

# MindSphere

## Open Space Challenge

### Case Specification

#### Company

BAADER Food Processing Machinery

#### Company Details

<b>Industry</b>	Food Processing
<b>Size (empl. / turnover)</b>	approx. 1,200 employees worldwide
<b>Main Products, Innovations</b>	Fish and poultry processing machines. Baader machines are the only ones worldwide capable of processing fish whilst travelling.
<b>Customer structure</b>	Worldwide, from small businesses to food industry corporations.

#### Case Title

IoT on Sea

#### User Story

As a captain I would like to know more information about the catch.

As a catch manager of a fishing fleet I would like to have more details on the vessel, the catch and the products before the ships are back in the harbour.

## Problem Description

### Initial Situation:

- Deep-sea trawlers travel for months on the Atlantic and the Pacific Ocean, predominantly catching whiting (e.g. codfish, pollack, ...).
- Baader machines on board kill and decapitate the fish and put them on ice to keep the fish fresh and in top quality.
- In terms of onshore criteria (internet, landlines, smartphones, social media), e-communication between the ships and the catch management on shore is non-existent. There are – very expensive – satellite connections and shortwave radios available, which are mandatory for all deep-sea ships.
- Depending on the fishing grounds there is more or less by-catch. By-catch, which is either bought by the customers or dumped back into the sea.

### The Captain:

The captain has to decide single-handedly, if enough was caught and which fishing grounds might yield the right type / amount of fish to satisfy the market / order. At his/her disposal are the usual technologies, such as fish finders (sonar directly beneath the vessel), weather forecast, etc.

### The Catch Manager:

The onshore catch manager collects the catch data of all ships and offers the entire catch to the customer, as soon as the ships are on the way back, or the ships have been lightened respectively. In addition, the catch manager can see the ships' positions on a world map and choose a certain ship to have the ship's data displayed.

## Technical Provision

### Type of machinery / plants?

Slaughtering and filleting machines for whiting (cod, pollack, etc.)

### Data availability?

Data are sent to an onshore station via shortwave radio, and from there to MindSphere. Onboard: Protocol actor for the vessel's data, and protocol for the production data. Both data records go into the transmission box to be transmitted with approx. 1KB / s user data volume.

## Questions?

### MindSphere Forum

<https://www.mindsphere.io/community/>