



# Excellence in Sustainable Short Sea Shipping

Guest speaker: Sander Schakelaar – managing owner JR Shipping Group





# Structure of the presentation



- JR Shipping Group – Excellence in Sustainable Short Sea Shipping
- The importance of sustainability for JR Shipping Group
- JR Shipping Group and decarbonization
- In the spotlight: Flitree and Carbon Capture
- In the spotlight: Container stack monitoring

- The group is specialized in short sea shipping.
- Short sea feeder vessels 15 vessels in management & project development
- Short sea dry cargo vessels newbuilding brokerage & project development
- Offshore (wind) service vessels 7 vessels in management & project development

The strength of the JR Shipping Group lies in its ability to direct all key success factors, determining the operational result of our vessels.

- **JR Ship Management** Full ship management & financial management
- **Confeeder Shipping & Chartering** Commercial management & charter brokerage
- **SeaZip Offshore Service** Offshore services & management for third parties
- **JR Ship Crew / SeaZip Crew** Crew management & employer of Dutch staff
- **JR Ship Brokers & Consultants** Research, consultancy & (newbuilding) brokerage
- **JR Ship Investments** Structuring, project financing and fund management





# Excellence in Sustainable Short Sea Shipping





# The importance of sustainability for JR Shipping



At JR Shipping, we believe it is important to make our contribution to improving this world. The time to take action is now.

Our focus is on our impact on the environment, emission management, and our responsibility to employees and the international community. In addition, we give priority to innovative partnerships to promote our ESG progress.



The Sustainable Development Goals (SDGs) are the 17 goals of the United Nations (UN) to improve the world by 2030.

As JR Shipping, we commit ourselves to these goals and try to contribute to their realization. Among these objectives, the main priorities are: Good health and well-being (Objective 3), Affordable and renewable energy (Objective 7), Climate action (Objective 13), and Life in water (Objective 14).





