

# Künstliche Intelligenz

für Navigation und Routenplanung in der Schifffahrt

## Der „Human Factor“



# Programm

10.00 Begrüßung

10.15 Einführung

10.35 Keynote „Künstliche Intelligenz und die Gesellschaft: Der Mensch im Mittelpunkt“

11.10 Pause

11.40 Projekt-Pitches

- Kapitän, Nautiker oder Remote Operator: Wie sich ein Berufsfeld neu erfinden muss
- Project VerifAI
- The future of urban waterways - innovative solutions for infrastructure, waste management and transport
- Optimised route planning and navigation through autonomous water maintenance

12.30 Diskussionsrunde „Interaktion Mensch-Maschine“

13.00 Netzwerken mit kleinem Imbiss

13.30 Ende der Veranstaltung

# **Begrüßung**

Matthias Groote, Landrat des Landkreises Leer

# Begrüßung

Katja Baumann, MARIKO GmbH

Marianne Jager, FME

# EDIH NN

## Digital Transformation of the Manufacturing Industry in Northern Netherlands towards Autonomous Systems

### Sectors

Built Environment

Utilities

Mobility

Smart Manufacturing

Smart Agri

Life Science & Health

### Partners



Co-funded by the European Union

EDIH NN – DIGITAL-2021-EDIH-01  
PROJECT: 101083001



# **Einführung**

Theun Prins, YP Your Partner

Pieter Dibbits, Kroes Marine Projects



# Projektziel

Entwicklung autonomer Fahren im deutsch-niederländischen Wattenmeer

Untersuchung von Perspektiven & Erprobung von konkreten Anforderungen für den Einsatz von (teil)autonomen Fahren





# Ferry Go! Partner

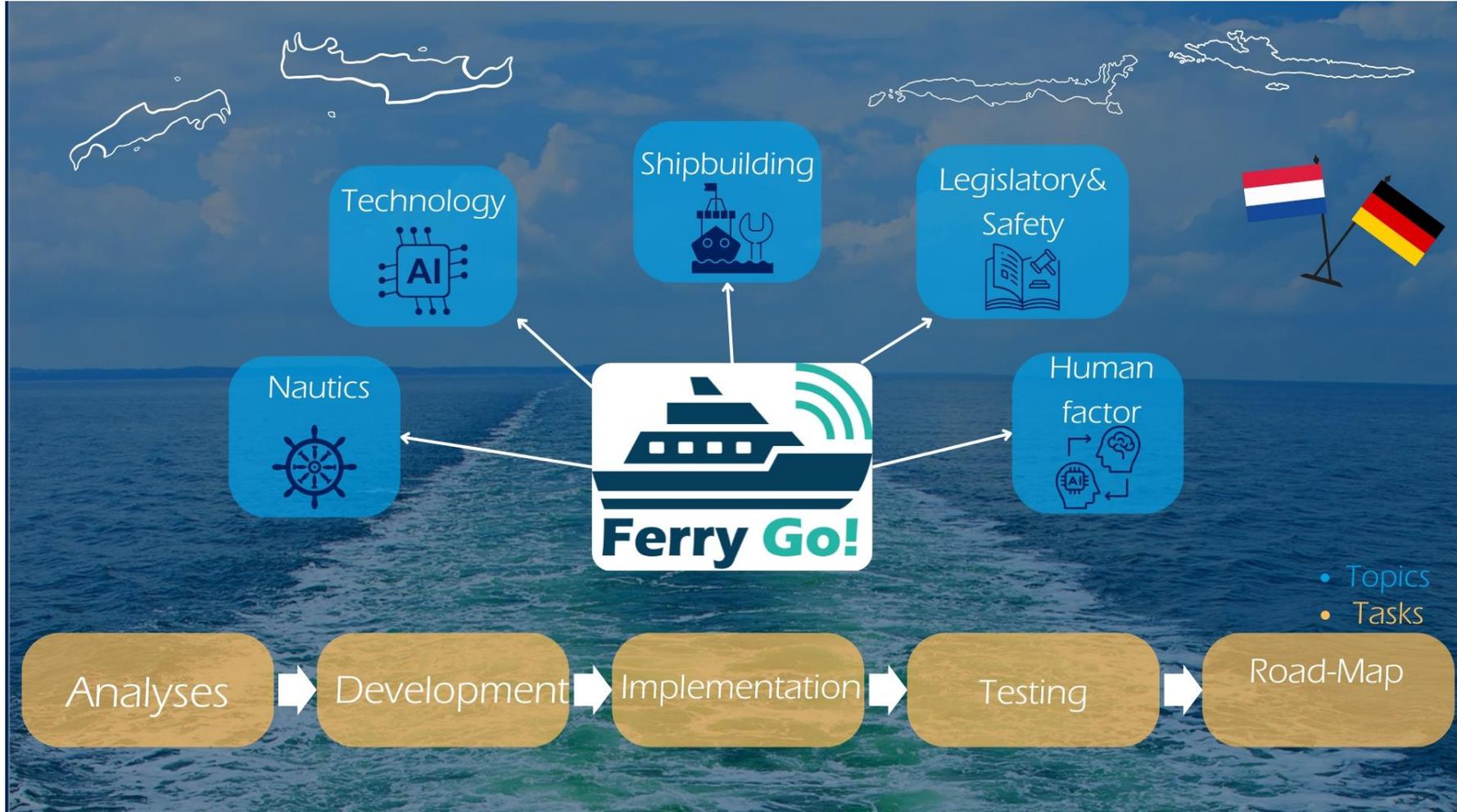




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# Ferry Go! Überblick





# Hintergrund 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](http://www.icdrachten.nl))

Proud technology sponsor of the Solarboat Racing Team ([www.whisperpowersolarteam.nl](http://www.whisperpowersolarteam.nl))





