

AUTOMATED SEEDLING STRING SPINNER

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Seedling spinning

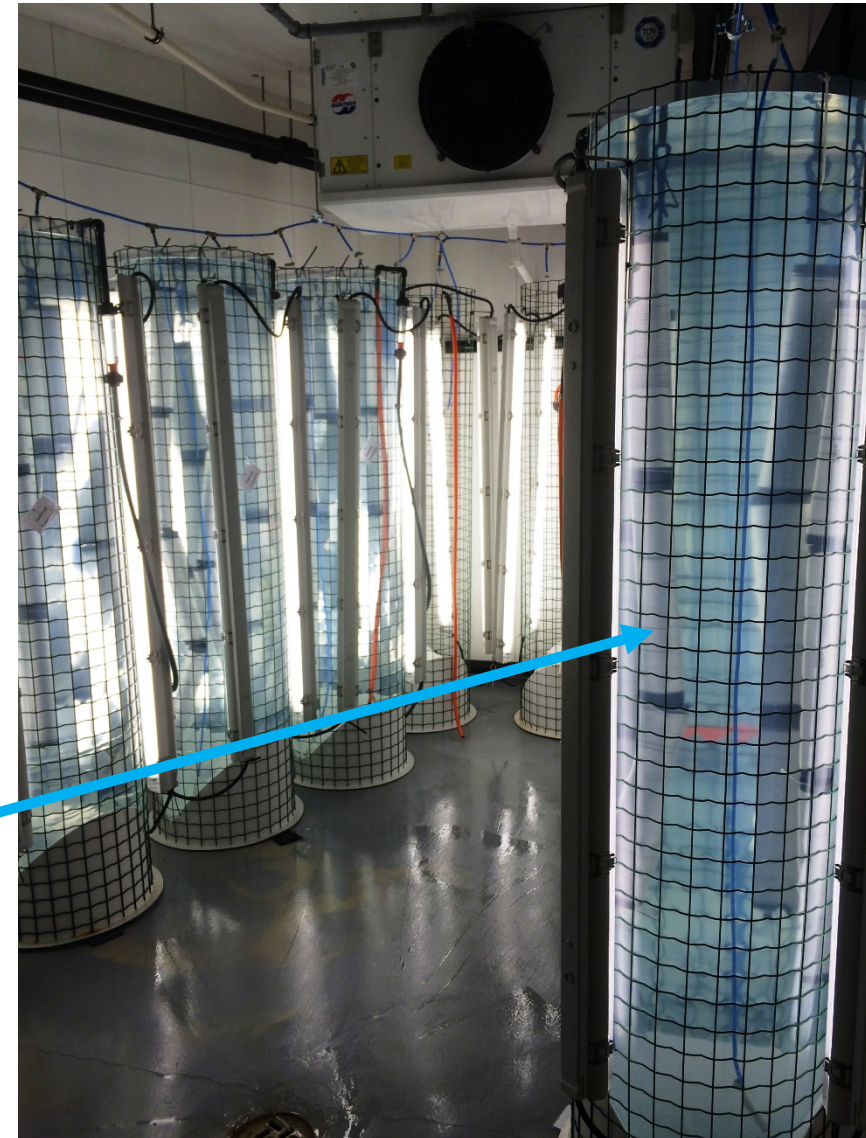
PROBLEM:

- Seedlings are grown in lab for deployment at sea
- Substrate is typically a thin string which needs reinforcement
- Seedling string is spun tight to a carrier rope initial to deployment
- Seedlings attach to the carrier in correlation with growth

Spinning of string to ropes has been a bottleneck and demanded a lot of time and manpower

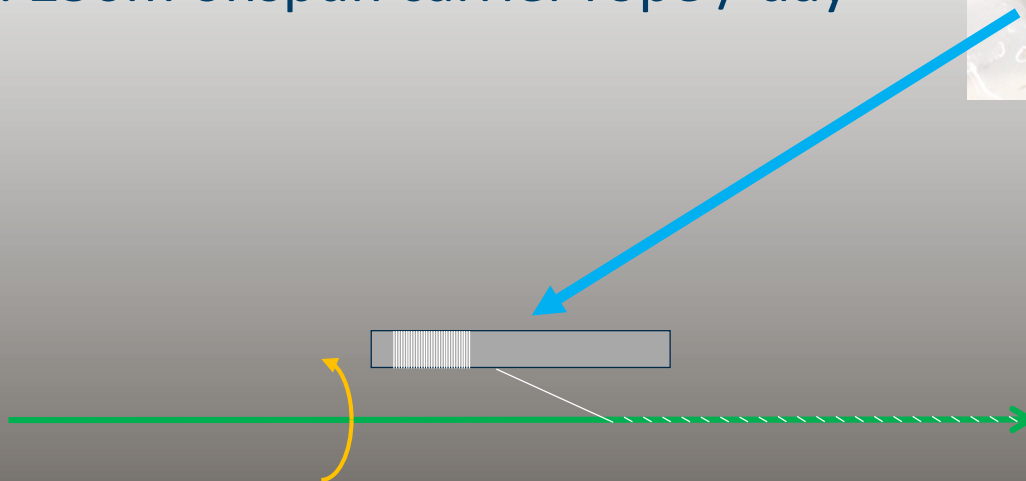
Lab

- Seedling string is spun on plastic cylinders
- These are bathed in spore-culture of the specific algae species and placed in growing cylinders for min. 4 weeks



