Data harvesting on fishing vessels

1) Data measurement on board fishing vessels
   Eirik Starheim Svendsen, SINTEF Ocean

2) Energy efficiency of fishing fleet – available data and methods
   Sepideh Jafarzadeh, SINTEF Ocean

3) Possibilities of data harvesting
   Martin og Eirik, BlueCTRL

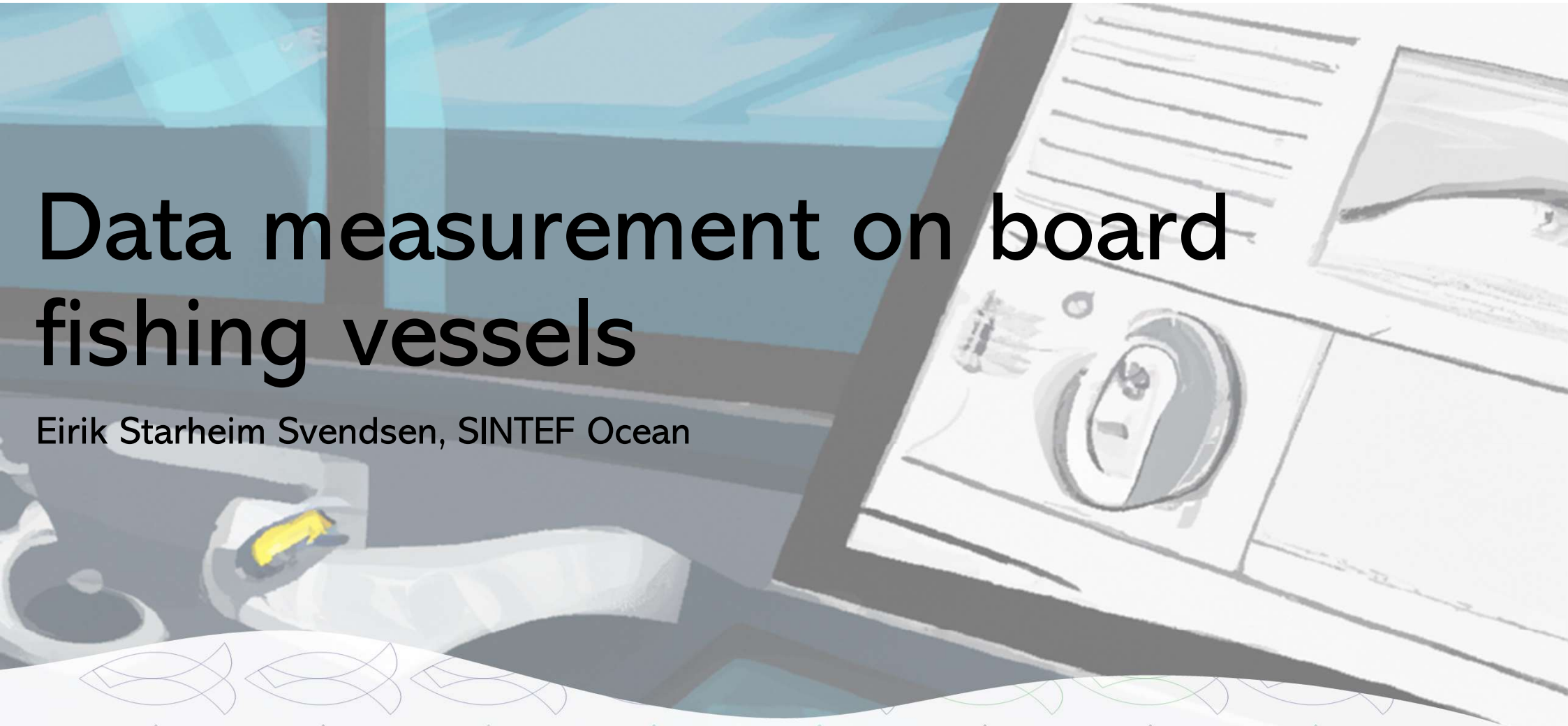
4) Fremtiden for fiskeriene
   Egil Sørheim, Selvåg Senior/Sørheim Holding

