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Abbreviations and Acronyms

Abbreviation / Acronym	Description
COPILOT	CO-creating the next generation platform of PILOT and demo infrastructures, unlocking faster innovation and EU bioeconomy growth
PDIs	Pilot and Demo Infrastructures
BIs	Bioinnovators
RIs	Research Infrastructures
TRL	Technology Readiness Levels
SMEs	small or Midsize Enterprises
LCA	Life Cycle Assessment
TEA	Techno-Economic Analysis

Executive Summary

This report presents the findings from a comprehensive survey conducted with open access Pilot and Demo Infrastructures (PDIs) for the bioeconomy across Europe, aimed at assessing their current capabilities, operational challenges, and future needs. The survey provides valuable insights into the capacity, readiness, and technological diversity of PDIs, as well as their ability to support the growing bioeconomy sector.

The survey found that European PDIs are well-equipped to support process development, scale-up activities, and, in some cases, initial pre-industrial production. These facilities play a crucial role in helping BioInnovators (BIs) bridge the gap from laboratory-scale research to industrial-scale production by offering essential infrastructure and scale-up expertise. The diversity in technological capabilities across PDIs, ranging from industrial biotechnology to physicochemical separations and material technologies, ensures that a broad spectrum of bioeconomy innovations can be effectively supported.

Despite these strengths, several challenges were identified. The survey highlighted that a lack of awareness regarding available regional financial aid for scale-up activities further limits the ability of some PDIs to fully utilize their potential. Moreover, the uneven distribution of PDIs across regions and variability in infrastructure readiness contribute to disparities in the bioeconomy support ecosystem.

To address these challenges, the report emphasizes the need for improved coordination and collaboration among PDIs to optimize resource utilization across Europe. Enhancing and developing the next-generation Pilots4U platform, which connects PDIs with BIs, is also crucial to ensure better visibility and access to up-to-date information about available facilities and their capacities. Additionally, targeted regional financial support schemes and better awareness campaigns are needed to enable PDIs to meet current and future demands effectively.

The insights from this report will provide solid input for the development of the next-generation Pilots4U database, which will create a more interconnected and efficient network of PDIs. By maintaining accurate and updated infrastructure and service information, by strengthening collaboration and by enhancing scale-up funding access, the European bioeconomy can continue to grow and support sustainable innovation, which will help tackle challenges in a meaningful way.

1 Introduction

The European bioeconomy is experiencing rapid growth, driven by the need for sustainable processes and innovative technologies that can replace fossil-based resources. Central to this growth are Pilot and Demo Infrastructures (PDIs), which serve as crucial intermediaries between laboratory-scale research and full-scale industrial production. PDIs provide the facilities, expertise, and support necessary for Bioinnovators (BIs) to scale up their technologies, validate processes, and accelerate the commercialization of bio-based products. In recognition of the vital role that PDIs play in advancing the bioeconomy, the COPILOT project has been initiated to enhance collaboration and resource sharing among these infrastructures. COPILOT aims to create a more interconnected network of PDIs to facilitate access to state-of-the-art facilities and foster innovation across Europe. As part of the COPILOT initiative, the Pilots4U project¹ was established to map and connect existing PDIs through a comprehensive database and communication platform. Pilots4U serves as a centralized resource where BIs can identify and access the facilities best suited to their scaling needs. By providing detailed information on PDIs' capabilities, capacities, and services, Pilots4U enhances transparency and encourages collaboration within the bio-based industry.

