EUROPEAN CLUSTER COLLABORATION PLATFORM

Building the future with nature: Biotechnology and Biomanufacturing in the EU

Summary

EUCLUSTERS TALKS

EU Clusters Talks
29 May 2024, 8:30 – 9:45 CET

An initiative of the European Union

Building the future with nature: Biotechnology and Biomanufacturing in the EU

The European Cluster Collaboration Platform, on behalf of the European Commission, organised the EU Clusters Talk "Building the future with nature: Biotechnology and Biomanufacturing in the EU" on 29 May, 8:30 – 9:45 CET, to present the EU Biotechnology and Biomanufacturing Initiative and reflect on the advancements and challenges in the field within the EU.

Agenda of the meeting

Moderation: Chris Burns

1. News from the European Cluster Collaboration Platform
   Nina Hoppmann, team member of the European Cluster Collaboration Platform
2. EU Biotechnology and Biomanufacturing Initiative
   Carlos Gómez Muñoz, Policy Officer, Secretariat-General, European Commission
3. Panel debate
   Felice Lopane, Cluster Manager, Lombardy Life Science Cluster
   Gonzaga Ruiz de Gauna Gutiérrez, Managing Director, BIOVEGEN
   Gorenka Bojadzija Savic, European Project Manager, Biotech Santé Bretagne
   Wouter Piepers, CEO, flanders.bio
4. Funding opportunities
   Nina Hoppmann, team member of the European Cluster Collaboration Platform

Key messages

- Biotechnology and bio manufacturing have enormous potential that the EU should maximise.
- Addressing barriers at the European level is essential to remain competitive against the United States and China.
- Connecting the university ecosystem with the industry is crucial for fostering innovation and continuously updating workforce skills.
- Collaboration between academic institutions and the industry is vital for technology transfer and developing new products, particularly in biotechnology.
- Biotechnological advancements have significant ecological benefits, such as developing bioplastics and other environmentally friendly materials

1. News from the European Cluster Collaboration Platform

After the introduction by moderator Chris Burns, the following news items were presented:

1. Invitation to register for Clusters meet Regions in Graz, Austria, on 18-19 June 2024.
2. Register for EU-Canada Matchmaking, Montreal, on 10-12 September 2024.
3. Save the date for further matchmaking events: Singapore and Bengaluru (India), on 22-24 October 2024 and 18-21 November, respectively.
4. Access to Trend Universe open to all users from the EU.
5. Invitation to join the ECCP Drop In Sessions, which are designed to help with questions about functionalities of the European Cluster Collaboration Platform.

2. EU Biotechnology and Biomanufacturing Initiative

Carlos Gómez Muñoz, Policy Officer, Secretariat-General, European Commission

Carlos Gómez Muñoz began his presentation by highlighting biotechnology and biomanufacturing as among the most promising technological areas of this century and, as such, can help the EU not only to modernize the agriculture, forestry, energy, food, and feed sectors but also to make the industry more competitive and resilient. Both fields are key to the success of the green and digital transition. The EU must provide a solid foundation of research and innovation to scale production while simultaneously protecting against risks in the context of rising geopolitical tensions.

To meet these objectives, the Commission has developed the **EU Biotechnology and Biomanufacturing Initiative**. This communication identifies the main challenges for these activities and proposes a series of specific actions to address them.

He explained the following challenges:

1. **Research and technology transfer to the market**, which is related to fragmented research among Member States and the difficulties they face in translating research conducted in Europe into products and treatments.
2. R**egulatory complexity**, especially the length of procedures to establish biomanufacturing facilities, and the difficulties in bringing products to market compared to other jurisdictions.
3. **Access to funding**, as biotechnology companies need funds at different stages of their development, especially during the scaling-up stage.
4. **Skills**: These sectors need a highly skilled but also multidisciplinary workforce, so the Union must develop these skills by attracting and retaining talent.
5. **Obstacles in value chains** related to the viability of sustainable biomass needed for the sector.
6. Issues of **intellectual property**, as it is a sector with continuous research
7. **Public assistance**, where more attention is needed to provide citizens with security and to make the benefits of biotechnology and biomanufacturing products more apparent to them.
8. **Economic security**, as biotechnology is subject to continuous assessment of risks to technological security.

