MIND for SHIP

never send a man to do a machine's work

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Problem

A HUMAN IS NOT OPTIMAL FOR **ROUTINE MARINE OPERATIONS**

Condition monitoring

Clean and safe harbors

Navigational aid

rivieramm.com

IN 5-10 YEARS, AUTONOMOUS NAVIGATION CAPABILITIES ARE EXPECTED **TO BECOME A STANDARD**
(*a quote from shipyard's R&D manager*)

Vision

REPLACE A HUMAN WITH MACHINE-DRIVEN SITUATIONAL AWARENESS & FUNCTIONALITY

END USER

Data, Customer, Fleet management center

ARTIFICIAL CAPTAIN

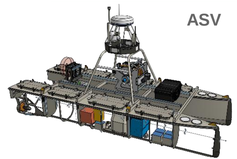
CLOUD SERVICES

- Digital Twin
- Weather Data
- Third party data services
- Predictive maintenance

- Situational awareness
- GNSS
- Weather station
- Radar
- Lidar
- Cameras

APPLICATIONS

ASV



Conventional ships

Artificial captain

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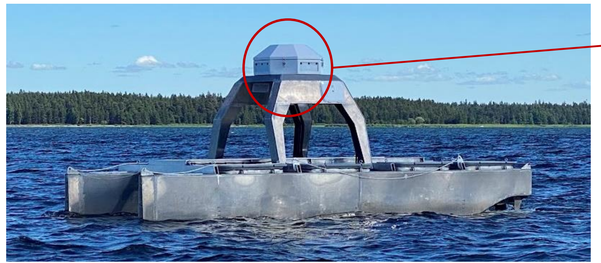
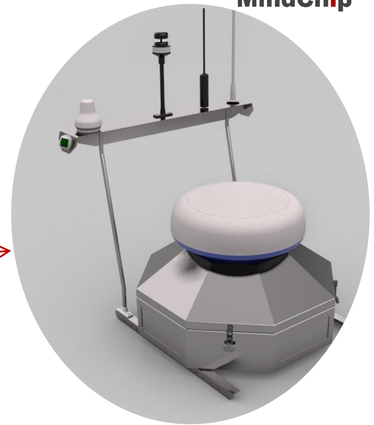
- eyes & brain of the vessel
- stand-alone hardware & software assembly
- scalable for other vessels





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Market

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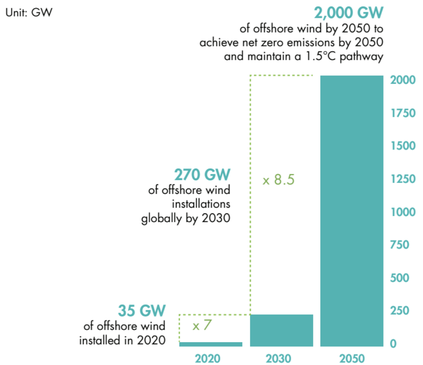
Closing the offshore wind gap by 2050

Unit: GW

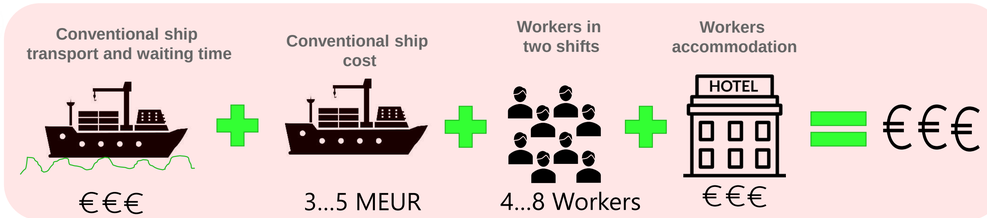


Source: GWEC Market Intelligence; IRENA World Energy Transitions Outlook 2021.

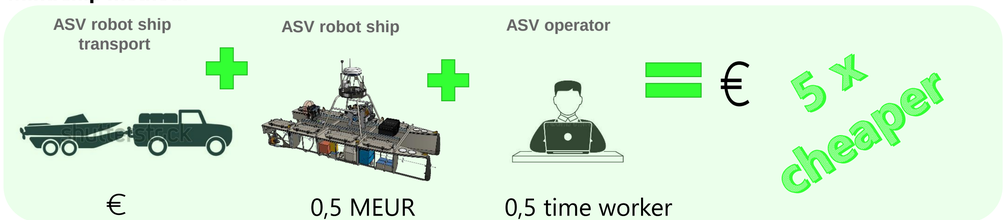
Maritime infrastructure is booming!

Usecase: autonomous ship for bathymetry

Conventional method:



MindChip method:



