINES

Communication and dissemination obligations are detailed in the legal documents signed by the consortium members, including the Grant Agreement and the Consortium Agreement. This section summarises key guidelines and rules to be followed for communication and dissemination activities within the pHYBi project.

3.1 GENDER MAINSTREAMING

Gender mainstreaming is an essential component of Horizon Europe projects, ensuring that gender considerations are integrated into all stages of research and innovation. This approach not only promotes equality and diversity but also enhances the quality and impact of project results. By addressing gender issues, projects can better understand and respond to the diverse needs of society, avoid gender bias and promote inclusiveness in science and technology.

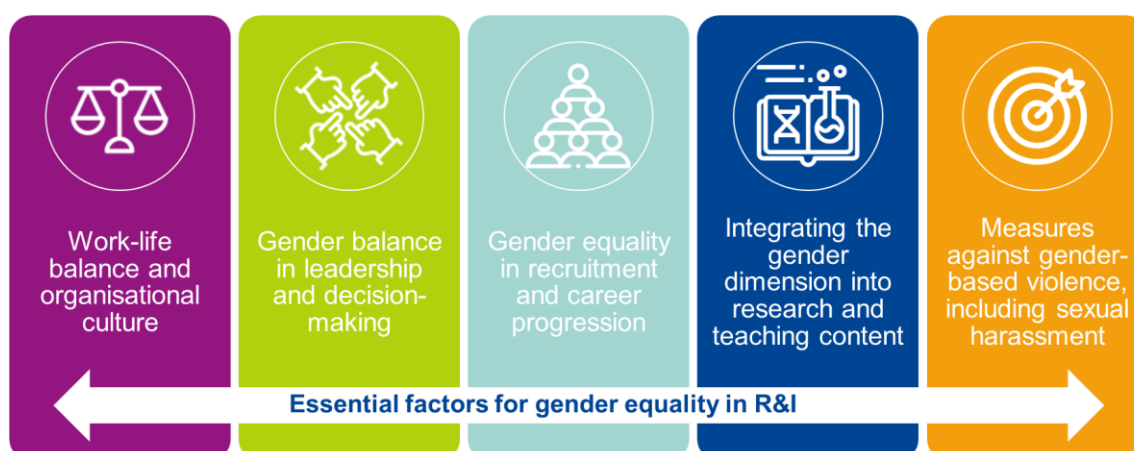


Figure 4 - Overview of essential factors for gender equality in R&I. Source: *How to prepare a successful proposal in Horizon Europe: Horizontal Aspects*, presentation by Pepin, A., European Commission, 21 April 2021, Icons - © Flaticon ([Weblink](#)).

In the pHYBi project, measures to promote gender mainstreaming are implemented in line with the Grant Agreement (Annex 5) and the Gender Equality Plans of the project partners³.

Gender considerations are incorporated into the Social Life Cycle Assessment (WP5) to assess the social impacts of processes throughout their life cycle, as well as into Stakeholder Engagement activities (WP6) to ensure diverse representation and perspectives.

To reinforce gender mainstreaming, the project has defined the following key actions for its communication and dissemination strategy:

- **Increasing visibility and representation of women in science and engineering:** Highlighting the contributions of women in the project by showcasing female staff in communication materials, events, and dissemination of results.
- **Participation in EU initiatives promoting gender diversity:** Actively engaging in European initiatives and campaigns that advocate for gender balance in science, technology, and innovation fields.

³ European Commission: Directorate-General for Research and Innovation, *Horizon Europe guidance on gender equality plans*, Publications Office of the European Union, 2021, <https://data.europa.eu/doi/10.2777/876509>

- **Gender balance in advisory board:** Promoting equal representation in the advisory board within the project.
- **Gender balance in stakeholder engagement:** Ensuring that stakeholder engagement activities reflect diverse and balanced participation across genders.

3.2 ACKNOWLEDGEMENT OF EU AND CBE JU SUPPORT

Recipients of EU funding are legally obligated to ensure transparency and visibility of EU support, as outlined in Article 17.2 of the Grant Agreement. This requirement mandates that all beneficiaries clearly acknowledge EU funding by displaying the European Union emblem (Figure 5) and a funding statement in appropriate languages during communication and dissemination activities. This includes media relations, conferences, seminars, informational materials (such as brochures, leaflets, posters, presentations), and on both traditional and social media. Additionally, any infrastructure, equipment, vehicles, or major results funded by the grant must also display these acknowledgments. The EU emblem must remain unaltered and should be displayed distinctly and separately from any other visual elements, logos, or text.



**Funded by
the European Union**

Figure 5 - European Union emblem and funding statement to acknowledge the EU funding.

Since pHYBi is funded under the Circular Bio-based Europe Joint Undertaking (CBE JU), additional guidelines apply. In this case, the CBE JU's specific logos must also be displayed prominently (Figure 6), along with the following statement: **"The project is supported by the Circular Bio-based Europe Joint Undertaking and its members."**



**Circular
Bio-based
Europe**
Joint Undertaking



Bio-based Industries
Consortium

Figure 6 – Logos from the CBE JU and the Bio-based Industries Consortium.

Furthermore, any communication or dissemination action must include a disclaimer, as specified in Article 17.3 of the Grant Agreement:

"The project is supported by the Circular Bio-based Europe Joint Undertaking and its members. Funded by the European Union. Views and opinions expressed are however those of the

author(s) only and do not necessarily reflect those of the European Union or CBE JU. Neither the European Union nor the CBE JU can be held responsible for them.”

3.3 DISSEMINATION OF RESULTS

Beneficiaries of EU-funded projects are required to disseminate their results to the public as soon as possible, unless there are restrictions related to intellectual property protection, security requirements or other legitimate interests. This ensures that the results are widely accessible and contribute to public knowledge.

As specified in the Grant Agreement (Article 17, Annex 5), beneficiaries must inform the other project partners in advance before disseminating project results. This notification should be made at least 15 days before the planned dissemination and must include sufficient information about the results to be shared. For any planned publication, the notification period is 30 calendar days prior to the publication, according to Article 8.4.2.1 of the Consortium Agreement. During this period, any partner may raise objections by sending a written notification to the coordinator and the party planning the dissemination within 20 calendar days of receiving the notification. If no objections are raised within this period, the dissemination may proceed as planned. In addition, a partner may not use the results or background information of another partner in a dissemination activity without the prior written consent of the owning party, unless the information has already been published. These rules protect the intellectual property and contributions of each partner and ensure responsible and respectful dissemination of project results.

3.4 COMPLIANCE WITH OPEN SCIENCE PRACTICES

Open Science is a central pillar in EU-funded research projects, aimed at enhancing transparency, accessibility, and impact of scientific research. By making research results openly available, the EU promotes knowledge sharing and collaboration across disciplines and borders. In Horizon Europe projects, beneficiaries are required to provide open access to peer-reviewed scientific publications related to their results, following specific guidelines to ensure that knowledge generated through EU funding reaches the widest possible audience.⁴

In line with Horizon Europe's Open Science policy, the pHYBi consortium will adopt an Open Science approach to the scientific process, based on open collaborative work, tools and dissemination of knowledge as described in Article 17 of the Grant Agreement.

Open Access publications

The key requirements for open access in EU projects include:

⁴ European Commission, European Innovation Council and SMEs Executive Agency, Scherer, J., Weber, S., Alveen, P., et al., European IP Helpdesk : successful valorisation of knowledge and research results in Horizon Europe : boosting the impact of your project through effective communication, dissemination and exploitation, Publications Office of the European Union, 2022, <https://data.europa.eu/doi/10.2826/437645>

- **Deposition in a trusted repository:** At the latest upon publication, beneficiaries must deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript in a trusted scientific repository. pHYBi partners will use [Zenodo](#), an OpenAIRE compliant repository, and partner's institutional repositories (e.g. [HAL Open Science](#), [RiUBU](#), [RUO](#)).
- **Transparency for validation:** The repository entry should include information about any research data, tools or instruments needed to validate the conclusions of the publication.
- **Immediate Open Access:** The deposited publication must be made immediately accessible under the latest Creative Commons Attribution International Public Licence (CC BY) or a similar licence.
- **Intellectual Property Rights Retention:** Beneficiaries must ensure they retain sufficient intellectual property rights to meet open access obligations.
- **Open Metadata:** Metadata for deposited publications must be openly available under a Creative Commons Public Domain Dedication (CC 0) or an equivalent license.
- **Eligible Publication Fees:** Only fees for publishing in fully open-access, peer-reviewed scientific venues are eligible for reimbursement.