# ESG reporting: progress made

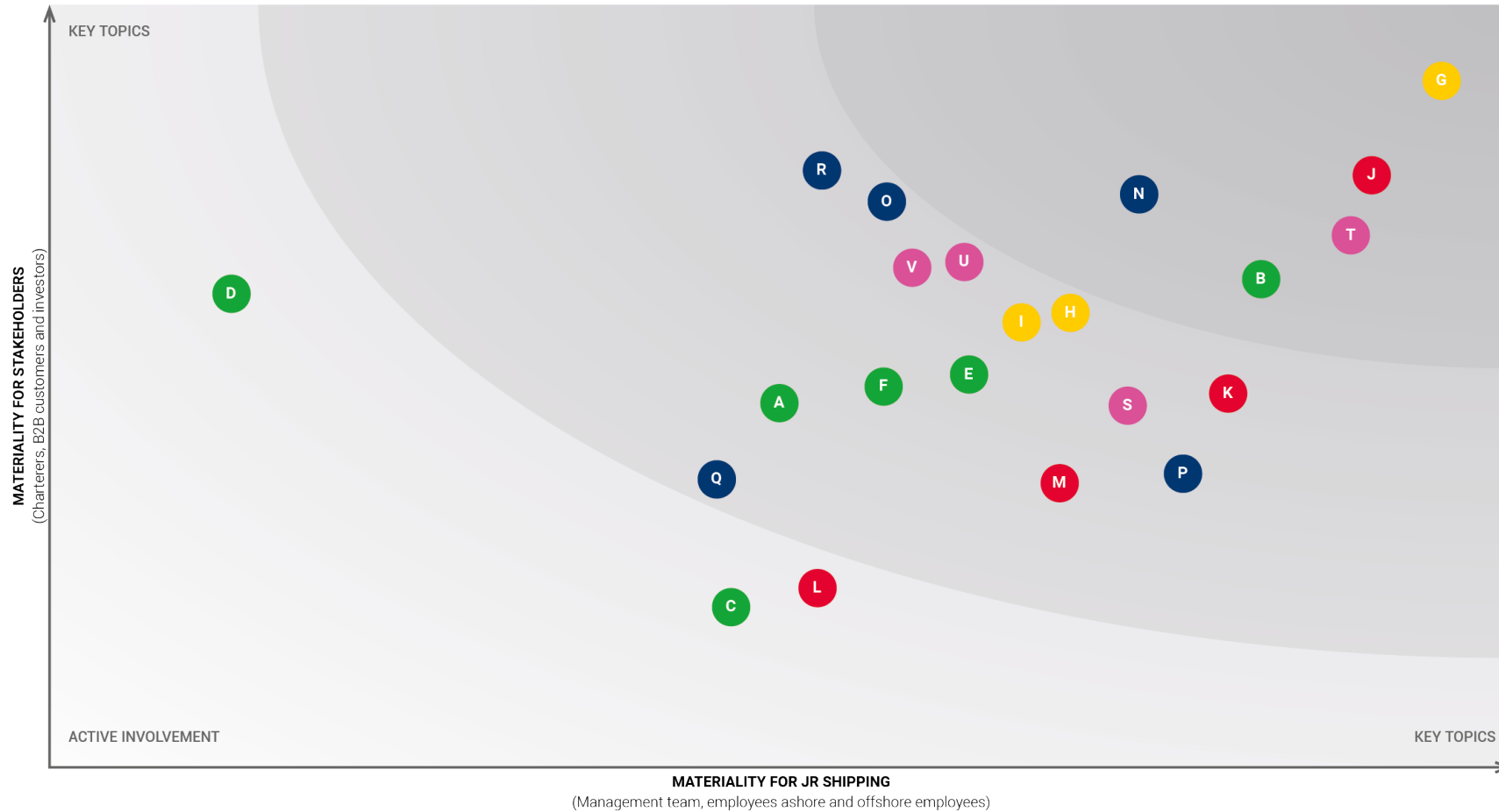


- We started with a process which will take some 3-4 years to prepare for full CSRD reporting.
- We do that 'in house' but with the support of EY's sustainability advisory.
- 2023, JR Shipping Group's first ESG report was published.
- Part of the assessment in 2023 was a first assessment of 'materiality and priorities'.
- Second half of 2023 and first half of 2024, the next steps are made such as the much more complicated 'double materiality assessment'.
- Our second ESG report will be published mid 2024.
- We are in the process of establishing our Scope 1, 2 and 3 emissions.
- Thereafter, we will start with surveys for our various stakeholders.
- Compared to most peers in the market, we are far ahead.





# Materiality assessment and priorities



- | ENVIRONMENTAL IMPACT   | EMISSIONS  | APPEALING EMPLOYERSHIP   | SOCIAL IMPACT  | COLLABORATING FOR INNOVATION  |
|--|--|--|--|---|
| <ul style="list-style-type: none"> <li>A Biodiversity</li> <li>B Ocean health</li> <li>C Ballast water management</li> <li>D Ship recycling</li> <li>E Energy transition &amp; efficiency</li> <li>F Waste management</li> </ul> | <ul style="list-style-type: none"> <li>G CO<sub>2</sub> emissions</li> <li>H NOx emissions</li> <li>I SOx emissions</li> </ul> | <ul style="list-style-type: none"> <li>J Health &amp; safety</li> <li>K Employee &amp; talent development</li> <li>L Diversity &amp; inclusiveness</li> <li>M Employee engagement</li> </ul> | <ul style="list-style-type: none"> <li>N Compliance &amp; anti-corruption</li> <li>O Human rights &amp; modern slavery</li> <li>P Community engagement</li> <li>Q Sustainable procurement &amp; supply chain</li> <li>R Long term financial performance</li> </ul> | <ul style="list-style-type: none"> <li>S Digitalization</li> <li>T Cyber security &amp; data privacy</li> <li>U Alternative fuels</li> <li>V Leading vessel designs &amp; maritime solutions</li> </ul> |





