





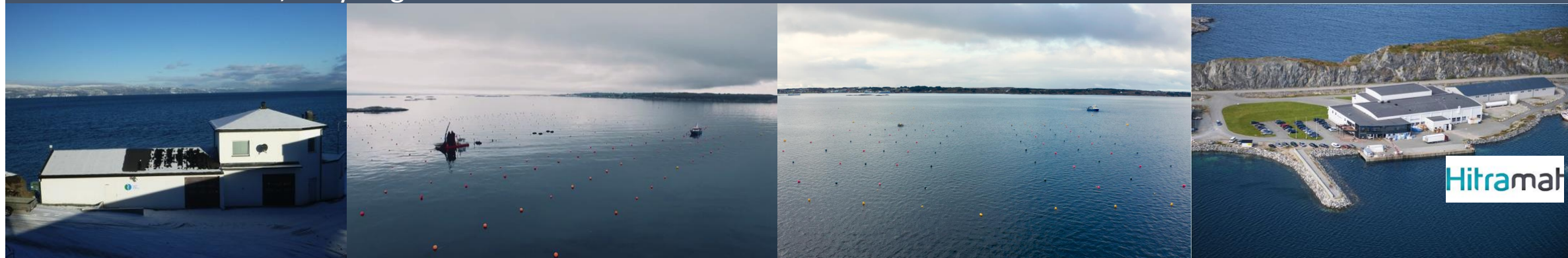
-Sugarkelp-

-Winged kelp-

- Established in 2009 with a vision of developing large scale seaweed farming as a new industry in Norway and Europe
- Norway's first seaweed farming site established in Frøya in 2019
- Farm and sell *Saccharina latissima* (sugarkelp) and *Alaria esculenta* (winged kelp) for food and feed in the B2B market
- Ecologically certified along the entire value chain
- Seedlings production for other farmers in Norway and Europe
- Strong focus on R&D and partnerships

