From petri-dish to P&L: how a scientist became an entrepreneur (sort of… I guess)

Young iffi event
Corjan van den Berg, 08/10/2026

- 2002: Bsc in Food Analysis (Larenstein)
- 2005: Msc in Biotechnology (focus on engineering/fermentation)
- 2010: PhD on integration of separation technologies with fermentations (TNO)
- 2011: Post-doc on new biofuel production concepts
- 2012: Project leader at Purac
- 2012: Scientist at TNO on algae biorefineries
- 2014: Started Spireaux
- 2016: Assistant professor at WUR at Bioprocess Engineering on biorefineries
- 2019: Co-founder & CEO FUMI Ingredients
- 2023: CEO => CGO at Revyve

Content today



FUMI INGREDIENTS
2020-2022

revyve
2022 - ..

- Phase 1: searching for a scalable concept
- Phase 2: a crappy low-budget startup (Fumi)
- Phase 3: professional scale-up company (Revyve)

Focusing a bit more on how scale-up/techno-economics work at startups

Who we were.



Edgar Suarez Garcia, PhD
CTO (aka back-office)

Msc Chemical Engineering
PhD Bioprocess Engineering



Corjan van den Berg, PhD
CEO (aka front-office)

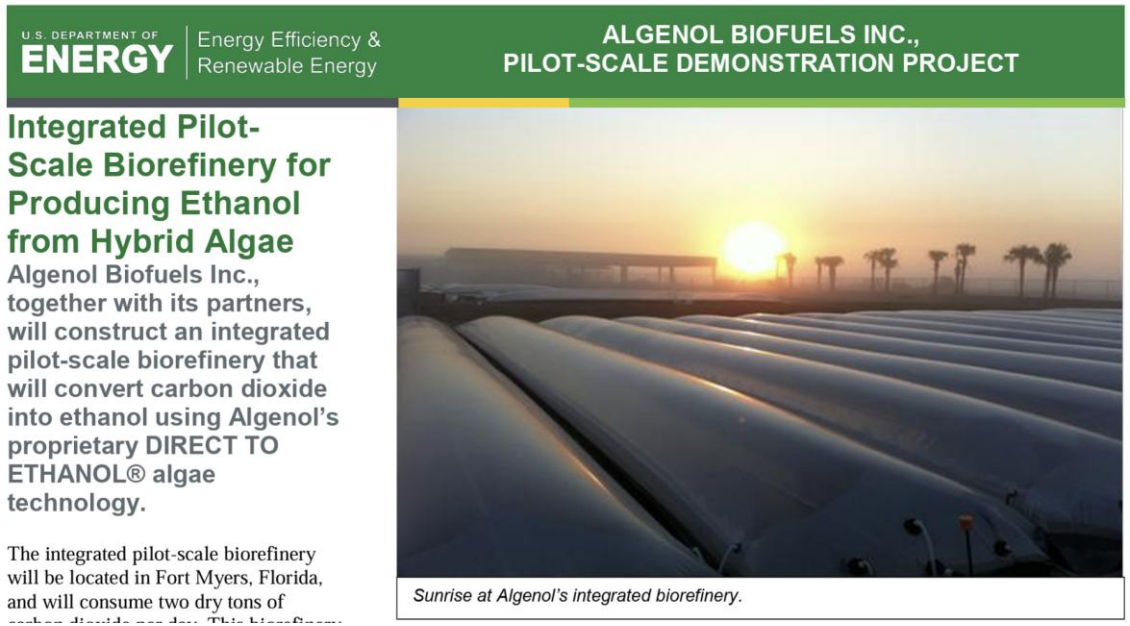
PhD Bioprocess engineering
Bsc Food tech

Our starting point for moving forward as a startup

- Some basic learnings on algae Biorefineries:
  - Beadmilling is quite an efficient cell-disruption technique for breaking tough-celled algae such a chlorella, nannochloropsis and tetraselmis
  - Solvent extraction is to be avoided, from regulatory and solvent regeneration point of view
  - Rubisco from micro-algae is an interesting high-value ingredient.
  - Biorefinery is only going to work if side-stream has at least some value (should be better than feed)

Micro-algae lessons learned

Algenol then:



U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

ALGENOL BIOFUELS INC.,
PILOT-SCALE DEMONSTRATION PROJECT

Integrated Pilot-Scale Biorefinery for Producing Ethanol from Hybrid Algae

Algenol Biofuels Inc., together with its partners, will construct an integrated pilot-scale biorefinery that will convert carbon dioxide into ethanol using Algenol's proprietary DIRECT TO ETHANOL® algae technology.

The integrated pilot-scale biorefinery will be located in Fort Myers, Florida, and will consume two dry tons of

Sunrise at Algenol's integrated biorefinery.