# JR Shipping Group and decarbonization

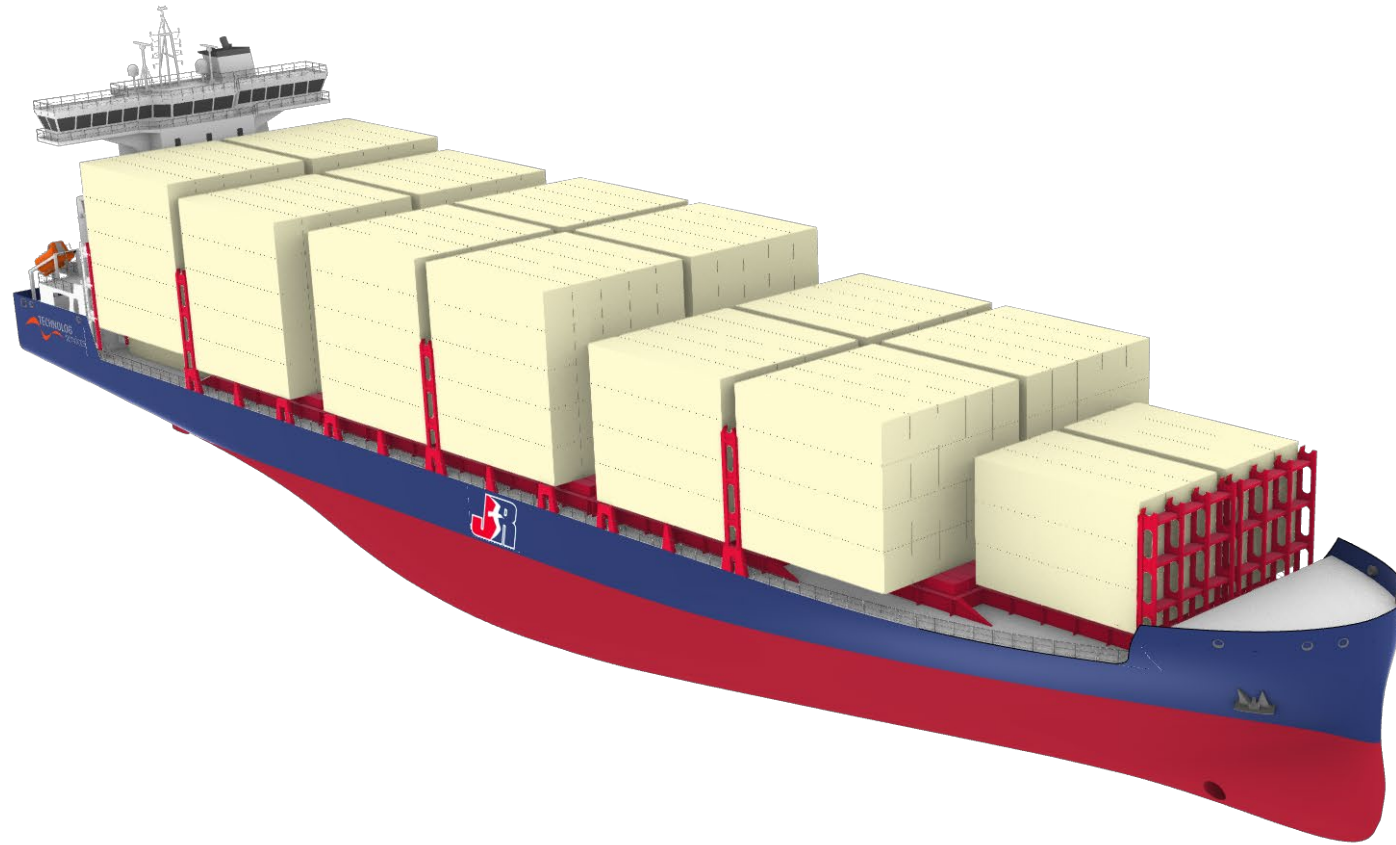




- JR Shipping Group takes the need to reduce Greenhouse gas (GHG) emissions serious.
- Existing fleet:
  - Speed reduction
  - Trim optimization
  - Sand blasting and special paint systems to lower underwater resistance
  - Lub oil additives
  - Retrofits of optimized new propeller blades and new bulbous bow
  - For the mid long-term; “Carbon Capture” installed on 10 vessels already.
- A lot has been invested in the development of the next generation of ‘ECO feeders’.
  - Tailored operational speeds which are more sustainable resulting in:
    - Less installed power
    - Much less consumption
    - Far less emissions
    - And therefore: more economical
    - Operationally fully prepared for green methanol on the long term
    - For now: MGO with ‘Carbon Capture’ (over dedicated ballast tanks) and then on to ‘Green Methanol’ when commercially available

