Kick-off „Ferry Go!"

Autonomous ferries in the German-Dutch Wadden Sea
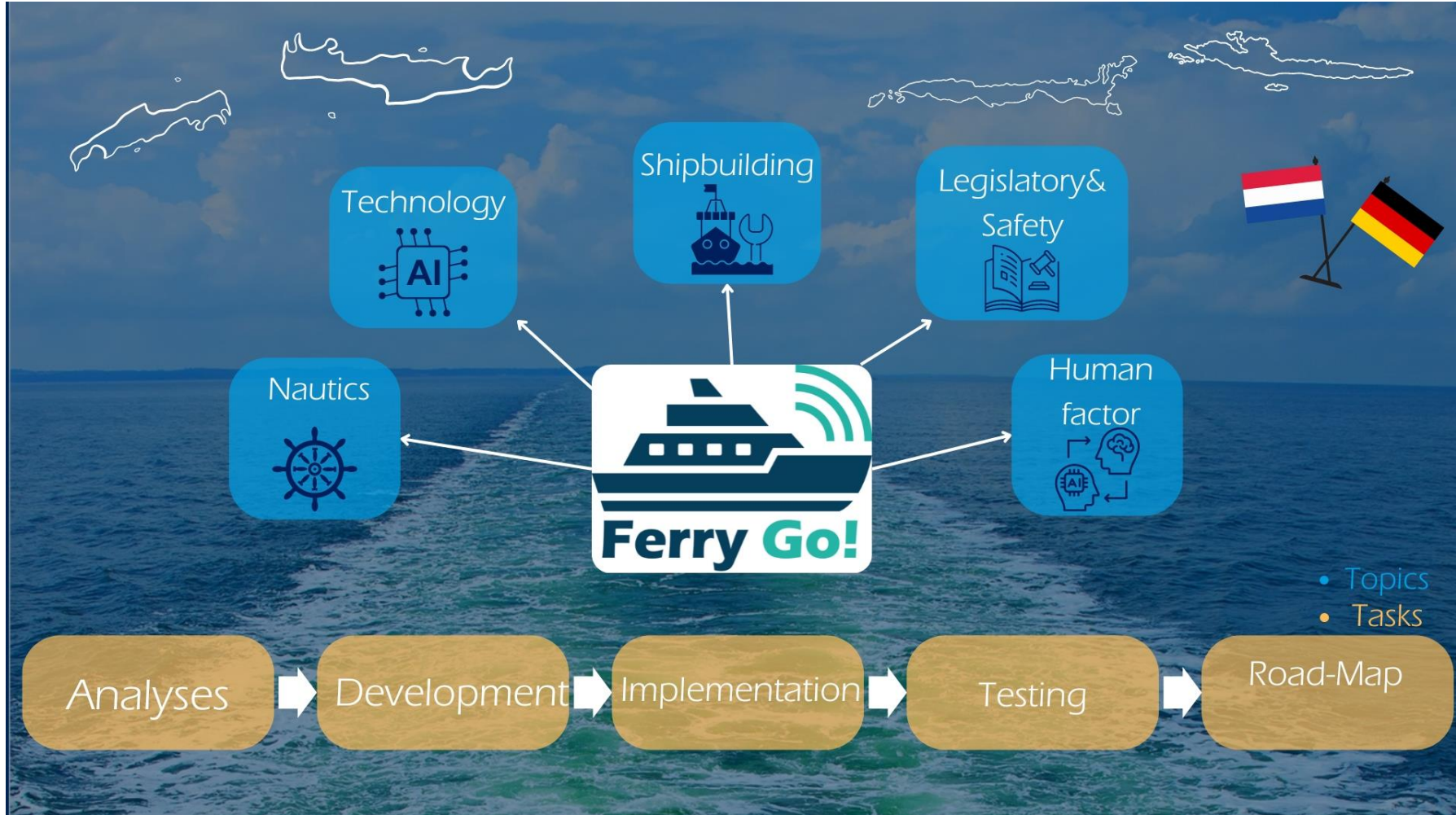
Introduction

Moderated discussions „politics and regulation"