This report details the findings from a recent survey conducted among PDIs listed in the Pilots4U database. The primary objective of the survey was to gather in-depth insights into the current status, challenges, and future needs of PDIs across Europe. Specifically, the survey aimed to assess current capabilities by evaluating the state-of-the-art technologies and equipment available at PDIs, as well as their capacity to meet current demand. By understanding the existing technological landscape, the survey aimed to determine how well-equipped PDIs are to support bio-innovators in scaling up their processes. Another objective was to identify challenges and needs faced by PDIs. This involved gaining insights into operational challenges, capacity constraints, and financial sustainability issues. Understanding these obstacles is crucial for developing strategies to support PDIs in overcoming them, thereby enhancing their ability to serve the bioeconomy sector effectively. The survey also aimed to explore expansion plans by gathering information on PDIs' short-term plans to enhance their facilities and services. This included identifying any planned investments in new equipment, facility upgrades, or expansion of service offerings that would increase their capacity and capabilities in the near future. In addition, the survey attempted to collect feedback on service offerings to determine the types of services provided by PDIs. This encompassed services such as process development, scale-up support, and custom manufacturing. By understanding the range of services available, the survey could identify gaps and opportunities for PDIs to better meet the needs of BIs. A further objective was to enhance the Pilots4U platform by obtaining feedback on potential new features or functions that could improve the usability and value of the database. PDIs were asked for suggestions on how the platform could be improved to facilitate better connections between PDIs and BIs. Finally, the survey aimed to understand financial support awareness by assessing PDIs' awareness of regional financial public support available for small and medium-sized enterprises (SMEs) to conduct scale-up work. This information is vital to ensure that PDIs and their clients are fully informed about funding opportunities that could aid in scaling up bio-based innovations.

By presenting these findings, this report aims to draw a comprehensive picture of the current state of PDIs in Europe. It offers valuable insights to stakeholders—including PDIs themselves, BIs, and Enablers. This detailed overview will facilitate informed decision-making, promote strategic investments, and encourage collaborative efforts to address capacity gaps and operational challenges within the bioeconomy sector. Moreover, the insights gathered from the survey will be instrumental in building the next generation of the Pilots4U platform. When the feedback and data provided by PDIs are incorporated, the enhanced database will become a more effective tool that connects BIs with suitable

¹ <https://www.cbe.europa.eu/projects/pilots4u>

facilities, fosters collaboration, and accelerates innovation across Europe. Ultimately, this report contributes to strengthening the support ecosystem for innovation and scale-up activities, which aids the growth and sustainability of the bio-based industry.

2 Survey Methodology

This section describes the methodology used for the Pilots4U community-wide consultation. The survey² was designed to gather comprehensive information on the current status, capabilities, challenges, and future plans of PDIs across Europe. The methodology covers the survey design, participants, data collection procedures, and the data analysis approach.

2.1 Survey design

To meet the consultation's objectives, the survey collected both quantitative and qualitative data from PDIs that participated. The questionnaire was structured to cover several key areas. First, this survey involved understanding the degree of incorporation of the infrastructure within the broad bioeconomy technology scope. This component evaluated how well each PDI's infrastructure and capabilities aligned with the overall technological trends and requirements of the bioeconomy sector. Then, it assessed whether PDIs possessed “state-of-the-art” equipment and invited comments on the “state-of-the-art” status of their facilities. Questions determined their current capacity to meet demand, any constraints they faced, and their availability for new projects.

The survey inquired about short-term expansion plans, which include investments in new equipment, facility upgrades, or enhancements to their service offerings. Participants detailed the types of services they provide, such as process development, scale-up support, and custom manufacturing, along with any unique offerings they might have.

Furthermore, the questionnaire explored the financial self-sustainability of PDIs and their dependency status, and it gathered comments on their business models. It aims to understand their awareness of existing regional financial public support for SMEs to conduct scale-up work and whether such support could be utilized across borders.

Lastly, the survey collected suggestions for new features or functions to improve the Pilots4U database, including preferences for better filters, updates on capacity, and automated reminders for data updates. The questionnaire combined multiple-choice questions and open-ended responses to capture detailed insights and to allow participants to elaborate on their answers.

2.2 Participants and data collection

The COPILOT consortium partners compiled a comprehensive list that includes all existing PDIs from the Pilots4U database (current PDIs), updated with the most current contact information, as well as PDIs identified by consortium partners who have not registered on the Pilots4U database (new PDIs). An invitation email was then sent to these PDIs to request their participation in an online Teams interview, during which they would be introduced to the COPILOT project and asked to complete the survey.

The survey was administered in the form of a structured questionnaire, conducted during interviews with the participants. This approach allowed for a deeper understanding of the responses and provided an opportunity to clarify any ambiguous questions in real-time. Participants were also assured that their

² <https://forms.office.com/e/PrZ6kADJ9k?origin=lprLink>

responses would be treated confidentially. It was communicated that the data would be reported in an aggregated and anonymized manner unless explicit permission was granted to mention specific organizations.

