



**Flanders**  
State of the Art

# Valorization of Food Waste

SustainableSolutionsMatch

**Welcome!**



SustainableSolutionsMatch

# Welcome & Introduction

## Who's moderating?

Annette Moritz  
IB.SH Investitionsbank  
Schleswig-Holstein  
Your Role



<Your picture>

# Welcome & Introduction

Let's play by the rules: smooth sailing for our session!

- **Mute Policy:** Please remain muted unless speaking to avoid background noise.
- **Q&A Time:** After each pitch, there will be 1–2 minutes for questions. Please use the chat to ask questions.
- **Session Recording:** This session will be recorded.
- **Time management:** Pitchers, please keep track of your time. We will inform you if 5 minutes have passed.
- **Technical Issues:** If you encounter issues, use the chat to notify the host.



# Session Agenda

- Welcome & Introduction
- Valorization of Food Waste
- 09:30 hours Introduction by Annette Moritz
- Pitch Presentations:
  - 09:35 hours Envagro
  - 09:44 hours Bio Mush Oy
  - 09:53 hours Upcykling
  - 10:02 hours Aircohol
  - 10:11 hours Trotec
  - 10:20 hours POSS-Driving Innovation in Functional Foods
- Closing remarks





# Pitch Presentations

**Time to meet the innovators!**

**Pitch 1**  
**Envagro**  
Fatih Özönder



# Solution Title: **Biodegradable Coated Smart Fertilizers: Turning Agricultural Waste into Sustainable Solutions**



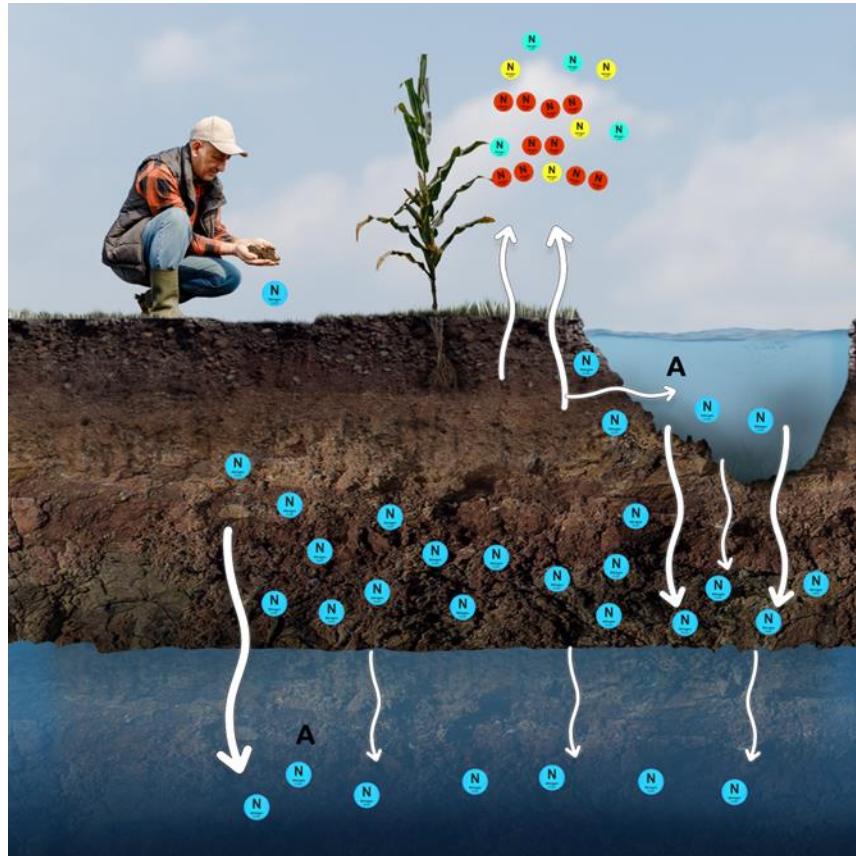
Company Name: **ENVAGRO**

**Fatih Özönder**  
**Founder & CEO**



[SustainableSolutionsMatch](https://SustainableSolutionsMatch.com)