CO_2 ➔ ethanol

Residual biomass ➔ biodiesel

Algenol now:



More lessons learned

Solazyme then:



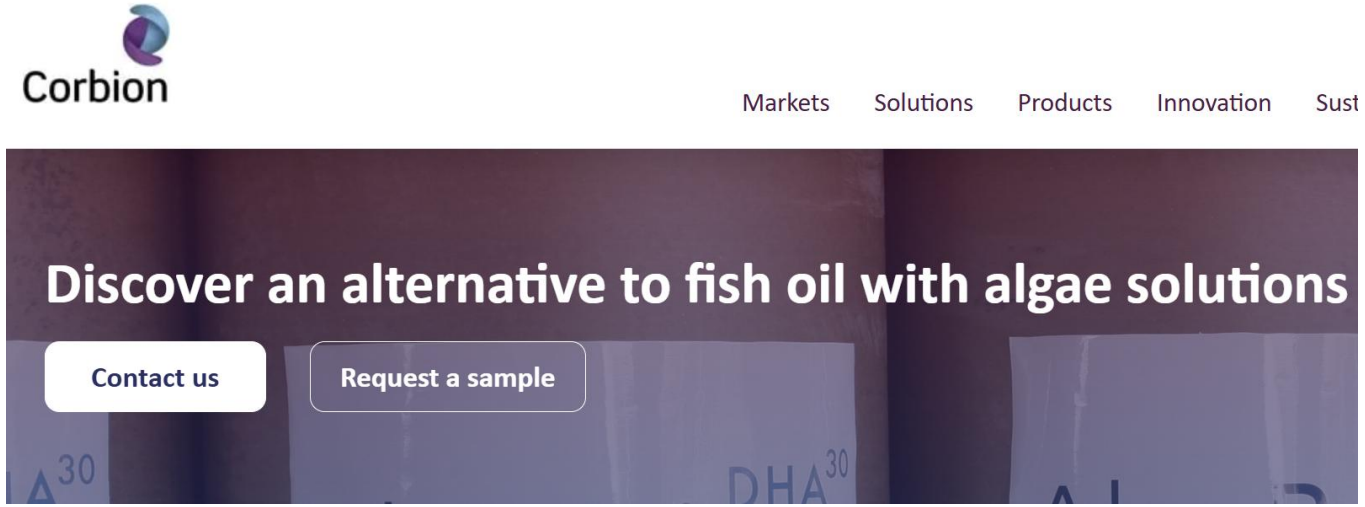
Sugar to biodiesel

corbion (bought solazyme after bankruptcy):

MAR 17, 2016

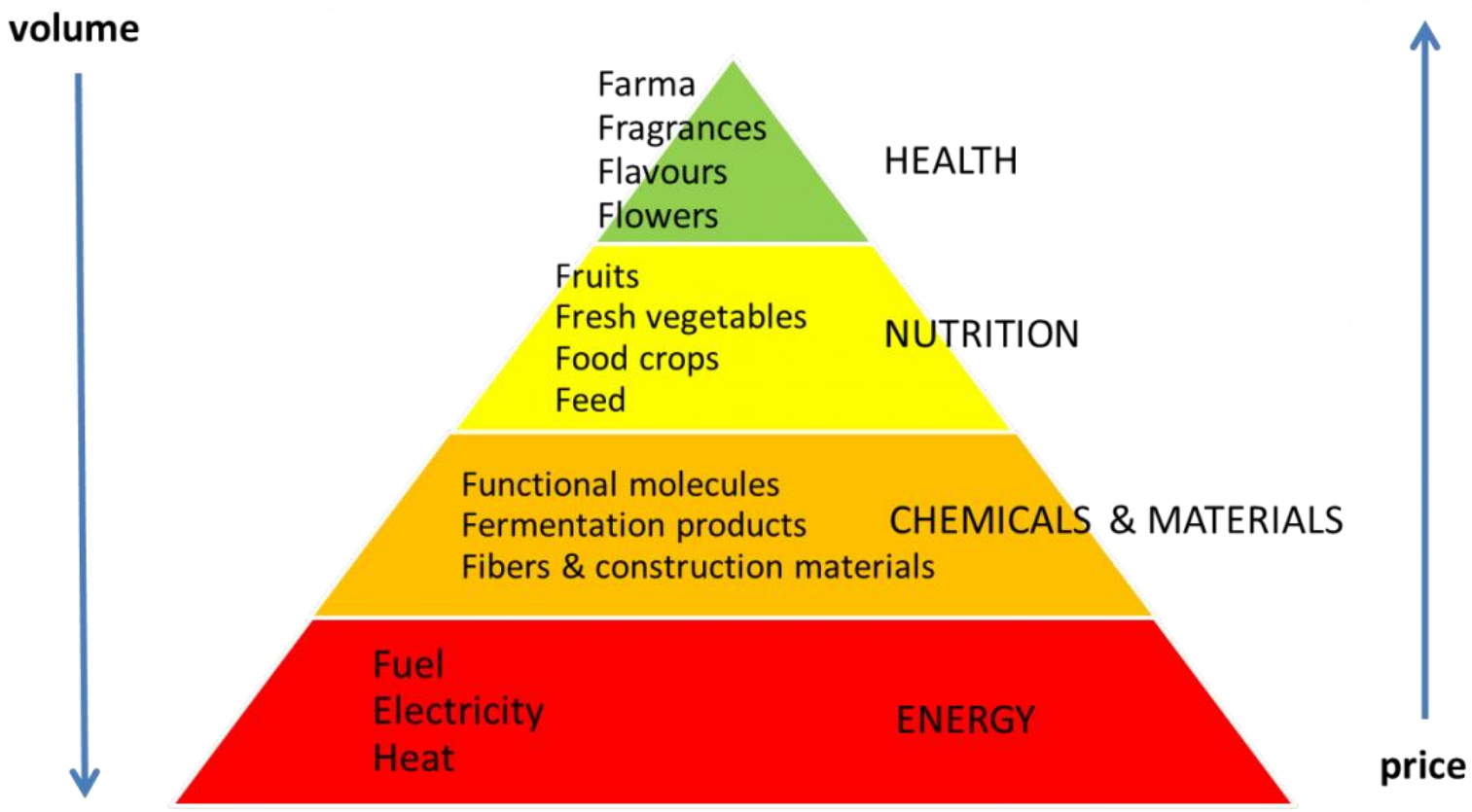
Solazyme abandons algal biofuels, refocuses on food