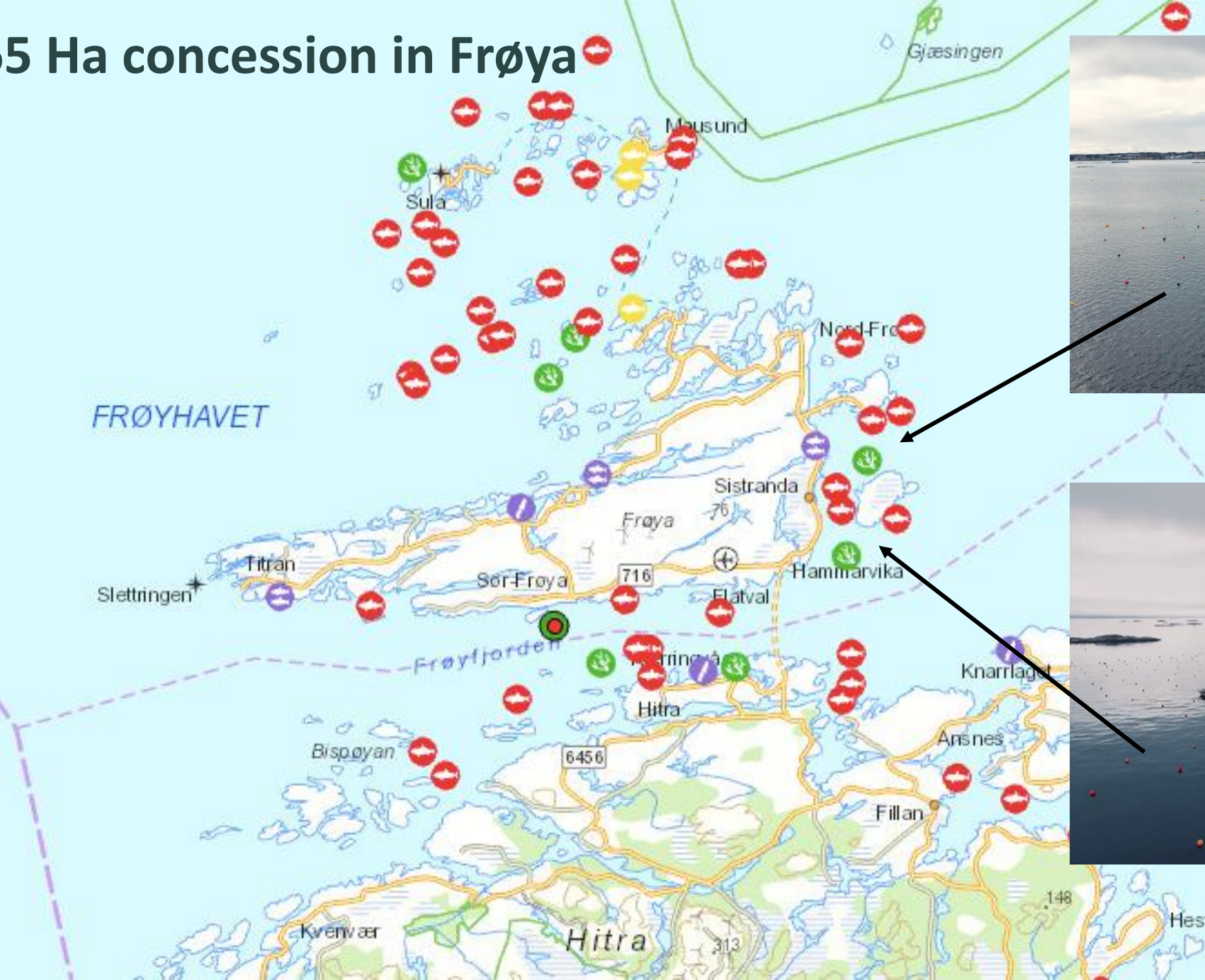


Lokalitet: Trondheim, Frøya og Hitra





# 65 Ha concession in Frøya



# Seaweed Solutions Team



**Jon Funderud**  
CEO



**Maren Sæther**  
Processing and Quality Manager



**David Aldridge**  
Hatchery Manager



**Andreas Lavik**  
Seed Sales and Partnerships



**Lennart Ahrné**  
Senior Market Advisor



**Frank Neumann**  
Marine Technology Manager



**Kristian Cato Haugen**  
Seafarm Manager

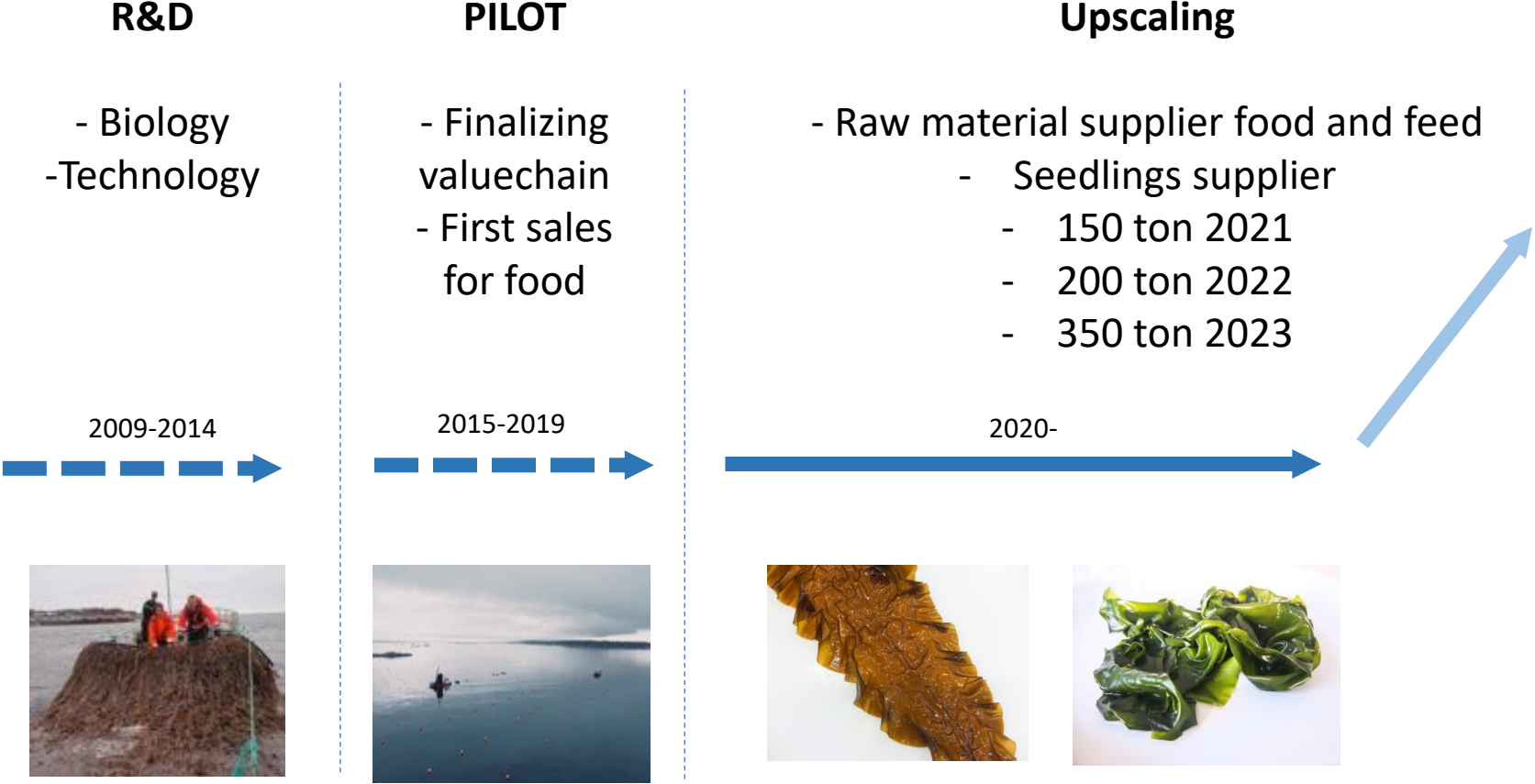


**Diogo Raposo**  
Cultivation Coordinator



**Ana Borrero**  
Environmental Research Coordinator

# SES – History





# Farming of seaweed – from spore to raw material



**Hatchery**

July – Feb.



**Deployment**

Sept. - Feb.



**Harvest**

April - June



**Processing**

April - June





**New sea farm 2022 – 19 ha (500 ton capacity)  
Plus another under construction**





# Processing



Fresh-frozen and blanched-frozen



Cut, grinded or whole leaf



Packing format