# Problem & Solution

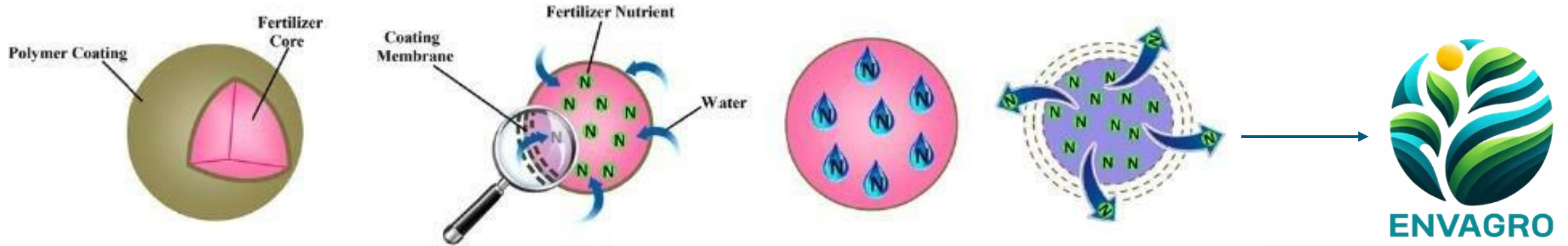


**A)** They seep into groundwater, then enter aquatic ecosystems like lakes and rivers, causing damage.

**B)** They escape into the atmosphere as gases ( $N_2O$ ), polluting the air and contributing to global warming.



# Technology & Process

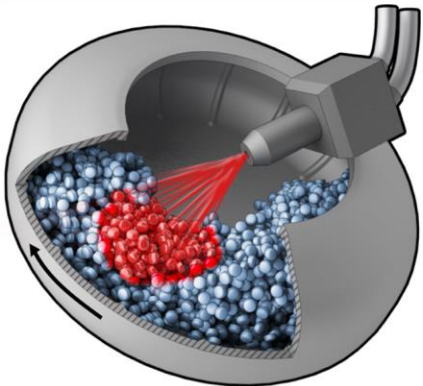


1) Nitrogen fertilizer (urea) is coated

2) "Water enters through fine cracks in the coating material

3) Water dissolves the nitrogens inside fertilizer

4) The nitrogen solution leaks out

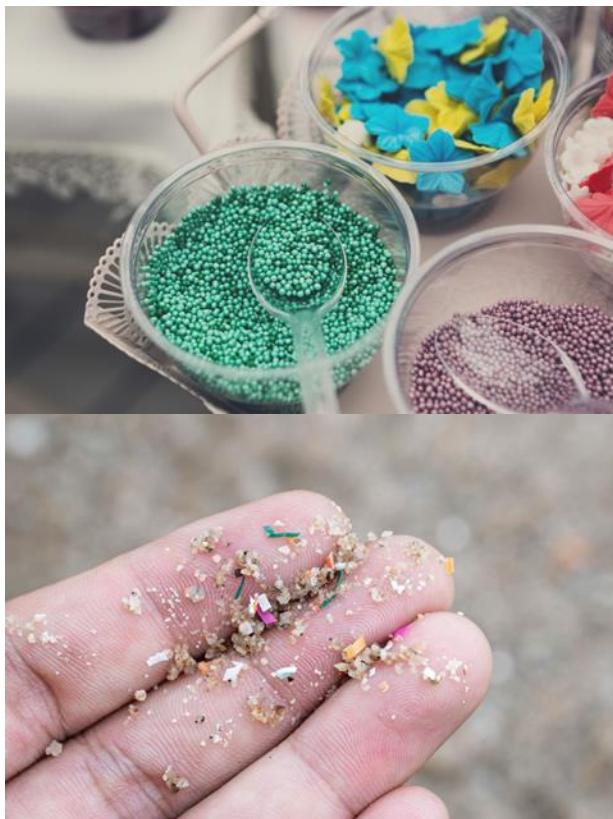


Fertilizers are coated using our biodegradable material through spraying in a rotating drum system.





# Difference & Sustainability



- Nearly all of our global competitors use **petroleum-based plastics** for their coating material.
- These coating materials do not break down in the soil and cause **microplastic pollution**.
- **Envagro** uses biodegradable waste for coating, so no microplastics are created. It complies with the **EU's microplastic restriction** set to take effect in **2028**.
- Direct contribution to **5 different SDGs**.



COMMISSION REGULATION (EU) 2023/2055

of 25 September 2023

amending Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards synthetic polymer microparticles



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# Market & Target Audience



- Grain & Cereal Farmers, Horticulture, Turf Management, Home Growers etc.
- The Controlled-Release Fertilizer Market is a **\$3.3 billion** market (approx.)
- The market share increasing extremely
- With the law coming into effect in the **EU in 2028**, the market will shift, creating a significant gap





# Collaboration & Ecosystem

Envagro has completed the prototype phase and has now started field trials for its products. At this stage, we are actively seeking potential collaborations in the following areas:

- Controlled Product Testing
- Manufacturing Partnerships
- R&D Cooperation
- International Project Collaborations
- Investment Opportunities