To address these challenges, the Communication sets out a series of actions, including the use of artificial intelligence, regulatory improvement, promotion of investment, and skills development.

Related to **artificial intelligence and data usage**, action is proposed to support the use of AI and generative AI, fostering constructive exchanges with the sector to accelerate the adoption of this important technology and raise awareness of the opportunities for companies. Another line of action is to **stimulate market demand;** to achieve this, it is proposed to develop methodologies to review the environmental footprint of products so that a fair comparison with fossil-based products can be made. The third line of action deals with **simplifying regulatory pathways.** There is a need to improve market access through a study of existing legislation. This could lay the groundwork for a **possible EU Biotechnology Act** in the next term and establish a biotechnology centre that would support biotechnology companies by providing information on current legislation.

In terms of health, Carlos Gómez Muñoz explained how fostering better collaboration among Member States on public health care authorities could lead to improved policies related to analysis, pricing, and reimbursement of medicines. Regarding green biotechnology, the communication focuses on biopesticides and biological fertilizers, and seeks ways to improve market access for these products. The Commission will advocate for biotechnology and biomanufacturing to be part of the **European Innovation Council Accelerator's work programme**.

Additionally, the importance of international cooperation, especially with the United States, was emphasized, as well as the need to review the EU bioeconomy strategy by the end of 2025.

3. Panel debate

Starting the discussion, the panellists presented the unique features of their organisations, which can serve as examples for other clusters. Felice Lopane spoke about Lombardy's hybrid public-private collaboration model, which aims to enhance the life sciences sector through shared efforts in research and development. This model, encompassing around 1,000 organizations including hospitals, private companies, and public entities, exemplifies **effective public-private partnerships**. Gonzaga Ruiz de Gauna detailed their platform's focus on the six F's (food, fibres, fuels, forestry, environmental services, and ornamental production), facilitating R&D activities and technology implementation in plant biotechnology. He highlighted their role as R&D monitoring service providers, which is crucial for meeting new technological demands. Gorenka Bojadzija Savic from Bretagne emphasized the region's strengths in agriculture and marine biotechnology, supported by the Biotech Centre Bretagne. This centre connects regional and international actors, providing funding, regulatory, and scientific guidance, and facilitating international market access. Gorenka Bojadzija Savic also addressed **the sustainability of technology**, emphasising that sustainable technologies are cheaper, reduce CO2 emissions, and align with the green transition. She highlighted algae as a valuable biological resource for developing nutrition, medicines, and cosmetics. Wouter Piepers highlighted Flanders Bio's focus on networking, collaboration, and advocacy, with about 350 members. He stressed the importance of infrastructure and internationalization to support biopharma R&D, highlighting how research in Leuven, through AI-based platforms, accelerates the discovery and development of new molecules and compounds.

One of the key discussion points was the **importance of communicating legislation, regulation, and actions** at EU level. All speakers stressed the need for EU-wide standards, collaboration, and an integrated strategy. Complex and sometimes contradictory regulations at the EU level were cited as major barriers. Gorenka Bojadzija Savic highlighted the **difficulty of navigating these regulations**,

which can slow down the introduction of new technologies and products. Wouter Piepers also pointed out the risk of "biofuga," where industries relocate to third countries due to regulatory uncertainty. He emphasized the need for a **more predictable and clearer regulatory framework to reduce uncertainty and facilitate planning and risk management** in the industry. The panellists called for streamlined and harmonized regulations across the EU to create a more supportive environment for innovation. They also advocated for policies that reduce barriers for startups and encourage collaboration between public and private sectors, ensuring that Europe remains a leader in biotechnological advancements.

The discussion also covered **personalized medicine and future healthcare**. Gorenka Bojadzija Savic highlighted how drug production will become more personalized based on individuals' genetic predispositions and lifestyles, focusing on tailored treatments. The "homecare Greenway" activity was mentioned as an example of how EU projects can connect and address common needs, emphasizing sustainable and personalized healthcare solutions.

