



# Open funding Proof-of-Concept trial in fermentation technology: a free ticket to boost your biotech process





### 1.1 Introduction of the initiative

To accelerate innovation in biotechnology, support the development of new ideas, and close the gap between research and development of new biotech processes, Biosphere will offer a free ticket for a laboratory-scale fermentation trial in white biotech fields. Through its execution, Biosphere aims to support the development of novel fermentation-based technologies to demonstrate potential for scalability of new processes and help innovators in the identification of bottlenecks and hurdles that can occur in the scale-up of a biotech process.

A free fermentation run will be guaranteed to a selected project among the ones that will apply to this competition. The competition is dedicated to projects in the white biotech sector, e.g. fermentation applied to food & feed, agritech, materials, cosmetics and nutraceutical.

This initiative was launched in the framework of the initiatives promoted by the European funded project COPILOT, which is a Circular Bio-based Europe Joint Undertaking Coordination and Support Action (https://copilot-project.eu/). COPILOT is an initiative supported by the Circular Bio-based Europe Joint Undertaking and its members. Funded by the European Union.

### 1.2 Scope of the initiative

This initiative aims to support the advancement of new biotechnology processes developed by small research groups, universities, or emerging startups that have not yet tested their ideas at a Technology Readiness Level (TRL) higher than 3. These groups often lack the financial resources necessary to conduct fermentation trials in an industrially relevant setting. In this way, Biosphere aims to help the growth of emerging technologies in biotechnologies, in the wider framework of boosting new solutions for the European bioeconomy sector.

The free ticket service enables the winning project to test its fermentation process at Biosphere's R&D laboratories. Specifically, the selected process will be conducted in 6.5 L bioreactors by a skilled and experienced team at Biosphere. They will manage the overall fermentation process with the ultimate goal of establishing a proof-of-concept for the new technology in a standard, scalable fermentation environment.

The free ticket trial includes one fermentation run, including:

- the set-up and execution of one lab scale fermentation in batch or fed-batch mode;
- process control and analytics, product quantification and characterization;
- production and delivery of samples of the fermentation product;
- release of a technical report.





The trials will focus solely on fermentation and will not include a detailed purification process for the target product.

# 1.3 Beginning of the activities

The activities will begin with a formal communication from Biosphere to the selected candidate, which will be sent via email. (Details about the timeline for this challenge are provided in section 1.9).

Following this, the candidate will have one week (7 days) to confirm their participation in the program by responding positively to the official email communication from Biosphere. The cooperation will officially commence with the signing of a non-disclosure agreement with the selected candidate.

If the winning candidate does not respond by the indicated time, Biosphere will reach out to projects ranked in the second, third, and subsequent positions based on their accumulated scores.

# 1.4 Requirements

For access to the free ticket, Biosphere is launching a tender open to biotech innovators (such as: startups, researchers, university students) active in European states.

To submit a project for evaluation at Biosphere R&D laboratories, participants must send their proposals to Biosphere (see section 1.9). Biosphere will evaluate the submissions and select a winner.

Proposals should be submitted using the Annex 1 document. The official language for completing the document is English, and the proposal must be sent in PDF format to Dr Beatrice Mongili at <a href="mailto:beatrice.mongili@biospheresrl.it">beatrice.mongili@biospheresrl.it</a>, using as e-mail object: TENDER COPILOT – (Name of the first Author).

### 1.5 Evaluation and selection

The evaluation of proposals will be conducted internally by the Biosphere team, which will select the proposal that best fits the eligibility criteria listed below. Each proposal will be scored, and feedback on the evaluation will be provided by the Biosphere team.

Once the evaluation phase is complete, Biosphere will circulate a document listing the projects by their names along with the official scores received. No sensitive information regarding the project authors or processes will be published.

If necessary, Biosphere may organize online interviews with candidates to clarify any uncertainties in their applications.





Scores will be assigned to each section of the application (such as Description of the innovation, Materials and methods). The scoring system is defined as follows:

- Score 1: Application does not meet the selected evaluation criteria.
- Score 5: Application is an excellent fit with the selected evaluation criteria.

Scores between 1 and 5 will be assigned on a scale. The evaluation criteria will evaluate the clarity of the test and the pertinence of the proposal with this challenge.

To support the development of new generations of researchers, an additional 2 points will be awarded to authors who are under 30 years old. These extra points will be based on the age of the author and will be assigned once per team. Moreover, 2 extra points will be assigned if participants belong to a start-up. These extra points cannot be combined.

### 1.6 Who can apply

The tender is open to biotech innovators, including start-ups, researchers, and university students, who have begun developing a fermentation process but lack the necessary equipment and expertise to validate their Proof of Concept (POF) in an appropriate fermentation environment for their new technology.

## 1.7 Eligibility Criteria for the free ticket Proof-of-Concept trial:

- Liquid Fermentation: The project must be based on a liquid fermentation process. Please note
  that gas-based and solid-state fermentation methods are not eligible for this kind of service.
  Moreover, the project should not require the addition of pure oxygen or any light sources for
  the fermentation process. Photoautotrophic fermentation processes will not be covered by the
  supported funding.
- *Use of BSL1 Microorganisms*: The project should involve the application of BSL1 microorganisms, such as bacteria, yeast, fungi, or microalgae. The use of higher biosafety level microorganisms will not be considered. OGM microorganisms will be accepted.
- Supply of master cell bank: by the submission of the proposal, the candidate accept to supply
  Biosphere with a well characterized and homogeneous master cell bank that will be used for
  running the experiments.
- Duration of the fermentation process: The fermentation process in the proof-of-concept study
  must last maximum one week per batch. Proposals that require longer fermentation times will
  not be considered.
- Clear information about the process: participants should present in the project proposal a clear description of the data already obtained, the fermentation process they would like to apply,





which has to include a detailed description of materials, methods, information about the product to obtain (such as: characterization test of the product).

• The participant should also supply reference materials. This will be used a standard material to detect the product communing from the fermentation run.

# 1.8 Data protection and confidentiality

To respect participants' intellectual property, Biosphere is committed to maintaining the confidentiality of the information received during the selection of the proposal and the execution of the winning project over the end of the initiative. Indeed, only Biosphere personnel will have access to the submitted proposals, data collected during the free trial execution, and personal/private information regarding participation in the competition.

Moreover, all IP and know-how in the submitted materials remain property of the original owners.

### 1.9 Indicative timeline for the tender:

- Opening of the Tender: The tender will open on 4th April 2025.
- Closing of the Tender: The submission deadline will be by the end of May 2025.
- Selection of the Best Project: The Biosphere team will select the best project by the end of July 2025.
- Start and Completion of the Activity: The selected project will commence by October 2025 and must be completed by March 2026.

For further information on the application process, evaluation criteria, and submission guidelines, please refer to the attached documentation or contact Biosphere's reference contact, Dr Beatrice Mongili at: beatratice.mongili@biospheresrl.it.