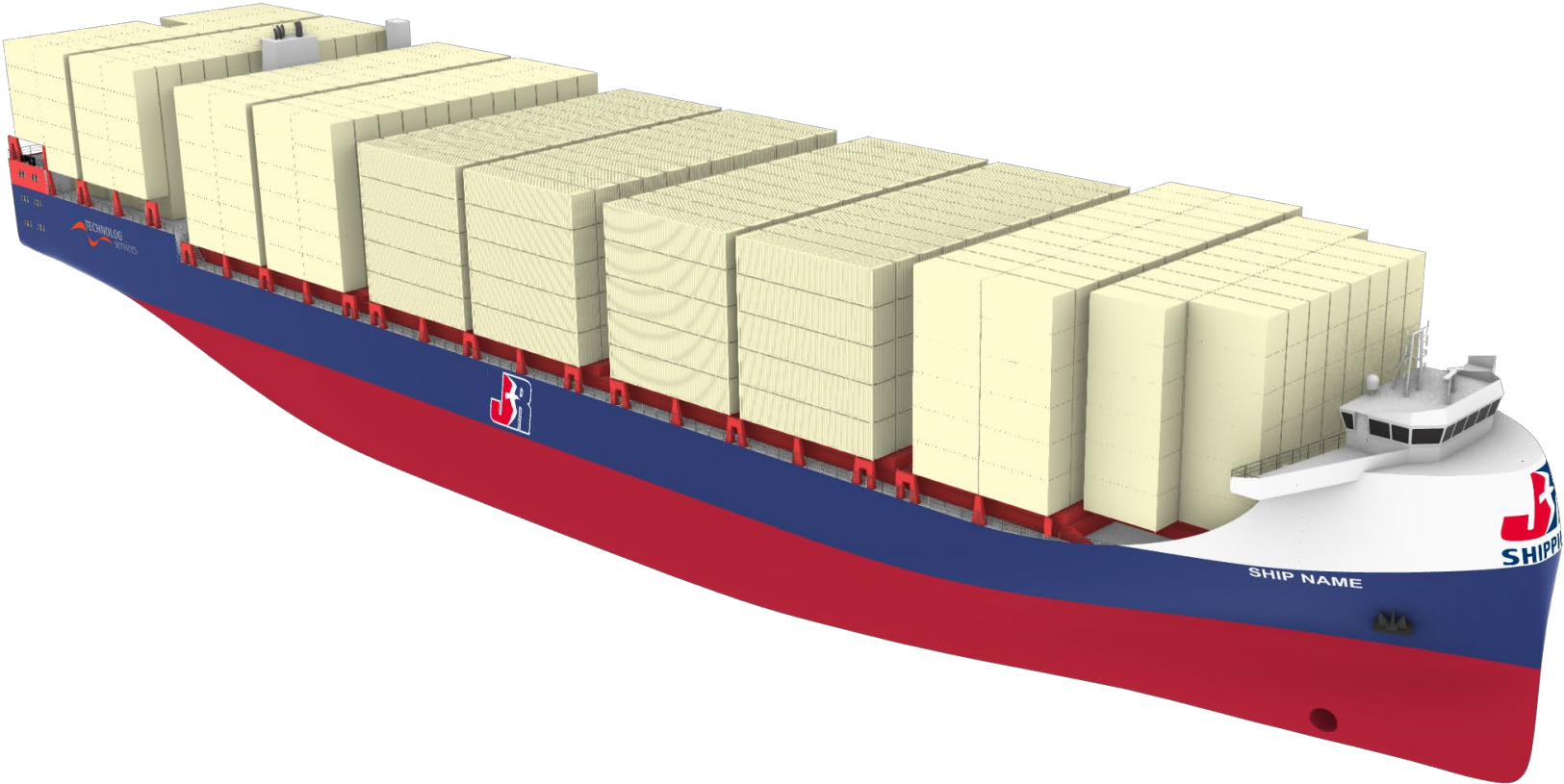


# ECO Flex Feeder 1.100





# ECO Flex Feeder 2.100







# Filtree and Carbon Capture





# Filtree and Carbon Capture System



## JR Shipping's objective is to operate existing ships more responsibly:

- Sustainability investments are economically justified.
- Choice of 'Filtree' scrubber systems complemented by 30% carbon capture optionality.
- Reduction of emissions: SOx, particulates.
- Economic benefit of sailing on HFO (which already leads to less CO2 in the chain).
- Scrubber function generates revenue.
- On that basis, investments could also be made in 'carbon capture'.
  