Research Data Management

In EU-funded projects, responsible management of research data is required to ensure accessibility, transparency, and compliance with the FAIR (Findable, Accessible, Interoperable, and Reusable) principles. The following key actions summarize the requirements for Research Data Management (RDM):

- **Data Management Plan (DMP):** Beneficiaries must create a Data Management Plan and regularly update it to reflect ongoing project developments.
- **Data Deposition in Trusted Repositories:** All digital research data generated in the project must be deposited in a trusted repository as soon as possible, according to the deadlines in the DMP. If specified by the funding call, the repository must also comply with European Open Science Cloud (EOSC) standards.
- **Open Access to Data:** Following the principle "as open as possible, as closed as necessary," beneficiaries must provide open access to deposited data under a suitable license (such as CC BY or CC 0) via the repository. However, exceptions can be made if open access would conflict with the beneficiary's legitimate interests, such as commercial exploitation, EU competitive interests, or other obligations. Any restrictions on access must be justified in the DMP.
- **Transparency for Reuse and Validation:** The repository entry should include information on any research tools, instruments, or outputs necessary to reuse or validate the data, ensuring that other researchers can fully understand and utilize the data.
- **Open Metadata:** Metadata for deposited data must be available under a Creative Commons Public Domain Dedication (CC 0) or an equivalent license, as long as this does not conflict with legitimate interests.

Other open science practices

The consortium will promote the engagement in other open science practices, such as participation in citizen science actions by the partners (e.g., living labs: [UBFC's ECOPOLIS](#), UBU's [eCoCrEALab](#) and [AquaCoLab](#), DIH-LEAF's [DIG4VITIS](#)), open peer-review, sharing of pre-prints (in Zenodo or subject-specific repositories such as arXiv or bioRxiv) and sharing of protocols, workflows and analytic scripts (e.g., in GitHub). All the researchers participating in the project will use their ORCID record as a means of identification in all research outputs to increase their findability, traceability and visibility.

Open science practices will be embedded within a broader Responsible Research and Innovation (RRI) framework. This approach aims to engage all societal actors through dedicated communication and dissemination efforts, while also promoting gender equality by ensuring balanced representation in R&D teams and decision-making processes. Furthermore, it will support science education by implementing participatory research agendas and training activities designed to involve students and young researchers. Ethics and research integrity will be upheld through continuous reflection, deliberation, and alignment of the consortium's actions and decisions with shared values.

4 COMMUNICATION TOOLS AND ACTIVITIES

In this section, a detailed overview of all the communication tools and activities included in the pHYBi CD strategy is provided. Each activity is tailored to reach specific target groups, ensuring effective communication with diverse audiences. The goal is to raise awareness, promote dialogue, and encourage activity participation.

4.1 PROJECT VISUAL IDENTITY

Establishing a cohesive project visual identity for the pHYBi project is crucial to ensuring alignment across all CD activities and materials, as well as increasing visibility on both European and international levels. To achieve this, project partner SEZ collaborated with a graphic agency to develop a suitable project identity. It serves as the visual and conceptual representation of the project's values, objectives, and approach. The following elements are part of the pHYBi visual identity kit:

- A project logo
- Key visuals
- Templates for PowerPoint and Word documents,
- Promotional Materials: project presentation, project flyer, roll-up banner,

The promotional materials will be continuously refined and updated throughout the project's duration to best suit the needs of target audiences and to showcase the project's progress and achievements.

4.1.1 pHYBi logo

The project logo is a key element of pHYBi's visual identity, designed to represent the project's core themes and values. It acts as a recognisable symbol across all external communication channels. The logo development process began with the definition of key topics that capture the essence of the project, including phytoremediation and management, circular economy, bio-based feedstocks, plant fibres, textile industry, microbes and fungal inocula, nanotechnology and lignocellulosic biomass.

Based on these topics, the project claim "Phytomanagement for a bio-based textile industry" was developed in consultation with the project coordinator. This claim, together with the key words, provided the graphic agency with a clear creative direction for the logo design. Several logo proposals were created and shared with the consortium for feedback. Following a voting process and careful review of the proposals, the final version of the logo was selected to ensure that it effectively reflected the identity and objectives of the project (Figure 7).



Figure 7 - Official pHYBi project logo.

The final logo combines the project name "pHYBi" with a hexagonal icon. The hexagon symbolises nanotechnology, while the icon incorporates elements such as plants, roots, soil and microbes, representing the project's focus on plant management and biomass valorisation. Correspondingly, the colour scheme of the logo consists of two main colours: brown, symbolising the importance of soil, and green, representing biomass and sustainability. The visual identity of the project is built around the main colours and design elements of the logo. A style guide, including primary colours and fonts, ensures consistent and professional communication across all materials and platforms. All materials are accessible to the project partners via MS Teams SharePoint.

4.1.2 Key Visuals

Two key visuals were developed by SEZ and the design agency:

1. **A Concept graphic** giving a simplified overview of the general concept of the project and show the main interactions between the different project activities was developed.

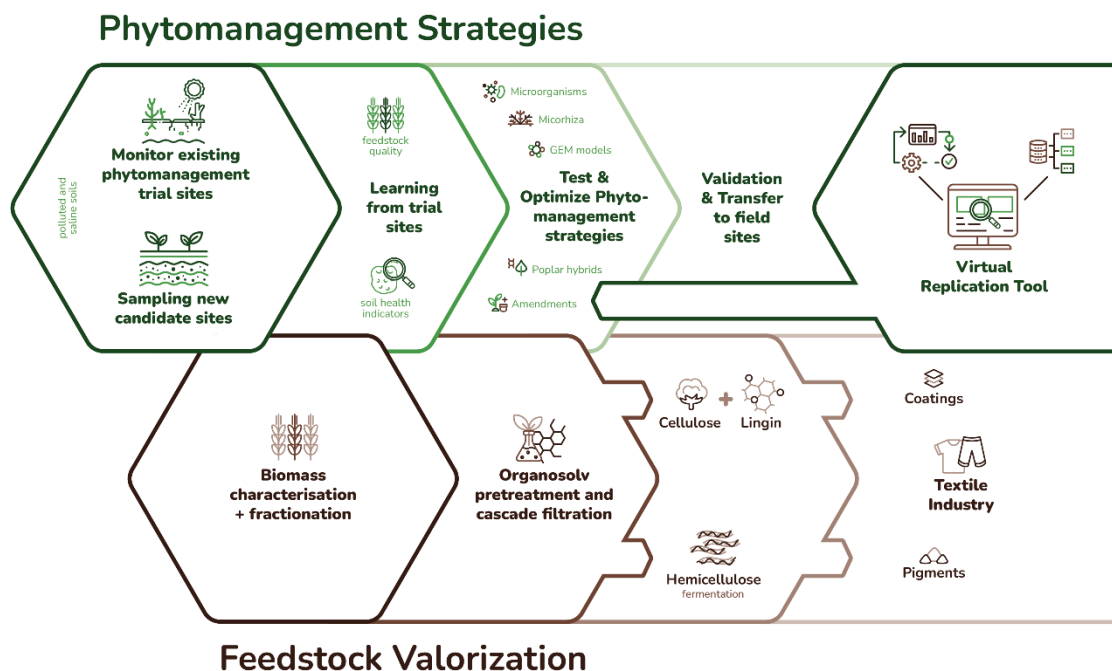


Figure 8 – Conceptual diagram showing the main project activities and how they relate to each other.

2. A **3D illustration** showing a cross-section of a plant growing in soil. The key visual is a layered image that illustrates the different components of soil and highlights the theme of pHYBi. It shows a young plant, in this case a hemp plant, and its root in the soil. The bottom layer represents contaminated soil. The middle layer highlights nanotechnology. The layer above shows bacteria and mycelial structures that are also found in the soil. The bark on the surface underlines the theme of lignocellulosic biomass valorisation. In the background, there is a woven fabric to incorporate the textile industry.



Figure 9 - Key visual showing a cross-section of a plant growing in soil.

4.1.3 Templates

Standard templates for Microsoft Word and PowerPoint have been created to ensure consistency and coherence in pHYBi's branding and communication. These templates are designed for use by consortium members in various contexts, such as deliverables, meeting minutes, press releases and project presentations. Screenshots of the templates can be found in the annex (chapter 7.1).

4.1.4 Promotional Materials

Flyer

A project flyer will provide an overview of the project's solutions, objectives, and anticipated impacts, along with the logos of the project partners and relevant contact information. The flyer will be printed and distributed to all partners, who can use it internally within their organisations or at events such as conferences, fairs, public gatherings, and workshops. It can also be shared via mail with interested stakeholders. Furthermore, a digital version of the flyer will be made available on the project website.

A first version of the flyer is shown in Figure 10 and Figure 11. This version will be updated with feedback from the project partners and the design agency. The next step will be to print the flyer and distribute it to the consortium at the next face-to-face meeting.