Overview

Katja Baumann, MARIKO GmbH

Leo van der Burg, FME

Ferries in the Wadden Sea

Holger Eilers, AG Reederei Norden-Frisia

Paul Melles, Rederij Doeksen

Our organization

AG REEDEREI NORDEN-FRISIA

- **1871: Founding of the steamship shipping company "Norden"**

- **365d ferry connection from Norddeich to Norderney& Juist**

- **abt. 21.000 departures/ year**

- **abt. 2.6 Mio pax/ year**

- **Ø 200 employees**

- **15 own vessels**
    - **Ferrys**
    - **Cargo ships**
    - **Passenger ships**

Our interest in this project

„AI shipping will become part of green shipping efforts"

- *Increase of Energy Efficiency*

- *Reduction of local Emissions*

- *Increase of ships and shipping safety*

in our trading area „world heritage wadden sea"

– by automized and optimized AI routing and passage planning

Our tasks in this project

- *Providing various data and experience of 150 years ferry business at german part of Wadden Sea to different work package groups.*

- *Enabling „big data"collection for ferry shipping line between Norddeich and Norderney*

- *Discussing social impact of AI in relation with ships crew and passengers*

- *Evaluation of project results to ferry business*

- *Transfering project results to future ships classification and legal rules for autonomous shipping*

Rederij Doeksen

Founded in 1908

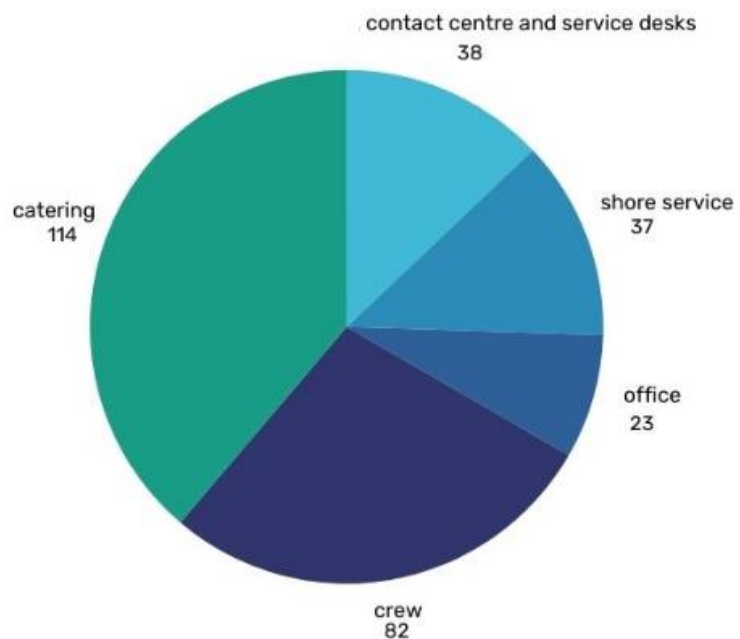- Shelling, salvaging
- Passenger service since 1923
- Safe, clean, fast, efficient

2024

- 180 co-workers TSM and 114 TSM Horeca (catering)
- Fleet: 8 vessels (fast, car ferry, freight, water taxi)
- Concession until 2029

2023

8.001 sailings

261.083 passengers

66.715 vehicles

Customer rating Terschelling 8,2

Customer rating Vlieland 8,4

Complaint rate 0,03%

THIS IS US IN 2023

Number of employees per department (Jan. 2024)

- contact centre and service desks 38
- shore service 37
- office 23
- crew 82
- catering 114

	Total number of departures 8.001	Terschelling car ferry 2.899	Terschelling fast service 2.592	Vlieland car ferry 2.195	Vlieland fast service 315
	Total number of passengers 761.083	Terschelling tourists 450.196	Terschelling islanders 78.283	Vlieland tourists 209.219	Vlieland islanders 23.759
	Total number of vehicles 66.715	Terschelling tourists cars 40.616 / campers 1.807	Terschelling cars islanders 14.318	Vlieland tourists cars 2.425 / campers 76	Vlieland cars islanders 7.473
Failure delay		Terschelling failure excl. force majeure 0,13%	Terschelling delay excl. force majeure 0,47%	Vlieland Failure excl. force majeure 0,00%	Vlieland delay excl. force majeure 0,36%
Customer rating		Terschelling customer rating 8,2	Received complaints service Terschelling 100	Vlieland customer rating 8,4	Received complaints service Vlieland 38

Total 204 complaints is 0,03% of total passengers in 2023

Our interest in the project

- *AI is here and cannot be ignored going forward;*

- *The development of AI in the maritime domain including autonomous applications is growing very rapidly and exponential;*