## Seaweed – The biomass of the future

**Sustainable:** No feed, fertilizer, pesticides, freshwater or land use

**Scalable:** Major potential for upscaling offshore (billions of tons)

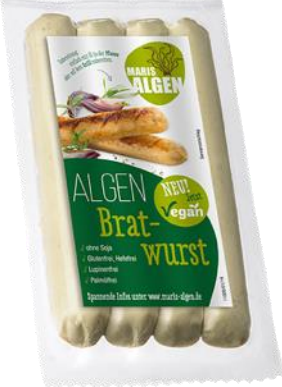
**Increasing demand:** Food, feed, bioplastics, and bioenergy

**Perfect timing:** hitting the mega-trends (climate, health, blue economy)





# A valuable biomass



**Breakthroughs**  
This edible packaging will make you reconsider seaweed



The process of turning seaweed into packaging is still highly manual, so testing ways to scale it is a big part of Ocean Harvest's algorithm.





# Market opportunities

## Food

- Salads, soups, smoothie, herbs
- Snacks
- Vegetarian/vegan
- Salt replacement
- Flavour
- Texturizer



## Specialty chemicals

- Alginate
- Carrageenan
- Agar
- Mannitol
- Cellulose
- Bioplastics
- Fiber and textiles
- Minerals

## Health & nutrition

- Pharmaceuticals
- Nutraceuticals
- Functional food ingredients
- Functional feed ingredients
- Cosmetics
- Plant biostimulants

