

**More than fish in the ocean
Or: Seaweed as an answer to almost everything
TANGO Seaweed – 3 years and going strong**

Lise Chapman, TANGO Seaweed
SIG Seaweed Meeting, Trondheim, 27. 11. 2019



Our journey towards...
...a successful business and a healthy planet



TANGO Seaweed AS (since 2016)

2 Founders

- Annelise Chapman, Bjørn Otterlei
- Other investors, shareholders, partners, staff*, volunteers, funders

*currently (2019): 2 permanent 100% staff, 1 technical manager (50%), 8 seasonal staff (app. 3-4 full appointments in total)

Goal

- **Production and sales of seaweeds and related products according to nature's models and principles**
- **R & D and communication / education on commercial seaweed production, incl. natural and resource cycles**

Status

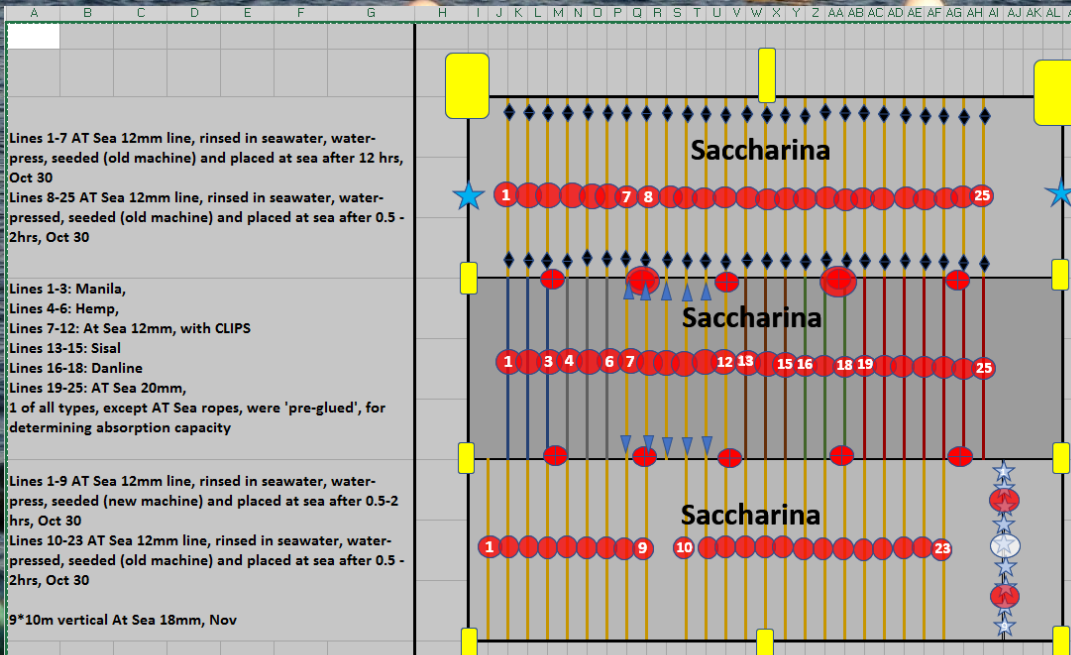
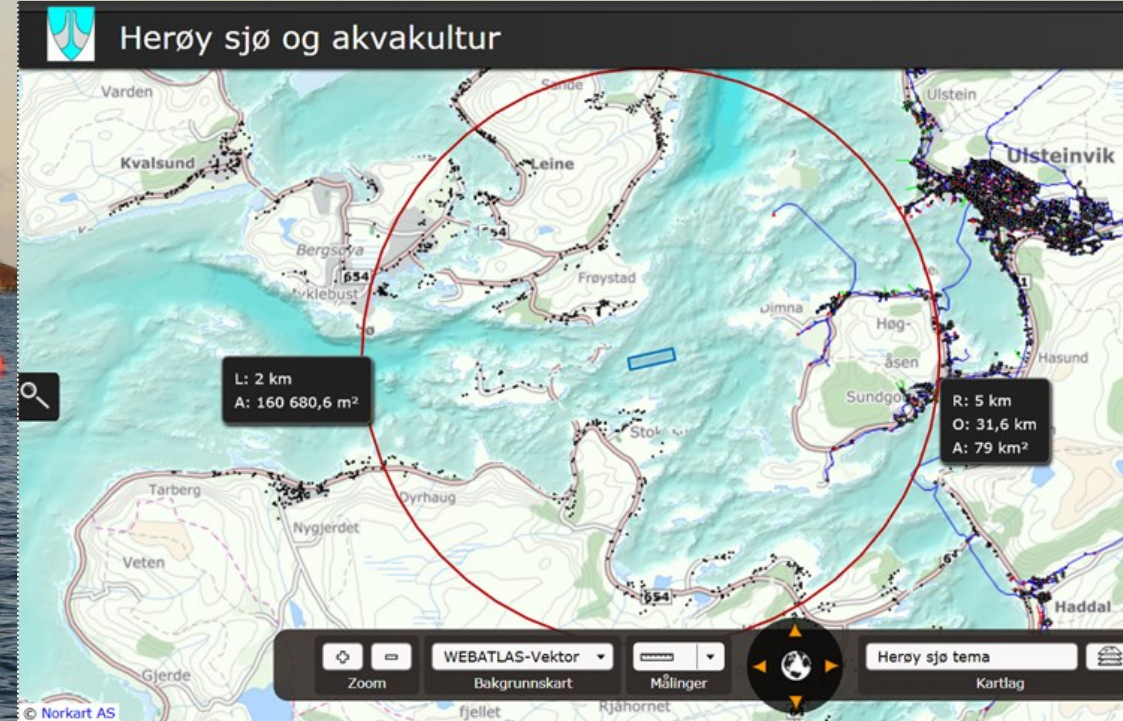
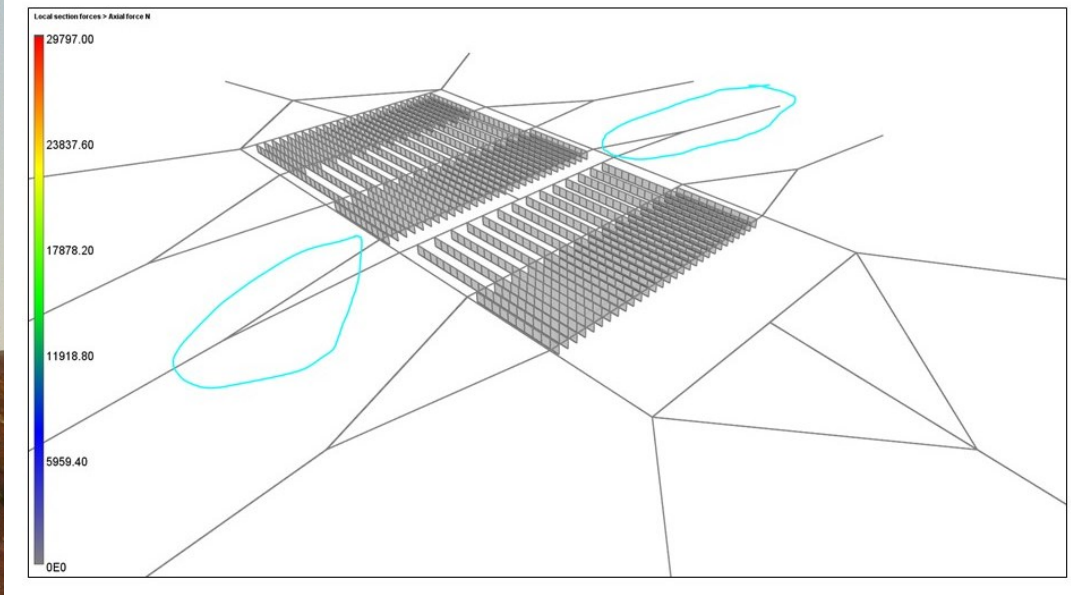
- Two cultivation licenses in Herøy, Western Norway (43ha), pilot-scale operation (2ha) since 2017
- Two production cycles completed, product development and sales ongoing