CoolFish meeting September 2022
Ålesund, 13/9-2022

CoolFish

Data measurement on board fishing vessels

Eirik Starheim Svendsen, SINTEF Ocean



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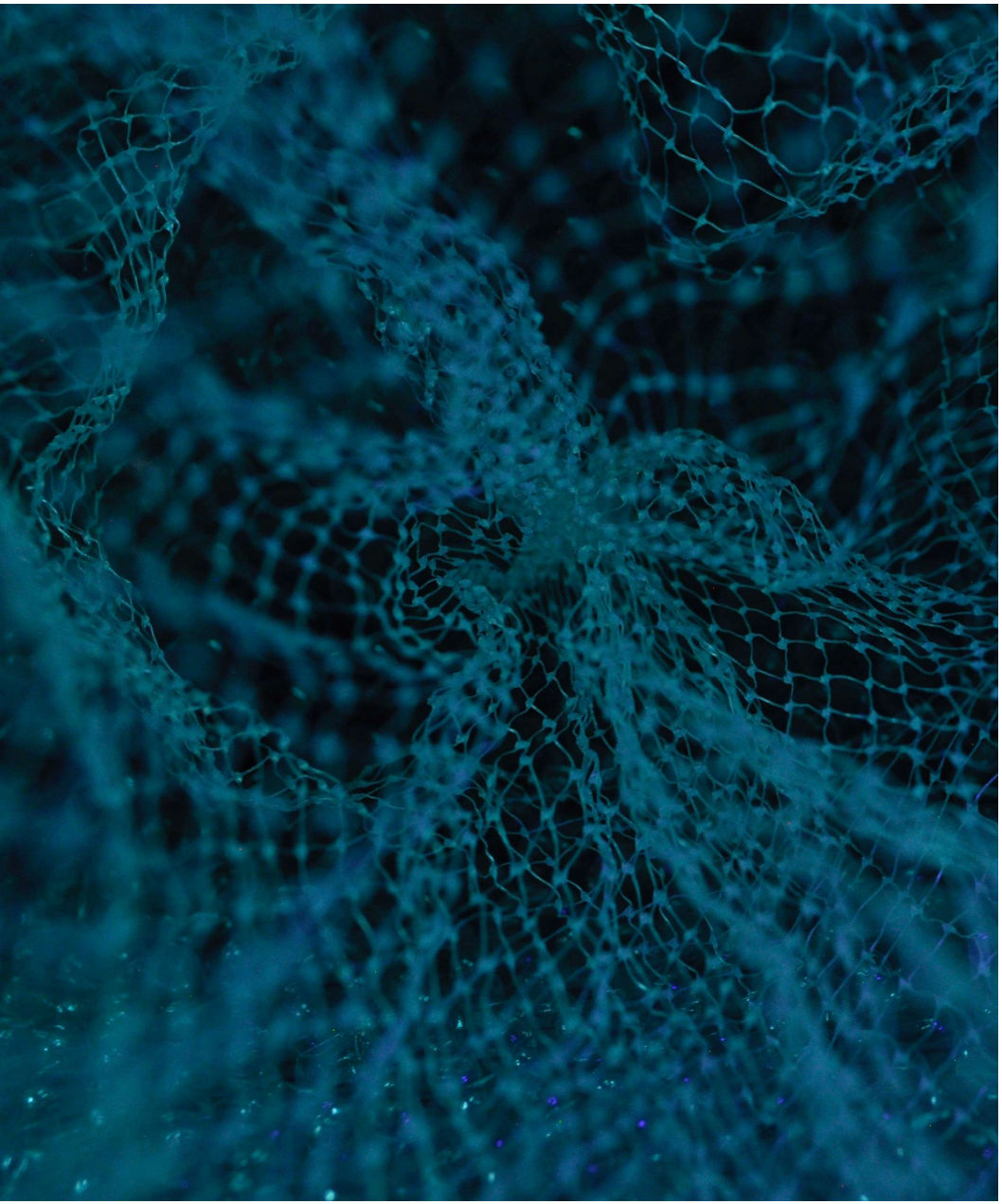