- *As maritime service provider you have to be in the game,in order to remain competitive.;*

- *AI in the maritime domain brings many useful by-catch in the run-up to autonomous applications, such as route optimization and energy efficiency;*

- *There are challenges with autonomous shipping on the Wadden Sea, but that is precisely why we are extremely motivated to investigate this together with many partners in Ferry Go;*

Our tasks in the project

- Provide input into various work packages on the specific characteristics of the types of vessels and the sailing area of the Dutch part of the Wadden Sea;

- Providing suitable and usable data required for AI related algorithms to create a digital twin;

- Contribute to working groups to map the local social and economic effects of Autonomous Shipping;

- Contribute to the ultimate result of a self-propelled test vessel on our routes;

- Providing key input to all European maritime efforts to take autonomous shipping to the next level;

Technological aspects

Theun Prins, YP Your Partner BV

Eddy del Valle, Kaiko Systems GmbH

Our organization

Theun Prins, CEO YP Your Partner BV, Drachten (NL)

Software development specialized on IIoT applications for critical infrastructure, water treatment, climate control, power distribution, logistics and more.

Proud member of the Northern High Tech Innovation cluster (www.icdrachten.nl)

Proud technology sponsor of the Solarboat Racing Team (www.whisperpowersolarteam.nl)

Solarboat Racing Team
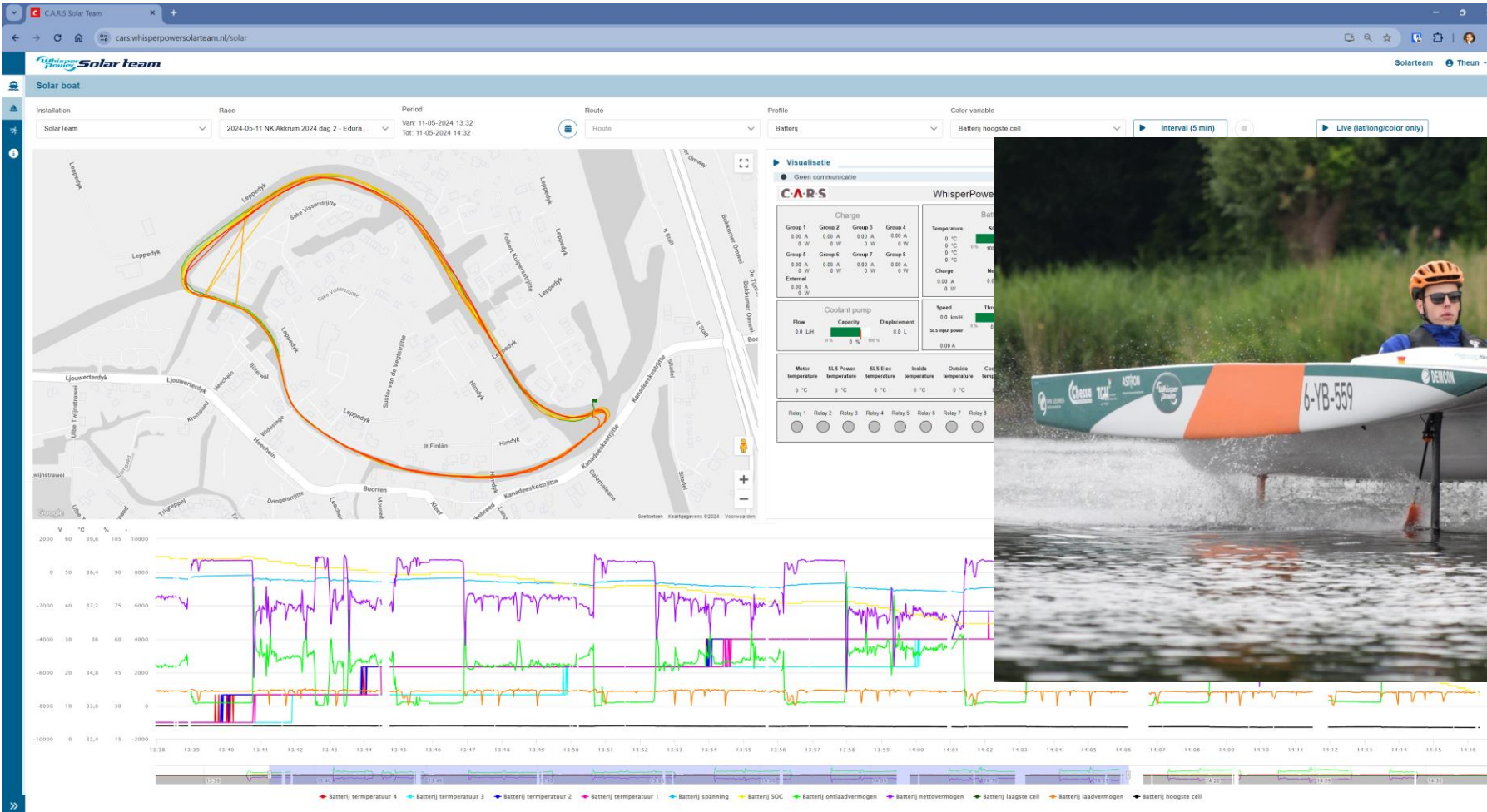
Interest in the project