2.3 Data analysis

The data analysis process was designed to extract meaningful insights from the collected responses. Closed-ended questions were quantified, and analyses were performed to determine percentages and distributions across various categories such as geographic regions, organizational types, and technological focuses. Open-ended responses were analyzed thematically to identify common challenges, needs, and suggestions. Key quotes and comments were extracted to provide illustrative examples. Data were also cross tabulated to explore relationships between variables, such as the correlation between PDIs' capacity sufficiency and their service offering or expansion plans. Visual representations like charts and graphs were created to enhance the clarity and accessibility of the findings.

3 Survey findings

3.1 Demographics and geographic distribution

Interest in this survey was remarkably high. Out of 104 current PDIs listed in the Pilots4U database and 35 new PDIs, 76 of the current PDIs were revived and confirmed their updated contact information. Of these, 45 PDIs, which represents approximately 60%, agreed to participate in the interview. Among the 35 new PDIs, 5 accepted the interview, which accounts for about 14%. In total, out of all participants, over 90% completed the survey during their online interviews, while fewer than 10% finished it afterwards without requiring additional follow-up. The group of respondents represents the broader ecosystem of PDIs in Europe. It includes both large, well-established generic players and smaller, more specialized facilities. This diversity provides a comprehensive view of the European bioeconomy infrastructure landscape.

The survey captured responses across 19 different countries, distributed among four European macro-regions as illustrated in **Figure 1**. This distribution aligns closely with the established distribution of PDIs registered in the Pilots4U database. The largest proportion of participants, accounting for 56%, originated from Western Europe, including countries such as Belgium, France, Germany, Luxembourg, the Netherlands, Ireland, the United Kingdom, Switzerland and Austria. Southern Europe contributed 24% of the sites, which come from countries like Greece, Italy, Portugal, and Spain (also include Israel). The Northern Europe, consisting of Denmark, Finland, Sweden, and Norway, provided 16% of the respondents. However, representation from Eastern Europe, including Bulgaria, Croatia, Czechia, Hungary, Romania, Slovakia, Slovenia, Latvia, Lithuania, and Estonia was limited to only 2 PDIs (all from Slovenia). This result reflects a much lower level of engagement compared to other regions.

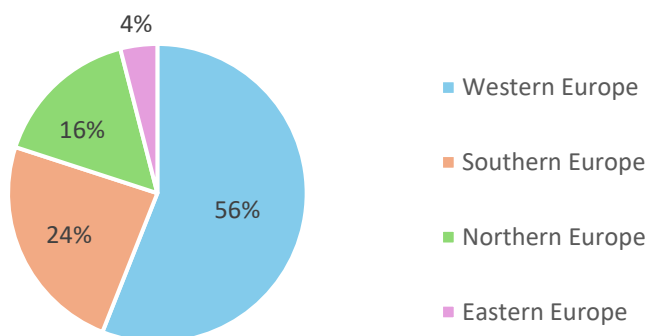


Figure 1 Regional representation of PDIs across Europe (percentage summary)

3.2 Technological focus and service offerings

In terms of technological areas, the surveyed PDIs exhibited a broad range of competencies. As shown in **Figure 2**, the most commonly represented technology areas included industrial biotechnology (containing the industrial fermentation technology), mechanical separations, physicochemical separations, chemical processing, and algae cultivation. Most PDIs (88%) reported having state-of-the-art facilities, with notable examples like one PDI which offers membrane filtration technologies at multiple scales. However, not all PDIs could maintain fully modernized equipment; for example, one PDI mentioned that their bioreactors were aging, although their control systems had recently been updated.