Outline

- Introduction
- Valuable use
- Examples
- Data collection within CoolFish
  - Selvåg Senior
  - Ishavet

Introduction

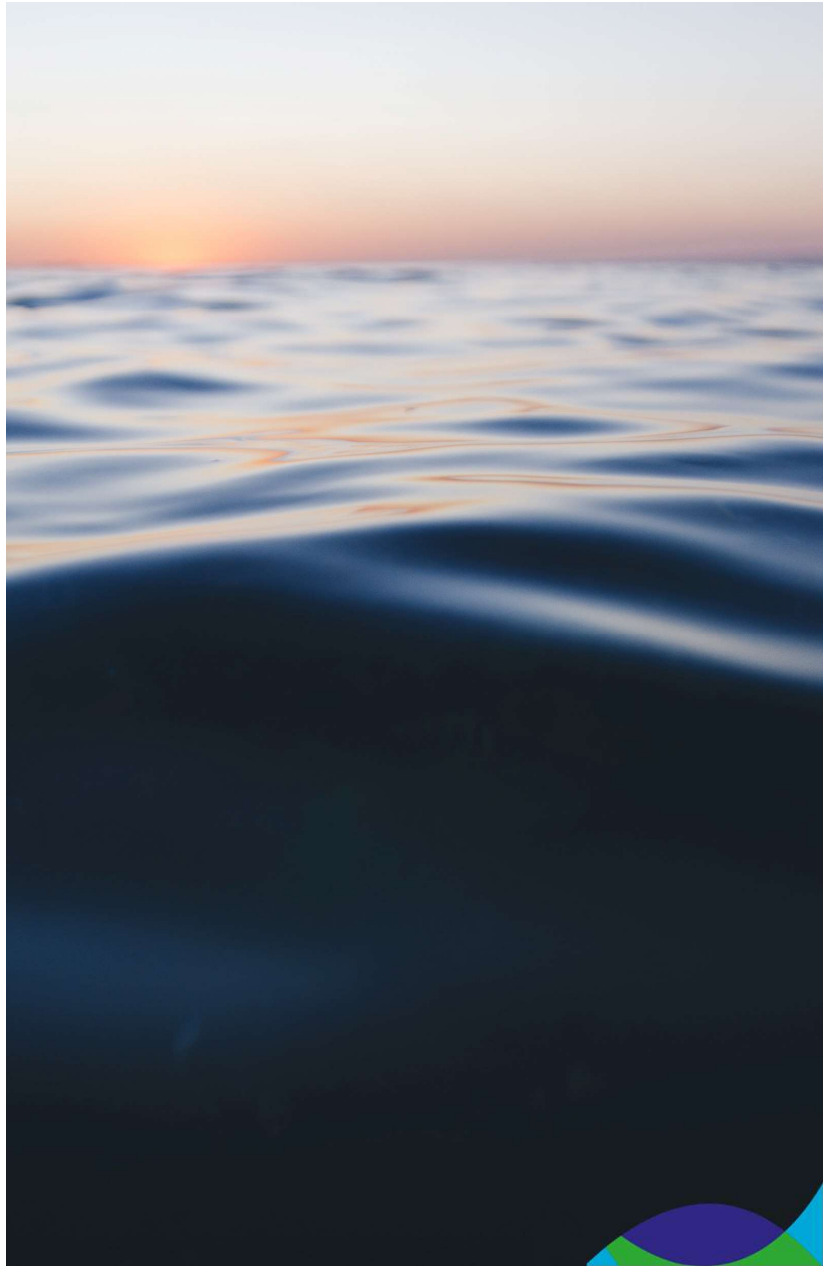
- Onboard systems: IAS, VMS, AIS, Refrigeration systems, Catch diary etc.
- External: Sales data, Fishery catch data, weather forecasts etc.
- Informal: Gut feeling, experience, paper records, spreadsheets