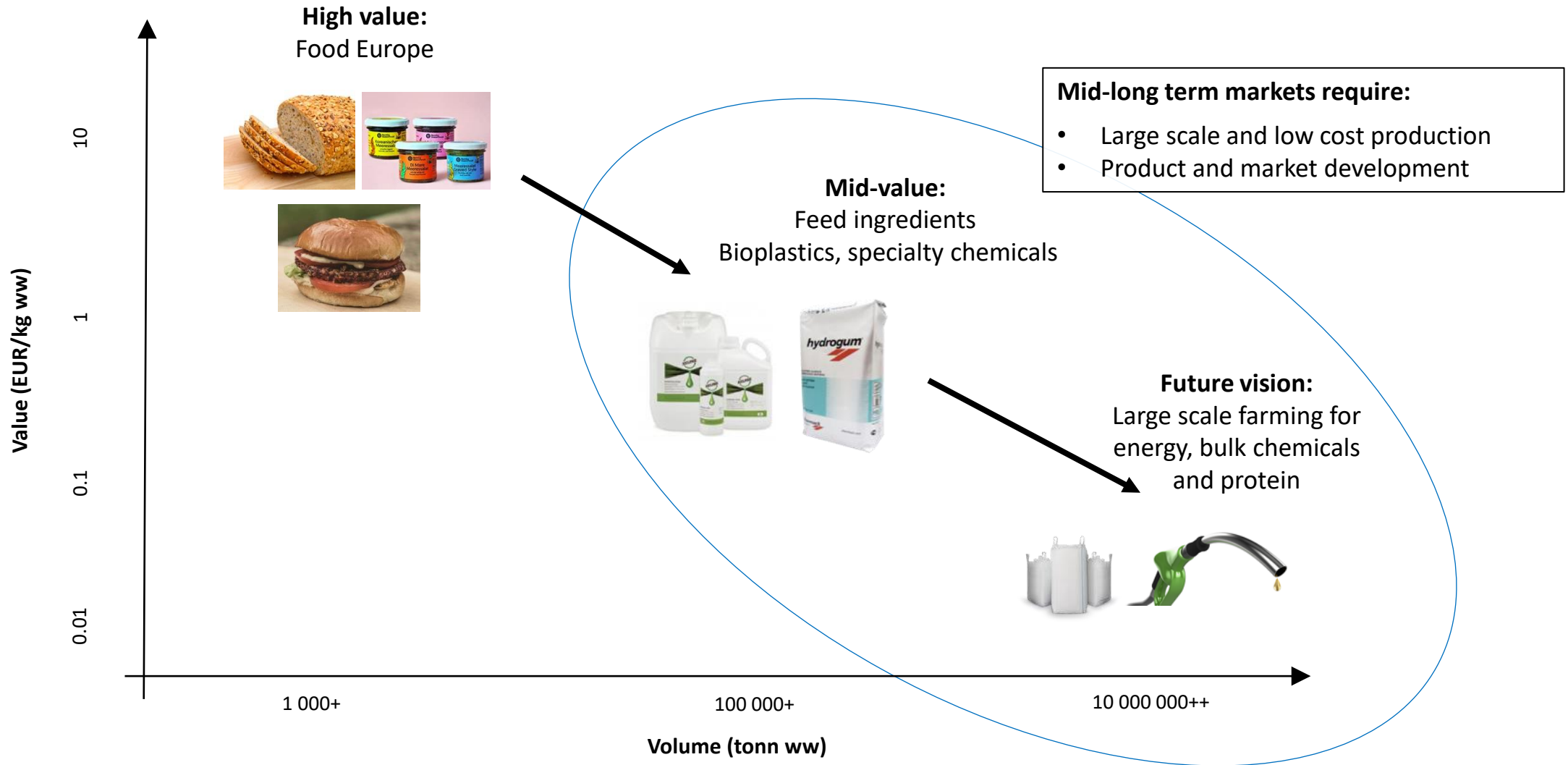


## Industrial commodities

- Biofuels and biogas
- Biochemicals
- Protein
- Fertilizers



# Market roadmap





# Challenges – food safety issues

Challenge	Solution
Iodine	Blanching Species selection Inclusion level Informing/labelling
Heavy metals (cadmium, inorganic arsenic)	Monitoring (analysis) Processing
Allergenes (fish, shellfish, molluscs)	Monitoring (analysis) Reduction (washing, holdtfast removal, sorting) Inclusion level



# European food innovation – a wave of new food products containing seaweed

- ✓ Climate friendly
- ✓ Vegan / plant based
- ✓ Healthy
- ✓ “Clean label”
- ✓ “Natural”
- ✓ Product developed in Estonia:



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Join us in unlocking the potential of seaweed!



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