- Cooperation partner: Value Maritime
  
- Anno 2024: 10 vessels equipped
- Start of implementation with several container line operators



## Compact:

- Standardised "plug & play"
- Suitable for 3MW to 15MW power

## Environmental:

- Continuous washing of exhaust gas and water
- PH neutral
- Reduction of Sulphur(SOX), Particulate matter(PM) and CO2
- CO2 capture 10%-50% now
- Continuous real time monitoring

## Proven technology:

- 52 Filtrees sold, 25 Filtrees with CCS in 2023
- Payback period between 1 and 2 years
- First Filtree sailing since 2018

CO2 capture

EGCS

CO2 Battery



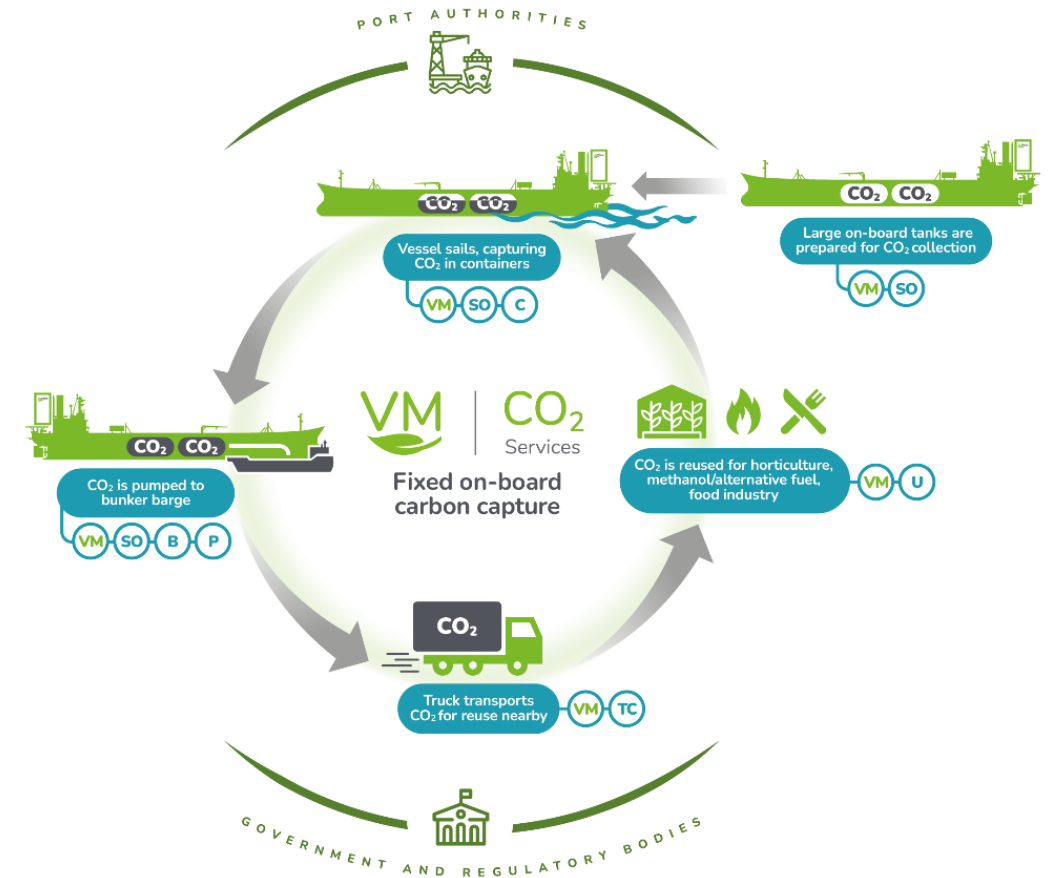


## CO2 Capture:

- CO2 capture unit in the flitree
- Low energy consumption

## CO2 Handling:

- CO2 storage in CO2 Battery or in CO2 tank
- CO2 logistics managed by Value Maritime CO2 services
- CO2 use for e.g. the greenhouse horticulture sector







# Container stack monitoring





# Reducing Container loss



Less risk of losing containers on the open sea.  
That is the essence of the revolutionary SaaS Warning System.