Spinning

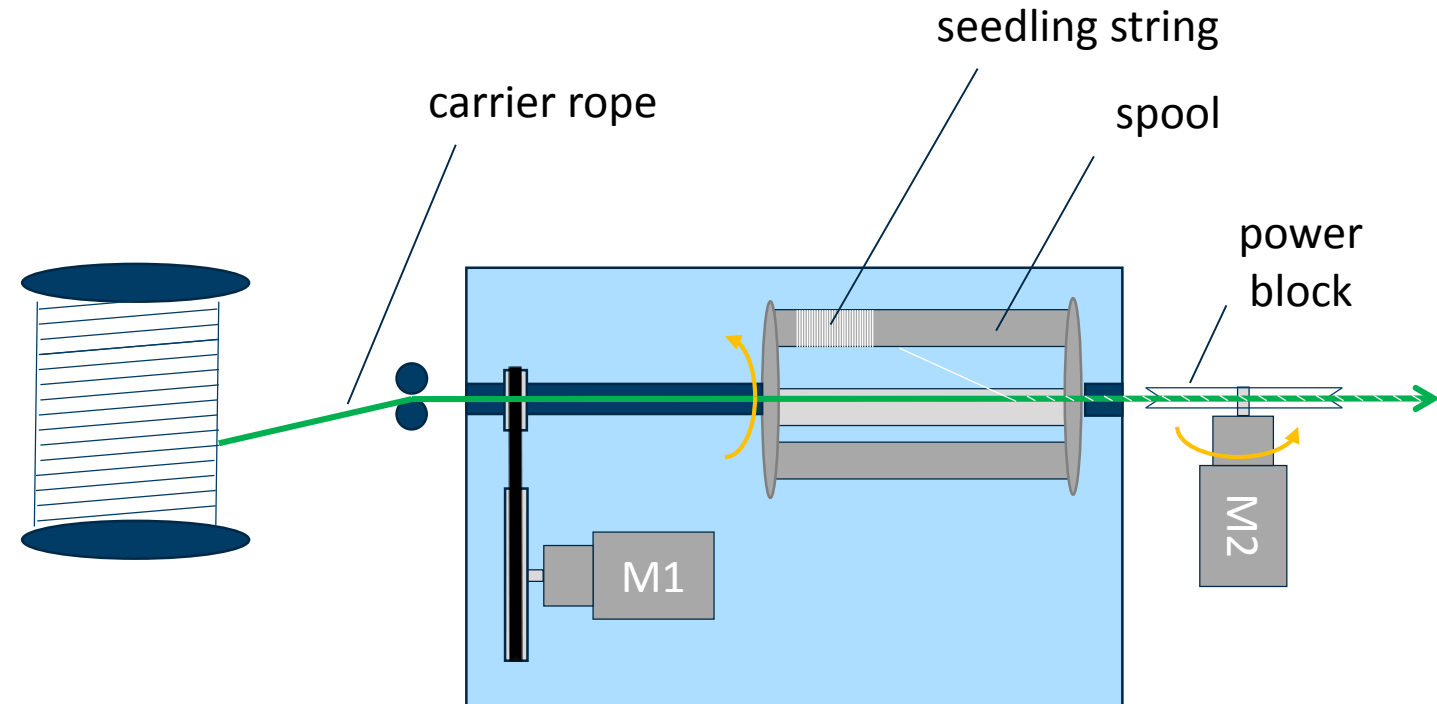
- The overgrown string must be spun around a carrier before deployment
- Everything must be kept moist
- This was solved manually before, at a rate of app. 250m onspun carrier rope / day



The spinner

Automation necessary:

- Started as a summer job for cybernetics students
- Further developed at SO
- Spools with seedlings are placed in a revolving magazine
- The magazine is rotating around the carrier rope



The prototype of today produces app. 2500m onspun carrying rope per day: A 10-time increase in efficiency

The spinner



- Form factor: Fits on a Euro pallet
- Ships to field on a trailer or by boat

From fieldwork



The machine is under further development at M-Tech, Trondheim



Technology for a better society