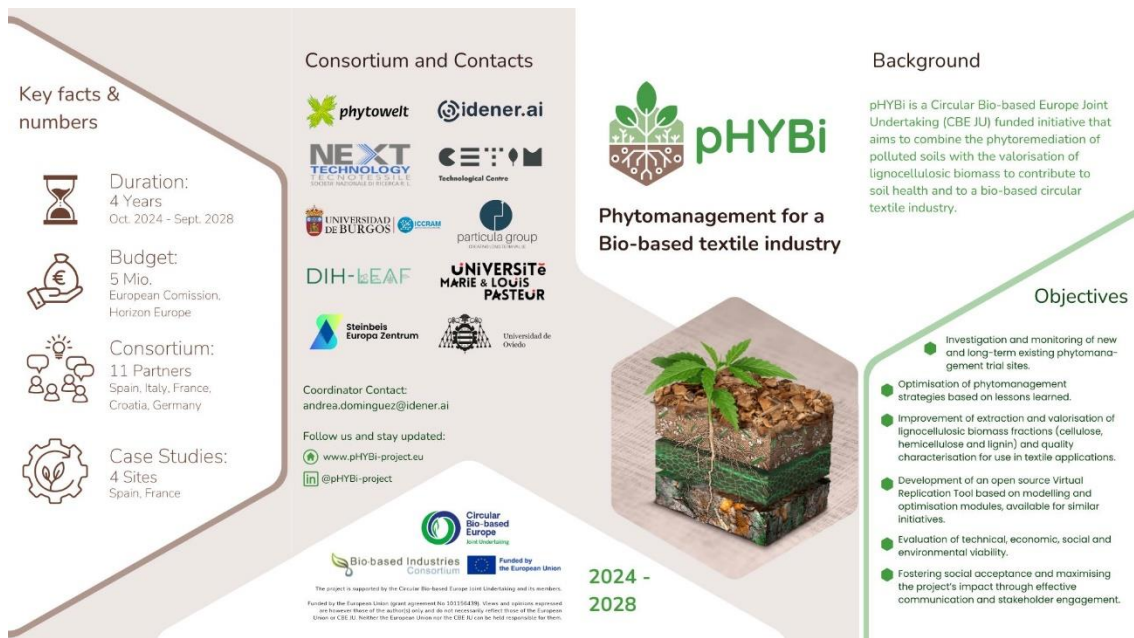


Figure 10 – First draft of the front page of the pHYBi project flyer with information about the project and contact details.

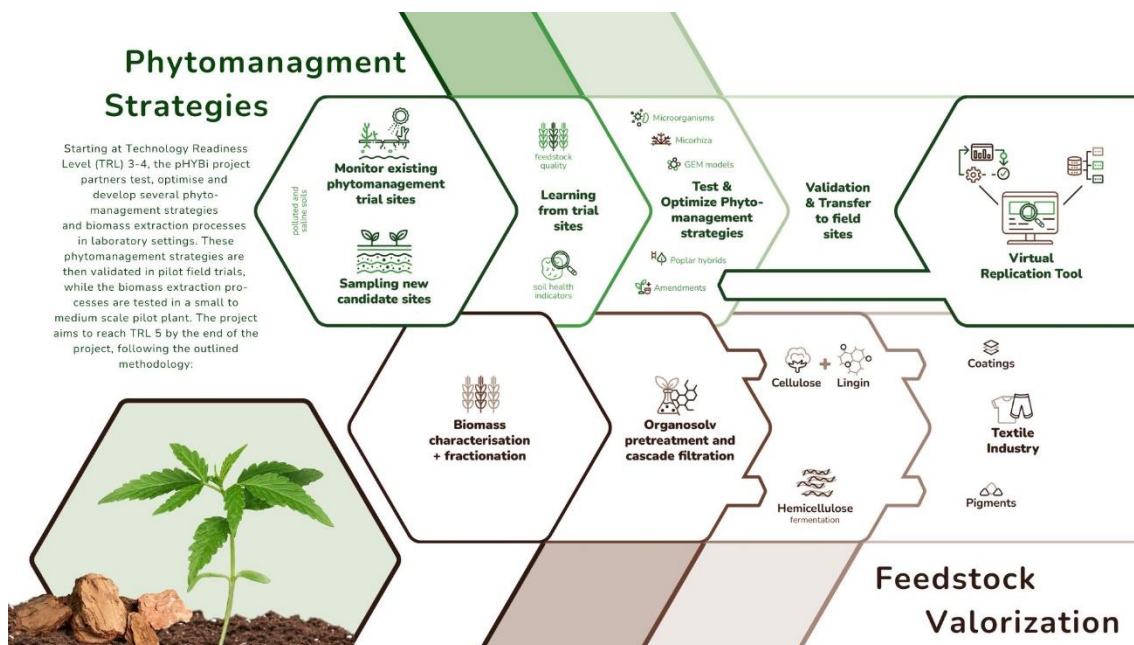


Figure 11 - First draft of the inside of the pHYBi project flyer explaining the concept.

General project presentation

A general PowerPoint presentation is available to all project partners via the SharePoint. It contains a non-confidential overview of the project, including its objectives, concept, and impact, work packages as well as information about the case studies. The presentation may be used by all project partners for dissemination purposes, when for instance attending scientific

conferences and fairs. Based on the project results, this presentation will be updated regularly. Screenshots of the project presentation can be found in the annex (chapter 7.2).

Roll-Up

In the next weeks, a roll-up will be designed based on the project CI. The roll-up will present key facts about the projects as well as information about the project concept, the project consortium and contact details. It will serve for promoting the pHYBi project during events such as industrial fairs and scientific conferences as well as workshops.

4.2 PROJECT WEBSITE

The pHYBi project website serves as one of the most important communication tools, often acting as the initial point of contact for individuals interested in the project. It provides a user-friendly platform offering detailed information about the project's objectives, activities, and outcomes, making it accessible to a broad audience. Developed collaboratively by a graphic design agency and SEZ, the website is available since January 2025 at the address: www.pHYBi.eu. The website serves all stakeholders by sharing information about relevant events, fostering networking opportunities, providing key project updates and showcasing its results and achievements (e.g., publications). SEZ is responsible for continuously updating the site with the latest project news and results. New articles highlighting project milestones, showcasing the work and research of partners, and reporting on events and workshops will be regularly uploaded. Even after the project concludes, the website will remain accessible for a minimum of two years, to ensure dissemination of project results.



Figure 12 – Screenshot of the pHYBi homepage.

The website is structured into 6 pages:

- **Project Homepage** – General overview of the project
- **About** – Background, Objectives, Concept and Impact of the project; Information on Case Studies.
- **Partners** – Brief descriptions of the project partners, their roles, and contributions, alongside contact details and links to collaborations and related projects.
- **pHYBi-Wiki** – Explanations of project-related topics such as phytoremediation, monitoring, and product applications.
- **News and events** – News around the project, updates on the project's progress, reports on workshops and events.
- **Ressources** – Public deliverables, publications and communication materials
- **Contact** - Information for reaching out to the project team.

4.3 SOCIAL MEDIA CHANNELS

To enhance communication and dissemination, the pHYBi project launched two social media channels in January 2025: [LinkedIn](#) and [BlueSky](#). These platforms aim to enhance the visibility of the project, its activities, and outcomes, actively involve the target groups in the project, and generate interest in the project's communication tools.

The pHYBi social media pages are managed by SEZ, with contributions from consortium members. Content will include regular posts, photos, videos, articles, and interactions with partners and related networks. SEZ plans to publish at least 80 posts annually. In the first months, the focus will be on explaining the project's concept and objectives, introducing partners, and sharing news, events, publications, and results. Posts will feature relevant hashtags (#phybi, #phytomanagement, #phytoremediation, #lignocellulose, #cellulose, #lignin, #hemicellulose, #textileindustry, #biobasedindustry, etc.) to enhance visibility.

Topics for initial social media activities:

- Partner introductions
- Background information on pHYBi: Explaining the project's concept, objectives and vision
- Focus topics including phytomanagement, lignocellulosis, polluted soils etc.
- Event participation of project partners
- News and updates from the project

The pHYBi consortium has chosen LinkedIn and BlueSky as its two primary social media platforms. [LinkedIn](#), as a professional networking platform, allows the project to connect with key stakeholders, including researchers, policymakers, and industry representatives, fostering collaboration and outreach within these target groups.

Initially, the project's GA included X (formerly Twitter) as a second platform. However, the consortium decided to replace X with [BlueSky](#) due to concerns about X's adherence to the Digital

Services Act (DSA), insufficient transparency, ineffective moderation of disinformation and hate speech, and the loss of major advertisers due to controversial practices.⁵

BlueSky offers an alternative by appealing to users who value control over their data and content. It targets the general public and reflects a wide range of user interests, including current events, personal hobbies, and creative topics. Additionally, its customizable feeds and user-selected algorithms make it a valuable tool for the pHYBi project to engage with individuals interested in sustainability and the bioeconomy. However, if the platform proves insufficient in terms of interactions and follower growth, SEZ plans to explore alternative platforms such as Mastodon, ResearchGate, or Instagram to enhance the project's reach and impact.

As the WP6 leader, SEZ will enforce a zero-tolerance policy for offensive, aggressive, or misleading messages on pHYBi's social media channels. Denialist or hateful actions will not be tolerated, and such content will be deleted, with offending accounts blocked. The project will not respond to such messages to maintain a constructive and respectful online presence.