- Scrubbing the edges of high speed data processing to enable realtime control

- Research the status quo of AI and discovering it's usabillity

- Growing into the maritime sector which is currently undergoing a massive transaction in digitalization

- Contributing in bringing the world forward

What we bring to the table

Hard skills

• Data acquisition

• Data preprocessing

• Data security (ISO 27001 certified)

• Overall system performance

Soft skills

• Eager high tech brain power

• Front runners enthousiasm

Our organisation

Kaiko Systems provides a solution for ship condition management

- Automated workflows

- AI analysis of inspection data

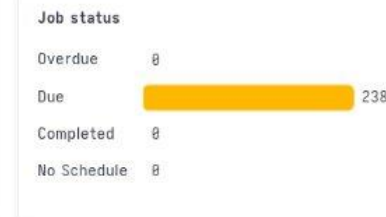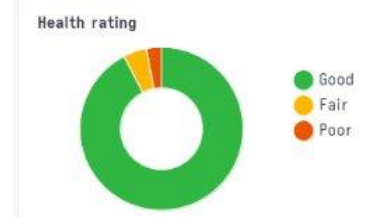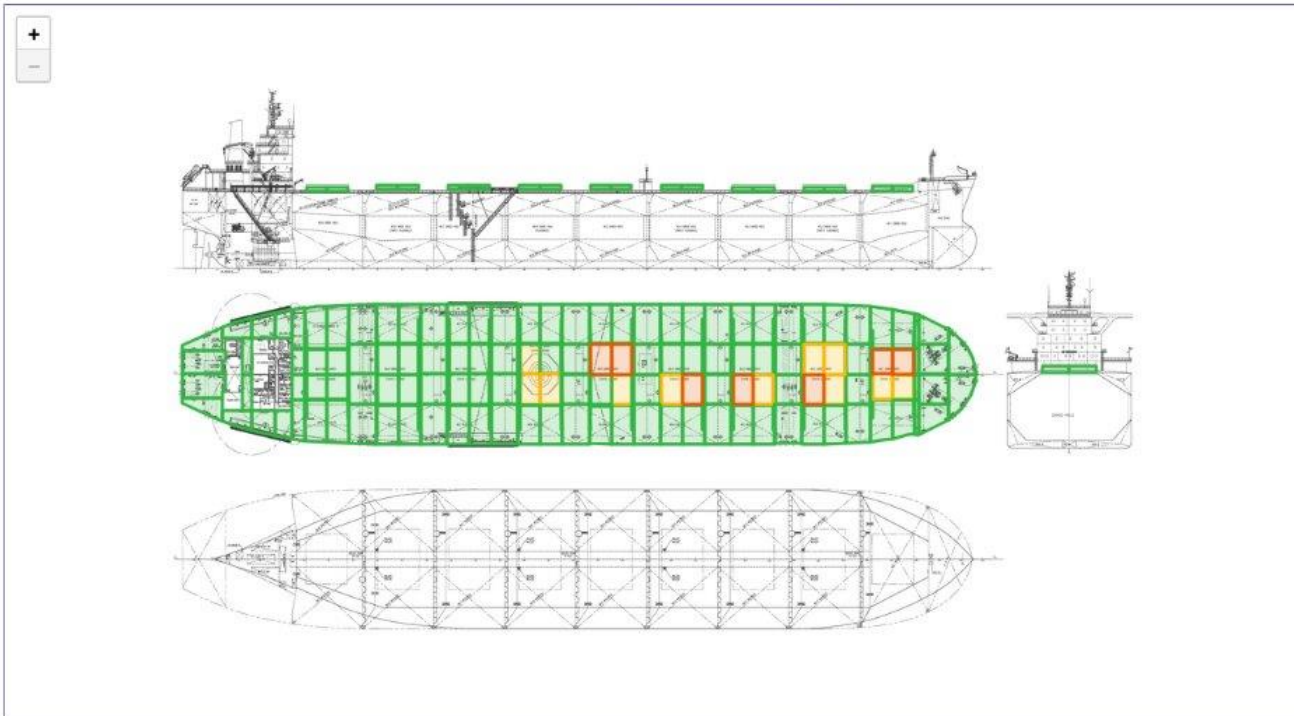- Behavioral analysis of human conducted inspections
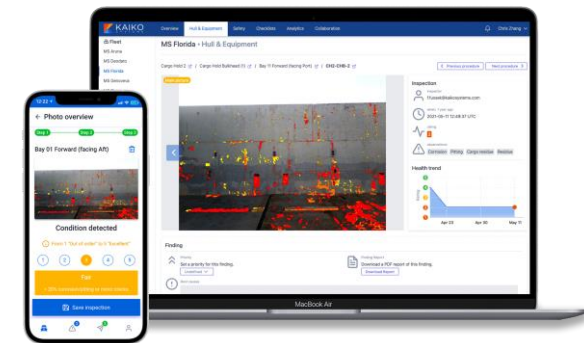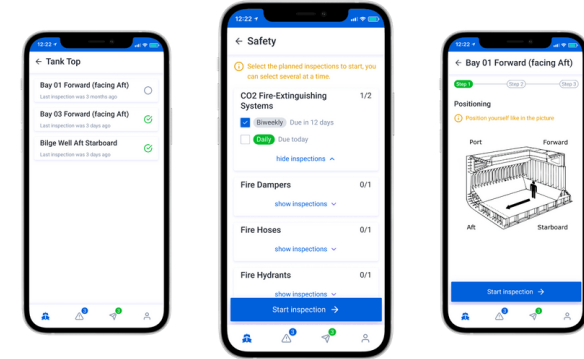
Our organisation