#EENCanHelp

# ENVAGRO

**Fatih Özönder**

CEO

ENVAGRO

fatihozonder@envagro.com



een.ec.europa.eu



# Pitch Presentations

**Time to meet the innovators!**

**Pitch 2**  
**Bio Mush Ay**  
Kaisa Karhunen



**We transform low-value side-streams  
into valuable umami flavour products**



**BioMush Ltd**

**Kaisa Karhunen  
CEO**



**Every year 1.3 billion tonnes of edible food is wasted in food production. (Source FAO)**

**At the same time, global food industry desperately seeking natural, clean label options.**

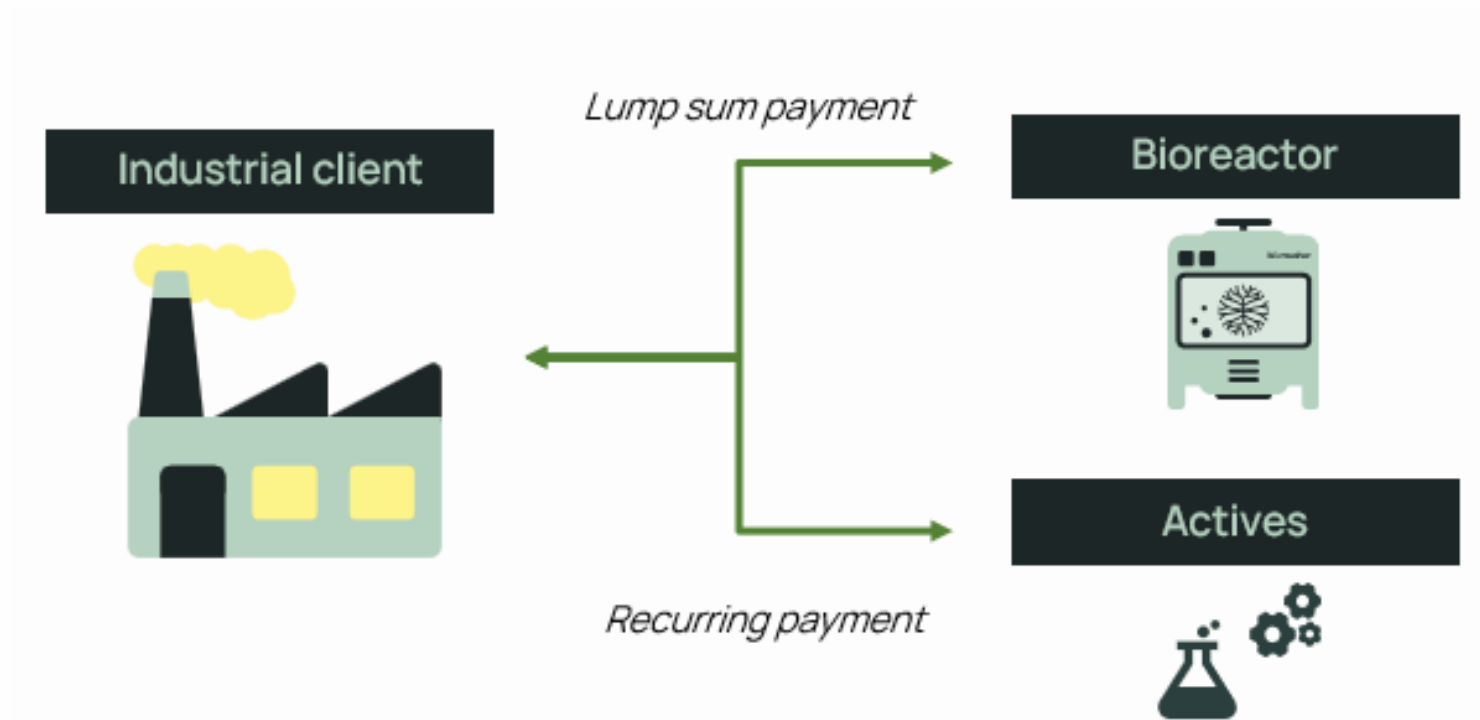


Our **solid-state fermentation** technology transforms industry's low-value difficult-to-treat side-streams into clean label umami flavour products.



## Scalable and capex light business model

Our primary clients  
are food industry  
players that have both  
usable by-products  
and the need for the  
flavour products.

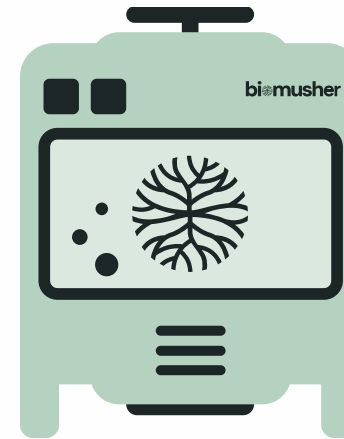


# Be part of our journey!

Investors

1 M€

Food Manufacturers





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# Book a meeting with: Company name

**Kaisa Karhunen**

CEO

BioMush Ltd

[kaisa@biomush.fi](mailto:kaisa@biomush.fi) +358 40 555 17 25



[een.ec.europa.eu](http://een.ec.europa.eu)



# Pitch Presentations

**Time to meet the innovators!**

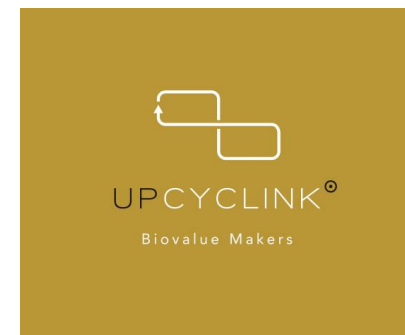
**Pitch 3**  
**Upcyclink**  
Jean Pascal BERGÉ



**SOBRE®**

**UPCYCLINK**

**Jean-Pascal BERGÉ**  
**CEO**



# **SOBRE® : The mobile unit for food side-streams valorization**

**The Problem** - In the EU alone, 87.6 million tons of food by-products are wasted or underutilized each year

**The Solution** - SOBRE® transforms these materials on-site into high-value ingredients for human, animal and plants nutrition through a mobile biorefinery unit

**Adaptability** - Our technology adapts to various food industries and processing needs



# Green Biorefinery Technologies

**SOBRE ® integrates sustainable biorefinery technologies :**

- Pre-industrial scale (~ 1 ton/batch)
- Low-energy processes
- Zero-waste approach



# What sets us apart

- The first mobile turnkey solution for on-site valorization **at the source**
- Enhanced competitiveness and sustainability for industrial clients (Solar Impulse solution labelled)
- Plug & play compact unit

## Measurable impacts :

- Significant reduction in organic waste through on-site valorisation
- Reduction of transportation-related CO<sub>2</sub>
- Creation of new local and circular value chains.



# Market/Target audience – Who can apply your solution?

**Who can apply ?** - Food industry operators with :

- Proven organic by-product generation
- Sustainability driven approach
- Interest in resource optimization

**Who would benefit most ?** – Food manufacturers wanting to:

- Transform waste into revenue
- Develop circular solutions
- Meet environmental regulations





# Sustainable and circular innovation needs good networks along the whole value chain. What kind of cooperation partners would you like to connect to beyond finding new customers?

**Partners we seek** – Looking to connect with:

- European innovation clusters and R&D networks
- Technology transfer networks
- Industrial partners for commercial deployment



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# Book a meeting with: Upcyclink

**Jean-Pascal Bergé**  
CEO

Upcyclink  
hello@upcyclink.fr



een.ec.europa.eu



# Pitch Presentations

**Time to meet the innovators!**

**Pitch 4**  
**Aircohol**  
Simo Hämäläinen

We are saving  
the Planet in a  
Cheerful way!







# AIR CO<sub>2</sub> HOL

IN GOOD SPIRITS

*Simo Hämäläinen*  
Founder & CEO



**BY HELPING ALCOHOL  
COMPANIES TO MAKE...**

**Alcohol  
From CO<sub>2</sub>**

**...AND OTHER USEFUL  
INGREDIENTS**







# The Problem

*"Annual 40 000 tons fermentation CO<sub>2</sub> is a problem for us. We could capture it, but don't, since there is no business case. Making drinks out of it is far more interesting than making, say, cement!"*

*Innovation director, Large European distillery*

**Listed alcohol companies have huge gaps to their public 2030 net-zero promises**

**Global alcohol and ethanol industry is 2700 times bigger**





# The Solution

## *THE BEST AND MOST SUSTAINABLE BUSINESS CASE*

to utilise fermentation CO<sub>2</sub> by helping alcohol companies to  
make wonderful drinks from it