⁵ https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6709 (03.12.2024)

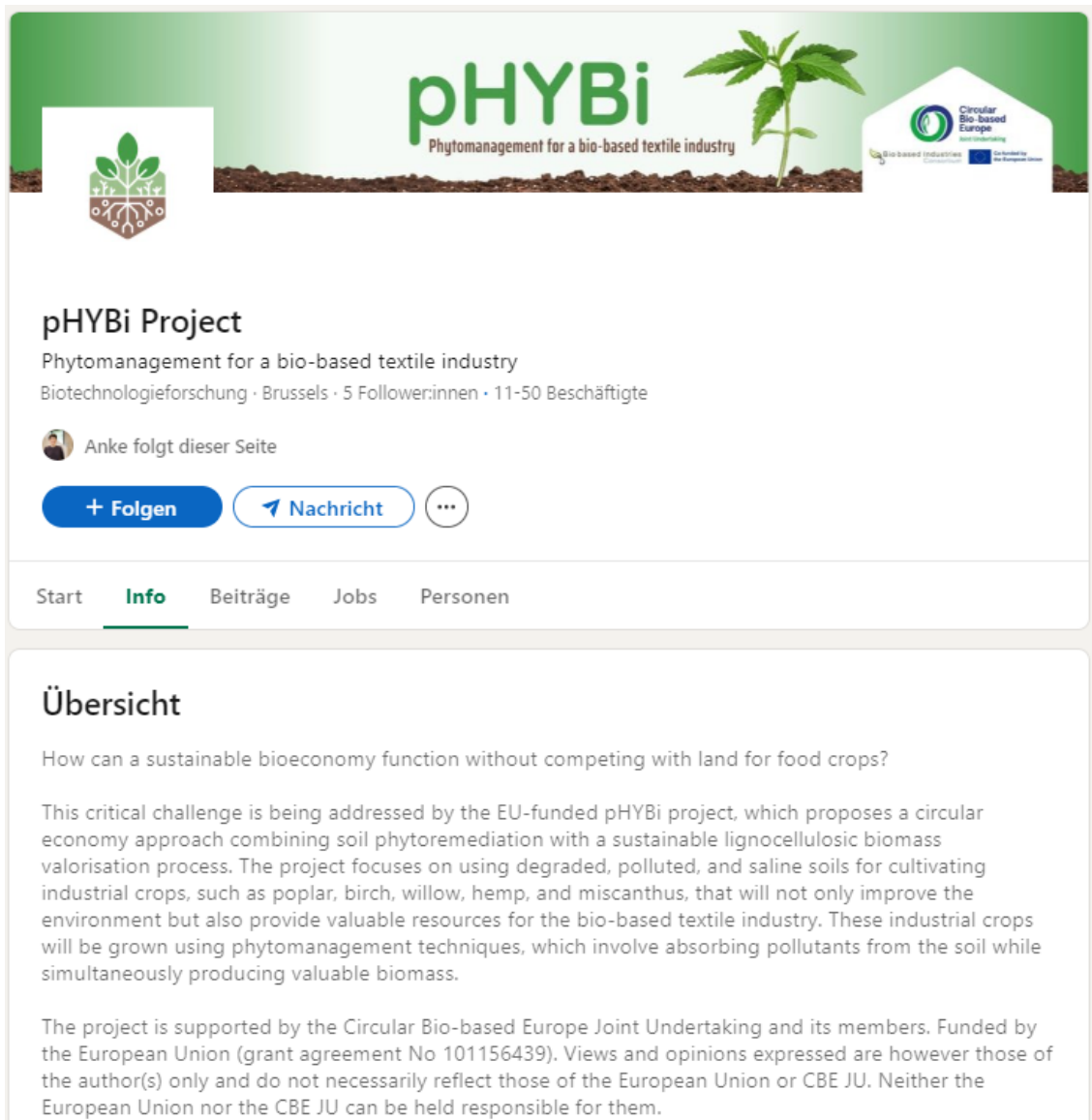


Figure 13 - Screenshot of the pHYBi LinkedIn page on its launch day (January 17, 2025).

4.4 PRESS RELEASES

Press releases will be issued both online and in print magazines to showcase the project's achievements and key advancements. These releases will be made available on the project website, shared through pHYBi's social media channels, and distributed by each partner via their own communication channels, including social media, websites, mailing lists, and local media outlets. Over the course of the project, a minimum of eight press releases will be published. The choice of dissemination channels for each press release will be tailored to the target audience and the specific context.

Rather than being released on a regular schedule, press releases will be prepared for significant milestones or noteworthy project updates. The first pHYBi press release was created by SEZ and published on October 23, 2024, to mark the official launch of the project. It was shared with the

entire consortium to facilitate broader distribution through their networks, contacts, and social media channels. This press release is included in the annex (Chapter 7.3) of this document.

Additionally, potential topics for upcoming press releases are outlined in Table 2.

Table 2 – Possible topics for upcoming press releases, along with their estimated publication date.

Press Release N°	Topic / Milestone	Estimated Publication Date
1	Kick-off meeting and start of the project	Published on 23.10.2024.
2	Initial monitoring campaign in existing and new sites finalised	M12
3	Holding of the first co-creation workshop	M12
4	Optimisation of remote sensing monitoring	D1.4, M24
5	Transfer of optimized phytoremediation strategies to field trials	M36
6	Virtual Tool ready to test	M42
7	Social Impact Analysis	M46
8	Project end	M48

4.5 PROJECT VIDEO

The pHYBi project will produce a video that showcases the project's concept, objectives, and key results. Aimed at both business stakeholders and the general public, the video will present the project in simple, easy-to-understand language. This video will explain the innovative methodology behind the project and highlight the advantages of the pHYBi approach compared to traditional phytomanagement methods. It will feature animations and partner interviews to demonstrate the developed methods, as well as the economic and social benefits of the project. Additionally, the video will include footage from site visits, laboratory work, and other relevant activities, focusing on the outcomes achieved.

The video will be published by M36. It will be made available on the project's dedicated YouTube channel and widely distributed through the project website, newsletters, social media, and the networks of project partners.

4.6 BLOG POSTS AND SHORT ARTICLES

The pHYBi project will post at least four blog and short articles per year on its website to share project insights in a clear and accessible language, targeting general audiences. These articles, written by project partners, will provide insights into the progress and impact of the project in an easy-to-understand way. They aim to keep the public informed and engaged with the project's progress, highlighting key achievements and fostering a deeper understanding of the work being done. Potential formats for these posts will include:

- Interviews with work package leaders
- Introductions to project partners and their specific roles
- Background information on the project's objectives and methodologies
- Updates on the project's progress and key developments
- Reports from events, conferences, and other relevant activities
- Features highlighting the contributions of women in the project
- Introductions to similar projects and initiatives

4.7 AWARENESS RAISING EVENTS

The pHYBi project plans to engage the public through awareness-raising events (e.g. Science slams, living labs, stakeholder workshops), to highlight the importance of pHYBi's solutions and their benefits for everyday life. The goal is to participate in at least three events, with a total of more than 100 visitors. These events will inform the public about the significance of phytomanagement methods to remediate polluted soils and produce biomass suitable for textile production.

Potential events relevant to pHYBi include:

- General sustainability events, including examples like the "[Klima- und Energiefestival](#)" in Karlsruhe
- Locally Organised Events by Partner Organisations, such as open houses.
- Educational events, such as presenting the project at university-hosted events or academic forums.
- Environmental Campaigns, for instance, participation in Earth Day activities or energy-saving initiatives.
- Targeted Stakeholder Engagement, including tailored events like agricultural expos or industry-specific meetings.
- Policy and Networking Platforms, providing opportunities to connect with policymakers, industry leaders, and other key stakeholders.

These activities will help spread knowledge about the project's goals and its role in fostering sustainable, bio-based solutions.

4.8 KEY PERFORMANCE INDICATORS - COMMUNICATION

The communication activities outlined above will be monitored and tracked based on the KPIs defined in the Grant Agreement. SEZ, as the leader of WP6, is responsible for overseeing the implementation of these actions and tracking all project partner activities using an Excel file. The table below (Table 3) provides an overview of the defined KPIs along with a preliminary update on their status as of M4. Additional potential activities are not included in this summary.

Table 3 – Key performance indicators for the pHYBi communication activities, defined in the Grant Agreement, as well as a status for M4 of the project.

Name	Description	KPI	KPIs reached by M4
Visual identity	Logo, colours, fonts, templates for Word, PowerPoint, deliverables, minutes, and participant list, as well as branding guidelines.	1 kit for all project partners, including guidelines	1 visual identity kit, including guidelines published in M3
Public website	Key information about the project, its activities, impact, outcomes and events.	>3,000 visits by the end of the project	Project website online from M4.
Promotional Materials	Flyer, infographic, general project presentation & roll-up	>4,000 distributed on- & offline	1 infographic, 1 flyer, and 1 general project presentation created.
Press releases	Engage citizens at a local level	At least 8	1 press release published
Explanatory project video	present the pHYBi goals and main results	1 video in M36 (>500 views)	-
Social Media Accounts	LinkedIn, BlueSky and YouTube to interact with stakeholders and the public	> 80 post per year	2 social media accounts created in M4
Blog posts / short articles	Posted on the website about project results, explained in easy-to-understand language targeting general audiences.	4/yr starting at M8	-

5 DISSEMINATION TOOLS AND ACTIVITIES

This section provides a detailed overview of the dissemination tools and activities outlined in the pHYBi CD strategy. Each activity is specifically designed to engage target audiences, ensuring effective communication to a diverse audience.