JR Shipping is closely involved in its development.

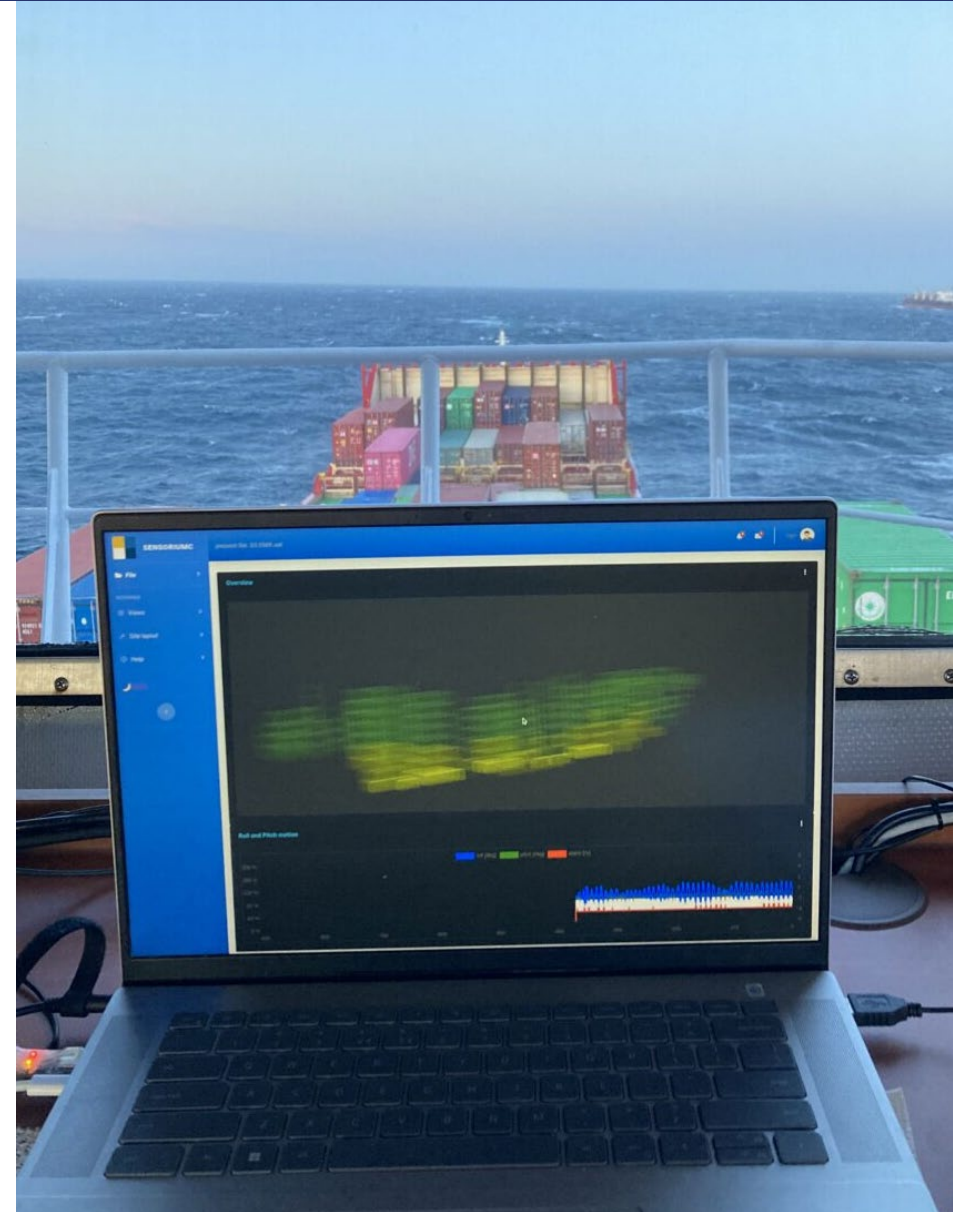
## **GBMS and JR Shipping make a joint commitment to:**

- Prevent losses
- Protect the environment
- Provide real-time insight into stack loads
- Reduce container damage
- Improve efficiency

In the short term, 8 JR Shipping vessels will use the SensoriumC real-time stack monitoring system to control the critical forces before, during and following their voyage.