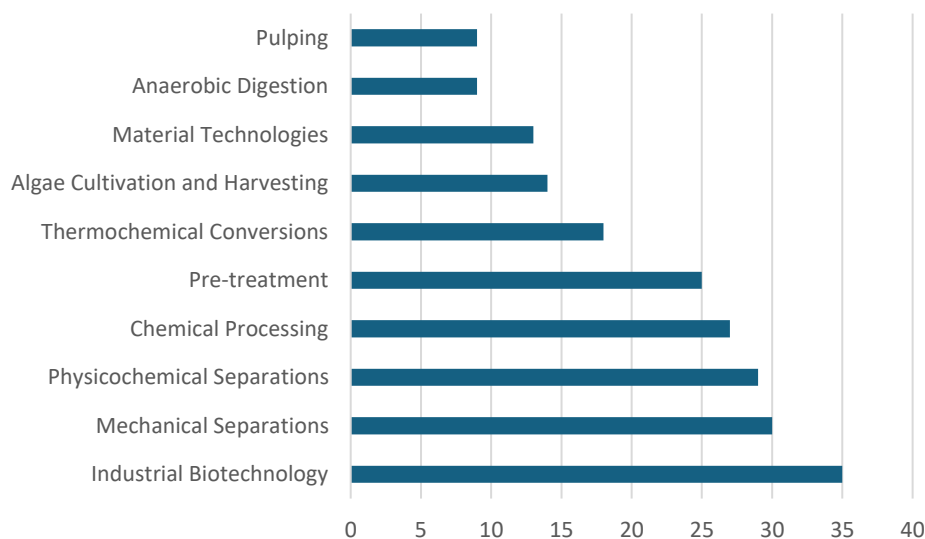


Figure 2 Distribution of technology areas in PDIs

The survey findings also revealed that the types of services offered by the PDIs align closely with those available within the broader Pilots4U ecosystem (**Figure 3**). The surveyed facilities provide a diverse range of support, including process development and scale-up services, which are crucial for helping BIs advance from laboratory research to larger-scale operations.

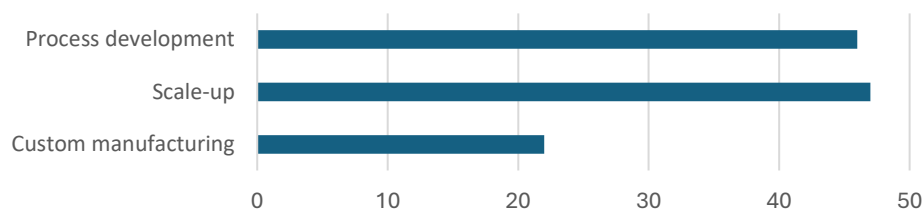


Figure 3 Different levels of services PDIs offering

In addition to these core services, 22 PDIs provide opportunities for initial pre-industrial production, also known as custom manufacturing. This type of service enables companies to produce initial product samples, which can be used to convince potential customers and investors of the technology's value. This crucial step helps companies bridge the gap from pilot scale to full industrial production by offering tangible proof-of-concept products that can be tested in real-world applications. The ability to engage in custom manufacturing represents significant value for BIs, which enables them to showcase their innovations and demonstrate viability to stakeholders before committing to large-scale investments. The PDIs that provide custom manufacturing services operate across a range of technology areas, which reflects the diverse needs of the bioeconomy sector. Among the PDIs offering custom manufacturing (Figure 4), physicochemical separations emerged as the most common technology, with 18 PDIs specializing in this area. Industrial biotechnology and mechanical separations were also well-represented, with 17 PDIs each. Additionally, 16 PDIs focus on pre-treatment processes, while 14 PDIs offer capabilities in chemical processing. Other notable technology areas included material technologies and thermochemical conversions, each with 9 PDIs specializing in these fields, along with algae cultivation and harvesting (7 PDIs), pulping (6 PDIs), and anaerobic digestion (5 PDIs).

