

THE MISSION

The world's ever-growing population demands an increasing amount of protein, which cannot be sustainably met through traditional sources. Innovative approaches are key to procure high-quality protein both efficiently and sustainably.

THE PLAN

ZEST's strategy focuses on devising an enhanced, scale-flexible, and AI-controlled fermentation production system capable of generating a diverse array of protein products for the food and pet-food industries, as well as byproducts for the cosmetic industry.

THE TEAM

The four-year initiative, supported by the Circular Bio-based Europe Joint Undertaking (CBE JU) and its members with a total budget of 7.5 million euros, is driven by a collaborative consortium made up of eleven entities from five European countries.

EXPECTED IMPACT

Establish new industrial biotechnology pathways.

Enhance competitiveness of European biorefineries.

Improve mycelium productivity and resource efficiency.

Strengthen food security and increase social acceptance of circular bio-based solutions.

Expand the range of bio-based products meeting market demands.

THE HERO

Fungi-based proteins present a promising solution to this challenge, given its versatility in utilizing a variety of raw materials and its potential for global production.

MAIN OBJECTIVES

- 1 Develop an innovative fermentation system for producing fungal proteins and nutrients for food and pet food products, as well as other bio-based products like cosmetics.
- 2 Utilise digital modelling and artificial intelligence for process optimisation and creating a zero-waste production system.
- 3 Assess the entire value chain to ascertain their economic viability, market potential, environmental impact, and sustainability of fungal-based products.