Solazyme, a Californian algae-based bio-product producer, has abandoned its biofuels business and will be focusing its algae oil production on food and personal care industries.



A very basic philosophy we wanted to apply

We only go up in the pyramid.





Important lessons learned from micro-algae

- The price is just too high.
- Every day is St. Patricks day
- Heterotrophic algae don’t have the color issue but come at a premium vs yeast.

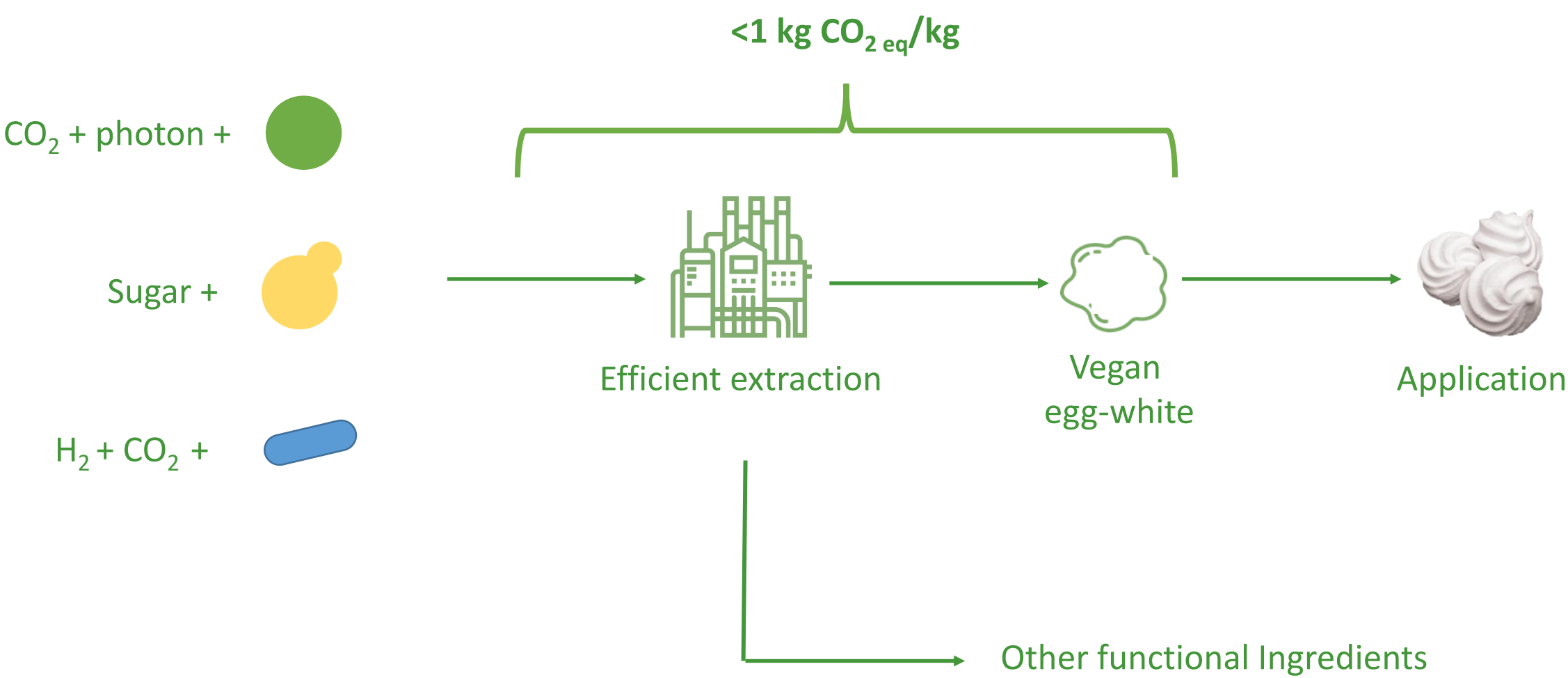




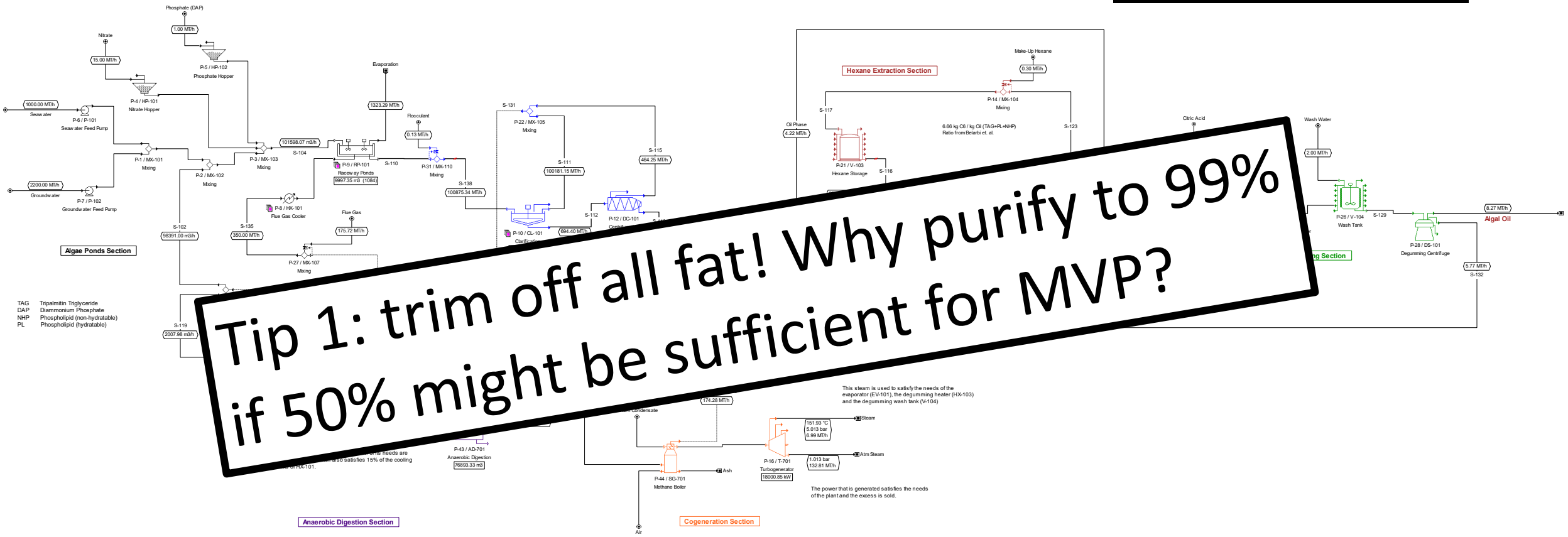




What we do.


CO_2 + photon +
Sugar +
H_2 + CO_2 +
<1 kg $CO_{2\ eq}$/kg
Efficient extraction
Vegan
egg-white
Application
Other functional Ingredients

Typical SCP processes



Tip 1: trim off all fat! Why purify to 99% if 50% might be sufficient for MVP?

