



IMPACT

Building new demonstration equipment for the development of Industrial Biotechnology as Key Enabling Technology for sustainable chemistry

SCOPE OF THE PROJECT

Bio Base Europe Pilot Plant (BBEPP) is a pilot facility for the development of the biobased economy. The biobased economy uses renewable instead of fossil resources, enabling the shift to low-carbon and sustainable industries.

BBEPP assists companies with the development of new products such as bioplastics, biodetergents, biosolvents, biomaterials... It helps enterprises with the risky and expensive scale-up of lab scale processes to industrial scale processes, the so called 'valley of death' for innovation projects. For most companies, building a pilot plant of their own to test production at industrial scale is far too expensive and time consuming. Shared facilities such as Bio Base Europe Pilot Plant offer a solution. Bio Base Europe Pilot Plant was founded in 2008 and has grown into a European front-runner attracting many enterprises worldwide for the development and scale-up of their innovation projects.

In this project, new research infrastructure specifically for downstream processing at high TRL (Technology Readiness Level) and for gas fermentation will be build up.

Downstream processing equipment at high TRL

Downstream processing (DSP) comprises the isolation and purification of a product after a biotechnological or chemical conversion step.

Recently two 15.000L fermenters were deployed at the Bio Base Europe Pilot Plant. These fermenters were extremely well received by industries looking for scale-up and demonstration equipment for their innovative fermentative processes. Unfortunately, the DSP equipment currently



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DURATION

1 January 2017 – 31 December 2019

BUDGET

€ 9.357.000

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owned by BBEPP was designed to fit smaller fermenter volumes, and thus was not fully compatible with these large-scale fermenters, hampering as such the full deployment of the large classic fermenters and the new-to-build gas fermenters.

This investment will enable Bio Base Europe Pilot Plant to enlarge its downstream processing capacity at high TRL, allowing the pilot facility to use the full potential of its 15m³ fermenters and its gas fermenters.

Furthermore, as the innovative projects BBEPP is performing are often close to the market, products and processes must meet the highest quality standards. To realise this, the new high TRL equipment will be stationed into a new process hall for downstream processing.

Gas fermentation

Gas fermentation is an innovative and sustainable Carbon Capture and Usage (CCU) technology with enormous potential in terms of carbon footprint reduction. It uses micro-organisms to convert waste gasses such as CO₂ and syngas (H₂/CO) into a wide spectrum of chemicals. This technology is based on industrial biotechnology and offers the possibility to turn waste gasses into an opportunity. Open access scale-up facilities for gas fermentation currently do not exist in Europe. Bio Base Europe Pilot Plant wishes to fill this gap by building a unique scale-up facility for gas fermentation, become a global reference for gas fermentation, and make Flanders the testing ground for this promising technology.

For More information:
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