Essential nutrients as side streams

Reduce CO<sub>2</sub> emissions, land, water and fertilizer use

# The Tech





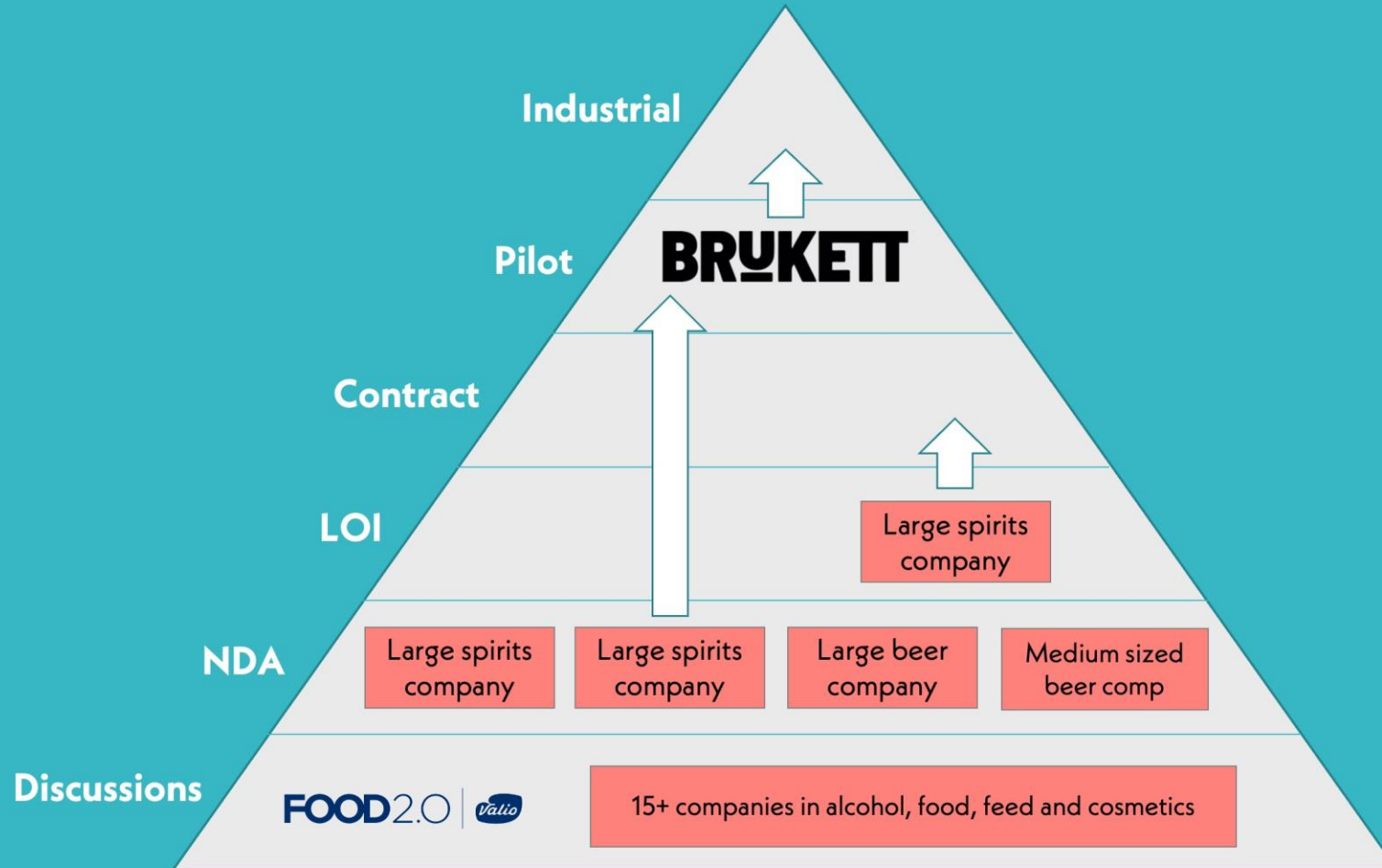
# The Stage

*NOW SCALING TO INDUSTRIAL SIZE*



- Successful pilot at Brukett, Finland
- Scaling to industrial size in H1/2025, first drinks to market H2/2025
- 2 patents pending and global trademark

# The Traction





# Business Model & Market

- Capex light & scalable licensing model
- Alcohol company pays CAPEX & OPEX
- Aircohol revenue from royalties
- Addressable royalty market € 9bn





# The Impact

**WE FOSTER A PLANET WORTH CHEERING FOR BY CRAFTING  
CO<sub>2</sub> INTO SUSTAINABLE SIPS & BITES**

## IMPACT POTENTIAL OF AIRCOHOL:

<b>REDUCED CO<sub>2</sub>:</b>	<b>170 Mt</b> - 0,5% of global emissions
<b>LAND USE REDUCTION:</b>	<b>180 000 km<sup>2</sup></b> - Size of Uruguay
<b>WATER USE:</b>	<b>10 500 BN LITRES</b> - 25m American households

Let's clear  
the air  
on this.



# The Team



**COMPLETELY UNIQUE CROSS-INDUSTRY CORE TEAM WITH ALL THE EXPERTISE NEEDED TO  
MAKE AIRCOHOL SUCCESSFUL, STRENGTHENED BY EXPERIENCED BOD AND ADVISORS**

Finance lead **Timo Pesola**

Danisco, Sulake, Rovio

Founder & CTO **Tomi Sundström**

St1, Hyvä Group



Founder & Chief Scientist **Elina Peltomaa** (PhD)

Helsinki University

Bioprocess specialist **João Salazar** (PhD)

Necton, Turku University

Founder & CEO **Simo Härmäläinen**

Heineken, Rovio/Angry Birds





# The Ask

- **To take Aircohol "Start-up to Scale-up" we are looking for:**
  - Investors for our upcoming €1M equity round
  - Alcohol companies as partners
  - Food, feed, pharma and cosmetics companies to utilise our side streams







# Cheers, Planet!

*Our dream is that one day  
people around the world can  
take action, proudly toast their  
glasses of Aircohol, and go:  
**"Cheers, Planet!"***

AIR  
CO<sub>2</sub>  
HOL  
'N GOOD SPIRITS



Simo Hämäläinen  
Founder & CEO  
+358 50 585 9757  
simo@aircohol





# Pitch Presentations

**Time to meet the innovators!**

**Pitch 5**  
**Trotec**  
**Joris de Winter**



Proud **Tro**tectors  
of circular ingredients.