5.1 PUBLICATIONS

To promote the adoption of pHYBi's results in research and ensure effective knowledge and technology transfer, the consortium partners, in particular the university partners, will be committed to producing scientific results of their research activities in the form of scientific and other types of publications.

5.1.1 Scientific Publications

The project will publish at least 12 open-access, peer-reviewed scientific publications. As an initial step, the project partners have identified potential publication topics, summaries in Table 4. This list will be refined and updated throughout the project as results are achieved, and partners develop more concrete plans for their publications. SEZ will ensure that all publications are uploaded to the online repository Zenodo and made available on the project's public website.

SEZ will coordinate and monitor the project's scientific publications. Partner organisations will inform SEZ about planned contributions, including details such as the scientific journals name, publication date etc. This information will be shared via email or using the dedicated CD monitoring template available on MS Teams SharePoint.

Table 4 – List of possible publication topics identified by the project partners, related WPs, and approx. publication dates.

Project Partner	Potential publication topic	Related WP	Approx. publication date
IDE	Mathematical models for a biorefinery concept	WP4	M46/M48
CETIM	Organosolv extraction methods	WP3	M46/M48
UNIOVI	3-5 papers on Environmental (phyto)remediation of polluted sites (including Remote Sensing Optimisation for monitoring purposes)	WP1 and WP2	M24 (1-2) M24 - M48 (2-3)
NTT	Cellulose-based and lignin-based coatings on textiles	WP3	M48
UMLP	1-2 papers on assessing poplar quality after 18 years of SRC on polluted soils	WP1	M24
ULMP	2-3 papers on optimisation of plant productivity on contaminated soils through enhanced microbial communities	WP2	M36
UBU	Tolerance and effect of organic contaminants (TPHs) on the cultivation of Miscanthus and hemp under controlled conditions.	WP2	M28
UBU	Tolerance and effect of salinity on the cultivation of Miscanthus and hemp under controlled conditions.	WP2	M28
UBU	Optimization of phytoremediation of contaminated soils (TPHs) through the inoculation of plant growth-promoting microorganisms in greenhouse cultivation of hemp and Miscanthus.	WP2	M42
UBU	Optimization of phytoremediation of saline soils through the inoculation of plant growth-promoting microorganisms in greenhouse cultivation of hemp and Miscanthus.	WP2	M42
UBU	Evaluation of the life cycle cost of phytomanagement strategies in contaminated and saline soils within the framework of the pHYBI	WP5	M48

	project: Integration of phytoremediation, amendments, and biomass valorization.		
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5.1.2 General Publications

In addition to scientific open access, peer-reviewed publications, pHYBi aims to publish at least 24 additional articles in both print and online industrial and scientific journals, as well as conference proceedings. These publications will span a wide array of topics tied to the project's objectives, showcasing key findings, innovative solutions, and breakthroughs in the field.

Possible journals for publication include:

- Magazines focusing on bioeconomy, soil health and agriculture: [BEsustainable Magazine](#), [Biomass magazine](#), [BIOspektrum](#), [bioökonomie.de](#), [Crops & Soil Magazin](#), [dlg magazine](#)
- Conference proceedings
- Further online platforms and newsletters

5.2 VISITS TO CONFERENCES, FAIRS AND EVENTS

The pHYBi project aims to showcase its activities, findings, and breakthroughs by actively participating in national and international conferences, industrial fairs, and exhibitions. These events provide a platform to present the project's results through papers, posters, and oral contributions, ensuring effective knowledge and technology transfer to specialized audiences. Participation will also serve as an opportunity to engage with key stakeholders, such as industry professionals, policymakers, and researchers, fostering valuable connections for the project.

Active participation in at least 15 events is planned with at least 10 papers or posters presentations. Of these, at least eight events will be organized in collaboration with relevant associations and platforms, maximizing the project's impact.

SEZ will coordinate and monitor the project's participation in events. Partner organizations will inform SEZ about planned contributions, including details such as the event name, location, date, type of contribution, and presentation title. This information will be shared via email or using the dedicated CD monitoring template available on MS Teams SharePoint.

The following scientific conferences, industrial fairs, and exhibitions have been identified as relevant platforms to present pHYBi's findings and engage with target audiences:

Table 5 – A list of suitable upcoming conferences, industrial fairs and exhibitions was identified that could be of interest to pHYBi partners.

Conference Name	Short Description
European Carbon Farming Summit Weblink 4-6 March 2025 Dublin, Ireland	We want to hear the voices of the farmers and businesses who have a critical role to play in the implementation of carbon farming practices and associated certificates.

Green & Sustainable Chemistry Conference Weblink 4-6 March 2025 Pune, India	The Green and Sustainable Chemistry Conference is focused on inter- and transdisciplinary aspects of green and sustainable chemistry. Contributions clearly demonstrating a link to green and/ or sustainable chemistry within the conference topics are invited.
BIOKET Weblink 11-13 March 2025 Brussels, Belgium	BIOKET is an annual international Conference that serves as a premier platform dedicated to advancing Key Enabling Technologies and innovations applied to biomass valorization.
Biotechnology for Extreme Environments Conference Weblink 9 April 2025 Virtual Conference	Organized by the European Federation of Biotechnology (EFB). The conference will explore the advancements in biotechnology tailored for the most extreme and challenging environments.
ICPP 2025 Weblink 8-9 May 2025 Paris, France	The 19. International Conference on Phytoremediation and Phytotechnologies aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results on all aspects of Phytoremediation and Phytotechnologies.
SETAC Europe Annual Meeting Weblink 11-15 May 2025 Vienna, Austria	The Society of Environmental Toxicology and Chemistry is dedicated to advancing environmental science and science-informed decision-making through collaboration, communication, education and leadership.
Textile ETP Annual Conference Weblink 12-14 May 2025 Alcoy, Spain	Europe's largest and most dynamic network of professionals driving research and innovation in the textile and clothing industries. This year's focus will spotlight ecodesign, and more specifically ecodesign of clothing and consumer goods, as well as the sustainability of technical and smart textiles.
7th iTechStyle Summit Weblink 26-28 May 2025 Porto, Portugal	International Textile and Clothing Conference will take place under the theme: <i>Threads of Innovation: Shaping a Smarter, Sustainable and Transparent Textile Industry</i> .
Green Deal Biotechnology Weblink 26-28 May 2025 Aveiro, Portugal	Organized by the EFB Environmental Biotechnology Division. This conference is dedicated to environmental biotechnology and its frontiers, covering broadly several specific topics.
EUBCE 2025 Weblink 9-12 June 2025 Valencia, Spain	This conference covers all aspects of biomass, from resources, research, innovation, deployment to policies. A particular emphasis is given through the exhibition for a tight partnership between academia, research institutions and industry.
Letters in Applied Microbiology ECS Research Symposium 2025 Weblink 12 June 2025 Liverpool, UK	Held at the University of Liverpool, UK, the Symposium offers a unique platform for emerging microbiologists to present their research, connect with colleagues, and gain insights from experienced professionals in the field.

European Bioremediation Conference Weblink 15-19 June 2025 Chania, Greece	Knowledge exchange on recent advances in environmental remediation technologies, especially focusing on bioremediation and phytoremediation of contaminated sites including the marine environment.
AquaConSoil Weblink 16-20 June 2025 Liège, Belgium, hybrid	The conference explores four pivotal themes to advance sustainable management of soil, sediment, and water resources.
ICEPR 2025 Weblink 19-20 June 2025 Vienna, Austria	International Conference on Environmental Pollution and Remediation aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results on all aspects of Environmental Pollution and Remediation.
EUROSOIL 2025 Weblink 8-12 Sep 2025 Seville, Spain	This meeting will encompass all scientific aspects of soil science, offering a platform for researchers, scholars, and professionals to exchange knowledge, insights, and innovations.
RemTech Europe Weblink 15-19 Sep 2025 Virtual	RemTech Europe, International Conference and Exhibition on land and water remediation markets and technologies.
SedNet Conference Weblink 6-10 Oct 2025 Madrid, Spain	At the conference, we invite abstracts for a series of sessions aiming to explore different challenges and proposed solutions related to the theme “Healthy Sediments”.
Expo AgriTech Weblink 28-30 Oct 2025 Málaga, Spain	Technology fair dedicated to improving the competitiveness of the Spanish agricultural sector thanks to innovation, technology and sustainability.
ECOMONDO - The Green Technology Expo Weblink 4-7 Nov 2025 Rimini, Italy	A hub for research and innovation, it hosts the leading companies in environmental services, solutions and technologies, covering water management, waste disposal, textiles, bioenergy, soil management and protection, transport, agriculture and sustainable cities.
Aachen-Dresden-Denkendorf International Textile Conference Weblink 27-28 Nov 2025 Aachen, Germany	Platform and most important meeting ground for exchange between executive management, experts & young professionals from industry and science.
23rd World Congress of Soil Science Weblink 7-12 June 2026 Nanjing, China	The World Congress of Soil Science (WCSS) is an international scientific meeting held quadrennially since 1927 in the field of soil science.