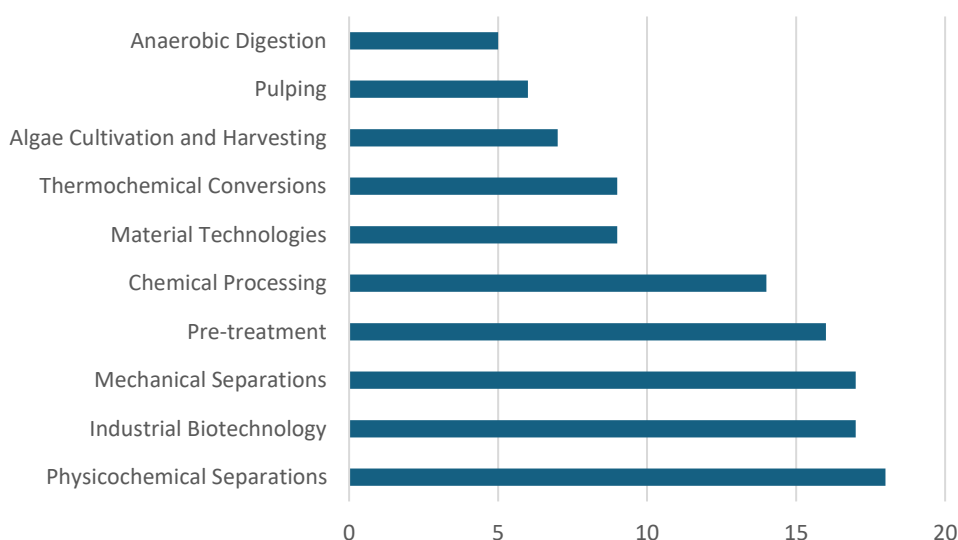


Figure 4 Technology areas offering custom manufacturing

This diversity ensures that PDIs can support a wide array of innovative bioeconomy processes, and provides BIs with access to the specific expertise they need to progress their innovations. The combination of process development, scale-up capabilities, custom manufacturing, and supporting services like Life Cycle Assessment (LCA), Techno-Economic Analysis (TEA), carbon footprint modeling, as well as process design enables PDIs to offer comprehensive support for BIs at different stages of their journey—from initial concept validation to preparing for full-scale industrial production. The

consistency between the services offered by the surveyed PDIs and those in the overall Pilots4U ecosystem demonstrates a well-coordinated effort to provide essential infrastructure for bio-innovation in Europe. The availability of custom manufacturing enhances the value of PDIs as key players of bio-based innovation, which offers the infrastructure and expertise needed to overcome barriers and accelerate the journey to market.

3.3 Capacity, availability and expansion plans

The survey findings provide a detailed overview of the current capacity, availability, and future expansion plans of PDIs across Europe. The results reveal a mixed landscape in terms of infrastructure utilization and readiness to meet current demands. While a significant number of PDIs reported having adequate capacity and availability to manage existing demand, others highlighted constraints that indicate bottlenecks in their operations (**Figure 5 and 6**).

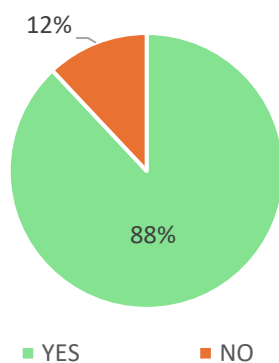


Figure 5 Sufficient capacity status of PDIs: YES vs. NO

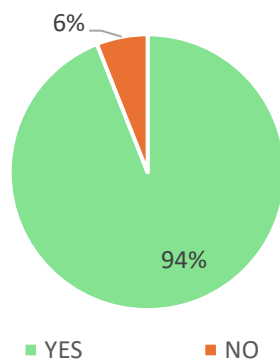


Figure 6 Sufficient availability status of PDIs: YES vs. NO

Most PDIs reported that their current capacity far exceeds current demand, with approximately 88% indicating they have sufficient capacity to meet existing needs. Only a few PDIs, particularly those associated with academic institutions, mentioned that their capacity is fully utilized due to specific demands or additional commitments, such as teaching schedules that limit their ability to accommodate commercial projects flexibly. This variability reflects an imbalance across the European network of PDIs, where some facilities face significant demand pressure while others have excess capacity. Overall, the survey results emphasize that nearly 90% of PDIs have ample capacity to handle current requirements.

An important factor contributing to this capacity issue is the need for expectation management among BIs. Many PDIs pointed out that BIs often do not have a realistic understanding of the timeline required for scaling operations. There is a common misconception that work can commence immediately after an agreement and produce results within a matter of days. However, pilot and demonstration processes require careful planning and thorough preparation to ensure successful outcomes. Failure to manage these expectations can lead to misunderstandings regarding the availability of PDIs. To improve capacity utilization, several PDIs that work both on publicly funded projects and directly for companies, reported using a flexible approach to optimize infrastructure availability. By shifting and adjusting project schedules, PDIs can accommodate urgent needs, which helps to alleviate some of the strain and maintain a balance between projects and industry commitments.