# Master in circular ingredients



**2**

production sites  
Veurne (BE) – Albon (FR)



**250.000+**  
tonnes



**55 years**  
of experience



**HoPo**  
creative technical solutions



**110**  
Trotectors



**DC Logistics**  
transport



**450+**  
suppliers of former foodstuffs



**250+**  
TrotecMix clients



# Plants



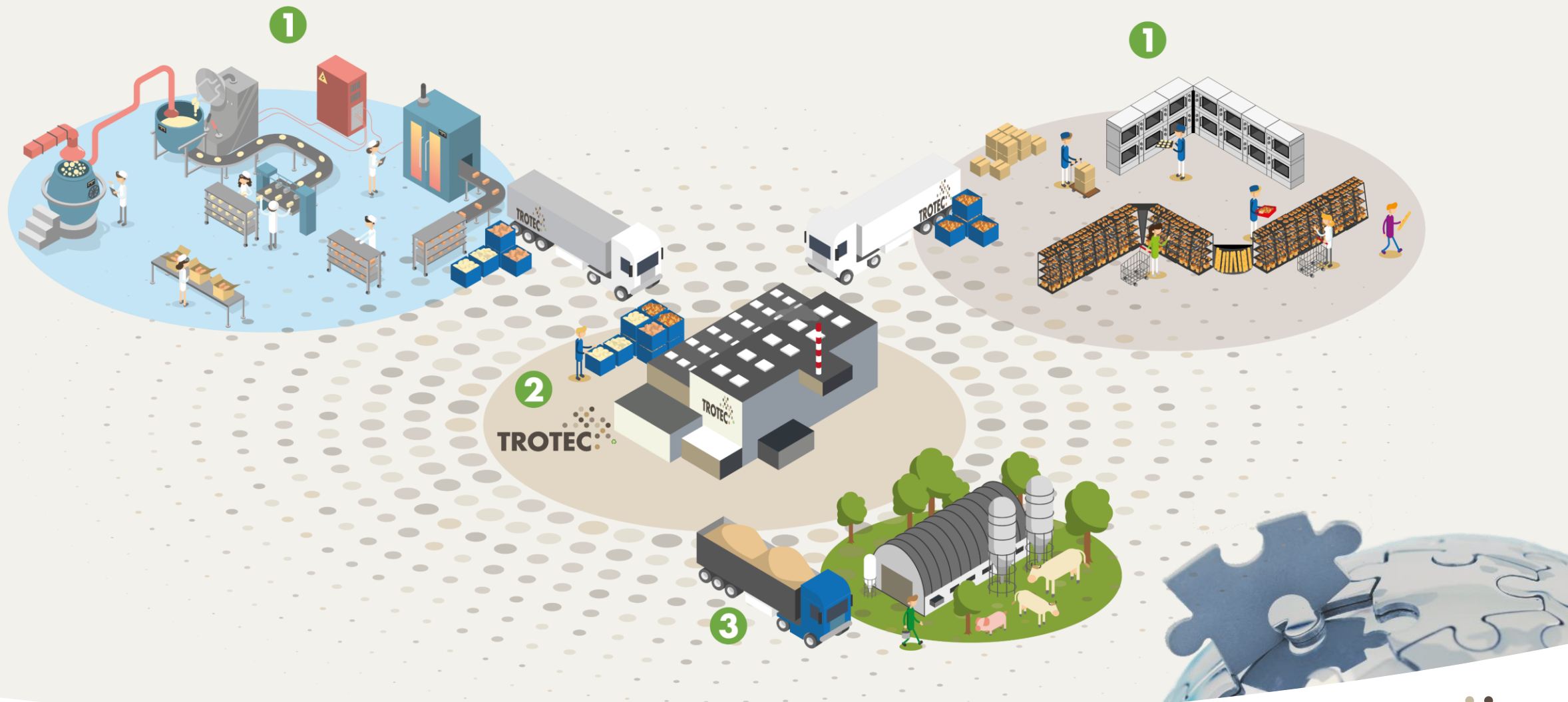