- Full vessel condition overview
- Image enhancements
- Plausibility check
- Corrosion analysis
- Preventive maintenance

Our interest in the project

- Leverage our existing AI expertise.

- Develop reliable offline-operable systems.

- Share experience on autonomous sailing.

- Demonstrate that deep tech has a place in the maritime industry.

Our tasks in the project

- Create a dataset of sailing data with the help of **Your Partner (YP)**.

- Develop the AI models using that dataset to sail autonomously.

- Test those models in simulations with multiple scenarios.

- Deploy the models to the vessel and test them safely in real life.

- Provide a streamlined method to retrofit knowledge into them.

Break

Ferry Go! News

workshop: 24.09.2024 in Leer

Künstliche Intelligenz für Navigation &
Routenplanung in der Schifffahrt

Registration & further info:

Project updates:

www.ferrygo.eu

Ferry Go! Partners

Ship design and engineering

Pieter Dibbits, Kroes Marine Projects

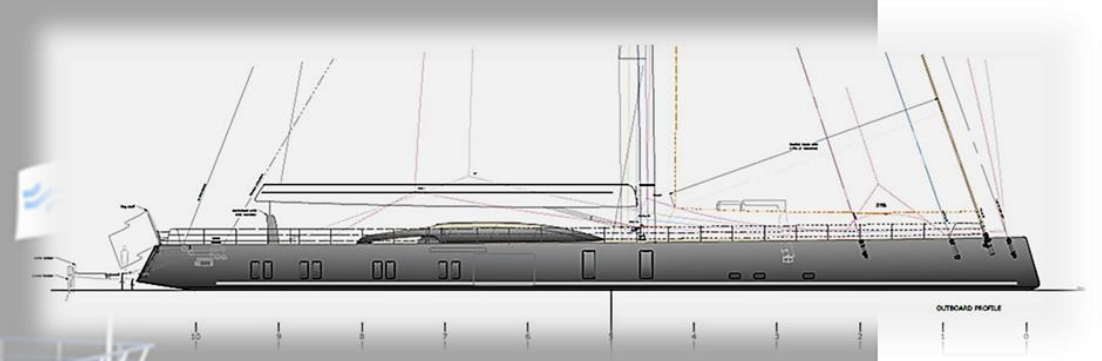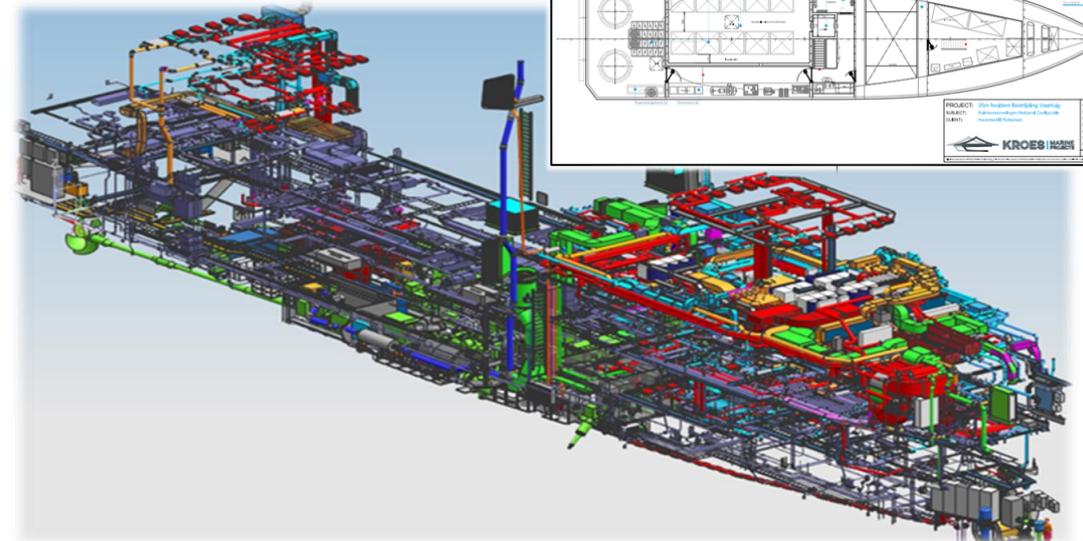Toralf Zimmermann, Abeking & Rasmussen Schiffs- und Yachtwerft SE

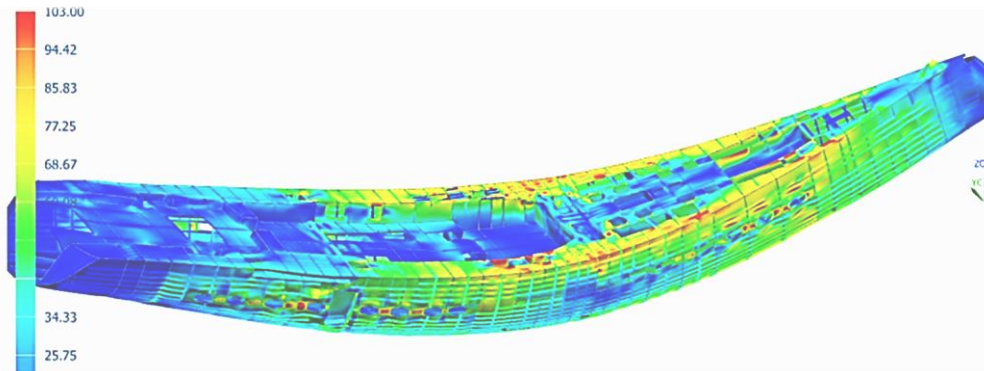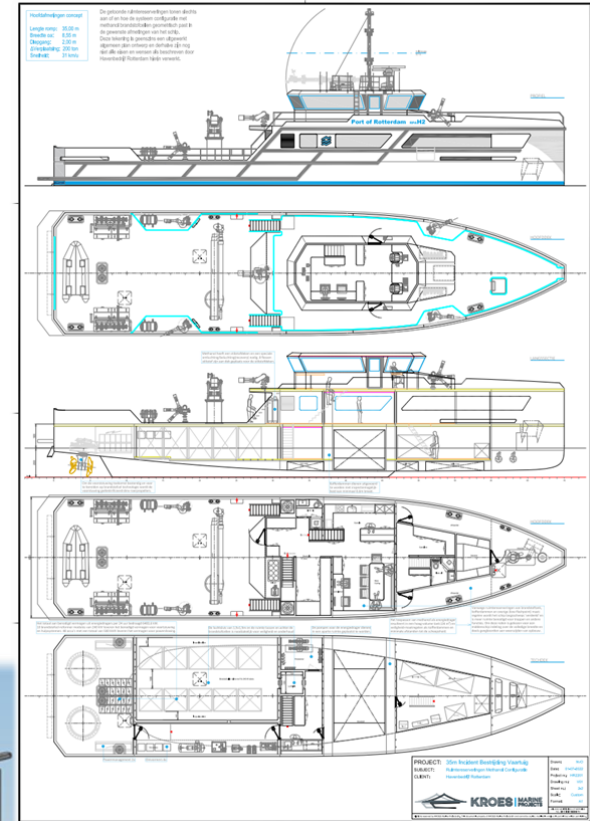# Our organization