Data harvesting is gathering data from different sources, making sense out of it and putting it to valuable use

- Historical analyses
- Real time analyses
- Machine Learning, AI
- Data modelling
- Instinct

Valuable use

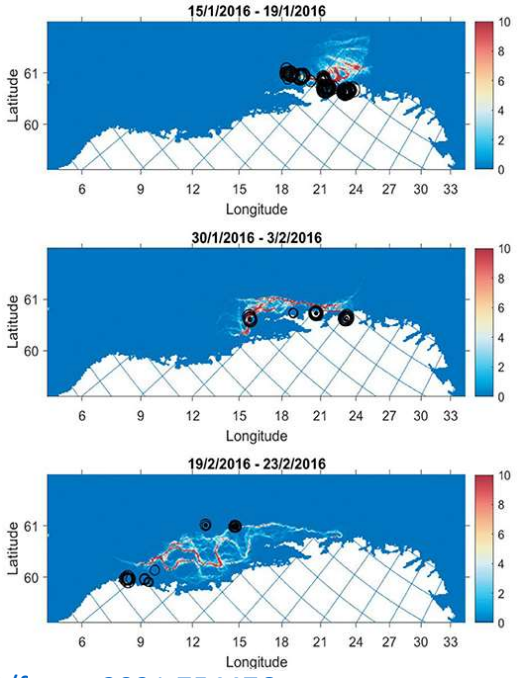
- Monitoring health of systems -> predictive maintenance, fault detection, prevent failures
- Measuring effect of e.g. energy efficiency efforts, fishing strategies, govermental support schemes etc.
- Operational decision support systems -> predict fish location, sailing advice
- Fish stock management



Examples

FishGuider

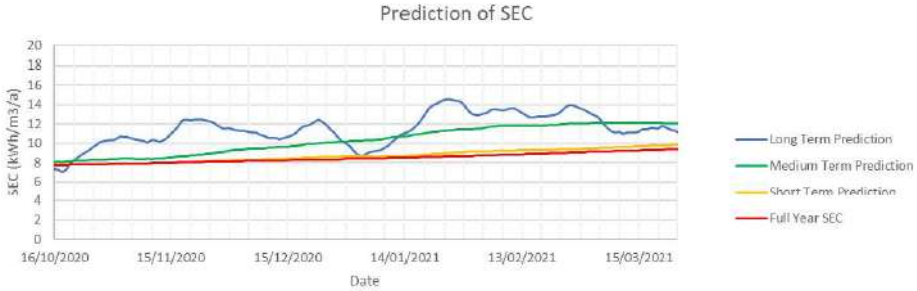
Takes catch data, observations from fleet and SINMOD data as input to a migration model for herring iot predict where the fish will be



