



The future of maritime transport, logistics & sustainability

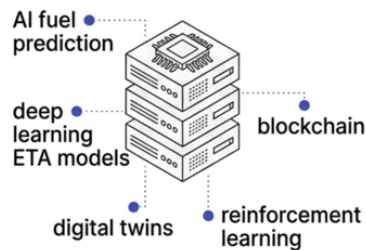
A core theme of the 17th World Conference on Transport Research

The Conference approach

A conference program highlighting cutting-edge research driving the future of maritime transport, logistics, and sustainability

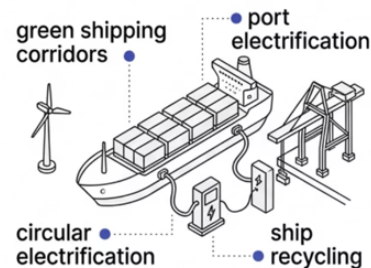
Cutting-edge technological innovations

Insights into groundbreaking advancements in AI-driven fuel prediction, deep learning ETA models, reinforcement learning optimization, digital twins, blockchain disruption management, and advanced network models for resilient supply chains and hydrogen adoption



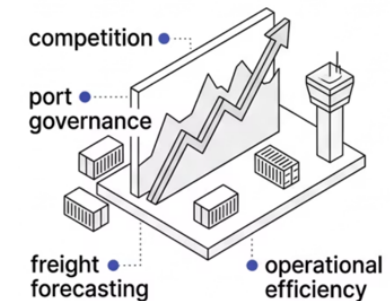
Sustainable and decarbonised maritime solutions

Insights into forward-looking strategies such as green shipping corridors, multimodal decarbonisation, port electrification, and circular economy approaches to ship recycling and refit



Market dynamics and operational performance

Insights into competition, market concentration, port governance, freight forecasting, safety, and operational efficiency across global maritime clusters



Evidence-based insights & advanced methodologies

Participants will gain actionable perspectives on decarbonisation pathways, renewable fuels, inland waterways, port performance, and policy impacts (e.g., EU ETS), using machine learning, game theory, life cycle analysis, and risk modelling.



This is a unique opportunity to engage with the latest scientific methods – machine learning, game theory, life-cycle analysis, multi-scale modelling, and risk quantification – applied to real-world maritime challenges.

Lóránt Tavasszy

WCTR Scientific Committee Chair

Professor in Freight Transport & Logistics at the Delft University of Technology



Conference sessions at a glance

Research contributions related to the maritime sector can be grouped into 5 major thematic tracks :