Process summary: 32 unit operations

⬇

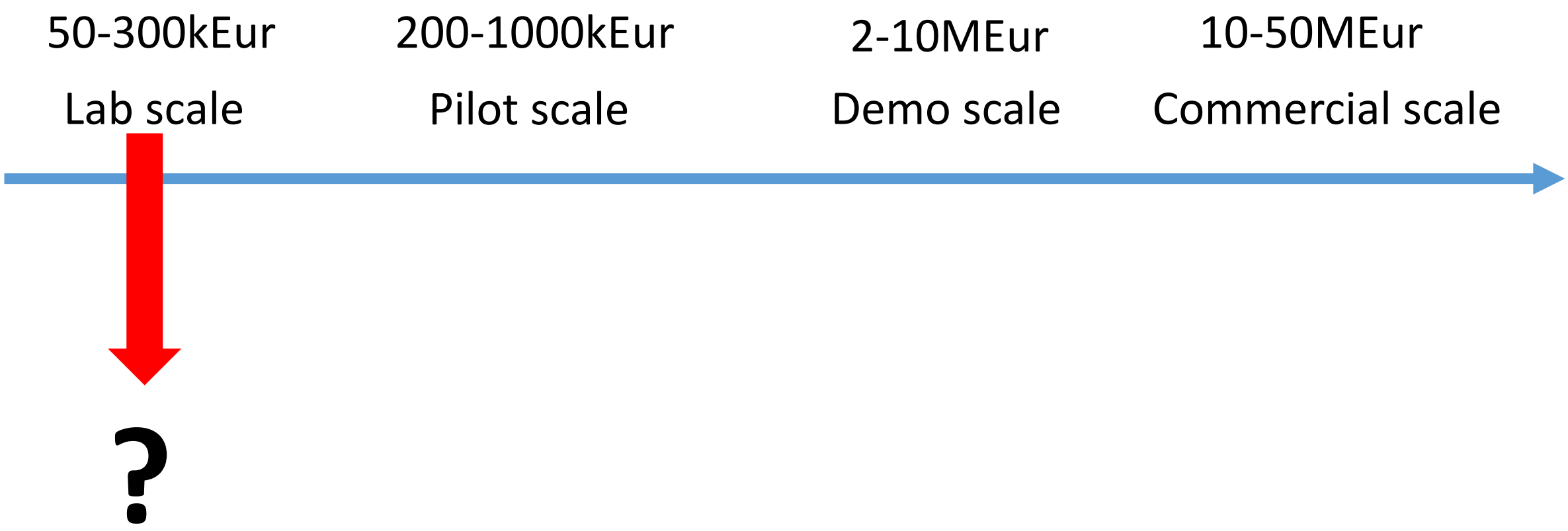
Not happening anytime soon!!

Typical Capex costs during scaleup

50-300kEur	200-1000kEur	2-10MEur	10-50MEur
Lab scale	Pilot scale	Demo scale	Commercial scale



Typical Capex costs during scaleup



Cheap lab-space

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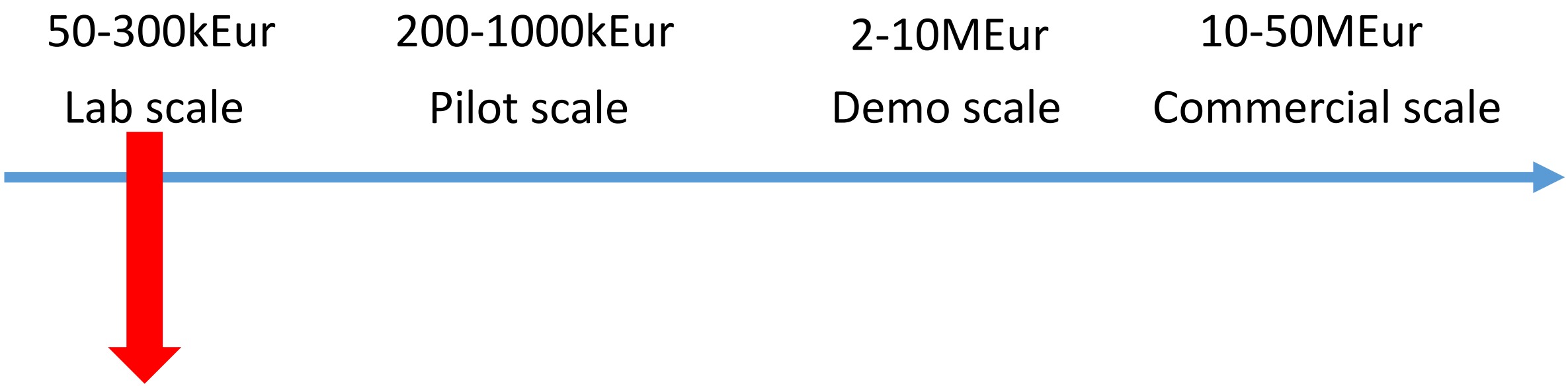