Veurne



Albon



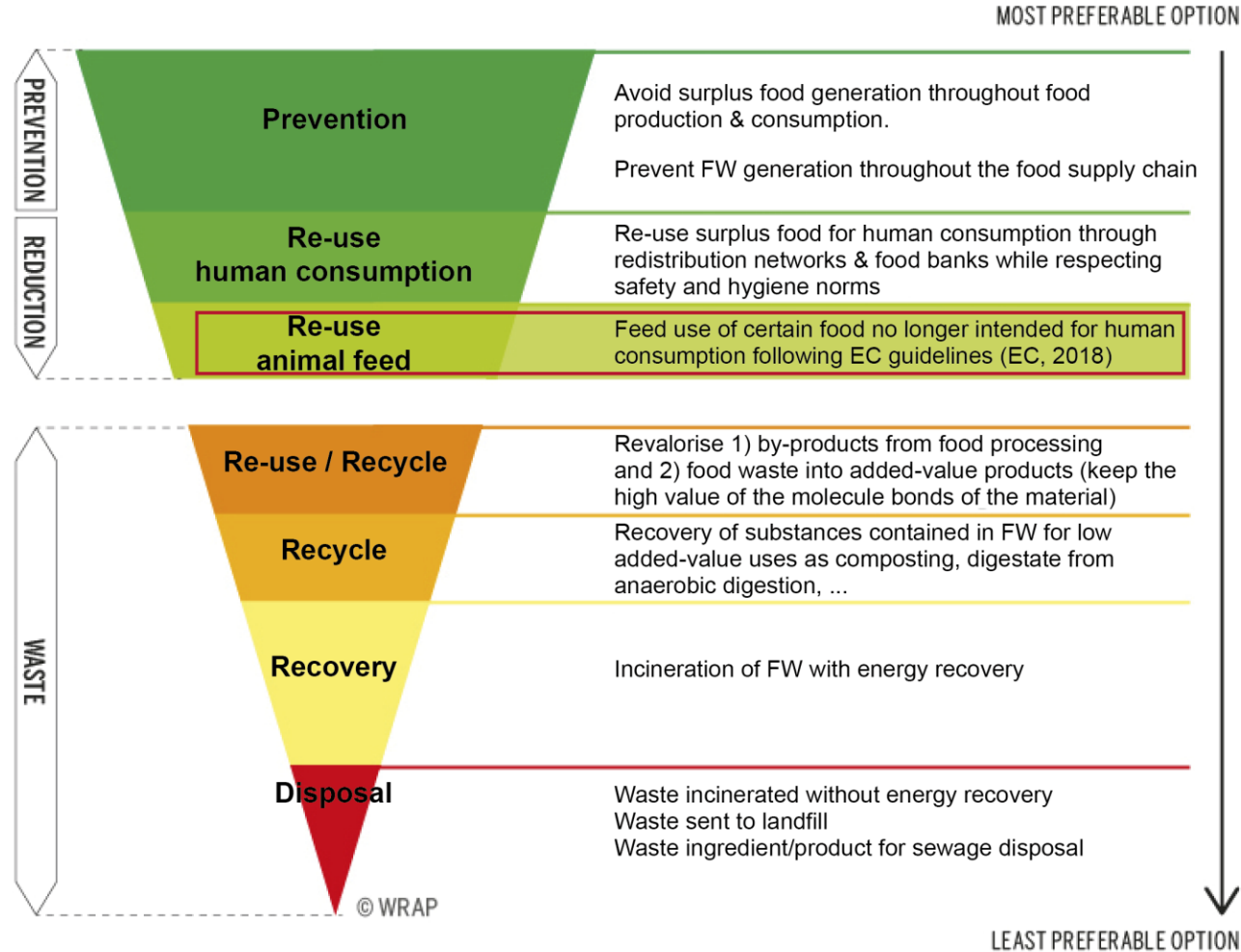
# Where food becomes feed



Proud **Tro**tectors of circular ingredients.



# Respecting food hierarchy



bron: EFFPA/reducing food waste

# Creation of **circular feed ingredients**

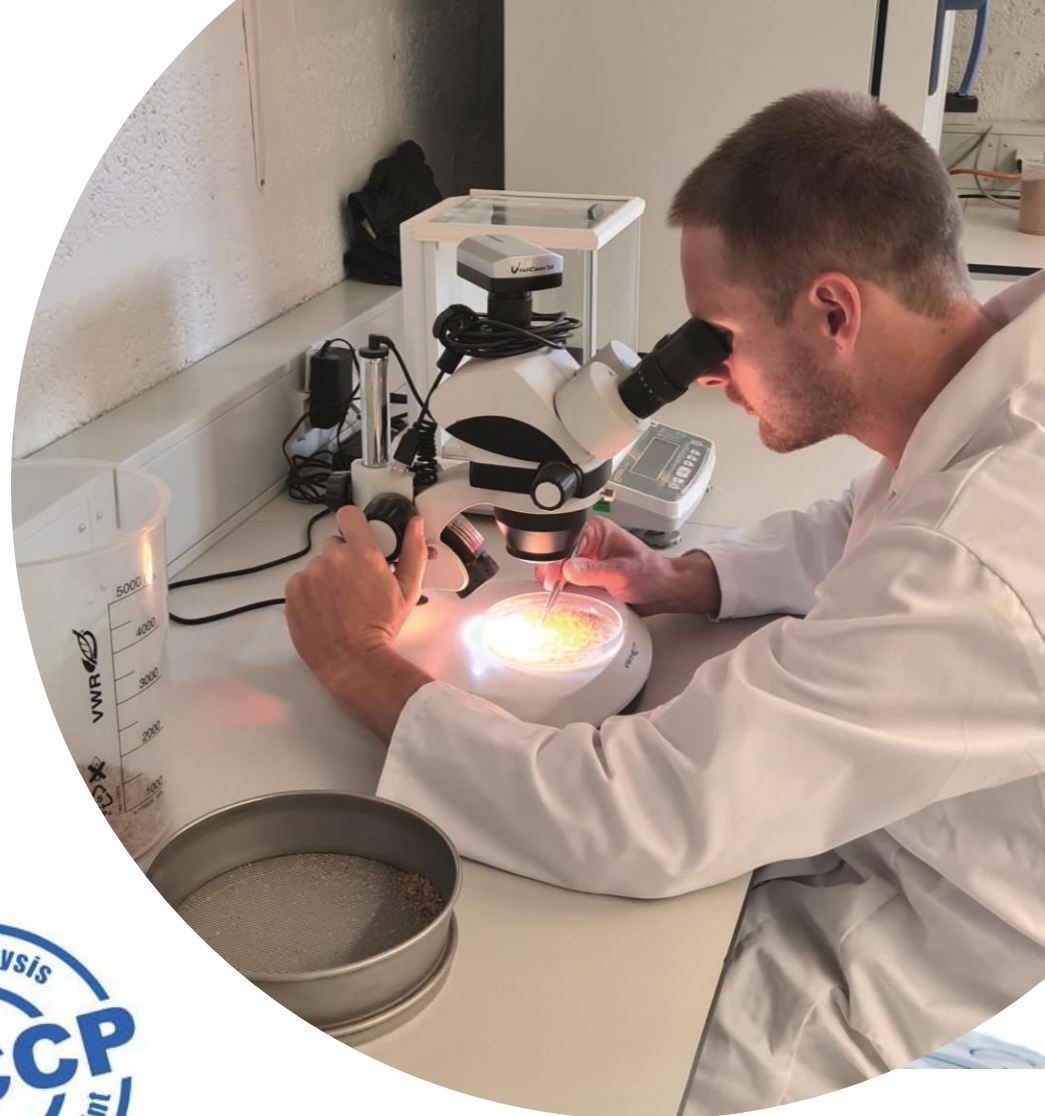


Proud **Trotectors** of circular ingredients.