https://doi.org/10.3389/fmars.2021.754476

SEC prediction for cold storages

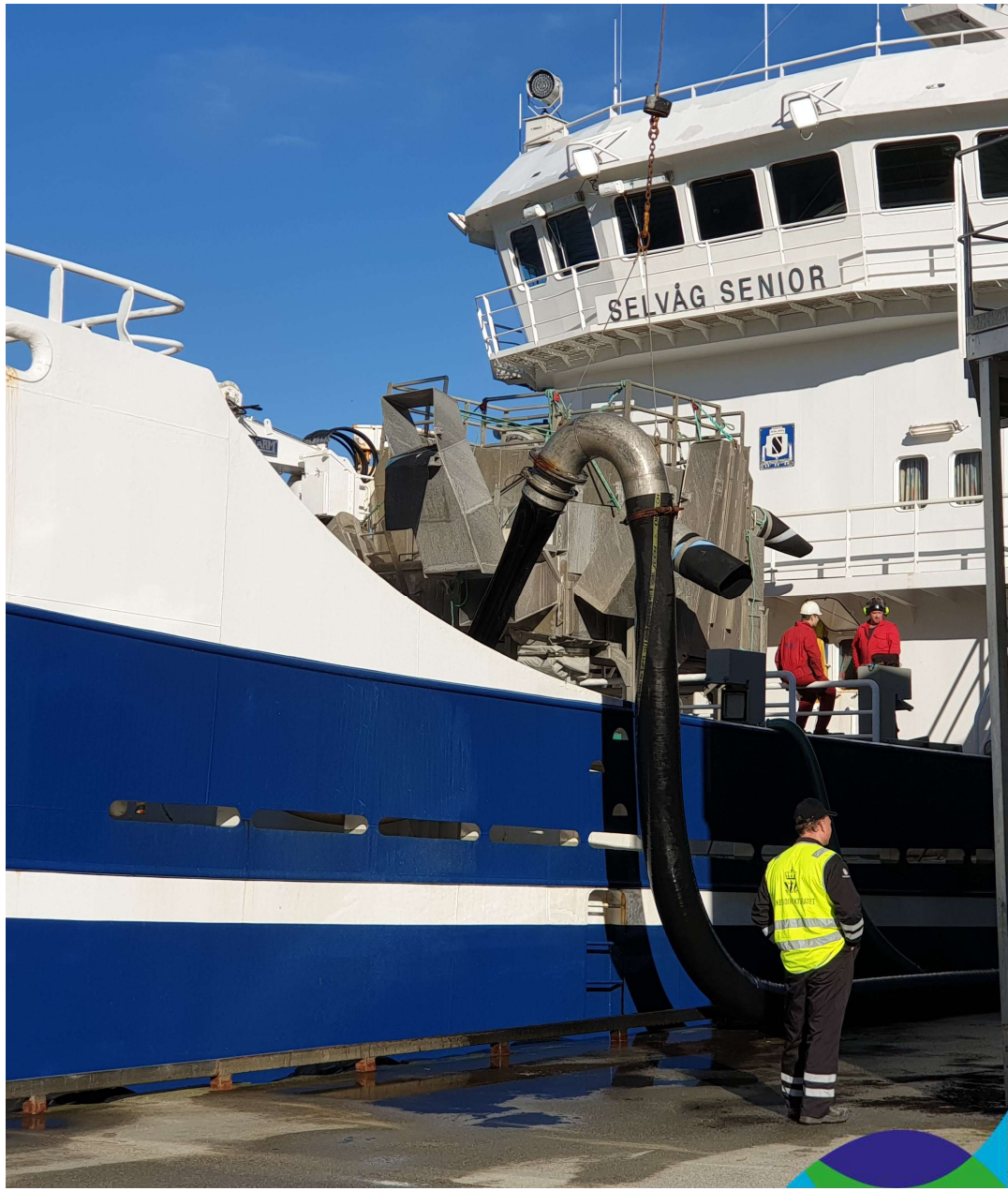
Using daily SEC data to predict full-year SEC with different timeframes; useful for diagnostics and/or measuring effect of changes



https://doi.org/10.18462/iir.nh3-co2.2021.0001

Data collection on Selvåg Senior

- Research cruise on purse seiner Selvåg Senior was carried out autumn 2020
- Purpose of cruise was to gain knowledge of when thermal energy demands occur, and performance of RSW system, with respect to different stages of fishing trip