On the topic of **sustainability**, Gonzaga Ruiz de Gauna Gutiérrez mentioned his cluster's work on bio-solutions to improve crop productivity and reduce pesticide use, contributing to more sustainable agricultural practices. The panellists collectively emphasized the importance of **continued investment in research and development**, fostering collaboration between public and private sectors, and creating a streamlined and supportive regulatory landscape. Policies that promote innovation, reduce barriers for startups, and ensure Europe's competitiveness in the global biotechnology market were deemed essential.

Felice Lopane highlighted the **demographic transition** in Italy, noting that the proportion of employees over 50 years old has increased from at least 30% to 40% in the past 10 years, and it is predicted that in the next 10 years, this proportion will be between 50% and 60%. To address this issue, it is crucial to implement a system that **continuously updates workforce skills**.

The importance of **connecting the university ecosystem with industry** to foster innovation was underscored by several panellists. This connection is vital for technology transfer and the development of new products. Gonzaga Ruiz de Gauna Gutiérrez stressed the importance of giving professionals opportunities not only to develop their scientific careers in the public sector but also in the private sector, particularly in companies' R&D departments. Also, Felice Lopane shared that universities have increasingly asked them to connect with industry to verify whether the courses or skills they were providing to new students were up to date and sufficient to get the right level and workforce to sustain the development of biotechnology in the bio-manufacturing industry. In their own words, "*Connections between European universities and international courses are fundamental, but we also need to address the issue of upgrading and re-qualification*". Gorenka Bojadzija Savic, like her colleagues, explained how they organise events where companies can collaborate with universities and there is a great exchange of knowledge. However, she also commented that it is very difficult to push new things into the market. She gave as an example the development of new thermal therapeutics, which is expensive and time-consuming research (not to mention the complications of having different regulations and therefore different licenses and approvals). A startup may have a great idea and want to do the research in collaboration with universities, but money can be a barrier to funding options.

Biotechnology's role in the value chain was another key point of discussion. Gonzaga Ruiz de Gauna Gutiérrez used the example of plant variety improvement, which is crucial for the future of agriculture. He emphasized that biotechnology could enhance crop yields, increase resistance to pests and diseases, and improve nutritional content**. By integrating biotechnology into the value chain, from research and development to final product delivery, industries can achieve greater efficiency and innovation**. This integration helps meet the rising global demand for food, sustainable materials, and bio-based products, reinforcing biotechnology's pivotal role in addressing some of the world's most pressing challenges.

Moreover, a significant focus was also placed on the importance of **technology transfer**. This involves the process of transferring scientific findings from research institutions to the market and industry, facilitating the commercialization of innovations. Effective technology transfer can bridge the gap between academia and industry, ensuring that new technologies and discoveries lead to practical applications and products. For instance, Felicia explained how they are working with the allometries licensing ecosystem trying to generate a kind of network between Technology Transfer Offices in universities, research centres and hospitals. So, they can share what they are working on priorities, innovations and projects. In this way, they represent the research base of their organisations and, at the same time, connect this network with private organisations interested in cooperating, funding and scaling up this research. All the speakers highlighted the need for robust networks of technology transfer offices to support this process, which is essential for driving economic growth and maintaining a competitive edge in the global market.

Among the challenges facing biotechnology and biomanufacturing is **investment in research and development** (R&D). R&D was highlighted as a critical factor for fostering innovation and maintaining competitiveness in the global biotechnology market. The panellists emphasized the need for sustained funding to support cutting-edge research, develop new technologies, and bring innovative products to market. They pointed out that without adequate investment, it would be challenging to keep pace with rapid advancements in biotechnology and address emerging societal needs.

4. Funding opportunities

Closing the EU Clusters Talk, Nina Hoppmann shared the following examples of funding opportunities:

1. Biotech routes to obtain bio-based chemicals/ materials replacing animal-derived ones; deadline 18 September 2024
2. Bio-based dedicated platform chemicals via cost-effective, sustainable and resource-efficient conversion of biomass; deadline 18 September 2024
3. Bio-based materials and products for biodegradable in-soil applications; deadline 18 September 2024
4. Enterprise Europe Network; deadline 19 September 2024
5. Opportunities for SMEs: Calls from Euroclusters; published on European Cluster Collaboration Platform