Now

10. YEAST2VALUE

YEAST2VALUE

CIRCULOOS

Turning brewer’s spent yeast into food-grade protein

VCG.AI GmbH - ProteinDistillery GmbH - Lobik Brewery

i The consortium

CIRCULOOS

Three partners

VCG.AI

GERMANY - LEAD

We designed the chain, qualified the breweries, mapped the region and measured the impact.

ProteinDistillery

GERMANY - PROCESSOR

Patented technology that turns yeast into protein. They run the demonstration plant in Heilbronn.

Lobik Brewery

SLOVENIA - FEEDSTOCK

They supply the yeast. Their beer styles gave us the hardest test we could ask for.

We qualified three more breweries in Slovenia, Croatia and Austria. One brewery was never going to be enough.

ii

The challenge

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Two problems that solve each other

1 M t

Spent yeast thrown away across European brewing every year

11.3 M t

Protein ingredients the EU has to import every year

EUR 15–20

What a brewery earns per tonne today. Often it earns nothing.

The technology to upcycle yeast already exists and is patented.

The supply chain around it did not. We built that chain and tested it for a year.

iii

Value proposition and circularity

A working chain, and rules to repeat it

4.7 kg
yeast dry matter

1.00 kg
Prew®tein · protein

1.49 kg
Prew®cell · cell wall

0.31 kg
Prew®culture · media

Price on dry matter

The same tonne can yield three times more or less, depending on which brewery it came from.

Blend at 10–20%

Difficult yeast becomes usable. Small breweries stay in the chain.

Build near the brewery

Yeast is perishable. Short collection beats long transport.

1.8 t upcycled - three products, nothing wasted - 0.98 m²a of land per kg of protein

iv

Business potential

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A market we have already mapped

24

breweries mapped and qualified, across six countries

37.4 M hl

of annual beer production covered by the mapping

1,672 t

of protein potential a year. Our project target was 200 t.

A first hub in Slovenia would take 3,000–4,500 t a year. Phase two is the Czech cluster.

The mapping, the criteria and the siting logic belong to the project. Anyone can use them.