# Aufgaben Your Partner BV, Drachten (NL)

- Scrubbing the edges of high speed data processing to enable realtime control
- Research the status quo of AI and discovering it's usability
- Growing into the maritime sector which is currently undergoing a massive transaction in digitalization
- Contributing in bringing the world forward





# Input Your Partner BV, Drachten (NL)

## Hard skills

- Data acquisition
- Data preprocessing
- Data security (ISO 27001 certified)
- Overall system performance

## Soft skills

- Eager high tech brain power
- Front runners enthusiasm





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# "Alarm fatigue"

# "Alarm fatigue"





# "Alarm/information fatigue"

Using AI or algorithms to:

- Reduce the number of alarms
- Prioritize alarms
- Automate repeating actions
- Simplify alarms

Objectives

- Reduce risks
- Improve performance





# "Alarm/information fatigue"

## Challenges today

- Where to start?
- Ignore?
- Suppress?
- How to regain control?



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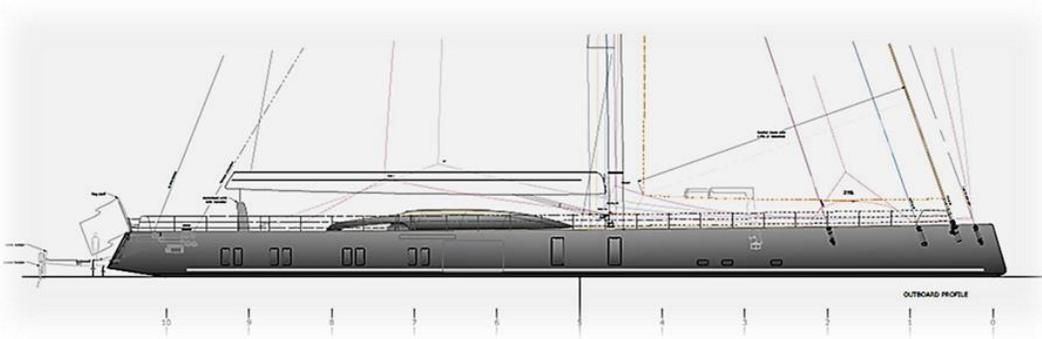
# "Alarm/information fatigue"

QUESTIONS / DISCUSSION



# Hintergrund Kroes Marine Projects

- Marine Engineering
- Construction
- Project Management
- Refit & Conversion
- Consultancy





# Aufgaben Kroes Marine Projects

- 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





# Aufgaben Kroes Marine Projects

- 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
- Integrate the required technology into a feasible sketch-design
- Liaison during the project for known knowledge providers





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# "Information mismatch"

# "Information mismatch"





# "Information mismatch"

## Status Quo

- Language barriers can disturb comms
- Misunderstandings lead to accidents
- Information processing is slow





# "Information mismatch"

## AI-assisted

- No more language barriers, translations are instant
- Information processing much faster
- Importance "flagging" automated
- Suppression of irrelevant "noise"

## CHALLENGES

- Very specific programming
- Peer-checks between systems
- Input validity testing



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# "Information mismatch"

QUESTIONS / DISCUSSION

# ***Human factor***

# Input vom DLR

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



# Herausforderungen und Perspektiven?

Wo liegen für YP Your Partner und Kroes Marine Projects die Herausforderungen Kontext des "Human factors" und wie können wir (im Projekt) diesen Herausforderungen begegnen?

Welche Perspektiven ergeben sich?



# Keynote

## **„Künstliche Intelligenz und die Gesellschaft: Der Mensch im Mittelpunkt“**

Mazen Salous, OFFIS



# Pause

# **Projekt-Pitch**

**Kapitän, Nautiker oder Remote Operator:  
Wie sich ein Berufsfeld neu erfinden muss**

Clemens Plawenn-Salvini, Hochschule Emden/Leer

# **Projekt-Pitch**

## **Project VerifAI**

Martin Portier, BSH

# **Projekt-Pitch**

**The future of urban waterways - innovative solutions for infrastructure, waste management and transport**

Ynse Deinema, Roboat

# **Projekt-Pitch**

**Optimised route planning and navigation  
through autonomous water maintenance**

Leon Sterk, Harkboot

# **Diskussion „Interaktion Mensch-Maschine“**



# Ferry Go! wird gefördert durch:



Ministerie van Economische Zaken  
en Klimaat



provincie  
groningen

provinsje fryslân  
provincie fryslân



Niedersächsisches Ministerium  
für Bundes- und Europaangelegenheiten  
und Regionale Entwicklung



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