Sea ice detection and characterisation for safer maritime transport

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Partners:

What

Sea-ice detection and characterisation system to detect navigable ice classes

Status

- Hardware developed
- Software in development
- Ready for field trials

Impact

- Better fuel economy
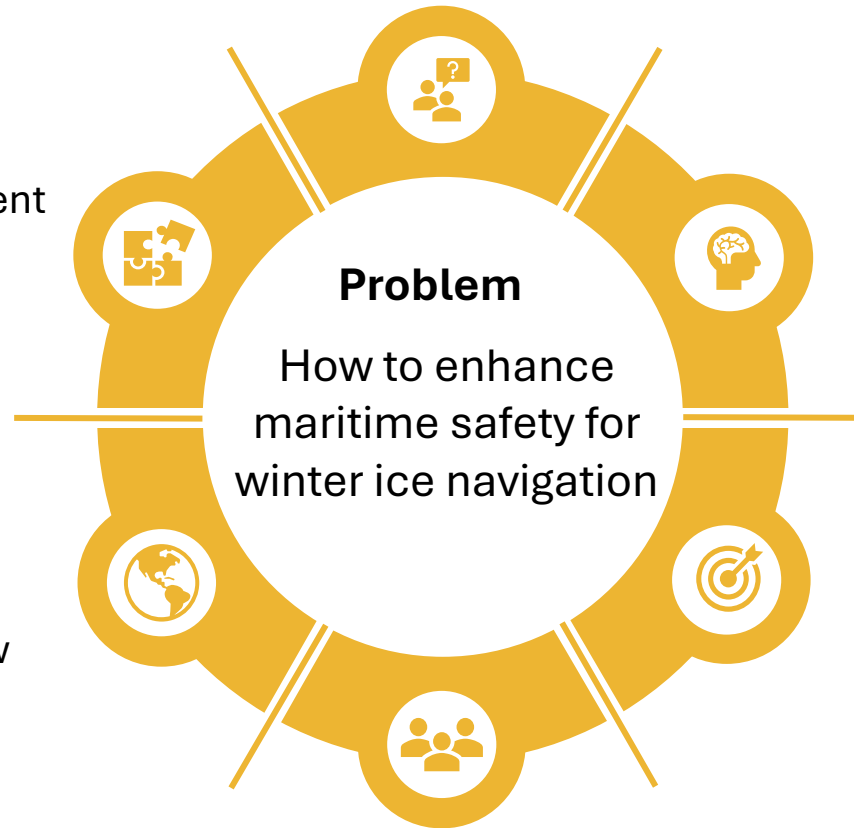- Less workload for crew
- Less incidents

How

- Far-field: Space borne remote sensing
- Near-field: Vessel on-board sensing
- ML models
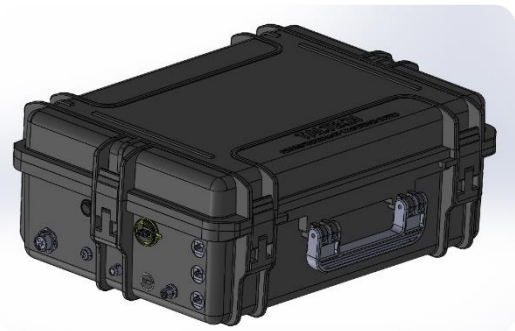- **Novelty:** Combination of far and near-field

Why

- Sat images provide bird's-eye view of the area
- On-board sensing provides a real-time ice status

For whom
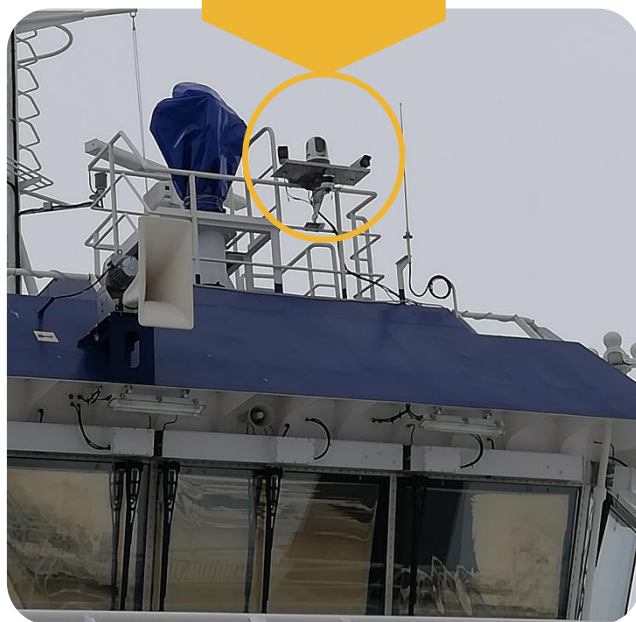
- Cargo / passenger fleet operators
- Ice breakers

Problem

How to enhance maritime safety for winter ice navigation

Portable hardware setup

Camera system on Tõll ferry

Sea-ice detection and classification on-board sensing in action

- Broken ice
- Sky
- Ice free
- Underwater ice
- Level ice
- Ice ridges
- Ice slush/compact
- Non-navigable