The survey also revealed that, even with almost 90% confirming having sufficient capacity, a substantial proportion of PDIs are proactively planning to address capacity challenges by expanding their infrastructure (**Figure 7**). Specifically, 31 PDIs—representing approximately 62% of all respondents—reported having short-term expansion plans. These expansion initiatives include investments in new equipment, facility upgrades, and infrastructure improvements. PDIs that reported high demand and capacity constraints are more likely to have expansion plans, indicating a direct link between the perceived pressure on their current capacity and the need for growth. This result suggests that PDIs facing the most significant challenges in meeting current demand are those driving the expansion efforts, with the aim of enhancing their ability to support future projects more effectively. Moreover, expansion plans are crucial for those PDIs looking to provide more extensive services, such as custom manufacturing, as mentioned in section 3.2. The survey showed that PDIs offering custom manufacturing are more likely to have expansion plans, as they need to increase their capacity to support the growing number of BIs seeking to produce initial market-ready quantities.

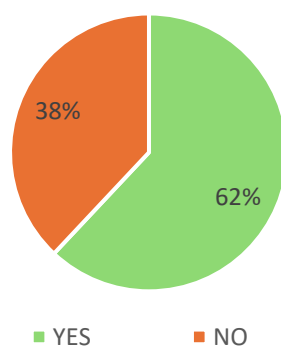


Figure 7 PDIs' short-term expansion plans: YES vs. NO

The combination of capacity, availability issues, and expansion plans provides a detailed view of the European PDI landscape. The significant number of PDIs investing in infrastructure improvements reflects their commitment to overcoming current limitations and supporting the growing demand for bioeconomy innovations. Moreover, PDIs are dedicated to keeping their infrastructure state-of-the-art by continuously investing in modern equipment, which allows them to remain capable of meeting the needs of bio-based innovations effectively. Ultimately, the expansion efforts by more than half of the surveyed PDIs are a promising step towards enhancing the bioeconomy infrastructure in Europe. These plans, combined with better use of PDIs and realistic expectation-setting for BIs, will help ensure that PDIs can enlarge their support for the growing need for sustainable bio-based solutions and accelerate the journey from innovation to industrial-scale deployment.

3.4 Financial sustainability and organizational structure

The financial characteristics of the surveyed PDIs provide crucial insights into their operational stability and capacity to support bio-innovation. The survey revealed that PDIs represent a mix of profit and non-profit organizations (**Figure 8**), with 56% categorized as non-profit. This balance between profit and non-for-profit entities reflects the diverse motivations behind the PDI network, where both commercial interest and public-driven innovation coexist to foster the broader bioeconomy.

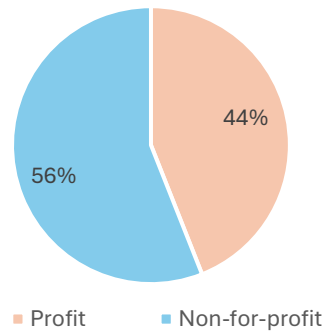


Figure 8 PDIs’ organizational structure: Profit vs. Non-for-profit

Regarding organizational independence (**Figure 9**), 30 PDIs, representing approximately 60% of all respondents—identified as independent entities. These PDIs have the ability to operate with full autonomy and make strategic decisions without restrictions from a parent organization. Conversely, 20 PDIs (or 40%) are dependent on larger organizations, such large corporates, or government bodies. This dependency could have, to some extent, impact their strategic decision-making and investment capabilities, particularly concerning financial resources and infrastructure expansion. The survey also addressed financial sustainability (**Figure 10**), with 76% of PDIs indicating that they were financially self-sustainable. This is an encouraging sign, as it demonstrates that the majority of PDIs can generate enough revenue to cover their operational costs and maintain financial health. Financial sustainability is often linked to independence; independent PDIs tend to have greater control over their finances and are more capable of generating revenue through the services they provide.