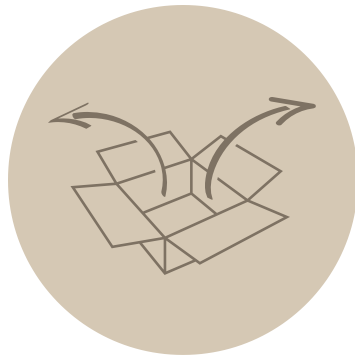
# Food & feed safety

## The Trotec ground rule:

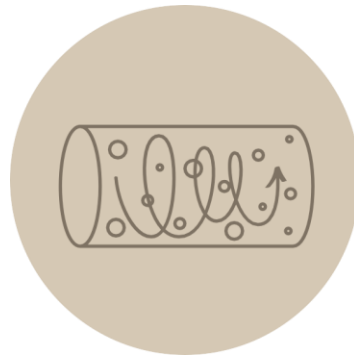
No circularity without food & feed safety



# Production stages



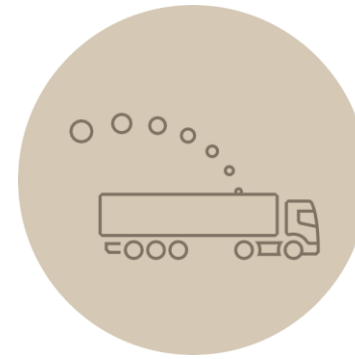
**Unpacking**



**Composition  
& mixing**



**Drying**



**Stocking &  
shipping**



# TrotecMix

**Complete and transparent  
production process**



**Own unique technology**



**Production with focus on minimum  
energy consumption  
and minimum CO<sub>2</sub> emissions**



**Transport durable  
Watertruck+**



Proud **Tro**tectors of circular ingredients.

# TrotecMix

Guarantee of  
**stable composition**



**11%**

Raw fat



**12%**

Raw protein



**52%**

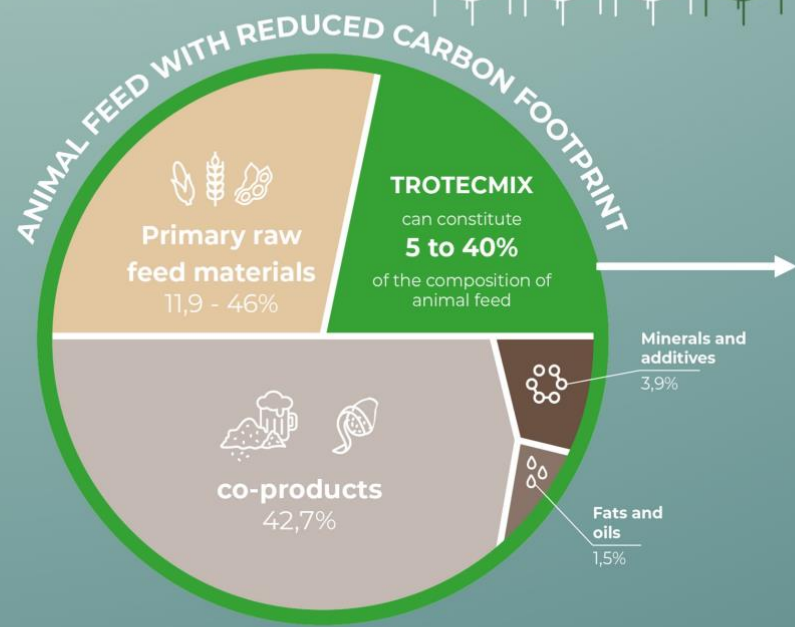
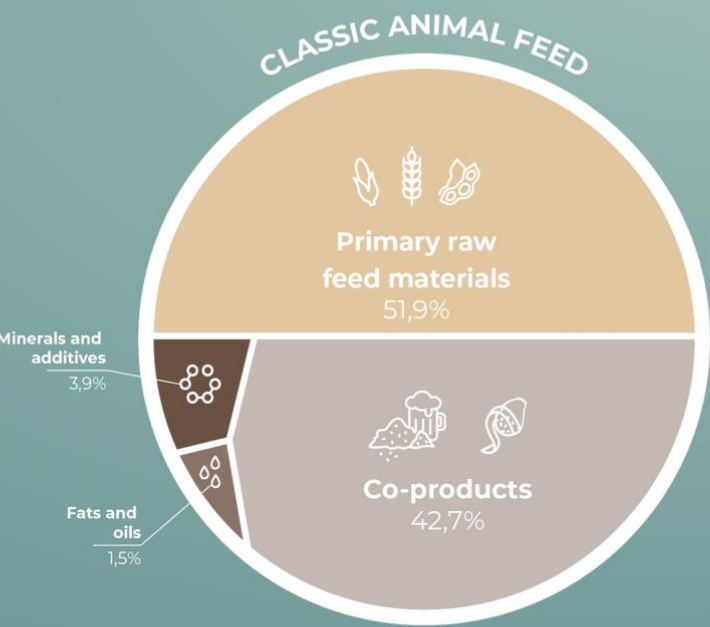
Starch and sugars