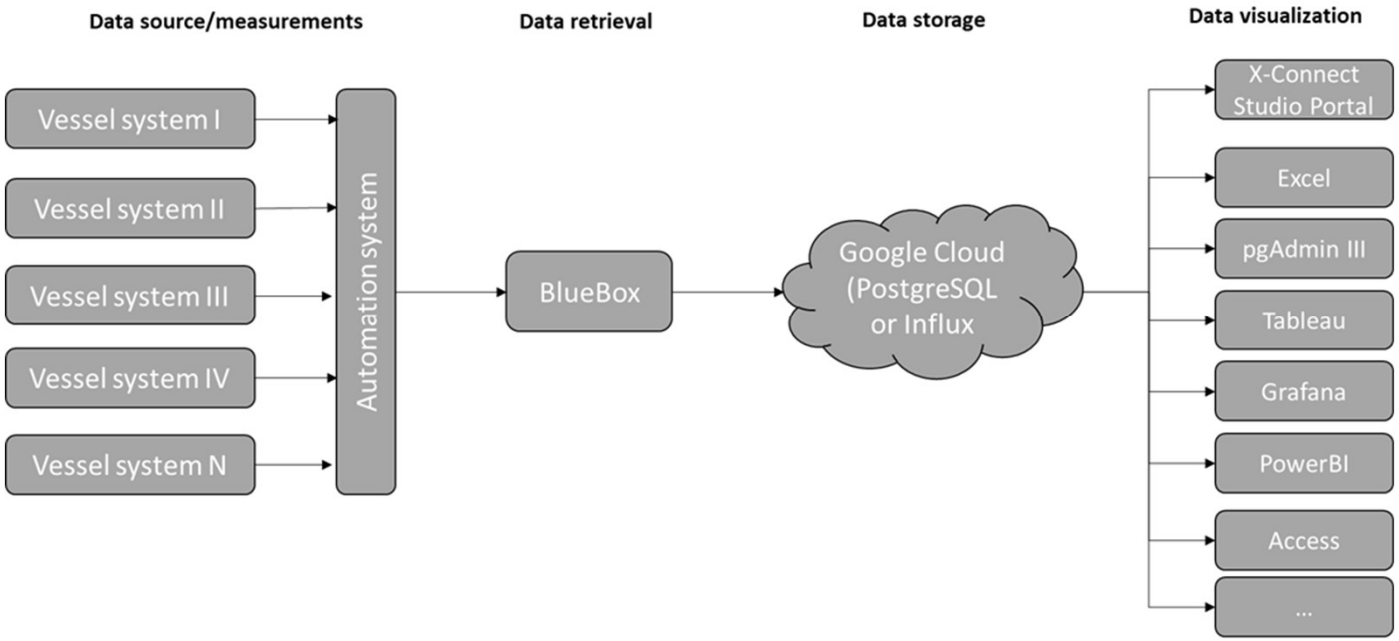
Challenges & lessons learned

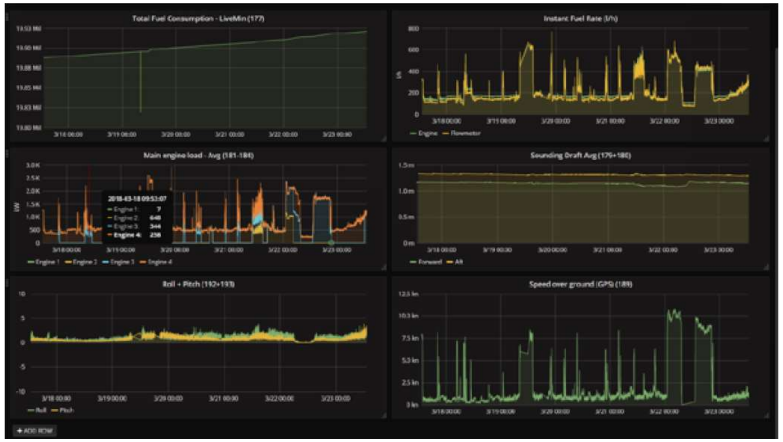
- RSW system was lacking loggers
- Data from RSW system:
  - Stored locally
  - Overwrite rule
- Manual logging of fuel consumption
- Timeline diary for keeping track of different stages

Data collection on Ishavet

- Purpose: same as with Selvåg Senior, but this time on a trawler
- Research cruise to be carried out in short time – without researchers on board
- New approach on data collection – Bluebox system

Data collection on Ishavet





Thank you