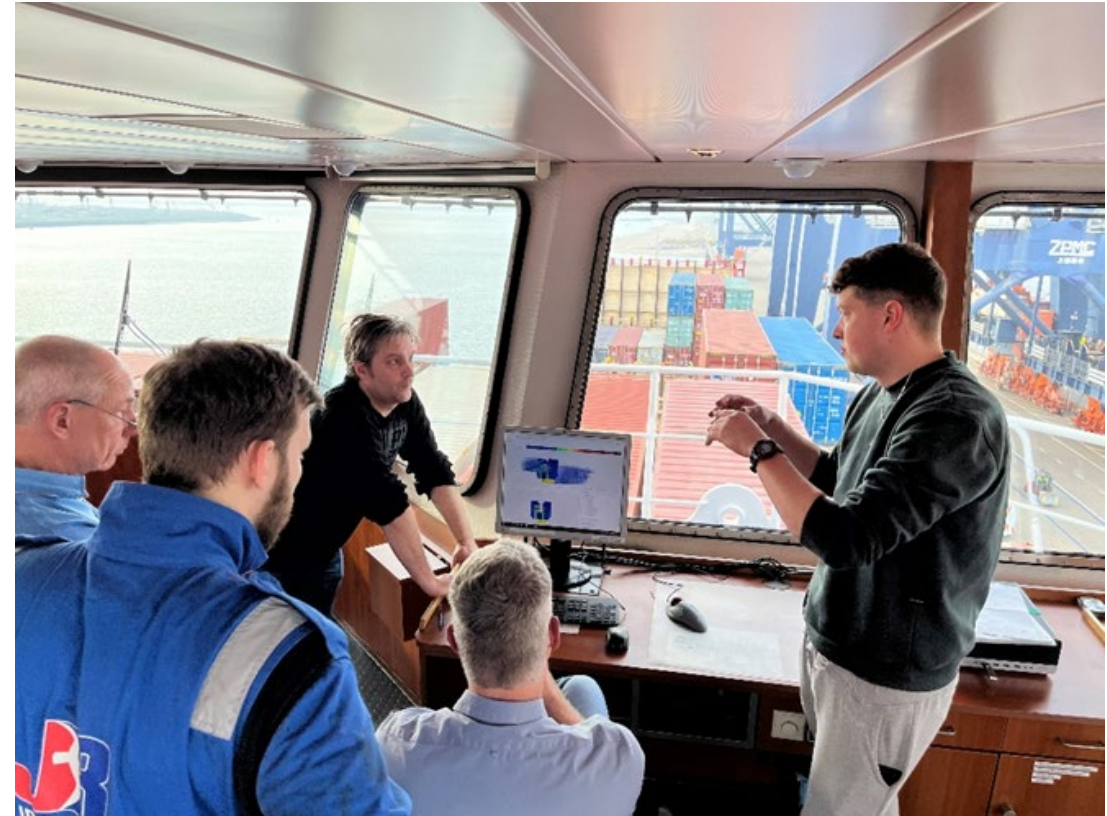
The logo for GBMS, consisting of the letters 'GBMS' in a bold, blue, sans-serif font. A small yellow square is positioned between the 'G' and 'B', and a small blue square is positioned between the 'M' and 'S'.

## **GBMS**






If anything deviates from the norm, the system issues a warning, so that the crew can immediately see what is going on and intervene. This significantly reduces the risk of containers being lost. At sea, the GBMS Warning System provides real-time information.

The system can also be deployed in advance, in the port. With the aim of optimizing container stowage plans.







-  Intranet server for UI and real time calculations
-  Primary ship motion sensor
-  Optional ship motion sensors

## Working principles of the system:

### COMPONENTS

- 1 Rack-PC server
- 1 Primary motion sensor
- + any optional additional sensors

### CONFIGURATION

- Based on CSM, CSA, GA
- Configured by GBMS
- Installed / retrofitted in port

### USAGE

- Access from any onboard PC
- Upload BAPLIE file and go
- Motions + stowage = loads





SHIPPING