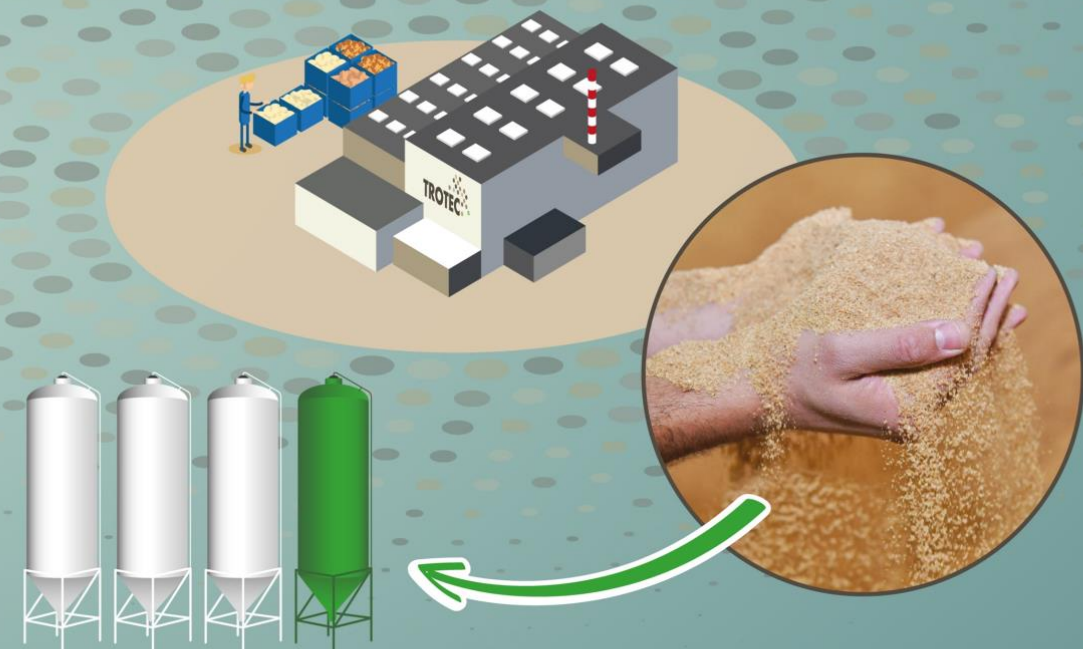
**92%**

Dry matter

# Reducing the carbon footprint



**UP TO 40%**  
of the composition  
of your feed!  
(ILVO, Agroscope)





Report 2022

# Carbon Footprint of FormerFoodstuff

Life Cycle Assessment of TrotecMix

## Life Cycle Assessment results

The carbon footprint of 1kg TrotecMix is equivalent to 0.134 kg CO<sub>2</sub> eq.

TABEL 2 CO<sub>2</sub>-VOETAFDRIJK EXCLUSIEF EN INCLUSIEF LUC EN WATERVERBRUIK VAN KRACHTVOER INGREDIENTEN

Feed ingredients	kg CO <sub>2</sub> eq/kg (excl. LUC)	LUC impact	kg CO <sub>2</sub> eq/kg (incl. LUC)	m <sup>3</sup> /kg
Crude rapeseed oil, from crushing (solvent), at plant (EU)	2.10	0.670	2.77	0.00477
Crude sunflower oil, from crushing (solvent), at plant (EU)	3.54	0.490	4.04	0.377
Crude palm oil, from crude palm oil production, at plant (ID)	9.50	3.11	12.61	0.002
Crude soybean oil, from crushing (solvent), at plant (EU)	1.49	5.37	6.68	0.078
Soybean meal, from crushing (solvent), at plant (EU)	0.581	2.10	2.68	0.031
Pea meal, at plant (EU)	0.783	0.020	0.803	0.029
Wheat middlings & feed, from dry milling, at plant (EU)	0.289	0.008	0.297	0.003
Maize flour, from dry milling, at plant (EU)	1.00	0.028	1.03	0.118



# Contribution to a sustainable world

Avoid food  
waste

Circular  
economy

Food & Feed  
autonomy

Less  
CO<sub>2</sub> emissions  
for the  
production of  
meat, milk,  
eggs...

Less arable land  
needed for feed

Less water  
needed for  
feed

Less fertilisers  
needed for  
feed

**“We do not inherit the land from our  
grandparents,  
we borrow it from our children”**

Antoine de Saint-Exupéry



Proud **Trotec**tors of circular ingredients.

# Pitch Presentations

**Time to meet the innovators!**

## Pitch 6

**POSS-Driving Innovation in  
Functional Foods**

Patroklos Vareltzis



# POSS Innovation

## Driving Innovation in Functional Products

[www.novelfoods.gr](http://www.novelfoods.gr)

- ❑ Gortzi Olga- Professor, Food Chemistry and Technology, Faculty of Agricultural Sciences, University of Thessaly
- ❑ Varelzis Patroklos, assistant Professor, Food Engineering, Chemical Engineering Department, Aristotle University of Thessaloniki
- ❑ Kyroglou Smaro, Chemical Engineer, PhDc, Chemical Engineering Department, Aristotle University of Thessaloniki
- ❑ Mourtakos Stamatis, Post doc researcher



SCAN ME





# The problem



Lack of research and development in companies



Poor industry link with the University



Insufficient transfer of know-how from universities to industry



Rigid funding mechanisms to support industrial research with or without cooperation with research organisations



Wrong mindset among industrialists and members of the research community about the way they cooperate, resulting in a lack of trust between the parties



**Turn key solutions in a short time**



**Utilisation of by-products and creation of value-added ingredients and foodstuffs / Sustainability**



**Use of new and state of the art technologies**



**Agency for the Development and Production  
of Functional Foods and Substances  
By Contract**

**(Contract Development and Manufacturing  
Organization (CDMO))**



### Study and design of a new functional food

- De novo food/feed design or optimisation of an existing one
- Quality by Design and Design of Experiments
- Transfer of know-how and scale up

### Clinical application

- Determination of product stability during the digestion process
- Determination of **bioaccessibility and bioavailability** (INFOGEST model and cell lines)
- Production on a **pilot scale for clinical trials**

### Validation

- Application of **GMP and HACCP standards**
- Product standardization (Processing Methodologies)
- Preparation of a dossier for legislative approval (NOVEL FOODS)

1.

- Patent: Cold beverage preparation process characterized by optimized sensory properties (vacuum extraction)

2.

- Product: encapsulated B12 and folate with enhanced bioactivity as a food supplement → application to egg-white beverage





# The Objectives



Provide solutions for novel foods with enhanced health benefits



Pilot scale testing facility for the manufacturing of such products





[info@novelfoods.gr](mailto:info@novelfoods.gr)



# Closing Remarks

**A big thank you to all pitchers and attendees!**  
We appreciate your participation today.

If you'd like to connect with any of the pitching companies, please use the matchmaking tool to **book a meeting!**

Next available at

**09:00 - 09:30 CET**

Monday 10 February 2025

FEB

**10**

in 1 mo

**+ Request meeting**

Need support? **Enterprise Europe Network is here to help!**

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<https://een.ec.europa.eu/local-contact-points>



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# Thank you!

**Name session lead**

Role

Organisation

Email



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