CONDEGRES Weblink Tbd Burgos, Spain	Congress held by the Universidad de Burgos on the degradation and recuperation of soils.
IPMB Weblink Tbd	The International Congress on Plant Molecular Biology (IPMB) is a triennial conference that brings together plant molecular biologists from around the world.
European Mission Soil Week Weblink tbd	This edition of Mission Soil Week brought together researchers, policymakers, practitioners, farmers and other key stakeholders to build momentum for ongoing efforts to improve soil health. (November 12-13, 2024 in Brussels)
ENSOr Conference Weblink Tbd	International workshop on Emerging policy challenges on New SOil contaminants
ISME Symposium 20 Weblink Tbd (2026)	The 20th International Symposium on Microbial Ecology is the largest <u>not-for-profit</u> international meetings addressing the wide range of topics in Microbial Ecology.

5.3 STAKEHOLDER ENGAGEMENT WORKSHOPS

The pHYBi project will actively engage stakeholders through a series of workshops designed to facilitate integration, collaboration, and the exchange of ideas. These workshops will gather valuable input from diverse participants across the value chain to refine the project's approach and maximize its impact. Details on these workshops will be further elaborated in D6.4 "Multi-Stakeholder Engagement and Community Building Plan" (M6).

5.3.1 Co-creation workshops

SEZ, with the support of DIH-LEAF, will organize two co-creation workshops, each involving at least 10 stakeholders. These workshops are scheduled for M12 and M36 and will bring together participants for creative brainstorming, gamified exercises, and prototyping activities. The primary aim of these workshops is to gather feedback on acceptance and incorporate perspectives from industries such as agriculture, biorefineries, and textiles during the implementation phase of the project.

Key objectives of the co-creation workshops include:

- Developing pHYBi methodologies, services, products, and business models with high acceptance.
- Strengthening the competitiveness of the European bio-based sector, with a focus on SMEs and agricultural stakeholders.

The outcomes from these workshops will be shared with the consortium through webinars and additional workshops, ensuring continuous refinement of the pHYBi concept and products. During stakeholder workshops at a later stage of the project, these results will be tested,

implemented, and further disseminated through peer-to-peer learning sessions, targeted trainings, and site visits.

5.3.2 Stakeholder workshops

To further disseminate knowledge and provide training, the pHYBi project will organize four stakeholder workshops including site visits for future customers and relevant stakeholders once the project results are available:

1. **Biorefineries Workshop** (led by CETIM).
2. **Phytomanagement Workshop** (led by UBU and UNIOVI).
3. & 4. **Digital Tools and Capacity Building Workshops** (led by DIH-LEAF).

These workshops will aim to introduce future customers and stakeholders to pHYBi's solutions, demonstrate pHYBi applications through site visits, and build capacity within the bio-based sector.

5.4 pHYBi ADVISORY COMMITTEE

An Advisory Committee (AC) will be established to offer strategic guidance, provide regular feedback, and actively support the dissemination and outreach activities of the pHYBi project. The AC will consist of a diverse group of experts and stakeholders, including representatives from industry, academia, policymaking, and end-user communities, ensuring a holistic perspective on the project's progress and its potential impact.

Throughout the project's duration, several dedicated workshops will be organized with AC members to review the project's progress and milestones, discuss technical and practical aspects of the developed solutions, gather insights and constructive feedback from potential end-users and stakeholders across the value chain and identify emerging opportunities for scaling and application of the pHYBi solutions in relevant sectors.

The selection of AC members, as well as the planning of meeting occasions and discussion topics, will be outlined in D6.4 "Multi-Stakeholder Engagement and Community Building Plan" (M6).

5.5 CLUSTERING WITH OTHER PROJECTS AND NETWORKS

The pHYBi consortium is dedicated to building impactful collaborations by actively engaging in clustering activities with other EU projects and networks. This approach aims to foster continuous communication, facilitate mutual learning, and strengthen the dissemination and application of project outcomes.

A selection of EU projects identified for collaboration is presented in Table 6, such as topic sister projects, Soil Mission initiatives, and projects funded under Horizon Europe, the Green Deal, and CBE JU calls. The pHYBi consortium aims to organize **at least one yearly meeting** and **four joint activities** (e.g., webinars, workshops). Possible collaborations will focus on exchanging knowledge, promoting one another's initiatives, and leveraging each other's networks to

enhance visibility and impact. By sharing experiences and insights, the consortium aims to enrich its own project outcomes while supporting complementary projects.

Potential synergies include:

- Workshops for Knowledge Exchange: Sharing insights and lessons learned together with other projects and networks.
- Joint Communication Efforts: Collaborating on newsletters, social media campaigns, and event participation.
- Cross-Promotion on social media: Expanding the audience reach through mutual follower engagement.
- Policy Engagement: Creating joint policy briefs or white papers to inform stakeholders and policymakers.

Table 6 – List of projects with a similar scope to pHYBi for possible collaborations.

Name	Short Description	Weblink
IASIS CBE JU 2024-2028	Curing contaminated and saline land with Industrial crops and producing biomass for high-value applications.	Weblink
SURFs UP CBE JU 2024-2028	Safe and sustainable by design microbial and lignin-based biosurfactants sourced from sustainable feedstock for home, personal care and agrochemical application.	Weblink
SSUCHY-Next CBE JU 2024-2028	Developing the supply chains for industrial hemp fibre and bio-based resins towards high performance circular bio-based composites.	Weblink
LANDFEED CBE JU 2024-2028	Unlocking efficient bio-based fertilisers for soil sustainability from underutilised side streams.	Weblink
WOODCELL CBE JU 2024-2029	Wood residues derived microcrystalline cellulose for sustainable material.	Weblink
FRACTION BBI JU 2021-2024	Development of integral fractionation of lignocellulose to produce components for high-value applications.	Weblink
EDAPHOS CBE JU 2024-2028	The EDAPHOS project aims to develop a comprehensive approach to land management, across 7 Case Studies in the EU.	Weblink
BIOSYSMO Horizon 2021-2025	Bioremediation systems exploring synergies for improved removal of mixed pollutants.	Weblink
Biofibreloop Horizon 2024-2027	Smart innovations to eliminate the use of harmful chemicals in the textile industry and reduction of its carbon footprint.	Weblink
LIFE MySOIL LIFE Programme 2021-2025	Development of a competitive and innovative technology to demonstrate the feasibility of mycoremediation to remediate all petroleum-derived organic pollutants from aged industrial contaminated	Weblink

	soils.	
MIBIREM Horizon 2022-2027	The EU-funded MIBIREM project will develop a unique toolbox for highly efficient bioremediation environmental applications of microbiomes	Weblink
Symbiorem Horizon 2022-2026	Innovative nature-based solutions to reduce environmental pollution	Weblink
NYPHE Horizon 2023-2026	New system-driven bioremediation of polluted habitats and environment	Weblink

Furthermore, the project consortium will participate in networks and initiatives related to the pHYBi topics. Partners within the pHYBi consortium are already active members of various networks and associations, including: [Bio-based Industries Consortium](#) (IDE, CETIM, NTT, SEZ, UNIOVI), [European Federation of Biotechnology](#) (UBU), [NETSOB working group 2](#) (UBU), [Cluster Industrial Biotechnology – CLIB](#) (PHY), [Textile ETP](#) (NTT), [Enterprise Europe Network](#) (SEZ), [Water Europe](#) (CETIM), [ECOSYSTEM](#) (NTT), [DECHEMA Chemische Technik und Biotechnologie](#) (PHY). Additionally, pHYBi has joined and participated in the [All4BIOREM](#) alliance for environmental bioremediation. Further networks for identified for a possible collaboration are listed in Table 7. These networks will be actively used to disseminate the project's results and maximise its impact as much as possible, with the goal to participate in **at least 8 targeted dissemination activities** described above.

Table 7 – List of possible networks and initiatives suitable for collaboration.

Name	Short Description	Weblink
Bioeconomy forum	Global platform for circular bioeconomy stakeholders to share ideas and promote bio-based solutions covering bioresource, biotechnology and bioecology visions.	Weblink
CAP network	The EU's Common Agricultural Policy (CAP) Network optimizes the flow of information about agriculture and rural policy within the EU.	Weblink
Global Soil Partnership	Food and Agriculture organisation of the United Nations.	Weblink
BioINSouth	Cluster for bioeconomy as means for sustainable growth in Southern Europe. Encouragement of the adoption of circular bio-based solutions and integration of environmental considerations in the regional bioeconomy strategies.	Weblink
COPILOT	The project will build a Europe-wide reference open-access database for bioeconomy. The database will support collaboration among infrastructures, innovators and enablers to scale up bio-based innovations across Europe.	Weblink
BioEconomy Deutschland	German Cluster to connect German actors in the national and international bioeconomy.	Weblink

5.6 RESEARCH TRAINING AND EDUCATION ACTIVITIES

The pHYBi project integrates research and training activities to promote knowledge creation, skill development, and the dissemination of best practices. Key activities include the development of **8 MSc** and **3 PhD theses** and reaching over **400 students** through the creation and distribution of university course materials by the consortium's academic partners.