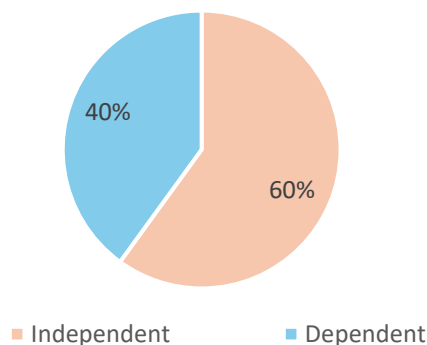


Figure 9 PDIs’ status: Dependent vs. Independent organizations

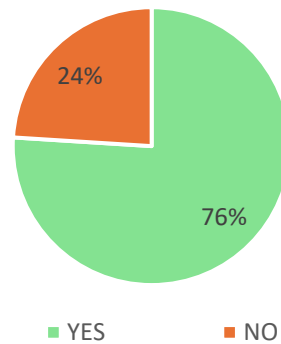


Figure 10 PDIs' financial sustainability Status: YES vs. NO

The relationship between these three elements—profit status, dependency, and financial sustainability—offers valuable insights into the operational dynamics of the PDI network. Non-profit PDIs, often affiliated with academic institutions or government organizations, typically benefit from access to public funding and extensive project portfolios. This affiliation can facilitate stable funding and infrastructure expansion. As a result, their capacity for growth and innovation increases. Being part of larger institutions may provide support for investments through both public and internal financing, as exemplified by the VTT Bioruukki Pilot Centre in Finland³.

On the other hand, independent PDIs that are financially self-sufficient may enjoy greater autonomy in strategic decision-making. They secure their financing by participating in public and private projects. This approach allows them to sustain their financial independence and invest in expanding their capabilities. Their autonomy enables them to respond effectively to the evolving needs of the bioeconomy sector. However, they may still face challenges in securing sufficient funding for large-scale infrastructure improvements.

3.5 Regional support for BIs

The survey revealed that awareness of regional financial support for BIs plays a crucial role in enabling PDIs to effectively scale up innovations across Europe. However, significant differences exist in both the availability of regional funding and the level of awareness of such funding opportunities among PDIs in different regions. Regional funding is determined by political decisions, often resulting in less developed regions receiving more funding than more developed ones. Consequently, PDIs in more developed regions may have less access to regional funding compared to those in less developed areas. National funding is available to all PDIs within a country, but variations in awareness and accessibility can still impact their ability to secure this support.

As shown in **Figure 11**, a substantial proportion of PDIs aware of existing public financial support mechanisms for BIs such as SMEs involved in scale-up activities. In Northern Europe, specific funding programs, such as *Business Finland*, *Innovation Norway*, *BioSolutions Zealand* (Denmark), *SEEDS Funding* (Sweden), and support from the Danish Government, which includes annual subsidies and project-related work, were highlighted as important drivers of financial sustainability for BIs engaged in bio-based innovation. Similarly, several PDIs in the Western Europe mentioned regional initiatives, such as *Enterprise Ireland*, *Cosmetic Valley Funding* (France), and *LIOF RVO* in the Netherlands, as well as the Flemish Government had previously offered a voucher scheme to assist BIs in funding scale-up

³ <https://www.earto.eu/wp-content/uploads/EARTO-Case-Studies-on-Technology-Infrastructures-Final.pdf>

work, although this scheme was discontinued after only a year. In Southern Europe, PDIs identified regional financial programs, such as those funded by *CDTI* in Spain, *CLEVER Open Calls* (Italy), and structural funds under the *PT2030 program* in Portugal, which were geared towards promoting scale-up activities. These funds are often aimed at encouraging collaboration between PDIs and BIs, which help them to bridge the gap from pilot to industrial-scale production.

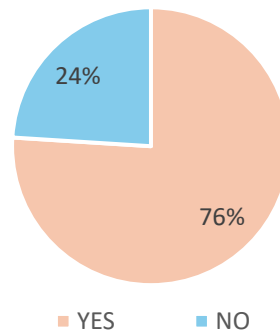


Figure 11 Awareness of regional financial public support for SMEs engaged in scale-up work

The survey responses also revealed the limitations of regional financial support across Europe. Many PDIs indicated that, while regional funding was available, its use was often restricted to the own region. Considering the unbalanced geographic distribution of PDIs in Europe (see section 3.1), the most suitable PDIs to help BIs develop a specific technology can often be located in another region or country. This limitation posed challenges for cross-border collaboration, with many BIs unable to access funding to conduct scale-up work outside their home countries. This fragmentation of financial support would hinder the ability of BIs to collaborate with PDIs across different regions, and reduce the potential for a unified European approach to scaling bio-based innovations.