prof.dr.ir. RH (Rene) Wijffels



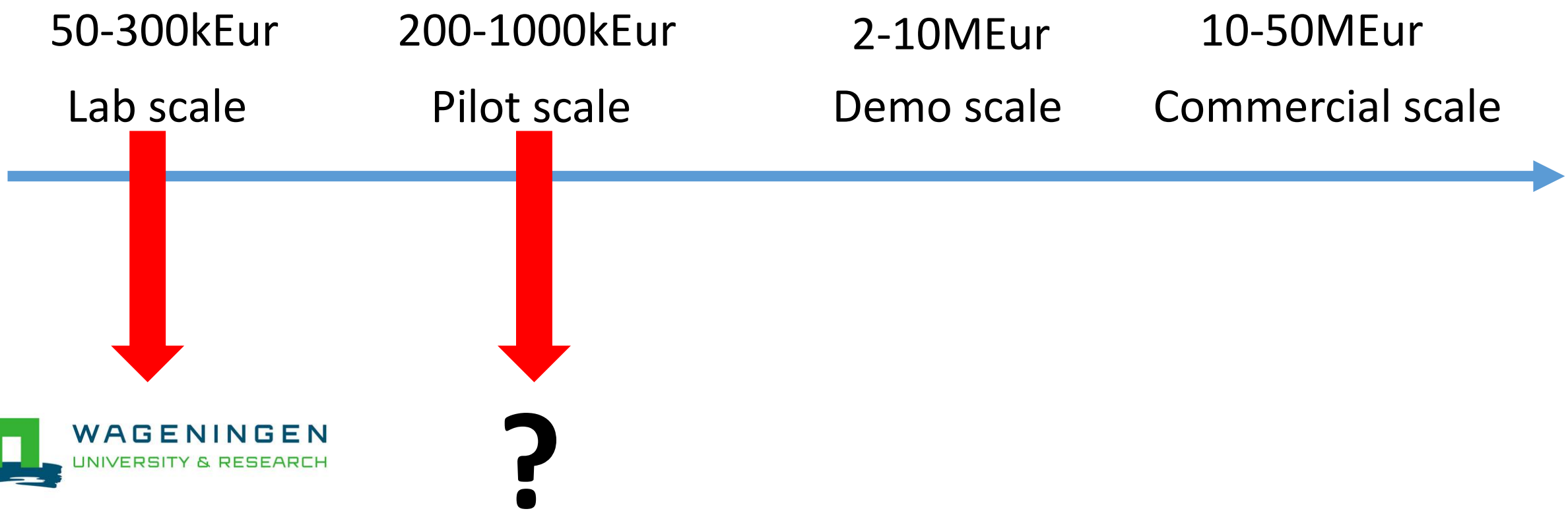


Typical Capex costs during scaleup



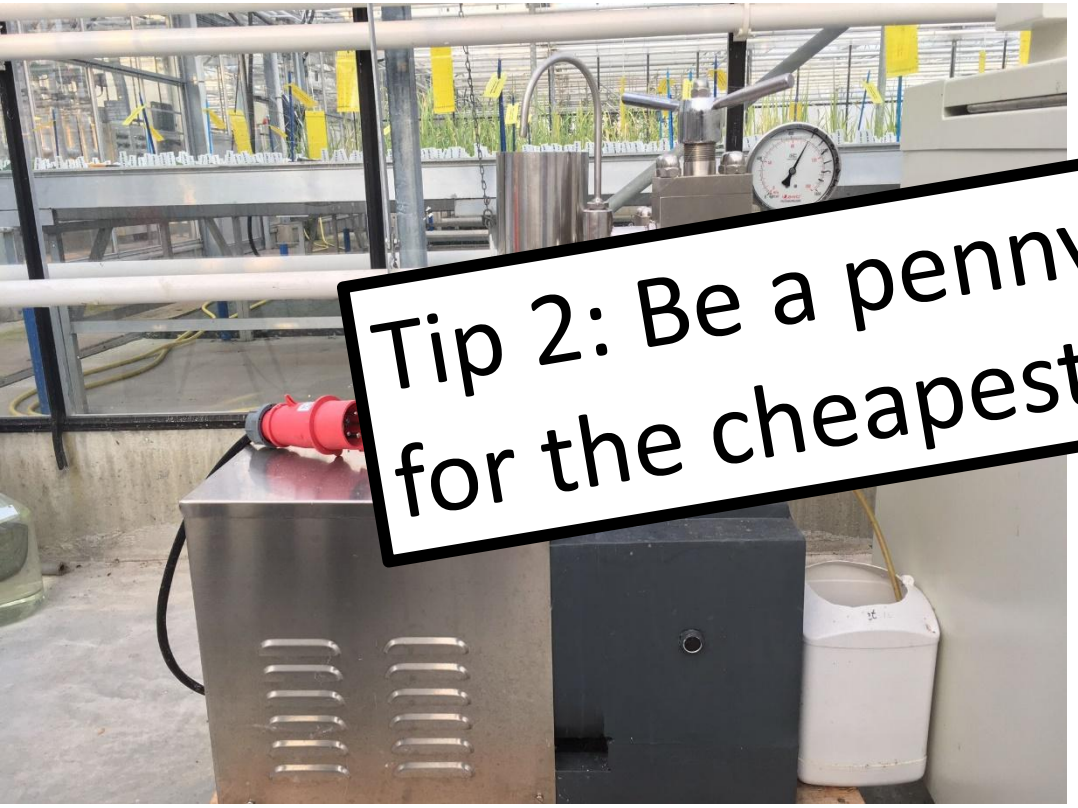
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Typical Capex costs during scaleup



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UNIVERSITY & RESEARCH

So how to go about piloting?



Tip 2: Be a penny pincher! ALWAYS look for the cheapest option.



Typical Capex costs during scaleup

50-300kEur

Lab scale

200-1000kEur

Pilot scale

2-10MEur

Demo scale

10-50MEur

Commercial scale

WAGENINGEN
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Alibaba

?

How to go about demonstrations?



Tip 3: Buying a demonstration unit is rarely a good idea as you'll probably only use it for ~1 to 2 years. Rent it!

