

TwInn4MicroUp: Twinning Innovation Hub for Microbial Platforms in Plastic Upcycling

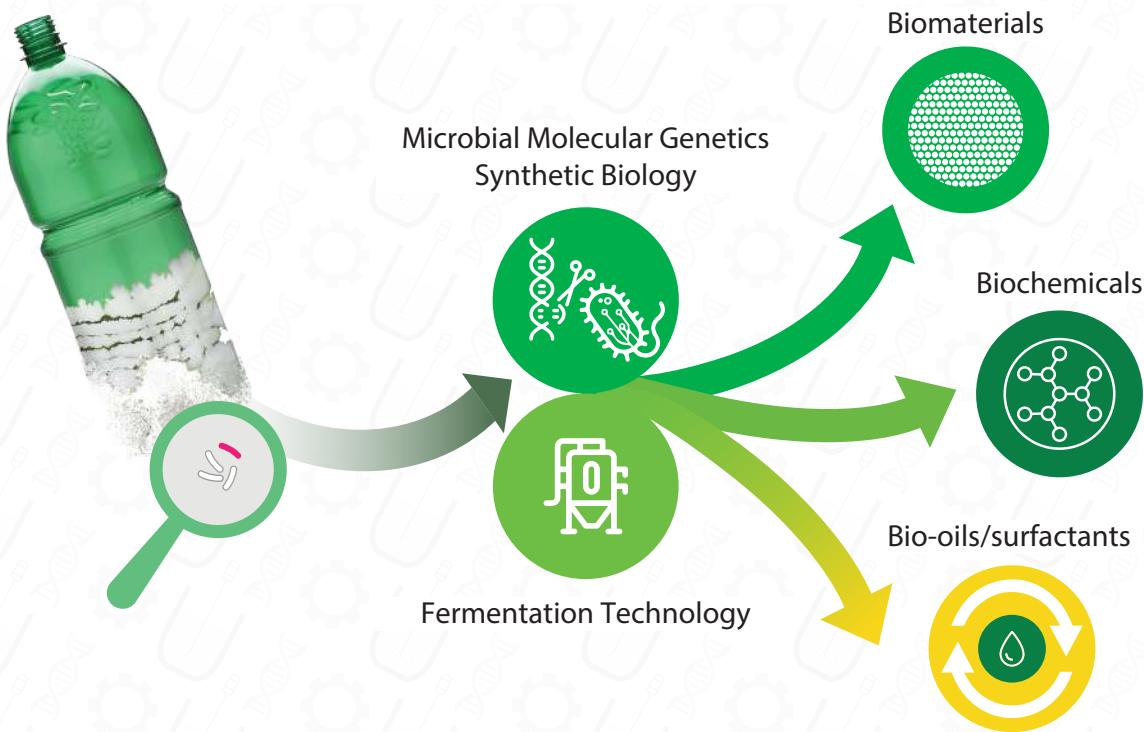
Challenge

Plastics are everywhere: production has skyrocketed from 1.5 million tonnes in 1950 to 359 Mt in 2019, with 8,000 Mt produced by 2020. The result is a massive waste problem—about 20 Mt of plastics leak into rivers, lakes, and oceans every year, creating what's now called the **7th continent of plastic**. Traditional waste management cannot keep up, making new and sustainable solutions more urgent than ever.

Solution

Plastic waste upcycling transforms plastic waste into **valuable, eco-friendly products**. Using innovative biological, mechanical, and chemical methods, we break plastics into their basic parts and feed them to engineered microbes. These **microbial factories** can then produce natural colorants, health-promoting compounds, green cleaning agents, and advanced bio-based materials.

Upcycling Plastic Waste into Valuable Bioproducts with the Power of Microbes



Objectives

-  Lead in Synthetic Microbial Biotechnology
-  Strengthen Scientific Expertise
-  Build Strategic Partnerships
-  Promote Innovation & Entrepreneurship

Vision

Our overarching goal is to establish the **MicroUp Hub**, a **research and innovation center** that will create partnerships, share knowledge, and drive entrepreneurship. Our goal is to combine **environmental protection** with **scientific progress**, **economic opportunities**, and **public awareness**—paving the way toward a cleaner, more sustainable future.

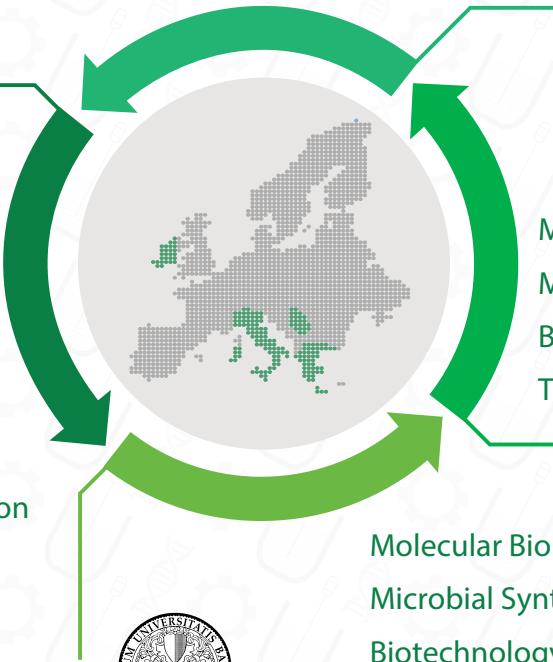


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Molecular Biology
Microbial Synthetic Biology
Biotechnology
Waste Valorization



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 TwInn4MicroUp



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TwInn4MicroUp Project



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