Despite these challenges, some regions are preparing to introduce new funding initiatives that may address existing gaps. For example, upcoming financial support from *BPI Région* and the *Alpha Programme* in France aims to boost scale-up activities for bio-based projects, with specific funding dedicated to demonstration and commercialization phases. Additionally, regional support programs in Luxembourg have recently inaugurated an extension aimed at enhancing infrastructure and supporting innovative bio-based projects. The variability in regional financial support highlights the need for a more cohesive and harmonized funding framework across Europe. Improved access to financial aid and the ability to utilize funding beyond regional borders would strengthen the bioeconomy infrastructure and allow PDIs to more effectively support the growing demand for BIs' scale-up activities. Addressing these discrepancies in regional support is crucial for fostering a more interconnected and capable network of PDIs that can drive bio-innovation at both national and European levels.

3.6 Feedback on the Pilots4U platform and collaboration opportunities

The survey participants provided valuable feedback on the current functionality and usability of the Pilots4U platform, as well as insights into collaboration opportunities within the PDI network. Several PDIs expressed a desire for enhancements to the platform to make it more efficient in connecting BIs with available infrastructure. A recurring suggestion was the need for improved filter functions to better navigate the available PDIs and services. Many participants felt that the current search and filter capabilities were limited, which make it difficult for BIs to identify specific technologies, capabilities, or services of interest. Thus, enhanced filter options would significantly increase the platform's value.

Another significant issue highlighted by survey participants was the lack of up-to-date information on the Pilots4U platform. Many PDIs indicated that their details were either incomplete or outdated, with updates still pending or planned for future action within the COPILOT project. Only a minority of PDIs confirmed that their information was fully up to date. This inconsistency poses challenges for BIs relying on the platform to find accurate, reliable information about available facilities and capabilities. To address this, participants recommended incorporating automated reminders for updating the information on the next generation Pilots4U platform. Such a feature would help ensure that equipment, services, and capacity details are consistently accurate, which will help BIs to access the most current information when searching for PDIs.

Better representation of new or underrepresented technology scopes was also seen as an area needing improvement. Certain PDIs working in niche areas found it challenging to categorize their services within the existing structure of the platform. Expanding the technology areas and scopes to include emerging fields would help ensure that all facilities, regardless of specialization, are accurately represented and easily discoverable by BIs.

Collaboration opportunities were another area of focus for many participants. The PDIs showed a high level of interest in building a more interconnected network that could facilitate cross-border collaboration and resource sharing. By establishing stronger connections between facilities, PDIs could collectively address regional capacity imbalances, and allow underutilized resources in one area to be effectively shared with others facing high demand. Participants emphasized that collaboration, especially during the early stages of scale-up projects, can play a crucial role in reducing costs, managing risks, and accelerating development timelines.

4 Conclusion

The findings from this survey provide a comprehensive overview of the current state of PDIs in Europe, which show their strengths and areas for further utilization. The survey confirmed the diversity and advanced capabilities within the European bioeconomy, with PDIs offering a wide range of services such as process development, scale-up, and custom manufacturing. This extensive network enables BIs to move efficiently from early-stage concepts to industrial-scale production. Despite this strong foundation, there remains untapped potential within European PDIs. They are well-equipped with ample capacity and availability to meet the scale-up demands of BIs. Significant investments have been made to expand infrastructure and maintain cutting-edge facilities. However, to fully realize this potential, BIs need motivation and support to make use of this high-performing network across Europe.

To address this need, enhancing engagement between BIs and PDIs is crucial. By increasing awareness of the available resources, the European bioeconomy ecosystem can become more cohesive. Supporting BIs in accessing these facilities will help bring sustainable and innovative solutions to market more effectively. Moreover, expansion efforts and improvements to the Pilots4U platform will contribute to creating a more interconnected and responsive network.

In conclusion, this report provides a realistic picture of the current state of PDIs in Europe and identifies actionable steps to improve their efficiency and impact. Promoting collaboration, enhancing support mechanisms for BIs, and maintaining up-to-date information on the Pilots4U platform are essential for the continued growth of the European bioeconomy. The insights gathered here will guide the development of the next-generation Pilots4U database so that it meets the needs of PDIs and BIs.