OPoost

iZO

R FOOD & HEALTH

RUITENBERG
INNOVATION AS MAIN INGREDIENT

EFRO
EUROPEES FONDS
VOOR REGIONALE
ONTWIKKELING

Europese Unie

Typical Capex costs during scaleup

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Alibaba

OPoost
operationeel programma oost

Europees Fonds voor Regionale Ontwikkeling

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WAGENINGEN
UNIVERSITY & RESEARCH



Alibaba

OPoost
operationeel programma oost

Europees Fonds voor Regionale Ontwikkeling

?

Hello Darkness my old friend (aka 2022 + 2023)



(I'm paraphrasing JPow in 2021)



Over 97% decrease of beyond meat stock

Central bank aggressive rate hikes
Ridiculous startup valuations in 2021
Venture capital group-think



Results in...

Amy Schumer summarizing 2022/2023 for all VCs investing in sustainability



Royal Cosun and Oost NL jointly invest in food-tech scale-up revyve

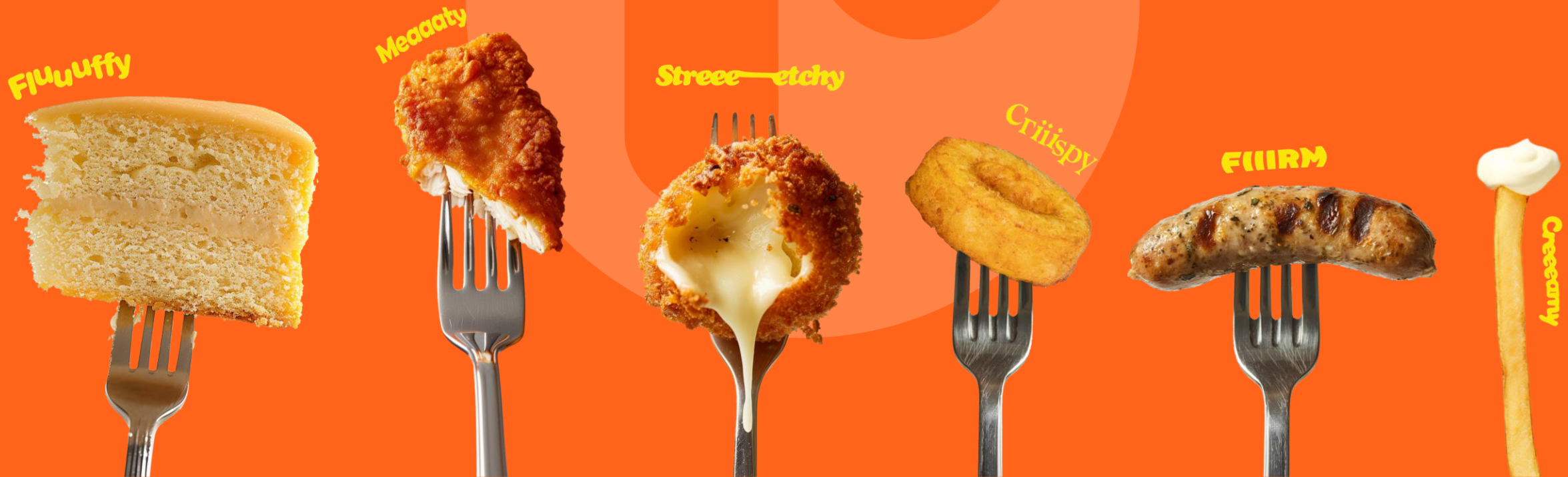
May 2, 2023 No Comments

Cosun and Oost NL team up to jointly invest €8M in Wageningen-based foodtech scale-up revyve to boost the development of sustainable, upcycled and local food ingredients, derived from co- products of beer breweries

Fumi ingredients now called revyve (to prevent ™ issues)

We Are Revyve

We provide the first sustainable and natural texturizing ingredient, creating delicious food experiences.



Our journey

We were able to scale the process x10000, **from lab to full industrial scale**

Jan 2020

FUMI Ingredients is officially created

50g / batch

July 2020

Start of FUMI & ABI joint development agreement

500g / batch

Dec 2020

Small-Scale
Feasibility Assessment

50 kg / batch

2021 - 2022

Large- Scale
Feasibility Assessment & Commercial validation

400kg / batch

2023

Co-Man Batch
Product Improvement
Small commercial launches

2 ton/year
Revenue = €20k

2024-2026

Continuous modular scale-up
Process stability, large commercial launches, GM positive production
100 -> 1000 ton/year
Revenue = €1 -10M