Strong team and network:



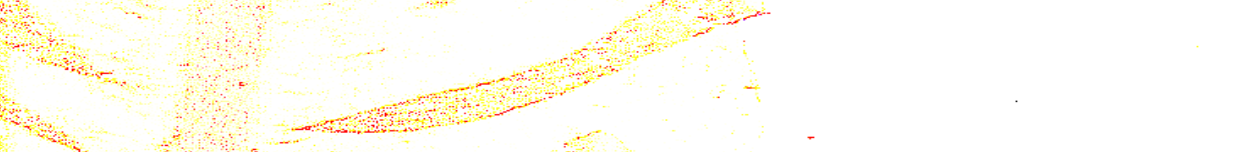
How do we do it?



http://webhotel3.gisline.no/WebInnsyn_Sunnmorskart/Vis/Heroy_sjo_&x=6913314,76953156&y=331950,951377531&srid=32632&zoom=13&

Direct Seeding (*Saccharina latissima* & *Alaria esculenta*) & Deployment





Growth from November to April/May



30.11.



20.12.



12.01.



19.02.



27.03.

Harvesting – manually, taking up entire lines





Air Drying

Drying



Stabilised Raw Material



Business segments

SALES

Stabilised Raw Material - Bulk



Consumer – Retail – Products

First regional, now national markets (organic labelling)



Education, R&D, Communication

Education, R&D, Communication



Business segments

SALES

Stabilised Raw Material - Bulk



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Education, R&D, Communication

Ecosystem Services – CO₂-uptake, nutrient-cycling (water quality improvement), provision of habitat

Business segments

SALES

Stabilised Raw Material - Bulk



Economic viability depends on larger volumes and lower production costs

Main challenge: Reliable and efficient production at sea (quality & quantity):

- Seed quality
- Factors of **uncertainty and variation** include:
 - Physical parameters (temperature, light, nutrients, currents, etc)
 - **Biological parameters (species interactions, fouling, competition, overgrowth, parasites, disease)**
- Technical challenges (mechanisation etc)

➡ Scalability not yet possible (economically viable and ecologically safe)

Business segments

SALES

Consumer – Retail - Product



Economic viability is (almost) independent of raw material production volumes

Main challenge: Logistics & Distribution

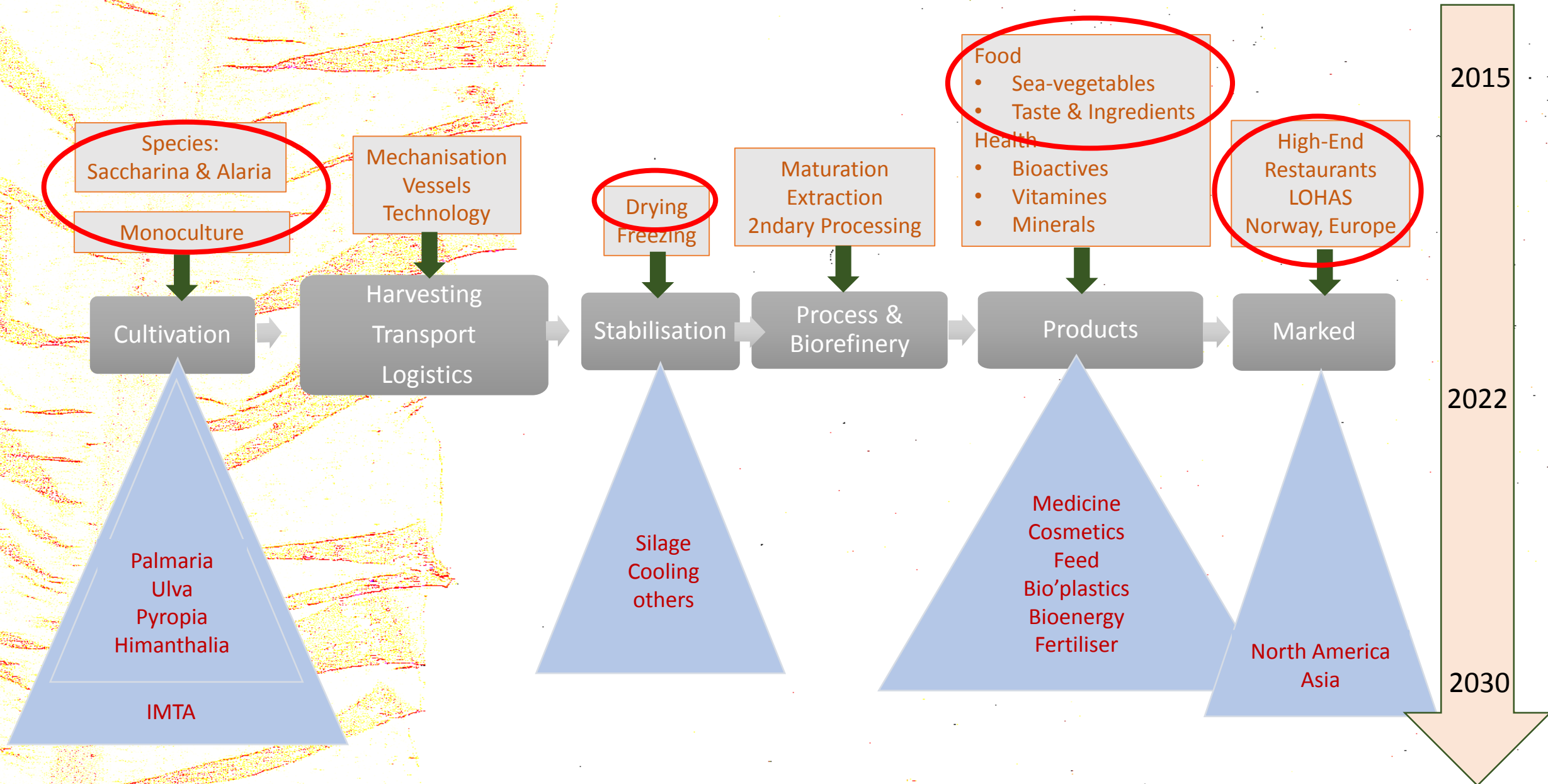
Advantages:

- Little raw material necessary to achieve value creation / margins
- Promoting diversity and opportunities
- Tool for communication
- Preparation of bulk market
- Communication and Brand Development – telling our story



Scalability is possible

Value creation through diversification





Thank you for your attention
www.tangoseaweed.no