Green Shipping, Energy & Decarbonisation

Renewable fuels, green corridors, ship recycling & circular economy



Forecasting, Planning, Scheduling & Routing

AI-driven models, ETA prediction & network optimization



Supply Chain & Inland Waterways

Resilient networks, multimodal transport & inland corridors



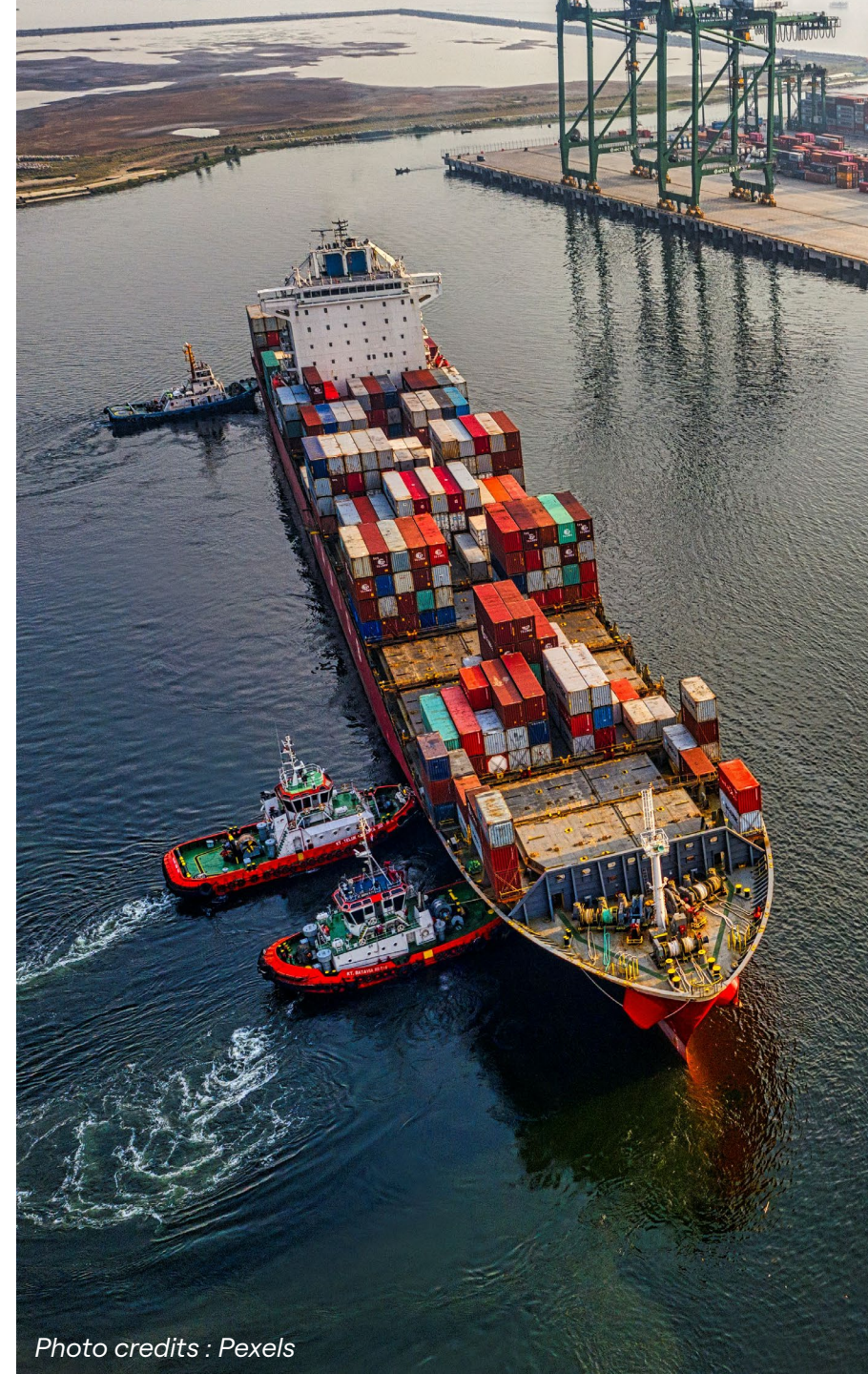
Pricing & Performance

Freight dynamics, port efficiency & cost analysis



Competition & Policy

Market regulation, port governance & EU ETS impacts





Whether your focus is sustainability, technology, operations, or governance, this conference will provide valuable learning, cross-sector dialogue, and forward-looking strategies that will shape the next generation of maritime systems.

Thierry Vanelslander

WTCR Topic Area Manager Transport Modes

Professor at the Department of Transport and Regional Economics of the University of Antwerp

www.wctr2026.fr

ANNEX – DETAILED PROGRAM

Selection of presentation sessions
focusing on maritime transport

See our [website](#) for plenary sessions and keynote speeches

Green shipping, Energy, Decarbonation and Recycling

ENERGY

- Energy transition for local ferry operations: a case study in the Strait of Istanbul
- Navigating Uncertainties in Renewable Fuel Pathways for Green Shipping
- Evolutionary game theory and the adoption of hydrogen in Norwegian coastal shipping
- Physics-informed data-driven methods for fine-grained vessel fuel consumption prediction towards green and sustainable shipping

GREEN

- A first investigation into green shipping corridors: Collaboration and structural factors shaping their characteristics
- Maritime network of green and digital shipping corridor: Case study of Singapore–Japan and Singapore–Australia corridors
- Conceptualisation of a Shipyard Environmental Performance Index
- Assessing the impact of the EU-ETS on the total cost of maritime containerized transport: a case study analysis

DECARBONISATION

- Advancing Waterborne decarbonization in Europe through Research and Innovation
- The role of multi-level governance in port decarbonization
- Multilevel governance and port decarbonisation efforts
- Transport-Informed Ship Design for Carbon Capture: An Optimisation Approach for the Sweden–Northern Lights Corridor
- Decarbonizing Brazilian Cabotage: An Assessment of Green Corridor Readiness
- Decarbonising the Greek Ferry Fleet: An Opportunity for Transformation
- The Potential of Shore Power to Mitigate Air Pollution for hoteling in Seaports: an analysis of the OPS capability metric for the port of Bremerhaven