Beyond academic outputs, the project will create peer-to-peer learning materials for stakeholders in industries such as agriculture, biorefineries, textiles, and agro-industry, along with **10+ practice abstracts** targeting over **500 downloads**. These materials will be shared through stakeholder workshops and site visits, offering hands-on learning opportunities as well as through the project website and social media channels.

By disseminating pHYBi's best practices and research outcomes, these efforts will provide participants with practical insights into the project's innovations, ensuring a meaningful and lasting impact across multiple sectors.

5.7 FINAL EVENT

A **final event** will be held at the conclusion of the pHYBi project to present its results and raise awareness among **at least 30 stakeholders**. To maximize the event's impact, it will be organized by IDE in collaboration with other relevant projects and, if possible, incorporated into a conference or related event.

5.8 KEY PERFORMANCE INDICATORS – DISSEMINATION

Table 8 provides an overview of the key performance indicators for the pHYBi dissemination tools and activities. As the leader of WP6, SEZ is responsible for monitoring all activities carried out by the project partners. This includes tracking the progress of dissemination efforts, ensuring that all targets are met, and evaluating the effectiveness of the tools and methods used. Dissemination activities will mainly be achieved towards the end of the project, with project results being produced by then.

Table 8 – Summary of Key Performance Indicators for the pHYBi dissemination activities and tools.

Name	Description	KPI	KPIs reached by M4
Scientific publications	Open access scientific publications in international peer-reviewed journal	>12 peer-reviewed publications	-
Further publications	Publications in industrial/scientific journals (print/online) targeting various stakeholder groups	> 24 publications	1 article (Weblink)
	Whitepaper on project results and bottlenecks, and barriers for implementation (IDE)	1 whitepaper	-
Conferences,	Active participation exhibitions,	> 15 event	1 presentation of

industrial fairs and exhibitions	scientific conferences, workshops or industrial events	participations	pHYBi during EU Soil Mission week
	Presentation of project results through paper and poster presentations	> 10 paper / poster presentations	-
	Collaborations with associations and platforms	> 8 collaborations	-
Stakeholder workshops	Co-creation workshops with stakeholders	2 workshops, 10+ stakeholders each	-
	Workshops with site visits for future customers and stakeholders	4 stakeholder workshops	-
Clustering with related projects and networks	Joint activities and yearly meetings with EU projects (e.g., joint seminars, visits, policy briefs, white paper)	> 1 yearly meeting, 4 joint activities	-
	Targeted dissemination activities with networks, platforms and initiatives	> 8 targeted dissemination activities	-
Reasearch and Training	MSc and PhD theses related to project research	8 MSc, 3 PhD theses;	-
	Students reached through university courses	>400 students reached	-
	Peer-to-peer learning materials and practice abstracts	> 10 practice abstracts, 500+ downloads.	-
Final event	Presentation of project results to stakeholders	1 final event, 30+ stakeholders reached	-

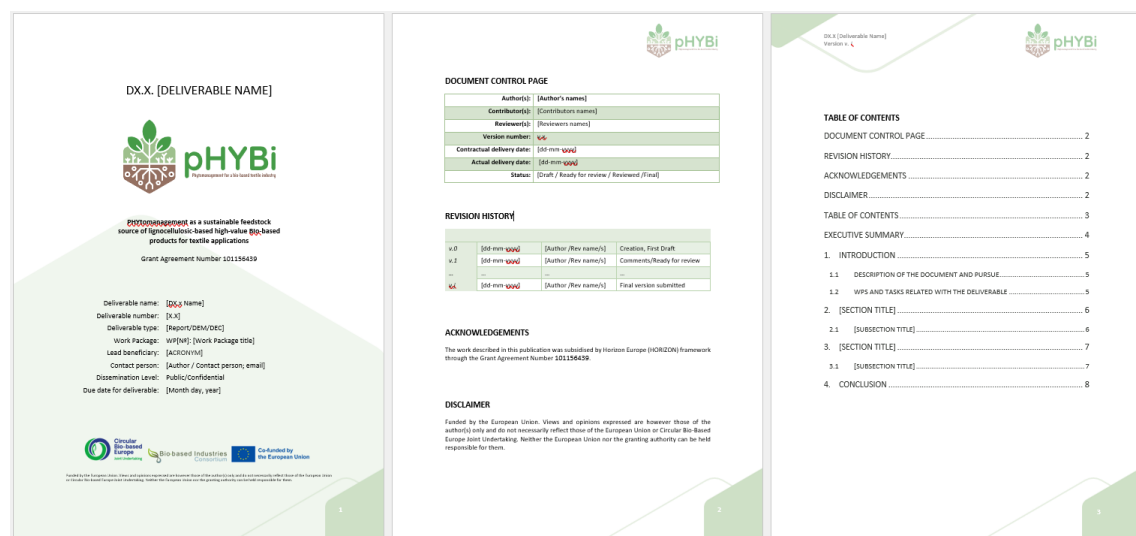
6 CONCLUSION

The pHYBi project involves a wide range of stakeholders, including agriculture stakeholders, the textile industry, government and the general public. To effectively reach and connect with these different groups, the project uses a variety of communication and dissemination tools and channels. These activities aim to increase stakeholder interest in the project and promote the uptake of its results.

This document serves as a roadmap for the implementation of communication and dissemination (CD) activities by all partners. It will be updated regularly throughout the project, with ongoing monitoring to ensure that objectives are being met and to allow for adjustments to content and planning as necessary.

7 ANNEX

7.1 Word and PowerPoint Templates (screenshots)



7.2 pHYBi project presentation (screenshots)



PHYtomanagement as a sustainable feedstock source of lignocellulosic-based high-value Bio-based products for textile applications



Table of content

1. Summary
2. Consortium
3. Objectives
4. Concept
5. Innovative Contributions
6. Case Studies
7. Implementation
8. Expected Impact



Summary



Project Name

PHYtomangement as a sustainable feedstock source of lignocellulosic-based high-value Bio-based products for textile applications

Key Facts



Duration: 4 Years
Oct. 2024 - Sep. 2028



Consortium:
11 Partners
Spain, Italy, France, Croatia,
Germany

Call Topic

HORIZON-JU-CBE-2023-R-01
Phyto-management; curing soil
with industrial crops, utilising
contaminated and saline land for
industrial crop production
RIA TRL 5

Key Facts



Budget: ~ 5 Mio.
Funded by the EU



Case Studies:
4 Sites



3

CONSORTIUM



4

OBJECTIVES



- 1 Investigation & monitoring of long-term existing phytomanagement trial sites as well as investigation of new candidate sites.
- 2 Optimisation of phytomanagement strategies based on lessons learned.
- 3 Improvement of extraction & valorisation of lignocellulosic biomass fractions and quality characterisation for use in textile applications.
- 4 Development of an Open-Source Virtual Replication Tool based on modelling and optimisation modules.
- 5 Evaluation of technical, economic, social and environmental viability.
- 6 Fostering social acceptance and stakeholder engagement.

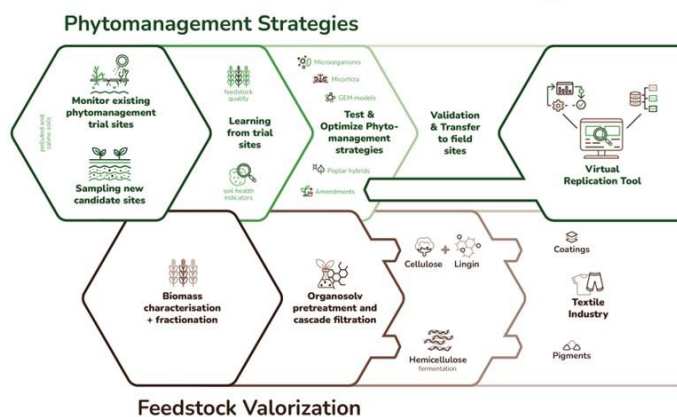


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CONCEPT



- Site selection and monitoring
- Optimisation of phytomanagement strategies
- Biomass extraction and valorisation
- Scaling and replication



6

Innovative contributions of the pHYBi project:



Symbiotic inoculants (endophytic fungi, PGPBs, mycorrhizae) to boost plant growth, health, phytoremediation, and lignocellulosic biomass production.

A novel **nanobiophytoremediation** approach, combining Fe- or C-based nanoparticles, bioaugmentation with autochthonous microorganisms, and tree-assisted phytoextraction.

Modified nanocellulose for developing innovative bio-based **multifunctional protective coatings**.