2027

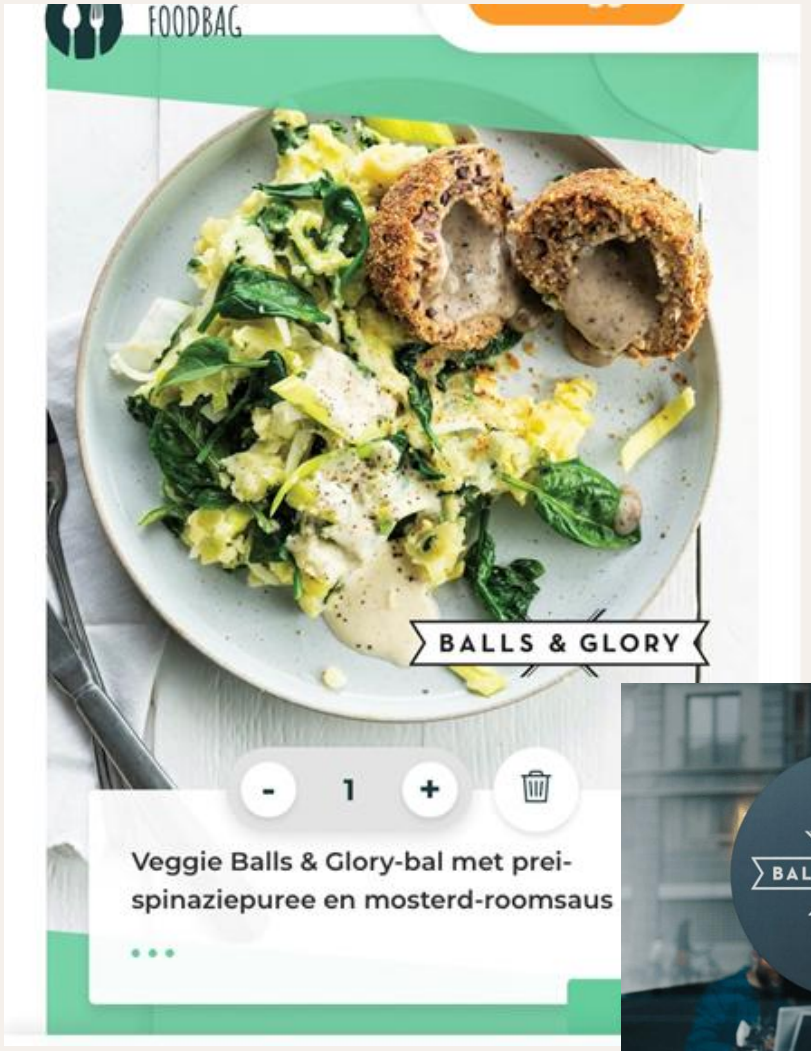
Industrial Hub
Dedicated industrial plant
Cash Flow Positive
2500 - 5000 ton/year
Revenue = €25-45M

- We have **validated the technology at industrial scale** and are now preparing for continuous production
- **Our growth strategy is based on an Asset Light** approach, to **de-risk investments** through step by step technical and commercial validation


10TK8
revyve
A New World of Texture

Progress so far

We launched **product in market** in food service through a collaboration with a famous TV Chef





The vegan meatballs were sold at the Tomorrowland festival, which is the Belgium's largest music festival.



... Across The Food Industry

SALES PRIORITY

Sauces & Dressings

Mayonnaise

Warm Sauces (Hollandaise, Bechamel, Cheese)

Custards & Sweet Fillings

Pesto

GROWTH PRIORITY

Bakery

Brioche & Donuts

Muffins & Cupcakes

Gluten-Free

Pancakes

Sponge Cake

Pound Cake

Meat & Meat Substitutes

Phosphate Replacement

Formed and Whole Cut Meat Analogues

Hybrid Meat

Plant Forward Vegetable Burger

Cold Cuts (Pastrami)

Frozen Appetizers

Crispy Chicken

Coatings & Tempura

Mozzarella Sticks

Spring Rolls

Potato Products (Hash Browns)

(Alt-)Dairy

Plant-Based Milks

Soft Cheese

Cream Cheese

Hybrid Cheese

Applications displayed are customer-ready prototypes and/or part of customer projects

Revyve Is In Demand

PRODUCT LAUNCHES

In-market with leading customers in multiple food categories



DISTRIBUTION AGREEMENTS

Distribution agreements with leading players, including **high-volume forecasts**

ferrer alimentación
BANG & BONSOMER
LALLEMAND
Firmalis
NCC Food Ingredients
FARAVELLI INGREDIENT GROUP
select chemie

SALES FUNNEL

>100 active customer opportunities at different development stages

Focus on rapid roll out with branded and private label sauce producers

Medium term developments with large solution providers and ingredient houses in bakery

Product- and customer details removed for confidentiality reasons

MEET THE TEAM

Our Textureologists



35-person strong team blending science- and industry experience

Fonterra · Cargill · TU Delft Delft University of Technology · Givaudan · BUNGE · DSM · P&G Procter & Gamble · WAGENINGEN UNIVERSITY & RESEARCH

royalBuisman · dsm-firmenich · ABInBev · FrieslandCampina · Sensus · Nestlé · KOOPMANS SINDS 1846 · Ojah



revyve

ThinkTexture
Think revyve

April 2026

Intro deck

Cedric@revyve.bio