RECYCLING

- Perception on the effect of ship recycling on Nigeria's economy: evidence from selected ship repair facilities in Lagos
- End-of-life shipping with a specific focus on ship recycling: a review
- Circular economy in maritime refit: A systematic review

Forecasting, Planning, Scheduling and Routing

FORECASTING

- Use of a Sequence-to-Sequence Long Short-Term Memory Neural Network to Predict Container Volumes in a Multiple-Port and Commodities Setting
- Transforming port activity into revenue: an efficiency assessment of the Spanish port system
- Container port performances and network indexes: a correlation analysis at country level

PLANNING

- Heuristic-Enhanced Bi-Objective Q-Learning for Container Relocation and Retrieval Optimization in Port Yards
- A queuing theory-based operating capacity model for multi-modal port operations
- Cmeans fuzzy cluster analysis of European container terminals for sustainable decision-making optimization
- An Optimisation Framework for Truck Appointment Systems at Container Terminals

SCHEDULING

- Study on vessel navigational efficiency simulation considering the impact of LNG berth expansion
- Deep Learning-Based Vessel Travel Time Prediction in the Strait of Istanbul Using AIS Data
- Towards scalable reinforcement learning for maritime transportation networks: integrating discrete and continuous decision spaces
- How does the alliance impact shipping lines' schedule recovery? Insights from theoretical models and empirical analysis

ROUTING

- A percentile-based spatial framework for quantifying the economic significance of marine transport space using AIS data
- Bottlenecks and Corkscrews: Macroeconomic Implications of Maritime Supply Chain Disruptions
- Strategic circular routing for remote-island ferry services
- Personas-Based Adoption Profiles for On-Demand & Shared Passenger Maritime Transport: Boat Pooling & Boat Ride Hailing

Supply Chain & Inland Waterways

SUPPLY CHAIN (SC)

- Developing an AI maturity model: insights from freight forwarders
- Intermodal Freight Sustainability Assessment: Total Cost of Ownership for Inland Waterway and road freight comparison
- Too many eggs in one basket? The delusion of risk mitigation through diversification and financial hedging in multi-tier supply chains
- Evaluating the Impact of Land Bridge as a Complementary Corridor to the Suez Canal

INLAND WATERWAYS (IWW)

- Perceived socio-technical shifts in future European inland waterway transport systems
- Resilience in inland shipping: A network analysis of the Rhine-Alpine Corridor under global disruptions
- Prioritization of Investment and Resource Planning for Germany's Waterway Infrastructure: A Life Cycle Analysis
- Multi-level decision framework for the deployment of battery swapping technology in inland waterway transport

Pricing & Performance

PRICES

- Forecasting Marine Gas Oil Prices Using LSTM, LightGBM, and SHAP-Based Feature Importance
- Machine Learning for Freight Rate Predictability in Dry Bulk Shipping: Deterministic, Econometric and AI/ML Approaches
- Dynamic Spatiotemporal Evolution-Based Method for Identifying Vessel Risk Clusters
- Selection of On-Time Operations by Container Shipping Companies

PERFORMANCE

- Performance assessment framework for small-sized passenger terminals: application to the port of Pozzallo
- Leveraging Simulation for Human Factors Research in Port Logistics: A Focus on Quay Crane Operator Performance
- Applying Automated HS Classification to Port Performance Analysis
- From Semi to Full Automation Planning Container Terminal Transitions with Digital Twins

Competition & Policy

COMPETITION

- Corporate Transparency at Sea: A Quantitative Look at Risk Disclosure in Greek Shipping Companies
- Resilient and Cost-Efficient Multi-Modal Network Model for the UK-India Ferrous Scrap Supply Chain
- Competition, Coopetition, or Merger?
- Concentration Measures For Policy Assessment In The Container Shipping Industry: A Worldwide Application.
- Drivers and barriers for successful transshipment hub development. A stakeholder perspective
- Port connectivity determinants across transshipment incidence levels: an empirical investigation of Spanish container ports
- Factors Influencing Durban Port's Competitiveness
- Passengers Perception on Ports Quality of Service: the case of Mediterranean region

POLICY

- Port pricing policies in Brazil: institutional and economic perspectives from Santos
- Streamlining Supply Chains: Coordinated Port and Freight Transport Strategies
- Should the Landlord Port Authority Negotiate Concession Contracts with Terminal Operators?
- Blue Flags and the Blue Economy: An Assessment of Sustainable Marina Management Practices