7

Case Studies

Locations: Spain, France and Croatia

The pHYBi project has identified several case studies as phytomanagement trials to investigate diverse approaches for managing contaminated sites across Europe.

- | | |
|--|---|
| <ul style="list-style-type: none"> • Type: former agricultural cropland • Pollution: raw domestic wastewater, toxic trace elements such as Pb, Cu, Zn, Cd as well as polyaromatic hydrocarbons (PAHs) | <ul style="list-style-type: none"> • Type: post-industrial brown field • Pollution: heavy metal(loid)s, pyrite ashes with Pb, Zn, Cd, and Cu as well as slags, coal waste, hydrocarbons, and PAHs |
| <ul style="list-style-type: none"> • Type: salt affected agricultural soil • Pollution: industrial activity related to sodium sulfate production from glauberite mineral, salinity with electrical conductivity $EC_e > 4$ dS/m. | <ul style="list-style-type: none"> • Type: Land polluted with organic contaminants • Pollution: heavy metals, petroleum-derived organic compounds, total petroleum hydrocarbons (TPHs), PAHs |



8



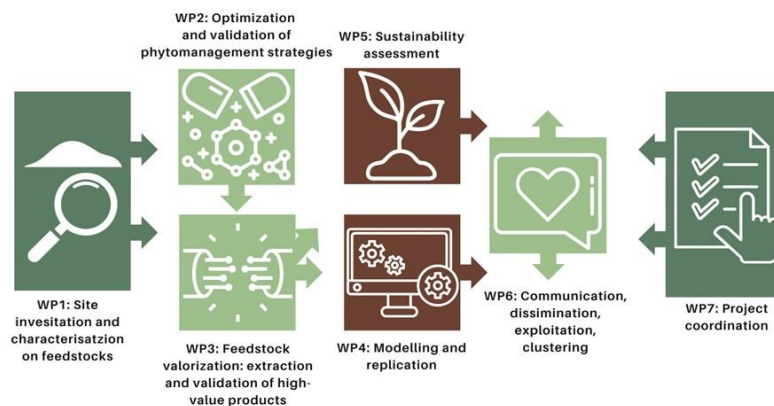
Case Studies Examples

Case Studies:

Remediation Strategies

- **Biomass Analysis:** using existing biomass of Birch, Willow, Miscanthus and Hemp
- **Phytoextraction:** Poplar hybrids and variations, Miscanthus
- **Organic ammendments:** biochar, compost etc.
- **Bioaugmentation:** microbial inocula (fungi, bacteria etc.)
- **Nanobiophytoremediation:** nanoparticles as amendments
- **Monitoring Tool:** genome-scale metabolic Models, drone-assisted monitoring

IMPLEMENTATION



11

EXPECTED IMPACT



1. Increased availability of domestic raw materials for use in high-value, non-food applications within biobased industries.
2. Enhanced knowledge on sustainable methods for extracting and recovering valuable compounds and processing biomass into high-value products.
3. Development of case study-based guidelines, recommendations, thresholds, and restrictions for the use of specific biomass.
4. Improved knowledge of the characteristics and quality of biomass cultivated on contaminated or salt-affected soils.
5. Restoration of environmental conditions in post-industrial and other areas impacted by soil contamination or salinity, paving the way for future uses such as agriculture or recreation.
6. Significant contribution to the goals of the R&I mission "A Soil Deal for Europe".



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The project is supported by the Circular Bio-based Europe Joint Undertaking and its members.

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7.3 1st pHYBi press release



pHYBi Project - 1st Press Release

Sevilla, October 9th, 2024

New Horizon Europe project pHYBi Kicked off: Sustainable bio-based lignocellulosic feedstock for textile applications through phytomanagement

How can a sustainable bioeconomy function without competing with land for food crops? This question arises particularly in Europe, where land is scarce, as around 80% of land is used for settlements, agriculture, forestry, and infrastructure. However, land is needed to grow industrial crops as sustainable feedstocks for the bioeconomy.

This critical challenge is being addressed by the EU-funded pHYBi project, which proposes a circular economy approach combining soil phytoremediation with a sustainable lignocellulosic biomass valorisation process. The project focuses on using degraded, polluted, and saline soils for cultivating industrial crops, such as poplar, birch, willow, hemp, and miscanthus, that will not only improve the environment but also provide valuable resources for the bio-based textile industry. These industrial crops will be grown using phytomanagement techniques, which involve absorbing pollutants from the soil while simultaneously producing valuable biomass.



On 8th October 2024, the pHYBi consortium met in Sevilla to kick -off the project activities.

At the project's kick-off event in Seville on October 8, 2024, the pHYBi consortium, composed of 11 organizations from five European countries, came together to launch the project's activities. The project will run for 48 months, during which time partners will develop and test a range of innovative strategies to enhance crop growth and soil health using organic and inorganic (nano-) amendments, as well as fungal and bacterial inocula. Among the key developments will be the creation of Genome-Scale Metabolic (GEM) models, which will be used to evaluate and improve interactions between plants and microbes.

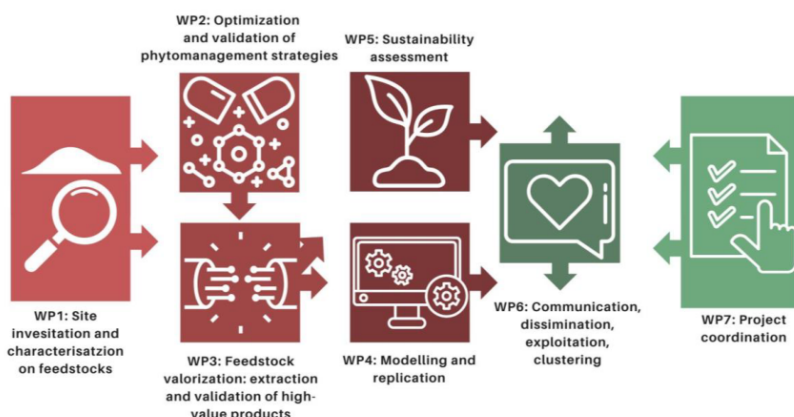
Phytomanagement and sustainable biomass valorisation

The core of the pHYBi project revolves around combining phytomanagement — the use of plants for soil remediation — with the extraction and valorisation of lignocellulosic biomass (cellulose, hemicellulose, and lignin) for high-value applications in the textile industry. By processing biomass grown on polluted soils, pHYBi aims to create environmentally friendly fibres and pigments for sustainable use in textile manufacturing.

The main objectives of the pHYBi project include:

- Investigation and monitoring of existing and new pilot phytomanagement sites.
- Optimisation of phytomanagement strategies for high-yield biomass production on polluted and saline soils.
- Development of a virtual replication tool to simulate the process in different regions across Europe.
- Demonstration of the economic, social and environmental feasibility of these sustainable practices.

Outline of the pHYBi Work Plan



Overview of the pHYBi Work Packages and their interrelation.

Looking ahead: A sustainable future for Europe's textile industry

pHYBi's innovative approach will directly contribute to the EU's Soil Deal for Europe, which aims to restore degraded soils and reduce pollution. By demonstrating how biomass can be harvested from contaminated soils without affecting food crops, pHYBi is expected to significantly reduce the EU's global footprint in the production of feedstock for the bio-based economy. By integrating the latest

scientific knowledge from fields such as agronomy, microbiology, and chemical engineering, pHYBi promises to set new standards for sustainable industrial crop production.

In addition, the project will involve a wide range of stakeholders - from farmers to textile manufacturers - to ensure that the benefits of bio-based products are fully understood and adopted throughout the value chain.

The success of pHYBi could pave the way for broader adoption of phytomanagement practices, not only within Europe's textile industry but also in other sectors that rely on sustainable bio-based feedstocks.

THE pHYBi PROJECT IN SHORT

Project Name: PHYtomanagement as a sustainable feedstock source of lignocellulosic-based high-value Bio-based products for textile applications.

Call Topic: HORIZON-JU-CBE-2023-R-01 Phyto-management; curing soil with industrial crops, utilising contaminated and saline land for industrial crop production (RIA TRL 5)

Duration: 4 years (October 2024 – September 2028)

Partnership: The project, coordinated by Idener R&D. It consists of 11 partners from Spain, Italy, France, Germany and Croatia: [Idener R&D A.I.E](#) (Spain), [Next Technology Tecnotessile Società Nazionale di Ricerca r.l.](#) (Italy), [Steinbeis 2i GmbH](#) (Germany), [Fundacion Centro Tecnológico de Investigación Multisectorial](#) (Spain), [Universidad de Burgos](#) (Spain), [Université de Franche-Comté](#) (France), [Université Bourgogne-Franche-Comté](#) (France), [Phytowelt Greentechnologies GmbH](#) (Germany), [Universidad de Oviedo](#) (Spain), [Particula Group](#) (Croatia), [Digital Innovation Hub on Livestock Environment, Agriculture & Forest](#) (Spain)

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More Information: <https://www.cbe.europa.eu/projects/phybi>

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