Technlogy

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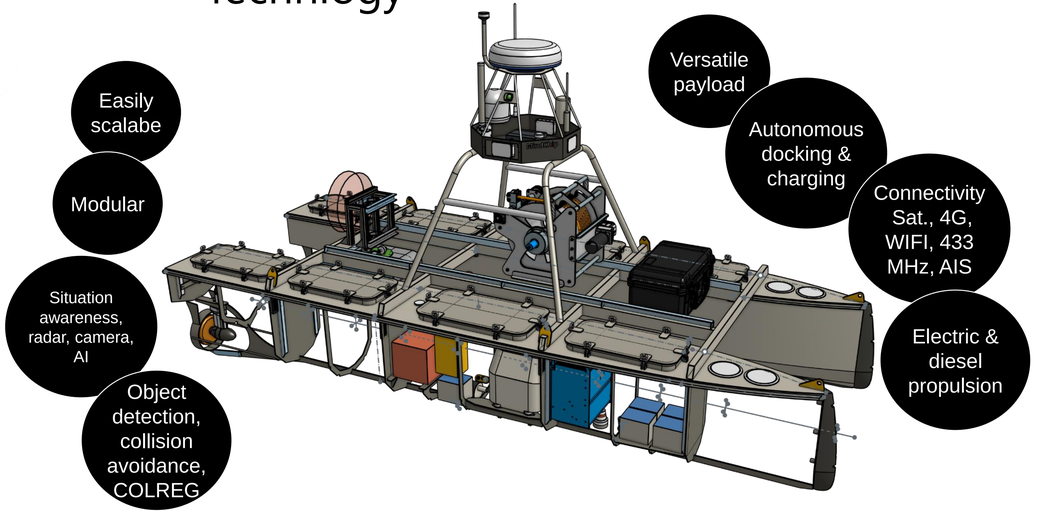
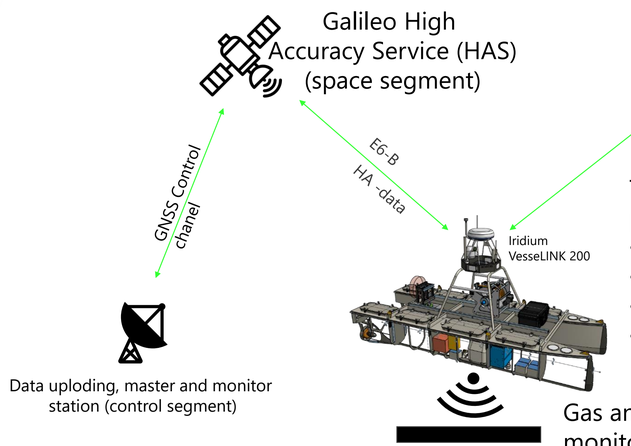


High precision measurements on open sea



The robot ship needs accurate position for various tasks:

- Port operations
- Port bathymetry
- Offshore bathymetry
- Dynamic positioning for electric cable and gas pipline monitoring

Combining EO data with on site measurement

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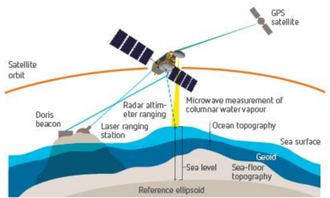
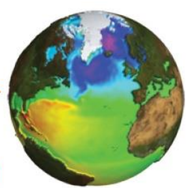
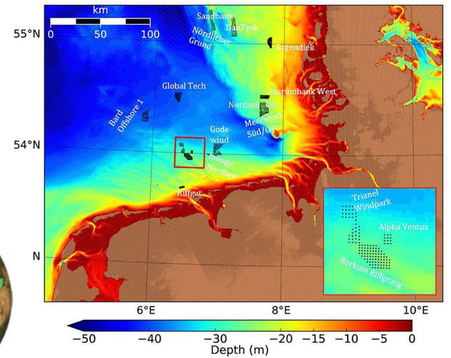
Satellite Derived Bathymetry

Satellite-Derived Bathymetry (SDB) is the most recently developed method of surveying shallow waters. In contrast to other survey methods, it requires no mobilisation of persons or equipment, provides rapid access to bathymetric data and saves costs. Satellite-Derived Bathymetry makes operations in shallow water more effective and reduces project risks.







Link: https://www.researchgate.net/figure/Bathymetry-of-the-German-Bight-with-the-locations-of-the-major-offshore-wind-parks-dated_fig1_326141216

Traction of clients

Grant

OPERATIONAL PROTOTYPE (ongoing)

PORT OF TALLINN

Contracted

SITUAT. AWARENESS & NAVIGATION FOR MANNED VESSEL (ongoing)

Baltic Workboats shipyard

Contracted

ASV FOR FISH STOCK MONITORING (ongoing)

TARTU ÜLIKOOL

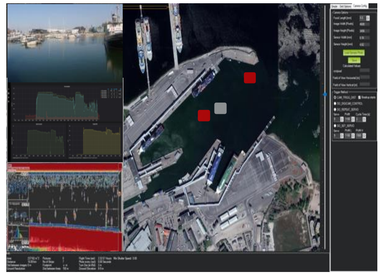
Contracted

WINDFARM PLANNING AND MAINTANANCE

UTILITAS

Contracted

ASV HARBOUR MONITORING VESSEL



PORT OF TALLINN

Pipieline

elering

Enefit Green

sunly

KESKKONNAAMET

EESTI LOOTS

ESTONIAN NAVY EESTI MEREVÄGI

Amber Grid

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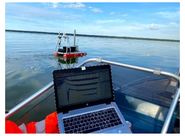
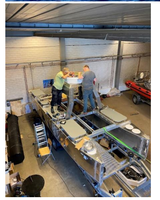
ASV MC2500



ASV MC6000



Artificial captain – Border Guard vessel

Team

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KRISTJAN TABRI, PhD

Head of sales

PIRKO KONSA, BA

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INDREK ROASTO, PhD

Embedded systems developer

TANEL JALAKAS, PhD

Mechatronic systems. Embedded systems

KARL JANSON, PhD

Machine learning

TANEL KERSTNA, MSc

Machine learning
Cloud services

MART ENOK, MSc

CTO

TAAVI MÖLLER, MSc

Web applications, SQL database systems,

Partners

TAL TECH

MEC MARINE ENGINEERING

THANK YOU!

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