Our organization

Marine Engineering

Construction

Project Management

Refit & Conversion

Consultancy

Our interest in the project

- Share collected knowledge on autonomous sailing

- Help (re-)design the vessels of the future

- Translate new IT concepts to Marine applications

- Lower the threshold for owners to venture into a new era

- Explain the concepts in layman's terms to all stakeholders

Our tasks in the project

- Create a comprehensive overview of the current Waddenzee fleet and their characteristics

- Investigate the T(echnology) R(eady) L(evel) of available technology, specifically for use on the Waddenzee

- Intergrate the required technology into a feasible sketch-design

- Liaison during the project for known knowledge providers

Our organisation

Ferry Go!

Interreg
Deutschland – Nederland
(Ko-)finanziert von
der Europäischen Union
(Mede) gefinancierd
door de Europese Unie

Ferry Go!

ABEKING & RASMUSSEN

FROM LEMWERDER
TO THE WORLD

Founded in 1907 by Georg Abeking and Henry Rasmussen.

HENRY RASMUSSEN

HERMANN H. SCHAEDLA

HANS M. SCHAEDLA

Our organisation

53°9'54.0"N
8°37'3.7"O

ABEKING & RASMUSSEN

117

… years of family business

6509

…. ships delivered

5

... sheds for individual requirements

>500

… dedicated employees

4

… strong business units

Our organisation

ONE SHIPYARD WITH
FOUR STRONG FACETS

YACHTS NAVY SPECIAL VESSELS REFIT & SERVICES

Our interest in the project

- Build-up comprehensive know-how and in depth understanding and knowlegde obout autonomous sailing vessels

- To be prepared for upcomming new market trends/needs in combination with the next technology leap

- Get in new co-operation with project members

Our tasks in the project

- Main content are questions of ships design/concept and issues of peripheral systems (like autonomous mooring)
- Overview about market trends/potentials regarding autonomous ships
- Indication of necessary adjustments for the existing demonstartor „Sally"
- Indication of technical capabilities regarding peripheral systems with focus on (freight)-ferry needs
- Other ship type application?
- Listing of needs for a secured remote controlled service

Human factor

Marcel Saager, DLR-Institut „Systems Engineering für zukünftige Mobilität"

Our organisation

- Development and validation of automated and autonomous traffic and transport assistance systems on land, at sea and in the air

- Assessment and certification methods for the authorisation of autonomous driving

- Maritime test field "eMIR" for testing highly automated assistance systems and concepts in the German Bight

Our interest in the project

- Advancing our own infrastructure
- Analysing ship profiles and dynamics
- Investigating verification and validation parameters for safety in autonomous shipping

- Human factor in autonomous shipping
- Cooperation between humans and ki
- Remote Operation Center (ROC)
- Interaction with ai
- Analyse stakeholders (other ship personnel, passengers)

Our tasks in the project

- Investigate State of the Art in current topics of ROC Design
- Building up a data basis for ship behaviour data
- Developing a ship profile of a ferry for the Sally
- Development of a technical breakthrough for a ROC workplace
- Investigating the cooperation between humans and artificial intelligence in the ROC
- Investigating the influence of the AI-Captain on the passengers

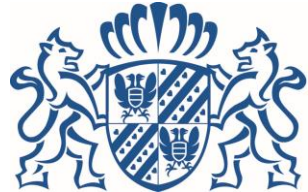# Discussion with the audience

Summary and conclusion

Let´s borrel!

Ferry Go! is funded by: