PLATINA4Action project overview

Objectives, scope, progress and strategic framework

Stage Event Budapest - 4 November 2025
Martin Quispel, SPB/EICB

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

Project summary PLATINA4Action

Title: ***PLAT****form for the* ***I****mplementation of the* ***N****avigation* ***A****ction programme* ***for Action***

Duration: 36 months: January 2024 – December 2026

Budget: 1.5 mln euro, 125 person months staff effort

Instrument: Horizon Europe Coordination and Support Action, Lump Sum

Project summary PLATINA4Action

Platform for policy action to boost green and connected inland waterway transport

The platform acts as catalyst, bringing together expertise, stakeholders and research in the field of European IWT, building on the PLATINA3 project.

Activities focus on:

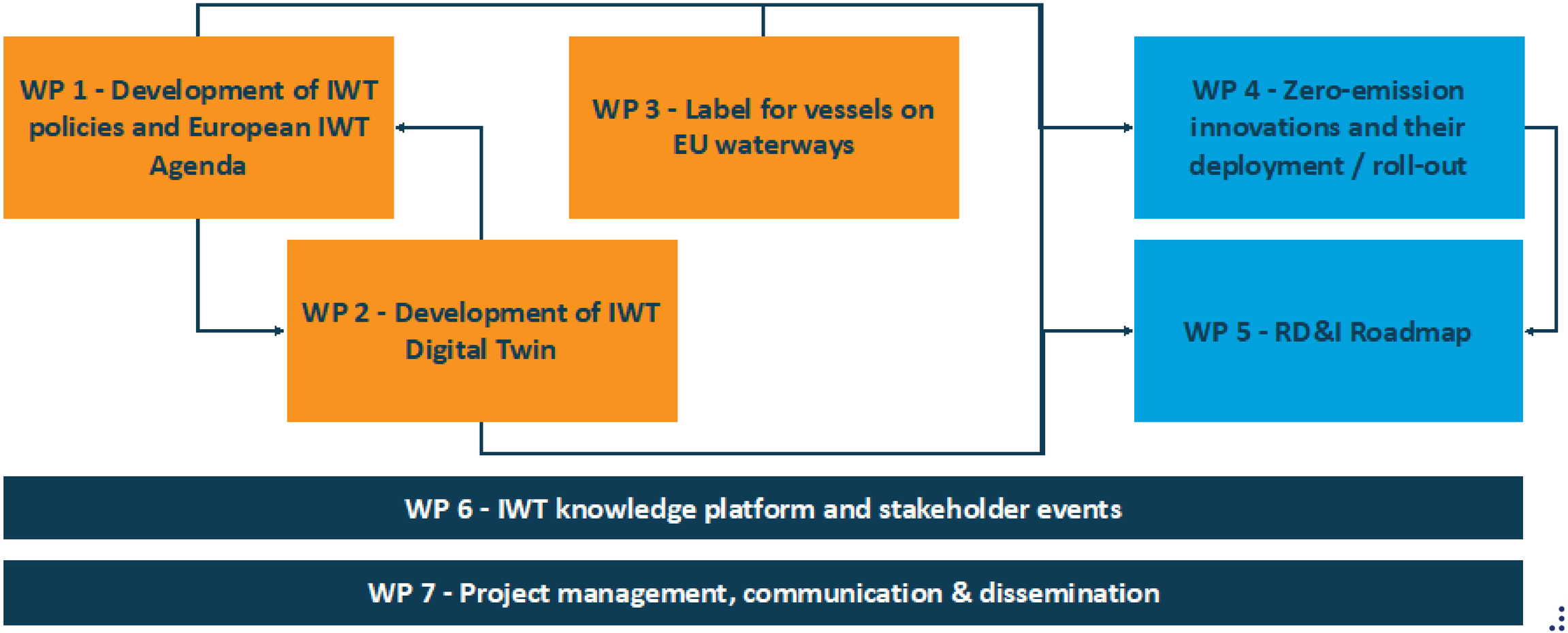
1) **Supporting and coordinating research and innovation activities** focussing on **green and connected IWT** to find synergies between parallel developments
2) **Impact** estimations of **NAIADES III actions** and supporting the **policy discussions** to achieve modal shift and zero-emission IWT
3) Updating of the **Strategic Research and Innovation Agenda** for IWT.

Close cooperation with DG MOVE and interaction with wide group of public and private stakeholders and experts.

Project objectives

- **Assess the impact of the NAIADES III actions** on emission reduction and modal shift and **develop additional policy recommendations** to accelerate the transition to zero-emission and digital IWT and to support the modal shift.
- Develop and demonstrate a **digital twin tool** capable of **evaluating the impact** of the NAIADES III actions and additional policy recommendations.
- Develop and validate a **European labelling system for green IWT vessels on EU waterways** aiming at achieving energy and emission reduction and ultimately zero-emission transport.
- Identification and analysis of **barriers and opportunities for the development of zero-emission and smart technologies and pilot actions** for **deployment** of selected breakthrough concepts.
- Develop an **RD&I roadmap** for technologies and policies achieving accelerated zero-emission and smart IWT their deployment.
- **Initiate and continue interaction** between policy makers, technology providers, experts, researchers, and IWT end-users.

Project structure



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Project consortium

WP1 Development of IWT policies and agenda

- **Policy evaluation:** Implementation of the 35 NAIADES-III actions and identifying gaps:
  - 1st report delivered November 2024, supporting the NAIADES Implementation Expert Group.
  - 2nd version under preparation for next NAIADES Implementation EG meeting 19 November.

- **Impact assessment:** additional policy actions will be analysed by means of the Digital Twin policy evaluation tool. First results on 19th of November.

- **Policy development, joint papers for**
  - EU Sustainable Transport Investment Plan
  - EU Industrial Waterborne and Port Strategies

7 April 2025

Statement by the inland waterways transport and ports sector on the **Sustainable Transport Investment Plan** (STIP)

Executive summary

Inland waterway transport (IWT) is a highly competitive and sustainable sector that plays a vital role in the various pillars of the Clean Industrial Deal. The IWT sector calls upon the Commission to include inland waterway transport in the upcoming European Maritime/Waterborne Industrial Strategy, the European Port Strategy and the Sustainable Transport Investment Plan. Recognized as a highly competitive, energy-efficient, safe, and sustainable alternative to other transport modes, inland waterway transport helps alleviate congestion on overloaded road and rail networks for both goods and passengers. Europe's new industrial future and circular economy depend heavily on IWT as carrier of the building blocks of the EU economy, including renewable fuels. Increasing cargo volumes on inland waterways can make a significant contribution to achieving the European Green Deal policy objectives.

A near-term transition to zero greenhouse gas (GHG) emissions in inland waterway transport is within reach through the widespread adoption of Hydrotreated Vegetable Oil (HVO). HVO as renewable drop-in fuel enables full decarbonisation and can be used immediately in existing and modern internal combustion engines to replace fossil diesel. Moreover, HVO is fully compatible with the current refuelling infrastructure. However, the shift is currently hindered by the inability to pass on the considerably higher price of HVO to customers, leading to competitive disadvantages compared to fossil fuel users.

In order to capitalise on the benefits and opportunities presented by HVO in the short term, it is essential to prioritise support for an annual supply of 1.6 million tons HVO for IWT at competitive pricing with diesel. This should be backed by a stable EU regulatory framework and coordinated efforts of EU Member States. This approach would deliver a viable business case to barge operators and represent a major step forward in the decarbonisation of IWT, aligning with the EU Green Deal and supporting the objectives of a modal shift.

Creating dependency on HVO as the sole energy source carries potential risks in terms of availability (demand competition from other modes and sectors) and price volatility. Consequently, **it is recommended that other alternative fuel solutions such as battery-electric propulsion, methanol and hydrogen be developed concurrently to mitigate these risks and ensure resilience.** The higher costs of these zero-emission energy solutions, both in terms of operation and capital, mean that **regulation complemented by funding will be key to overcoming implementation barriers**, ensuring legal certainty, fostering investment and expanding renewable fuel supply networks. A stable, technology-neutral regulatory framework combined with incentives for innovation is essential to achieving full decarbonisation and securing the long-term sustainability and resilience of inland navigation.

Statement inland waterways and ports sector on the STIP • April 2025 Page 1 of 12

13 May 2025

EU Industrial Waterborne and Port Strategies: Contribution of the Inland Waterway Transport and Port sector

Executive summary

Major centres of production and consumption are located along Europe's waterways. Rivers and canals are therefore vital to the competitiveness of the EU's basic industries, from SMEs to large corporations. Large volumes of goods, including steel, agricultural products, chemicals, oversized cargo, alternative fuels, construction materials and waste can be transported by inland waterways. Disruptions to this system have a significant impact on downstream supply chains, industrial production and even food security. As a safe and energy-efficient alternative, inland waterway transport relieves congested land networks while offering increased opportunities for sustainable tourism and recreation. Inland ports act as key transshipment nodes and gateways in this ecosystem, extending the reach of maritime trade into the heart of Europe, enabling multimodal logistics and hosting a wide range of industrial activities. Importantly, inland ports are also becoming hubs for renewable energy and the circular economy.

As such, **Inland Waterway Transport (IWT) and Ports** play a crucial role in achieving Europe's **climate neutrality, economic resilience and strategic autonomy** and are a competitive and crucial component of the Clean Industrial Deal and the Waterborne ecosystem.

This statement presents our sector's vision and concrete proposals for the upcoming industrial waterborne[1] and port strategies focusing on the **twin green and digital transition and achieving resilience while putting people at its core**. Aligned with the Competitiveness Compass goals – closing the innovation gap and developing a competitiveness roadmap in a rapidly changing environment –the sector advocates to reach these objectives with the following **key policy instruments:**

1. Fostering innovation from its inception phase to deployment across the value chain;

2. Pro-innovation regulation providing legal certainty to boost investment;

3. A funding and investment framework, which is stable, predictable, fit-for-purpose and easy-to-access in particular for SMEs.

The interplay between innovation and regulation is essential to ensure continued progress and encourage investment.

In order to achieve these ambitions, it is essential **to establish a robust, interconnected industrial ecosystem** that brings together the inland waterway sector, other waterborne industries, shipyards, equipment manufacturers, energy suppliers and ports. To reach Europe's industrial and climate objectives and maintain global leadership in the waterborne sector, it is vital to invest, support and strengthen this ecosystem, including the skilled and dedicated workforce at the heart of it.

Industrial Maritime and Port Strategies • May 2025 Page 1 of 12
Statement IWT and Ports sector

WP2 Development of Digital Twin

The Digital Twin (DT) enables **quantitatively simulating different policy scenarios and options** to assess the contributions on **modal share** by the NAIADES III measures and **emission reductions** and the **impacts for the various stakeholders** involved.

This WP is being developed in 3 stages:

- Development of KPIs that need to be quantified (along with the main scenarios that need to be analysed) -> completed, see report D2.1
- The further development of the DT -> report submitted August 2025 (D2.2)
- DT will be used to make the policy analysis (ongoing).

WP3 Label for vessels on EU Waterways

First action: updating state-of-play => completed, see report D3.1

Several papers prepared and discussions with EC Technical Common Expert Group and CCNR correspondence group.

Working towards a dashboard of different energy and emission performance indicators:

- Air pollutant emissions (NOx, PM, ..): grams per kWh
- GHG intensity of energy use: grams CO2e /MJ
- Carbon emissions after energy conversion: grams CO2e per kWh
- Energy Efficiency Design Index (EEDI): kWh per ton.kilometre
- Operational GHG emission performance: Grams CO2e per ton.kilometre

WP4 Zero-emission innovations and their deployment / roll-out

- First action “Stocktaking and subsequent selection of cases, initiatives, and good practices, considering results from other projects” -> completed, see report D4.1

Ongoing:

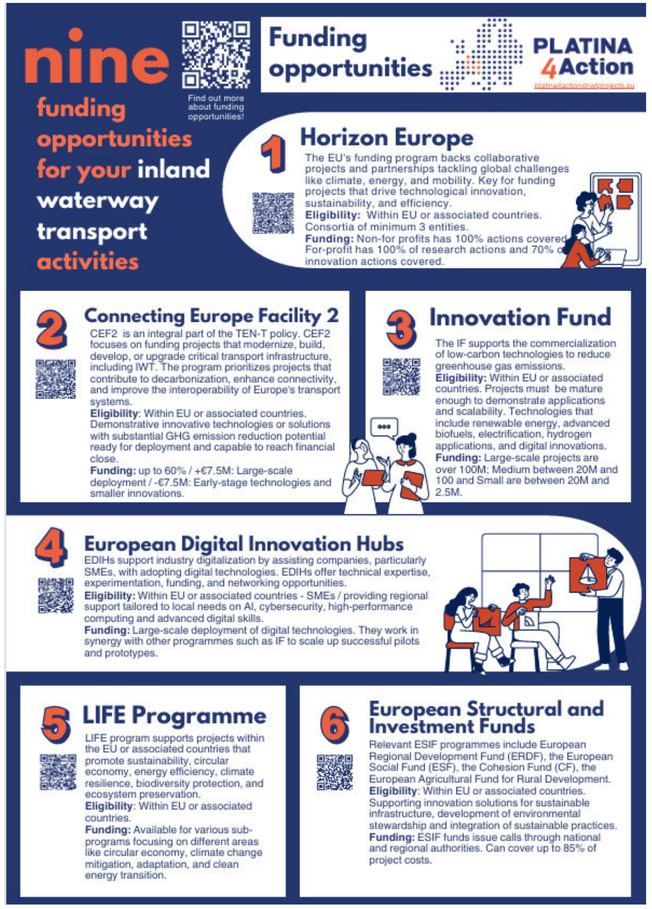
- TCO modelling and identification of financing requirements considering new business models and ownership models, including options for co-funding options.
- Identification and validation of barriers and possible actions to overcome them.

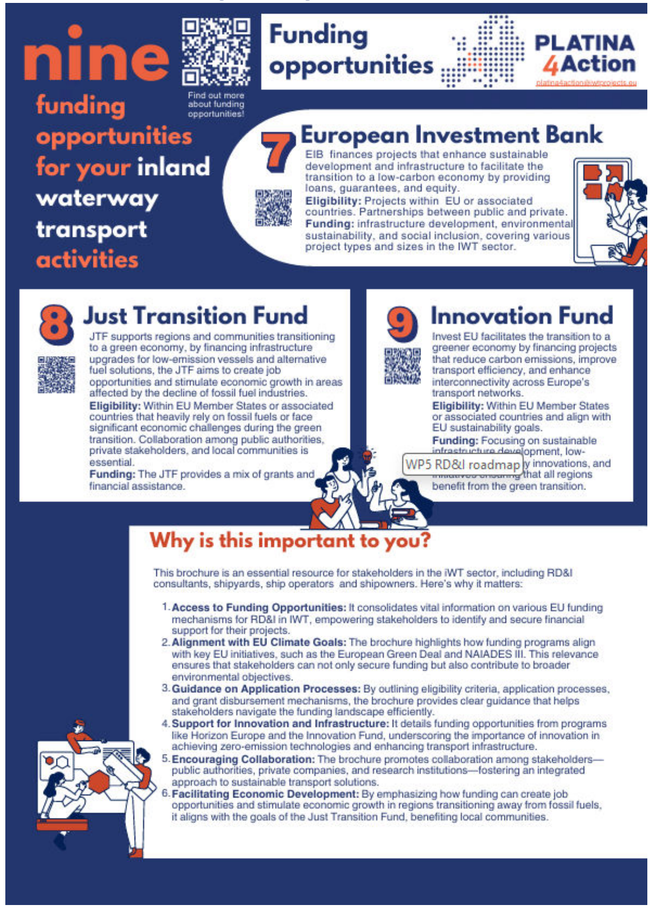
Planned for 2026:

- Elaboration of actions and required framework conditions for implementation => Action Plan
- Facilitating the development of a project proposal for deployment breakthrough making best use of existing financial instruments => Pilot Action

WP5 RD&I roadmap

- Overview on EU funding instruments available for RD&I and deployment in IWT





WP5 RD&I roadmap

Overview on EU funding instruments available for RD&I and deployment in IWT:

- Full report D5.1
- Short brochure (English)
- Long brochure (English)
- Long brochure (German)
- Long brochure (Dutch)

Input given to RD&I priorities for 2026 – 2027 (HEU calls)

2026: Comprehensive RD&I roadmap (public-private initiative), focused on the new MFF: Horizon Europe post 2027/ FP10, European Competitiveness Fund and Connecting Europe Facility

WP6 IWT knowledge platform & events

Providing a platform for collaboration and engagement among relevant stakeholders interested in the transition to zero-emissions, smart IWT, and modal shift to IWW.

Objectives:

- Transfer and consolidate knowledge in the IWT sector and fostering dialogue
- Input and feedback from stakeholders on the topics addressed in PLATINA4Action.

Achievement Strategy:

- Organizing Stage Events, Technology Transfer Workshops, and stakeholder consultations to facilitate information exchange with experts and stakeholders.
- By ensuring synergies with relevant projects to optimize resource use and enhance outcomes => dedicated platform for IWT RD&I projects.

Task 6.1 - Synergies between European projects

IWT Projects Cooperation Platform

- Launch Date: 4 February 2025 at the Waterborne Days in Brussels
- 44 Complementary Projects contributing to innovation in inland waterway transport

Collaborative Ecosystem

- Serves as a hub for European RD&I projects in Inland Waterway Transport with thematic subgroups

Shared Objectives & Benefits

- Facilitates knowledge exchange among project coordinators
- Encourages best practices and alignment of research goals
- Focus on zero-emission technologies, digitalization, climate resilience, and a skilled workforce

Overcoming Barriers & Policy Influence

- Joint recommendations for policy measures and further research needs
- Enhances visibility of innovative solutions to policymakers, industry, and stakeholders

Website: European IWT Projects Cooperation Platform https://iwtprojects.eu/

LinkedIn channel: https://linkedin.com/company/iwt-projects

Task 6.2 – Technology Transfer Workshops

Focus on knowledge transfer to regional barge operators on green and connected IWT:

- 1st TTW: 30 May 2024, Gorinchem, The Netherlands
- 2nd TTW: 4 December 2024, Antwerp
- 3rd TTW: 26 and 27 May 2025, Duisburg
- **4th TTW: 3 November 2025 in Budapest**

- 5th TTW: **4 June 2026 in Gorinchem**, back-to-back with 2026 Maritime Industry fair.

- All materials are made available on the PLATINA4Action website: presentations, video registrations, see the events page

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Task 6.3 – Stage Events

- 1st Stage Event: 6 November 2024, Brussels
- **2nd Stage Event: 4 November 2025, Budapest**
- 3rd Stage Event: October 2026 presenting draft final results of PLATINA4Action
- All materials are made available on the PLATINA4Action website: presentations, video registrations, see the events page

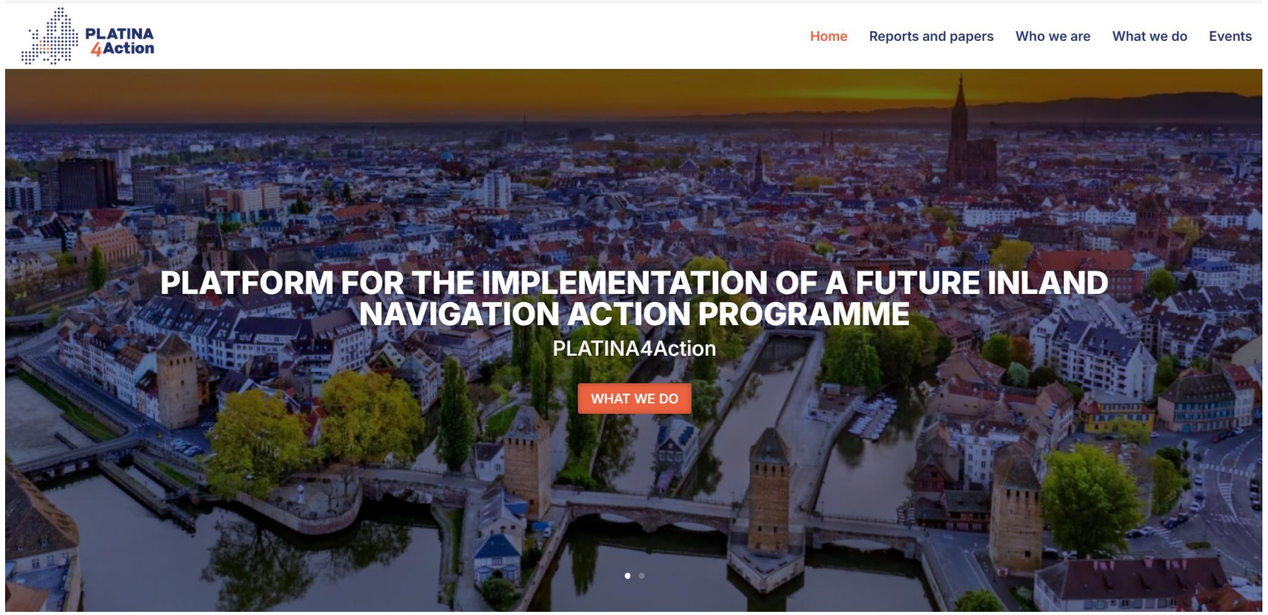
Project management and dissemination

- Mid-term review of project took place in August 2025
- Advisory board was established for peer-review on deliverables
- Communication and Exploitation strategy and instruments
- Website
- LinkedIn

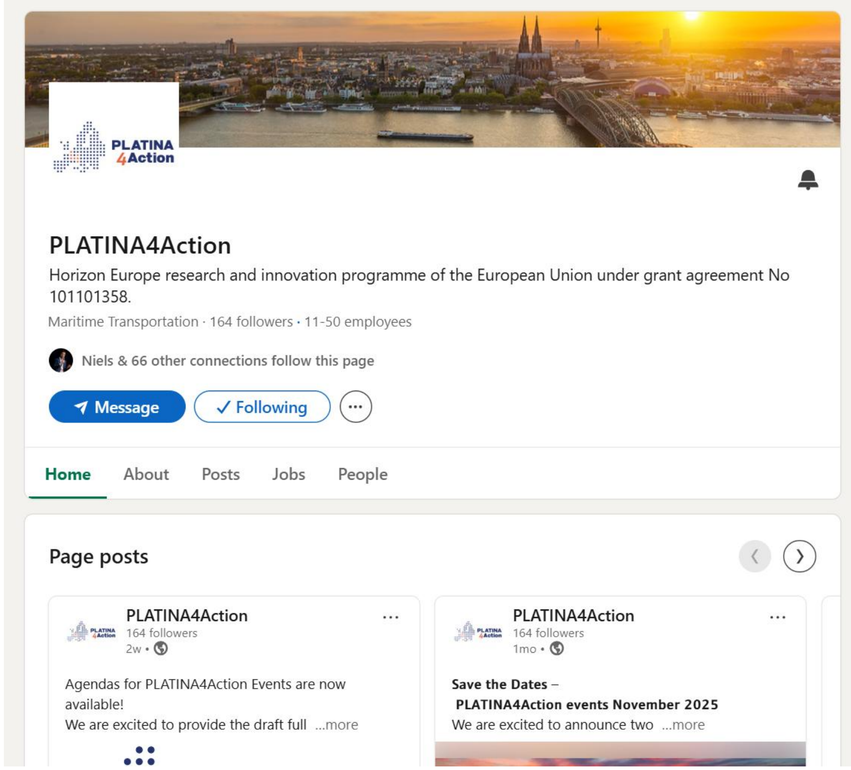
Get connected and stay tuned

Website: https://platina4action.iwtprojects.eu/

LinkedIn: https://www.linkedin.com/company/100895636



Platform for the implementation of the navigation action programme for action



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Have a fruitful event!

Thank you for your attention

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This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

Placing methodologies to enhance transparency on the energy efficiency and emissions performance of individual inland vessels within the context of the European Union inland navigation policy

Platina4Action Stage Event – 4 November 2025

Muhammed Elemenler
Policy Officer,
European Commission – DG MOVE

Inland navigation policy context

- In 2020, the Commission adopted its Sustainable and Smart Mobility Strategy.
  - “All transport modes are indispensable for our transport system and this is why they must all become more sustainable.”

- This is why in 2021, NAIADES III announced putting the sector on an irreversible pathway to reducing emissions.

Inland navigation policy

- NAIADES III, some relevant actions:
  - NAIADES III: Analysis to assess the need for measures for promoting low carbon/zero-emission vessels. → There is no measure identified at this stage which will reduce greenhouse gases from inland navigation. ETS2 and REDIII do not directly apply to IWT.
    - Internal assessment leads to the conclusion that an external study should be conducted which might identify possible regulatory changes which could contribute to the uptake of alternative fuels.
  - Elaboration of an EU energy index methodology for assessing carbon intensity levels of inland waterways vessels → EEDI.

Methodologies (identified by Platina4Action)

1. **Method A** (Air Pollutants in g/kWh): Based on onboard measurements, this method applies to vessels with pre-Stage V engines.
2. **Method C1** (GHG Intensity of Energy in gCO_2e/MJ): Focuses on fuel and shore power supply used by vessels.
3. **Method C2** (Combined GHG and Air Pollutants Emissions in g/kWh): Combines Method A and C1, assessing both air pollutants and GHG emissions, considering energy conversion efficiency.
4. **Method C3** (Operational Emissions in g CO_2/tkm): Uses operational data such as cargo, distance, and energy consumed (based on ISO 14083).
5. **Method C4** (Energy Efficiency Design Index - EEDI): A design-based approach to estimate emissions based on vessel specifications (g CO_2/tkm or pkm).

Role of methodologies

- If a policy is devised (e.g. recommendations, funding programmes or even legislation), there will be a metric, e.g. reduction of xkg of CO_2e.
- The metric needs to be measured → solid methodologies are needed.
- The methodologies vary in scope and purpose and therefore useful for different policies *goals*, e.g. reduction of overall GHG, increase of efficiency.
- Methodologies also show what can be done – limitations.
  - Useful to know first the methodology before adopting policy.

Methodologies and implementation

- Methodologies need to be widely accepted → solidity.
  - CESNI is a technical, independent and *inclusive* body. (Continuous) review of the methodologies could take place there.
- Possible use cases, also beyond legislation, should be discussed in Technical expert group of the European Commission.
  - No automatism between methodology and legislation.

Questions?

European Commission

Thanks

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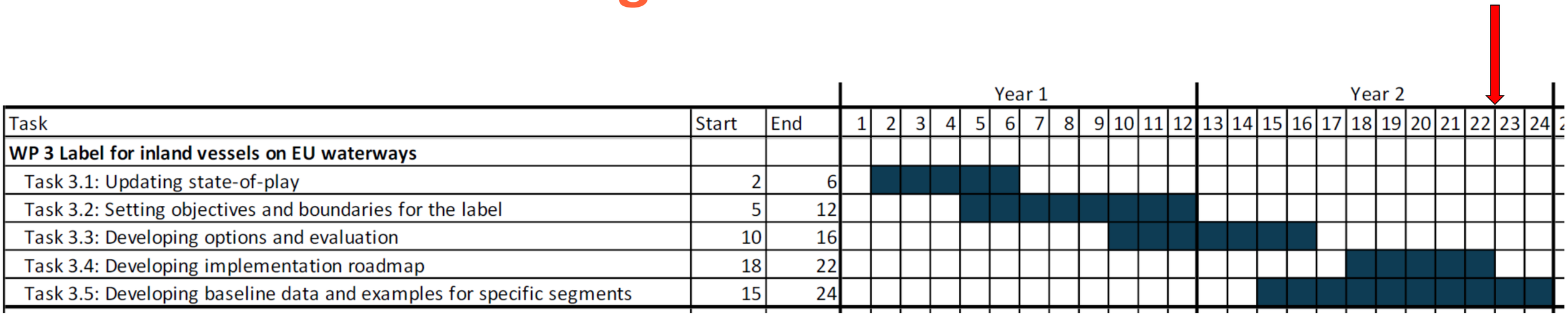
Presentation of the relevant work of PLATINA4Action with regard to draft standards for the measurement of energy efficiency emission performance of individual vessels in IWT, focusing on the energy efficiency design index and the operational emission performance expressed per ton-kilometer

2nd Stage Event – Budapest – 4 November 2025

Benjamin Friedhoff – based on work of SPB/DST within PLATINA4Action
as well as material from Jens Ley, Felix Roettig, Helmut Bross and Ruben Lindemann

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

P4A WP3 – Planning



Task	Start	End	Year 1												Year 2												
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	2
WP 3 Label for inland vessels on EU waterways																											
Task 3.1: Updating state-of-play	2	6		■	■	■	■	■																			
Task 3.2: Setting objectives and boundaries for the label	5	12					■	■	■	■	■	■	■	■													
Task 3.3: Developing options and evaluation	10	16										■	■	■	■	■	■	■									
Task 3.4: Developing implementation roadmap	18	22																		■	■	■	■	■			
Task 3.5: Developing baseline data and examples for specific segments	15	24															■	■	■	■	■	■	■	■	■	■	

Deliverable	Number	Name	Lead beneficiary	Type	Dissemination level	Due date (month)
D3.1	D6	State of play and requirements for the label for inland vessels	DST	R	PU	12
D3.2	D7	Proposed labelling concept and implementation roadmap	DST	R	PU	24

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Overview of methodologies

Air Pollutant emissions:

- A: Expressed in grams per kWh based on the draft standard developed within CCNR to be adopted by CESNI for use of CCNR and EU Member States

Climate change / Greenhouse gas (GHG) emissions:

- C1: Grams CO2e per MJ ex post based on the FUEL EU Maritime regulation (methodology as developed within CCNR / CESNI)
- C2: Grams CO2e per kWh ex post as based on the Dutch label methodology
- C3: Grams CO2e per t·km ex post (MRV / CountEmissions EU / ISO14083:2023)
- C4: Wh per t·km ex ante ($EEDI_{Inland}$)

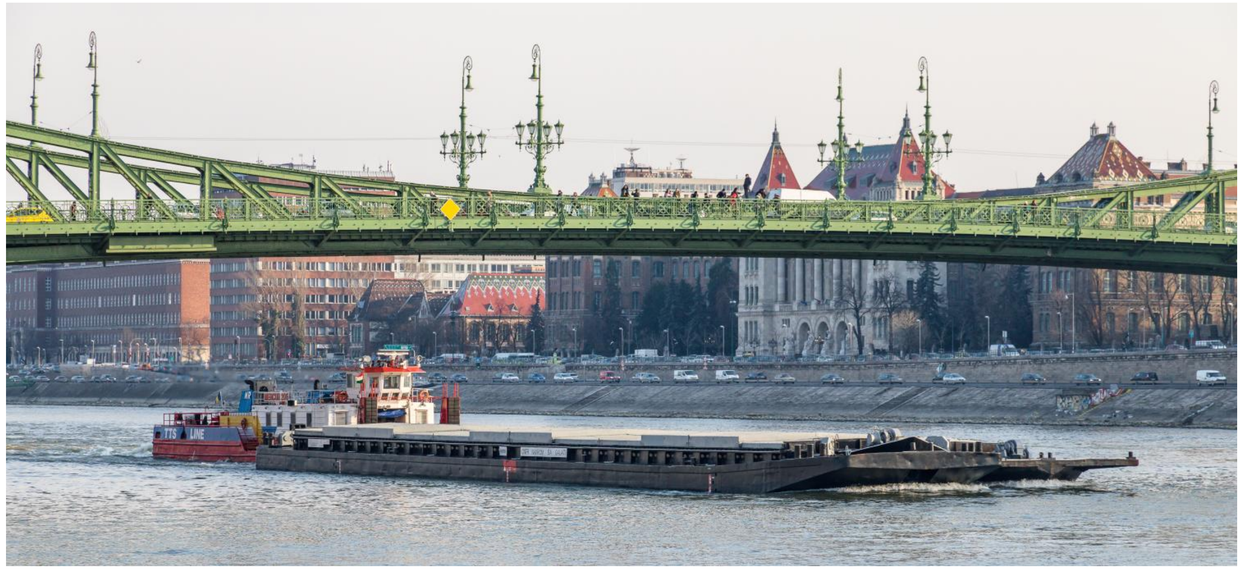
C3: Grams CO2e per t·km ex post (operational)

Purpose: GHG calculations of transport services

Scope: Freight and passenger vessels, WTW

Data / Input: Real operational data:

- Gross used energy and type of energy
- Amount of transported cargo or passengers
- Distances of loaded and empty trips



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C3: Grams CO2e per t·km ex post (operational)

Two types were distinguished:

Basic level (C3a): aggregated data for the operational performance over a certain (longer) short-term. Smoothens influences from external factors into some extent such as water levels and varying load rates of the vessel => Large synergy with C1 and C2.

Advanced / detailed level (C3b): operational performance on individual trip and shipment level, aligned with ISO14083:2023 and CountEmissions EU => less synergy, more demanding.

C3a: Emission Reporting for IWT

SME Challenges

“The inland waterway sector is dominated by family-owned SMEs with limited administrative capacity, making it crucial to minimize additional reporting burdens”

Existing Data Utilization

“C3a can leverage existing mandatory data streams such as fuel logs and voyage reports with minimal administrative effort while maintaining data quality”

Trade-offs C3a vs. more advanced C3b

Basic Level Design

C3a will be designed as a basic level to lower the threshold for emissions reporting across the entire inland waterway fleet, making it accessible to SMEs.

Future Transition

While C3a uses aggregated data, it serves as a stepping stone toward full alignment with ISO 14083 as technology and regulatory frameworks advance.

C3a Metric

C3a provides a metric in grams of CO2 equivalent per ton-kilometer (gCO2e/t·km) that reflects real operational performance.

Privacy and Data

C3a uses aggregated data to protect privacy, ensuring that individual vessel operations remain confidential while still providing valuable emission insights.

CDNI Bunker Notes as Fuel/Energy Data

CDNI Fuel Data

Since 2009, the CDNI system has fuel consumption data through bunker delivery notes, which can serve as the primary input for C3a emissions calculations.

ECO Account Statements

Operators maintain ECO accounts (with ECO IDs per ship) that record fuel purchases, providing a comprehensive dataset for emissions reporting.

Reduced Administrative Burden

By leveraging existing CDNI data, C3a can minimize the need for additional fuel metering and documentation, reducing administrative effort for operators.

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EURIS/ERINOT Voyage & Cargo Journals

Mandatory Reporting

EURIS/ERINOT requires mandatory electronic reporting of voyage and cargo data for vessels over 110 (soon 86) meters and specific transport operations.

Voyage Data

These platforms record departure, arrival, cargo type, and tonnage, providing essential data for calculating transport performance in ton-kilometers.

Loaded and Empty Legs

The voyage journals distinguish between loaded and empty voyages, ensuring accurate emissions attribution and transport performance calculations.

Data Integration

C3a integrates EURIS data, leveraging existing digital infrastructure to streamline emissions reporting without additional effort.

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Recognising Fleet and Operational Diversity

C3a values must be interpreted carefully.

Direct comparisons across different operational contexts can be misleading.

Regional & Operational Variability

Same vessel types can show different C3a values due to currents, water levels, and route characteristics.

Vessel Size Effects

Smaller vessels naturally have higher $gCO_2/t{\cdot}km$.

Operational Profiles

C3a fits point-to-point freight, not support and service vessels.

Commodity Weight Influence

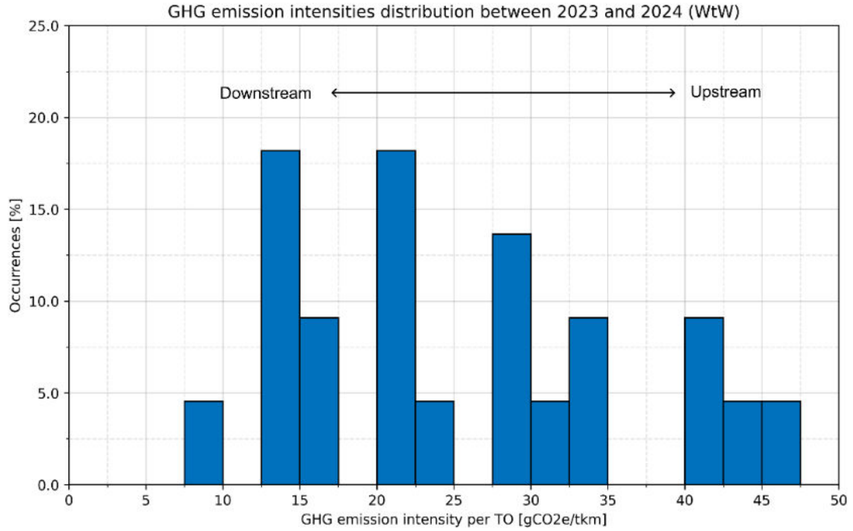
Heavy goods tend to produce “better” values compared to light goods, which reflects the nature of the cargo rather than transport efficiency.

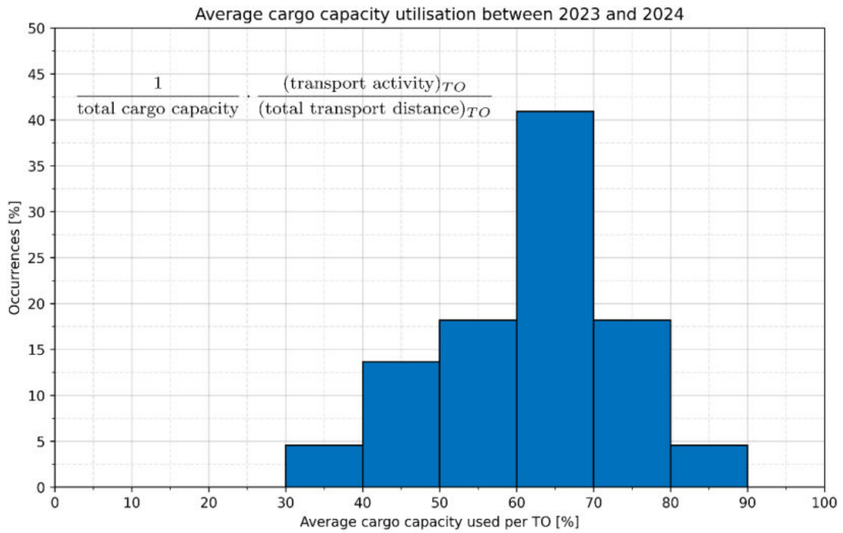
Geographic & Industrial Paradox

Longer distances “improve” scores and not supply chain efficiency (may reward inefficient logistics).

C3b: Grams CO2e per t·km ex post (operational)

- Case study according to ISO 14083:2023
  - log book of a coupled convoy
  - tramp service in Rhine-Alpine and Rhine-Danube
  - single destination transport
  - empty trips assigned to following transport operation
  - 0.57 gCO2e/gFuel (WTT – vehicle energy provision)
  - 3.17 gCO2e/gFuel (TTW – vehicle operation)
  - burned lubricants neglected
  - about 25 gCO2e/t·km (WTW) average

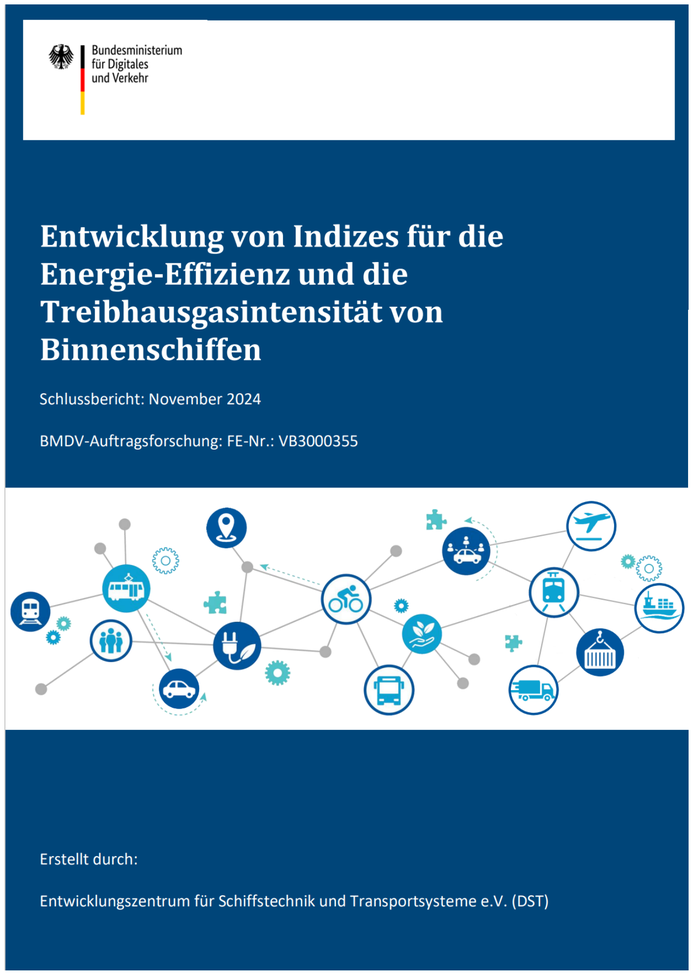


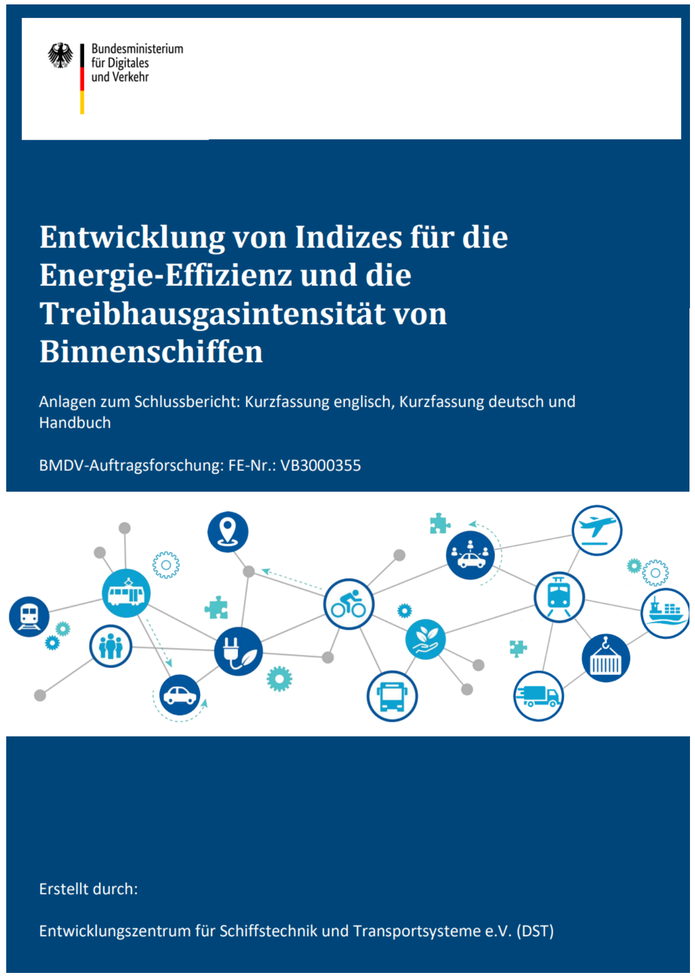


C4: EEDI-Development / General Overview

- 1997: IMO introduces MARPOL Annex VI “Regulations for the Prevention of Air Pollution from Ships”
- 1998: IMO GHG studies initiated to estimate emissions from global shipping
- 1998 – 2007: Data collection and definition of reference lines
- 2013: EEDI / SEEMP become mandatory for new / existing ships
- 2015/2020/2025: Correction factors for reference lines lowering $EEDI_{Required}$ for some ship categories
- 2019: BMV R&D project 40.0399/2017, Evaluating the energy requirement of inland vessels using energy efficiency indices (DST Report 2252 Summary, translated in the context of CESNI/PT)
- 2025: BMV Project VB3000355, “Energy efficiency and greenhouse gas intensity of inland waterway vessels” (DST Report 2376 summary, translated by BMV)
- 2025: Modifications based on discussions with member states and experts; draft standard by PLATINA4Action

$EEDI_{Inland}$ as proposed in German Studies





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C4: Wh per t·km ex ante ($EEDI_{Inland, P4A}$)

Purpose: Improving designed energy efficiency of vessels (hydrodynamics, lightweight)

Scope: Freight and passenger vessels

Data / Input:

- Idealised conditions (displacement, waterway)
- Predefined power or speed
- Measurement of shaft power or fuel flow

Ex-ante assessment based on pre-defined settings under ideal conditions. Makes benchmarking between vessels more feasible. Acknowledges vessel size differences.

C4: Wh per t·km ex ante ($EEDI_{Inland}$)

Advantages of an ex-ante rating system of energy efficiency

- Support of vessel owners in investment decision
- Facilitating the sale of energy efficient newbuilds for shipyards
- Transparent basis for incentives and subsidy programs
- Possibility of classifying energy efficiency as an element in IWT certification system
- Possibility to monitor progress in greening of the fleet

Testing areas

I. Deep water

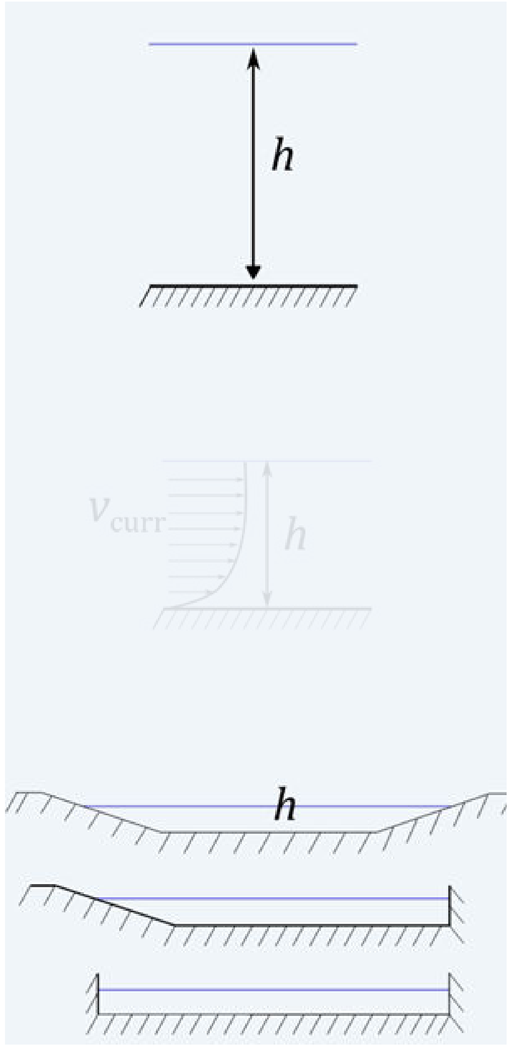
- water depth h > 5 m
- fairway width $B_W \geq 200$ m
- current velocity $v_{curr} < 3$ km/h

II. Restricted water depth (with current)

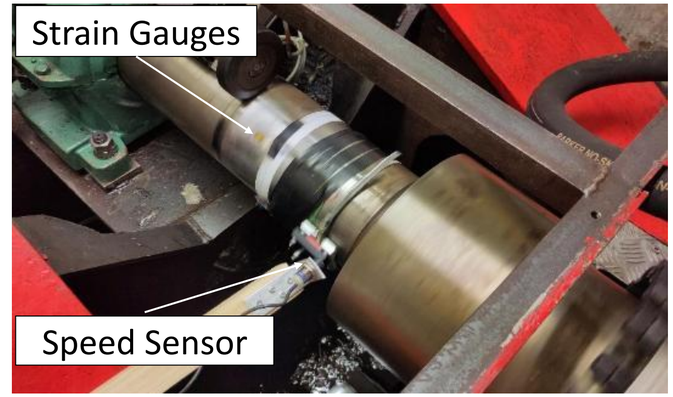
- water depth 3.5 m ≤ h ≤ 7.5 m
- current velocity 2.0 km/h ≤ v_{curr} ≤ 8.0 km/h
- water depth / draught ratio h/T ≥ 1.4

III. Channels

- different fairway widths
- different channel section types
- water depths 3.9 m ≤ h ≤ 4.1 m



Ship condition



- Draught > T (0.7 · max loading)
  - Same as used for navigation tests according to ES-TRIN
  - Even keel condition
- Strain gauges on propeller shaft(s) or
  fuel consumption measurements
- Shaft power or speed set to a predefined value
  - Predefined power based on the testing area, ship type, ship dimensions, current and water depth
  - For trials in area III, the speed over ground is defined and the required power is documented

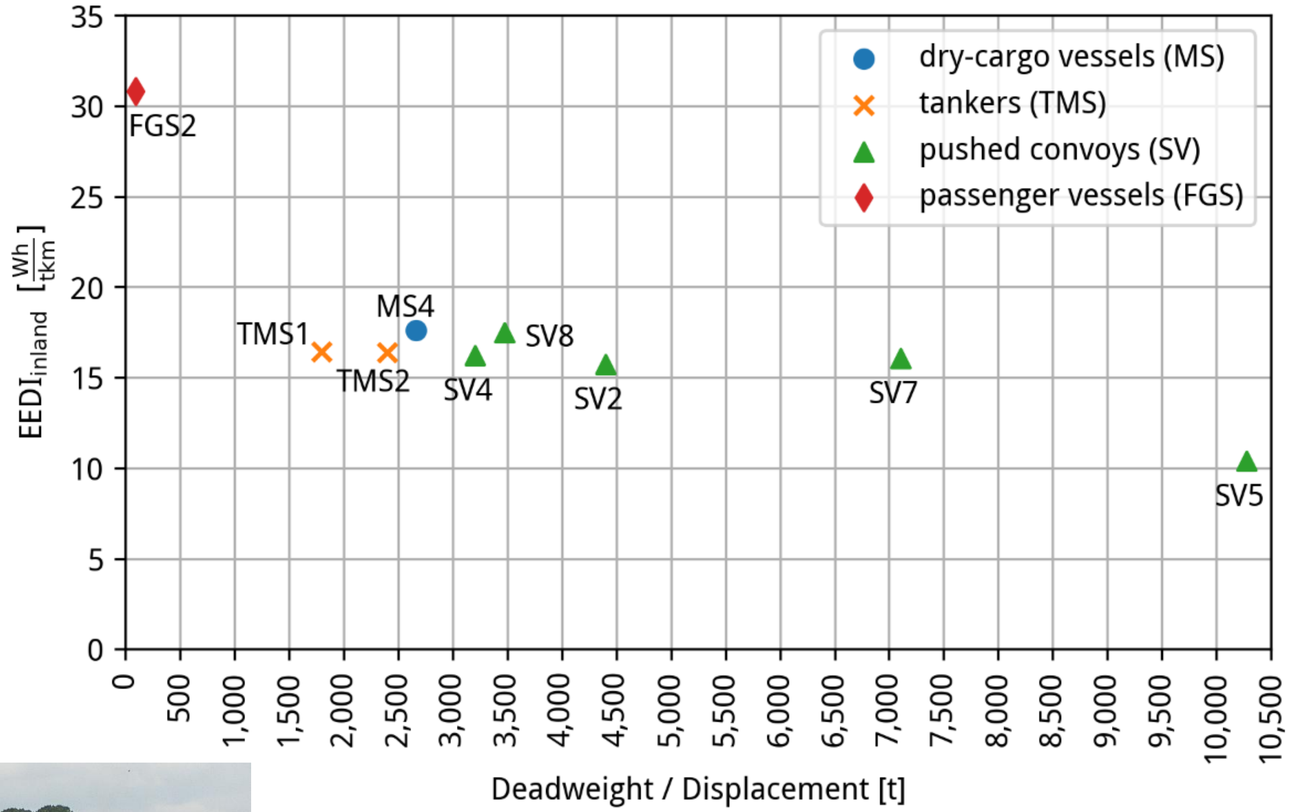
Efforts

$EEDI_{Inland}$ determination based on strain gauge measurements requires the following steps and approximate time efforts for an experienced test engineer or technician:

1. Communication with the ship operator and preparation of the required measurement equipment depending on the specific ship type and demand (≈ 3 - 5 hours)
2. Installations on board (≈ 3 - 5 hours)
3. Performing the dedicated EEDI-test runs (≈ 2 - 3 hours)
4. Dismantling the installation (≈ 1 hour)
5. Performing the calculations and documentation of the results (≈ 2 - 3 hours)

Resulting $EEDI_{Attained}$ values

- Deep water (A I)



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Draft Procedure for $EEDI_{attained}$ (WIP)

Draft version: 2025-08-20

Procedure for calculation of the Attained Energy Efficiency Design Index of inland waterway vessels

Es konnten keine Einträge für ein Abbildungsverzeichnis gefunden werden.

1. Introduction

The $EEDI_{INLAND}$ represents a measure of vessels' energy efficiency, expressed in terms of energy consumption per transport activity (kWh/t·km). Two terms are distinguished depending on the method of determination:

- Estimated $EEDI_{INLAND}$: a value obtained from predictive approaches such as computational fluid dynamics (CFD) or model tests. This value is typically determined prior to full-scale trials and serves to verify whether the design of the new vessel or the retrofit meet the intended efficiency objectives;
- Attained $EEDI_{INLAND}$: a value calculated on the basis of measurements collected during speed-power trials conducted on the full-scale vessel under defined test conditions. This value is used to verify compliance in full scale.

Predictive approaches used to estimate the $EEDI_{INLAND}$ are not addressed in this document and will be covered separately. The purpose of this document is to provide a comprehensive methodology for computing the Attained $EEDI_{INLAND}$.

2. References

The following documents were used for the development of this guideline:

1. Energie-Effizienz und die Treibhausgasintensität von Binnenschiffen, DST Report Number 2376, November 2024;
2. European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN), Edition 2025/1;
3. Directive (EU) 2016/1629;
4. Preparation, Conduct and Analysis of Speed/Power Trials, ITTC, Revision 08, 2024;
5. Jiang, T., A new Method for Resistance and Propulsion Prediction of the Ship Performance in Shallow Water, Proceedings of the 8th International Symposium PRACS'01, Shanghai, China, 2001;
6. Jiang, T. and Friedhoff, B., Über die Umrechnung des Widerstandes und der Propulsionseigenschaften von einer auf eine andere Wassertiefe (On the Conversion of Resistance and Propulsion Quantities from one Water Depth to Another One). In: STG-Jahrbuch, 2003.
7. Bouwmeester, J. and van de Kaa, E. J. and Nuhoff, H. A., and van Orden, R. G. J., Calculating return flow and water-level depressions (new method), in Proceedings of the 24th International Navigational Congress PIANC, Leningrad (Saint Petersburg), Russia, 1977;

3. Definitions, symbols, and abbreviations

For the purposes of this document, the following definitions shall apply:

- *Attained $EEDI_{INLAND}$*: it is the $EEDI_{INLAND}$ value calculated on the basis of measurements collected during speed-power trials conducted on the full-scale vessel under defined test conditions. This value is used to verify compliance in full scale.
- *Cabin vessel*: a vessel constructed and equipped to carry more than 12 passengers with overnight passenger cabins;
- *Convoy*: a rigid or towed convoy of vessels;
- *Day trip vessel*: a vessel constructed and equipped to carry more than 12 passengers without overnight passenger cabins;
- *Deadweight*: it is the difference between the displacement of a ship and the lightweight of the ship. In practical terms, the maximum deadweight is the maximum possible cargo load for the ship (including cargo, fuel, fresh water, ballast water, provisions, passengers, and crew);
- *Motor cargo vessel*: a vessel, other than a motor tanker, intended for the carriage of goods and built to navigate independently under its own motive power;
- $EEDI_{INLAND}$: parameter that reflects the design energy efficiency of vessels;
- *Estimated $EEDI_{INLAND}$*: it is the *$EEDI_{INLAND}$* value obtained from predictive approaches such as computational fluid dynamics (CFD), empirical models, or model tests. This value is typically determined prior to full-scale trials and serves to verify whether the design of the new vessel or the retrofit meet the intended efficiency objectives

5.2 Determination of the Attained EEDI

Once the required information has been collected and corrected, if necessary, from water current and water depth, the Attained $EEDI_{INLAND}$ is calculated using the following formula:

$$\text{Attained } EEDI_{INLAND} = \frac{P_S}{V_S \cdot (\text{DWT or } \Delta)} \quad \text{in} \quad \left[\frac{\text{kWh}}{\text{t·km}}\right] \qquad (1)$$

Table 1 provides the definitions of all terms used in the $EEDI_{INLAND}$ calculation formula. Several fuels with different properties, such as LNG or synthetic fuels (e.g., Methanol), can be taken into account in the $EEDI_{INLAND}$ calculation, with the proper SFC and ε values.

Table 1: Definitions and units of measurement of parameters used in calculating the Attained $EEDI_{INLAND}$.

Parameter	Unit of measurement	Definition	Determination
P_S	[kW]	Average shaft power*. This may be the set power for vessels tested in Zone A1, or the achieved power for vessels tested in Zone A2, where, conversely, the speed over ground is set.	It can be a measurement obtained indirectly from fuel consumption meter, shaft torque/propeller speed measurement, and electrical power.
V_S	[km/h]	Average speed of the vessel over ground*. This may be the set speed for vessels tested in Zone A2, or the achieved speed for vessels tested in Zone A1, where, conversely, the power is set.	The speed over ground is measured using GNSS.
DWT or Δ	[t]	Deadweight (for dry motor cargo vessels, container vessels, motor tankers, and pushed convoys) and displacement mass (for passenger vessels)	Determined through the vessel's draught marks (or draught measurement system, if applicable) and hydrostatics.
* The term *average* refers to the mean of two runs, one downstream and one upstream (in absence of current, two counter runs) along the same geographical track. Without water current, averaging helps minimise minor asymmetries. When the water current is present, it also compensates for its influence on power and speed measurements.			

5.3 Power or speed settings

For vessels allowed to operate in Zone A1, as defined in this document, the $EEDI_{INLAND}$ test requires setting the shaft power and measuring the corresponding speed over ground, even when the water depth is shallower than 7.5 m:

$$P_S = \left(a_1 + a_2 \cdot e^{B/a_3}\right) \cdot (\text{DWT or } \Delta) \qquad [\text{kW}]$$

Where B represents the vessel's breath in meters, DWT represents the deadweight in tonnes, Δ represents the displacement in tonnes, and the regression coefficients are reported in the Table 2. Only in the case of passenger vessels, displacement Δ shall be used instead of deadweight. Shaft power can be determined using one of the following measurements:

- Fuel consumption meter;
- Torque and propeller speed measurement;
- Electrical power measurement.

Table 2: Regression coefficients for shaft power computation[1].

Vessel type	a_1	a_2	a_3

[1] From reference 1: Energie-Effizienz und die Treibhausgasintensität von Binnenschiffen, DST Report Number 2376, November 2024.

With reference to Figure 2, the inputs required for the computation and the outputs are the following:

1. B: breadth of the ship at midship [m];
2. T: draught of the ship at midship [m];
3. A_M: area of midship section [m^2];
4. B_0: maximum breadth of the fairway cross-section at the waterplane [m];
5. n: slope of the fairway cross-section (horizontal-to-vertical ratio of the side slopes)[7] [-];
6. h: water depth [m];
7. z: sinkage input of the vessel (used to estimate speed over ground) [m];
8. V_S: estimated speed over ground at which the vessel experiences the sinkage z at water depth h in the given fairway [m/s].

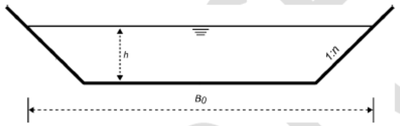


Figure 2: Fairway's parameters overview.

The procedure is explained as follows:

1. Determine the area of the cross-section:
$$A_0 = B_0 \cdot h - n \cdot h^2$$
2. Determine the water depth of an equivalent rectangular fairway with the same cross-sectional area A_0 and same breath B_0:
$$\bar{h} = \frac{A_0}{B_0}$$
3. Given a sinkage z, solve the following expression to determine the speed of the vessel at water depth h at which the sinkage occurs:
$$\frac{V_s}{\sqrt{g\bar{h}}} = \sqrt{\frac{2\left(\frac{z}{\bar{h}}\right)\left(1-\frac{A_M}{A_0}\right) - \left(\frac{z}{\bar{h}}\right)^2\left(1+\frac{B}{B_0}\right) + \frac{2}{3}\left(\frac{z}{\bar{h}}\right)^3\left(\frac{n\bar{h}}{B_0}\right)}{\left(\frac{T}{\bar{h}}\right)^2\left(\frac{A_M}{A_0}+\frac{z}{\bar{h}}\cdot\frac{B}{B_0}\right) + 2\left(\frac{1}{1-\left(\frac{z}{\bar{h}}\right)+\left(\frac{n\bar{h}}{B_0}\right)\left(\frac{z}{\bar{h}}\right)^2 - \frac{A_M}{A_0}} - 1\right)}}$$

In the previous equation, g is the gravity field strength expressed in m/s^2.

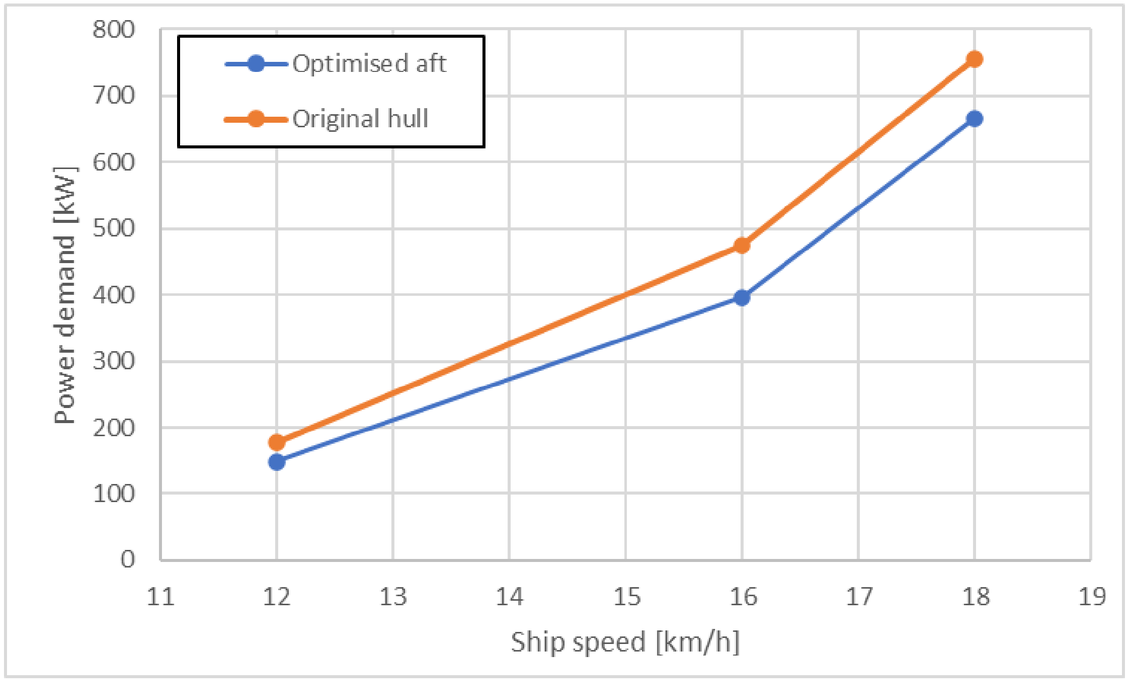
This process yields pairs (z, V_s) at the water depth h, which serve as inputs for solving the nonlinear equation presented in Section 5.4.1.

5.5 Wind correction

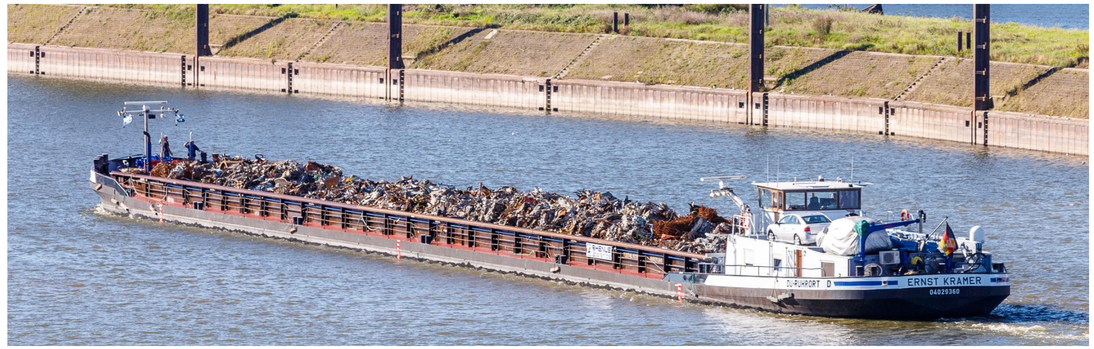
To be defined...

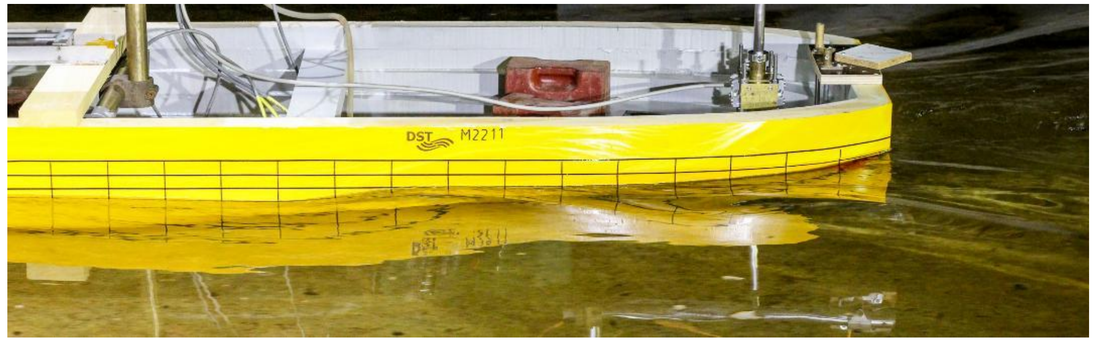
[7] In a symmetrical trapezoidal fairway, the side slope n defines how the fairway widens with depth. It relates the top width B_0 with the bottom width B_1, and the water depth h through the expression: $B_0 = B_1 + 2nh$. It is a positive number when $B_0 \geq B_1$.

Exemplary results



	Draft	$EEDI_{Inland}$	$EEDI_{P4A}$
Model baseline	2.8 m	11.5 gCO2e/t·km	15.7 Wh/t·km
Model new aft	2.8 m	10.9 gCO2e/t·km	13.1 Wh/t·km





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Conclusions – Next Steps

- Environmental performance of ships deserves more than one label.
- Fragmented reporting requirements need to be avoided.
- Efforts can be limited and synergies are available.
- Unlike other greening measures energy efficiency has high ROI chances.

- The draft standard and report will be published end of the year.
- Data needs to be collected based on the described methodology.
- Information must be linked in a tamper-proof and confidential manner.
- Diversity of the fleet and complexity of the sector require further investigations.

Thank you for your attention

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

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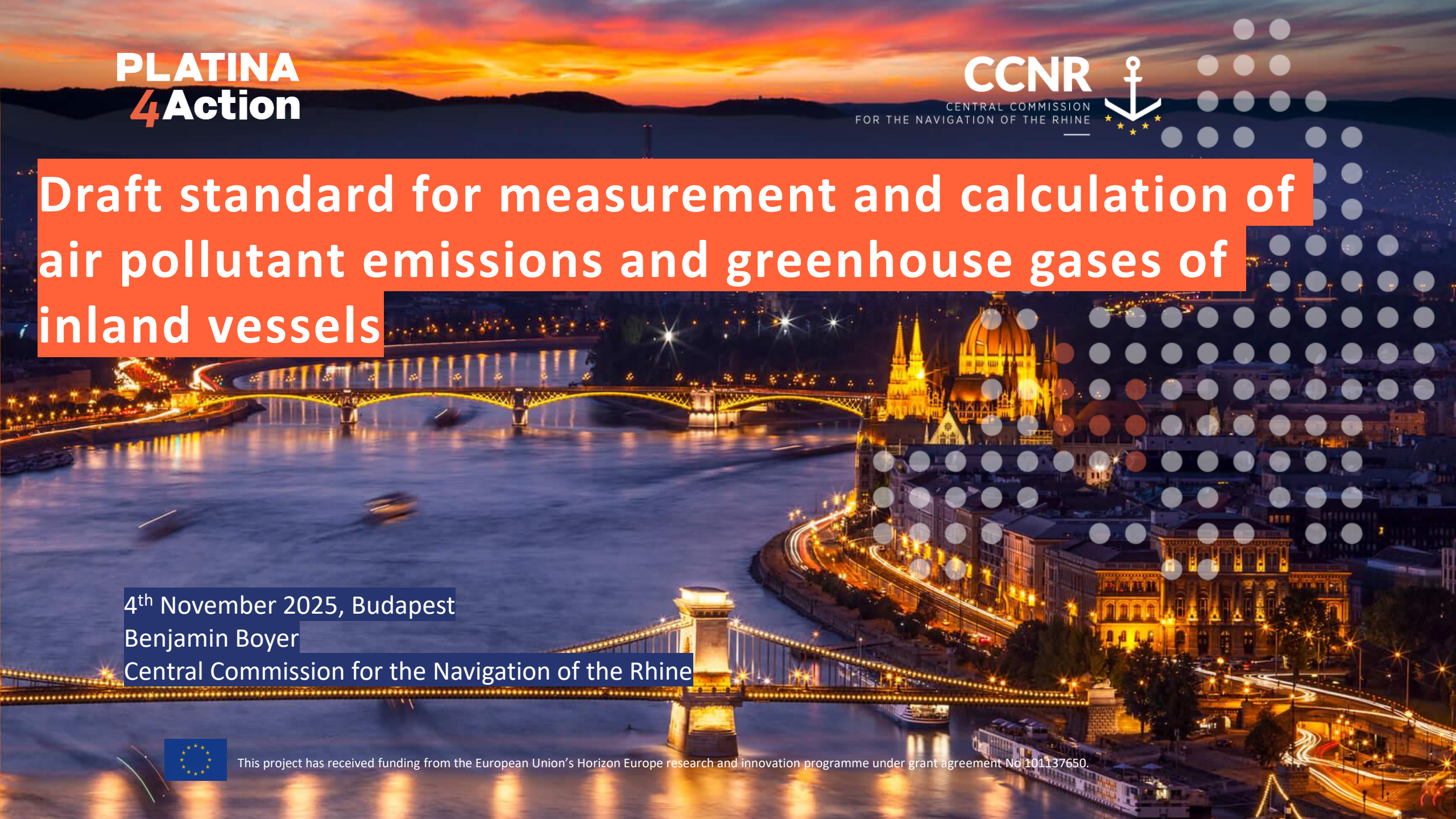
CCNR
CENTRAL COMMISSION FOR THE NAVIGATION OF THE RHINE

Draft standard for measurement and calculation of air pollutant emissions and greenhouse gases of inland vessels



4th November 2025, Budapest

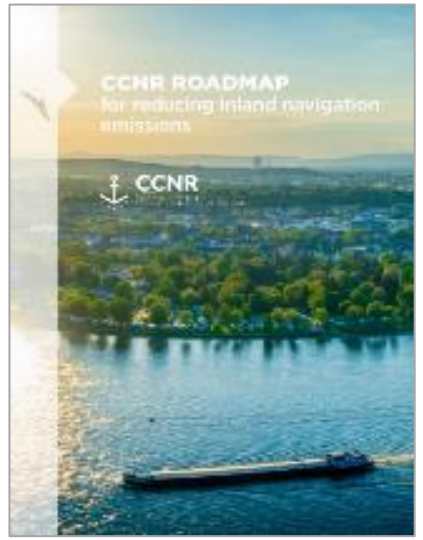
Benjamin Boyer
Central Commission for the Navigation of the Rhine

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

Summary

1. Policy objectives and activities
2. Rationale for a CESNI standard
3. Module on air pollutants = P4A Method A
4. Module on greenhouse gas intensity = P4A Method C1
5. Tentative timeline
6. Future implementation at CCNR level

1. Policy objectives and activities



- Mannheim declaration (2018)
  => **largely eliminating GHG and other air pollutants by 2050**

- CCNR and EU share the same **long-term vision** of inland navigation by 2050

- Emission reduction roadmap (2021)
  => measure V1 “Development of an environmental and climate protection label”

- CESNI work program (since 2023) – task PT4
  => To draft a standard relating to a **methodology for measuring and calculating** emissions from inland navigation vessels as well as **defining emission classes**

  => CCNR has committed to come up with a proposal

  => Implementation of standard is not mandatory (but international standard would avoid fragmented local/national methods)

2. Rationale for a CESNI standard

- provide a **recognised, reliable and reproducible methodology**
  (comparability of measurement results from one measurement body to another)

- make sure that **initiatives at local level** are based on harmonized European standard (CCNR, EU and wider)
  (i.e. ports or cities taking policy measures based on the level of air pollutant emissions)

- at least two modules:
  - **air pollutant** (g/kWh)
  - **greenhouse gas intensity** (gGHG/MJ) => decarbonisation efforts

3. Module on air pollutants – content

- **air pollutants =** carbon monoxide (CO), all hydrocarbons (HC) and nitrous oxides (NOx), as well as particulate pollutants (PM / PN), as referred to in Regulation (EU) 2016/1628.

To be distinguished from GHG (CO2 etc.)

- **target =** new engines and in service engines in inland vessels (e.g. CCNR I engine equipped with after treatment system)

in **all types of vessels** (including pushers, passenger vessels…)

- **onboard measurements**
  => **representative value in g/kWh** of the emissions <u>from engines</u>
  (aggregated at vessel level)

=> allow comparison with results obtained for other comparable vessels

3. Module on air pollutants – content

- based on
  - experience from NL + PROMINENT and
  - expertise from TNO (NL), BAW (DE) and CERTAM (FR)

- relies on a **simplified method** which assumes carbon balance and uses the **brake specific fuel consumption (BSFC)** to convert the exhaust gas concentrations into mass emissions per kWh of engine work

- relies on existing standard reference methods for measurement instruments

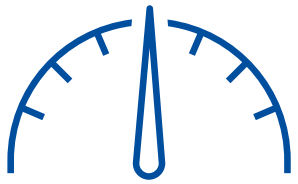
- duration validity (10 000 hours or 7 years)

- preliminary emission classes (using well known levels - CCNR I, CCNRII-EU IIIa, Stage V)

- defines a reporting format

3. Module on air pollutants – limits and uncertainties

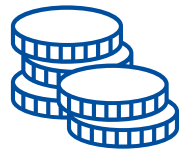
- adaptation to account for measurement **constraints that are absent** in laboratory settings (e.g. gas dispersion in the exhaust pipe)



- hardly possible to exactly match the **measurement points set in the test cycles** (E3, E2, C1, D2) used for the type-approval certification **in laboratory**
  => total deviation shall not exceed 10%

- uncertainties considered when checking compliance with emission limits
  => **conformity factor** (+/- 50% by comparison with the test carried out under laboratory settings)

- **cost of measurement preliminary estimated at 6000 euros on average**.
  => this is a limit if no proper incentives or restrictions are in place.
  => commitment NL, FR, DE, to test this protocol and evaluate the associated costs



3. Module on air pollutants – state of play

- collection of comments from NL, EMH, EUROMOT, GERC, IWTp
- draft standard **reviewed by CESNI/PT in March, June and September**
  - Improvement of the formula for sail propulsion (5.5.4)
  - No measurement required for type-approved Stage V engines (8.2.1). But this derogation is reviewed two years after the adoption of the CESNI standard (to be recorded in the CESNI resolution)
  - If the vessel owner declines to have measurements taken, the report shall explicitly state that "air pollutant emissions were not measured“ (8.2.2)
  - publication as a separate CESNI standard, rather than being incorporated into ES-TRIN.

3. Module on air pollutants – next steps

- standard stabilized at working group level (CESNI/PT).
  - Majority of Members supports this harmonised methodology that prevents fragmented approaches in Europe without mandating emissions measurement

- conducting **implementation trials** in France, Germany and the Netherlands

- expertise from the Joint Research Center (JRC) requested by EC

- possible update of the standard before submission to CESNI in 2026

4. GHG intensity module – content

- **Ongoing preparatory work within CCNR ! (not yet within CESNI)**
- Principle of adapting **Fuel EU maritime methodology** to inland vessels
- Formula to calculate GHG emissions **suitable for inland navigation vessels**
- Based on:
  - ⇒ quantity of fuel bunkered / electricity used
  - ⇒ **emission factors** for the well-to-tank (WTT) and tank-to-wake (TTW) elements : **to be adapted to IWT**
- Absolute GHG emissions expressed in tonnes should also be collected, to reflect the size and sailing profiles of the vessels.

4. GHG intensity module – added value

- Propose a **robust methodology** to calculate GHG emissions for the existing fleet

- For the majority of the existing fleet, greening will rely on the use of low-carbon fuels/energy.

- This module would allow to:

  ⇒ for IWT sector, **easily demonstrate its efforts to decarbonize**
  ⇒ monitor changes in fuel used by the vessel, ie **share of low carbon fuels / electricity**
  ⇒ demonstrate a vessel's **compatibility with the EU taxonomy**
  (which is notably used in national funding programs)

- In a **cost-effective way** (ie data collection / verification)

- Data calculated **should be reused** to implement other methodologies,
  such as ISO 14083 / CountEmissionsEU

4. GHG intensity module – state of play

- draft standard almost ready
- but **need to adapt the emission factors –** cooperation with Dutch agency RVO
- draft standard likely to be **submitted by CCNR to CESNI by end of 2025**
- examination and review of the draft standard in CESNI by Member States, international organisations and recognized associations
- wish of combining air pollutants and GHG intensity modules in one standard

5. Tentative timeline

<table>
<tr><td></td><td colspan="3">2025</td><td colspan="7">2026</td><td>2027</td></tr>
<tr><td></td><td>September</td><td></td><td>December</td><td></td><td>March</td><td></td><td>June</td><td></td><td>September</td><td></td><td>December</td><td></td></tr>
<tr><td rowspan="2">Air pollutants</td><td>Review of draft standard</td><td colspan="3"></td><td colspan="2"></td><td colspan="2"></td><td colspan="3" rowspan="3"></td><td colspan="2" rowspan="3">Adoption of CESNI standard (combining air pollutants and GHG in one standard)</td></tr>
<tr><td colspan="4">Implementation trials with the draft standard (NL, DE and FR)</td><td colspan="2">Incorporate lessons learned from the trials</td><td colspan="2"></td></tr>
<tr><td>GHG</td><td colspan="2"></td><td>Submission draft GHG standard (CCNR)</td><td colspan="4">Review of draft standard to incorporate the remarks and finalization of emission classes (CESNI/PT)</td></tr>
<tr><td>Implementation</td><td colspan="10"></td><td>regional, national or international initiatives</td></tr>
</table>

6. Future implementation at CCNR level

- Unanimous wish of Member States to allow the implementation of the standard after 2026

- Aims to achieve mutual recognition by one Member States of the “emission passport” issued by another Member State
  - vessel owners would need to obtain only one passport, which would then be recognized by all CCNR members.
  - renew passport possible in different Member States

- No obligation for Member States to issue the emission passport, which remains a voluntary measure

- No mandatory reduction targets (such as those in the FuelEU maritime initiative) and leaves this initiative to the EU level

- Ongoing analysis of possible legal instruments to implement a mutual recognition

THANK YOU FOR YOUR ATTENTION!

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

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Costs of greening the fleet

Gaps to be closed in the TCO and economic scenario analysis

4 November 2025

Martin Quispel
Stichting Projecten Binnenvaart - Expertise Innovation Centre inland Barging

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

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Technology options

Electric Propulsion Systems

- Fully electric vessels powered by (swappable) batteries
- Hydrogen Fuel Cell

Internal Combustion engines

- Hydrotreated Vegetable Oil (HVO) / E-diesel
- Bio-LNG
- Hydrogen
- Bio-Methanol

Combinations of above! Hybrid applications.

Zero-emission concepts have synergies with new vessel concepts and digitalisation

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Status quo of (near) zero-technologies

Solution	Most suitable sailing profiles	Most suitable vessel types	Market	Availability & maturity	CAPEX	OPEX
ICE HVO / e-diesel	All	All	All	**High**	€€	€ - €€
ICE H2	Middle-long distance, energy intensive	Container vessels, larger freight vessels	Rhine, Danube	Low, bottleneck in NRMM regulation	€€€	€€€€
FC H2	Middle-long distance, energy intensive	Larger container vessels	Rhine	**Medium**	€€€€	€€€€
ICE Methanol	Middle-long distance, energy intensive	Tankers, passenger vessels, dry cargo vessels,	Rhine, Danube	**Low, big bottleneck in NRMM regulation**	€€€	€-€€
Full battery electric	• Short distance container transports • Daytime operation, fixed routes (recharging over night)	Containervessels (swap) Dry cargo vessels Ferries, passenger vessels	Container inland routes, canals	**Depending on infra network development: OPS, swapping terminals**	€€€ - €€€€	€-€€
Hybrid concepts	All	All	All	**High**	€€€€	€ - €€

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2025 energy prices for the inland vessel owner

	Euro per kg		Lower Heating Value	Euro per GJ caloric value		Euro per GJ mechanical output (incl. efficiency)	
Energy type	**Minimum**	**Maximum**	**MJ/kg**	**Minimum**	**Maximum**	**Minimum**	**Maximum**
Fossil Diesel	0.65 € 54.60 /100 l	0.90 75.60 €/100 l	43	15.1	20.9	35.9	49.7
HVO	1.25	1.90	44	28.4	43.2	67.7	102.8
Bio-LNG	1.06	3.19	53	20	60.2	50.0	150.5
Bio-Methanol	0.85	2.15	20	42.5	107.5	111.8	282.9
Green H2	3.50	12.00	120	45.8	175	91.7	350
	Euro per kWh		**MJ/kWh**	**Euro per GJ input**		**Euro per GJ mechanical output (incl. efficiency)**	
Electricity	0.25	0.32	3.6	69.4	88.9	77.2	98.8
Pay-per-use battery packs	0.40	0.52	3.6	111.1	144.4	123.6	160.7

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Energy price scenarios

Based on International Energy Agency - World Energy Outlook publication 2024:

- Stated Policies Scenario (STEPS)
- Announced Pledges Scenario (APS)
- Net Zero Emissions Scenario (NZE)

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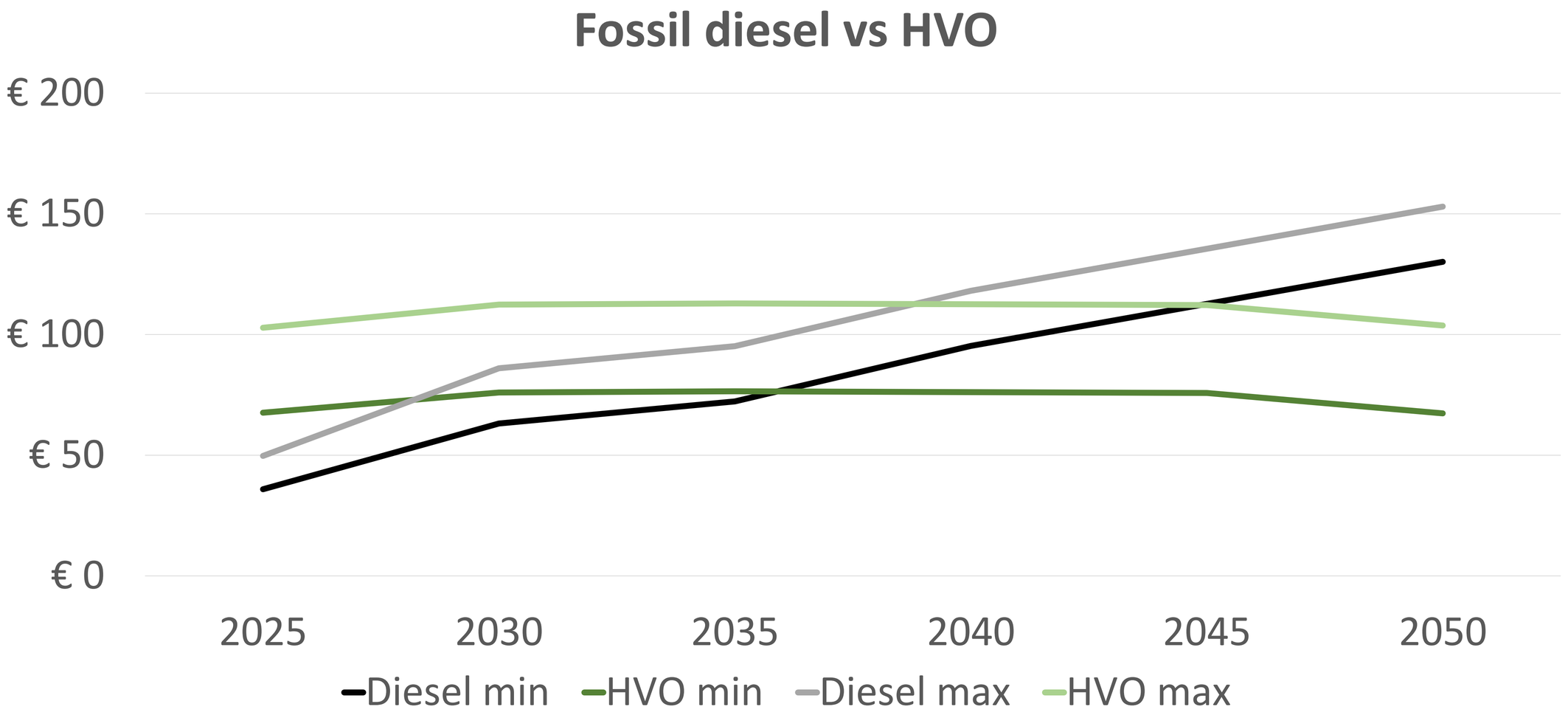
Energy price scenarios – internalised GHG costs

in euro per ton of CO2e emissions

	STEPS		APS		NZE	
	minimum	maximum	minimum	maximum	minimum	maximum
2025	€ 0	€ 0	€ 0	€ 0	€ 0	€ 0
2030	€ 96	€ 136	€ 104	€ 144	€ 236	€ 276
2035	€ 112	€ 152	€ 250	€ 290	€ 392	€ 432
2040	€ 189	€ 229	€ 396	€ 436	€ 548	€ 588
2045	€ 266	€ 306	€ 542	€ 582	€ 704	€ 744
2050	€ 343	€ 383	€ 688	€ 728	€ 860	€ 900

Energy prices according to STEPS scenario

in euro per GJ mechanical output power



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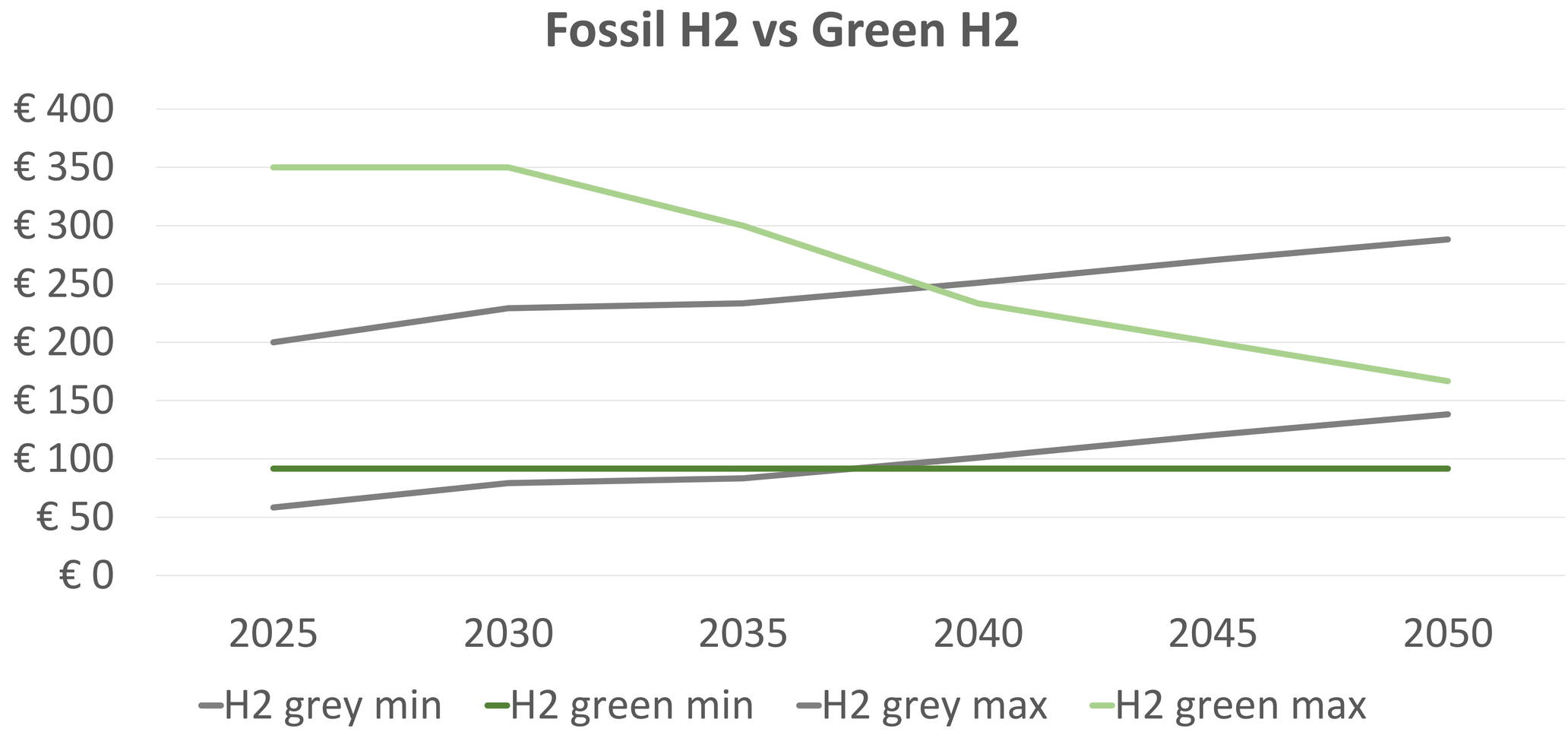
Energy prices according to STEPS scenario

in euro per GJ mechanical output power



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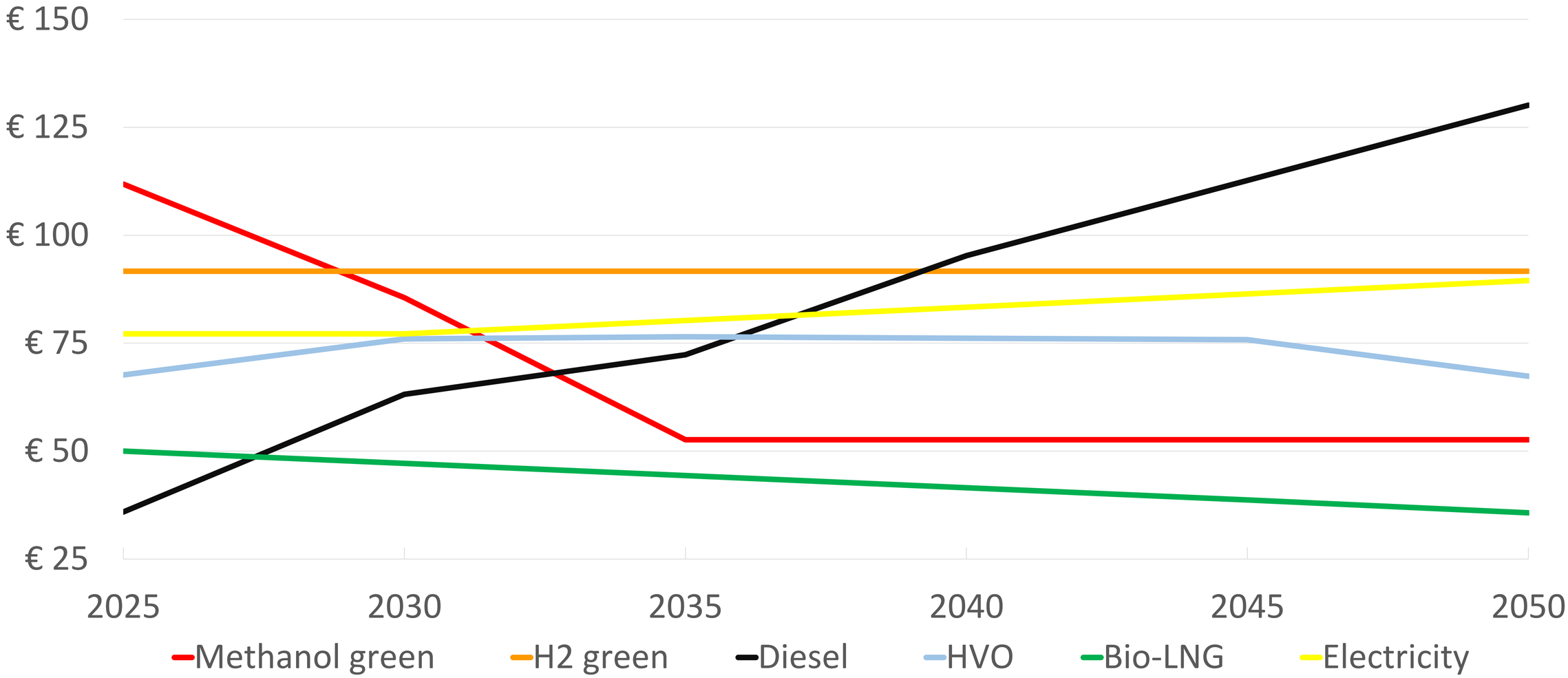
Energy prices: STEPS *minimum* scenario

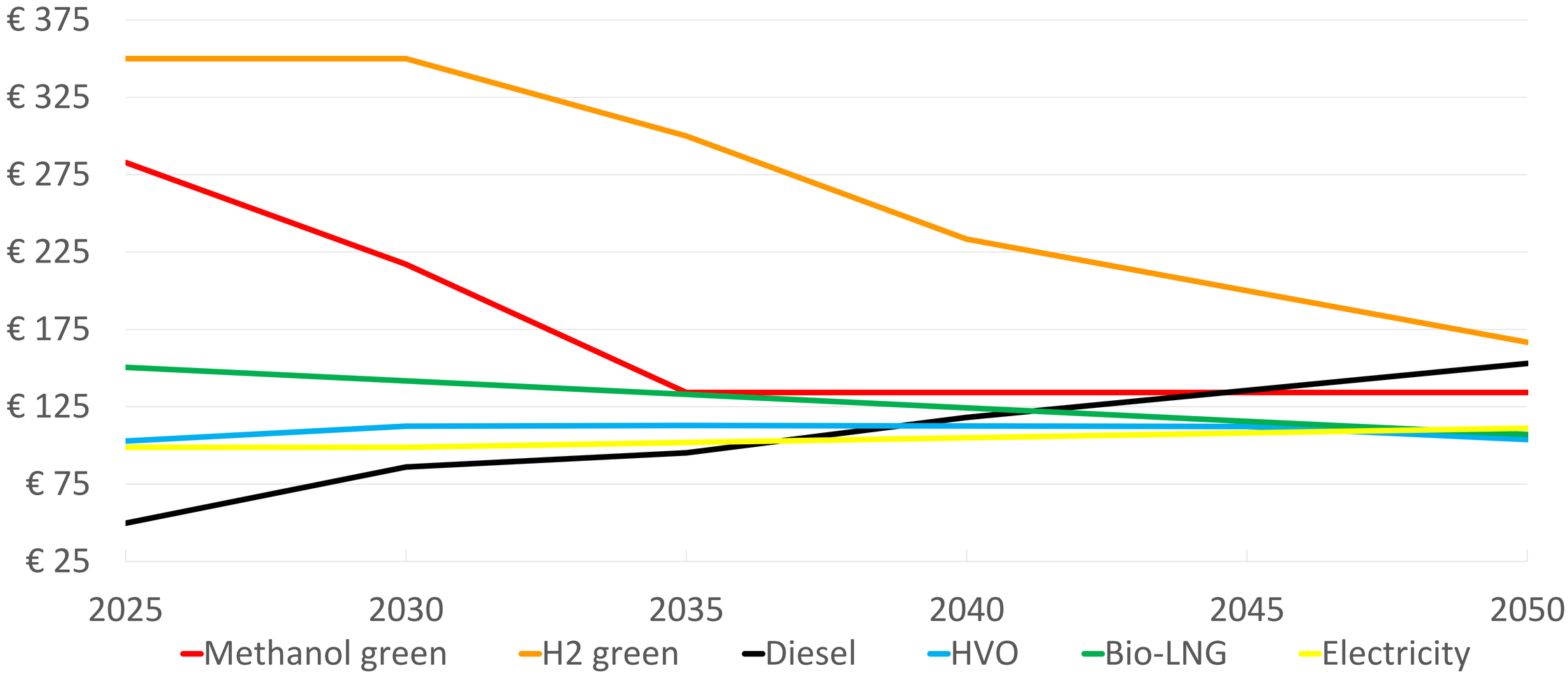
in euro per GJ mechanical output power



PLATINA 4Action

Energy prices: STEPS *maximum* scenario

in euro per GJ mechanical output power



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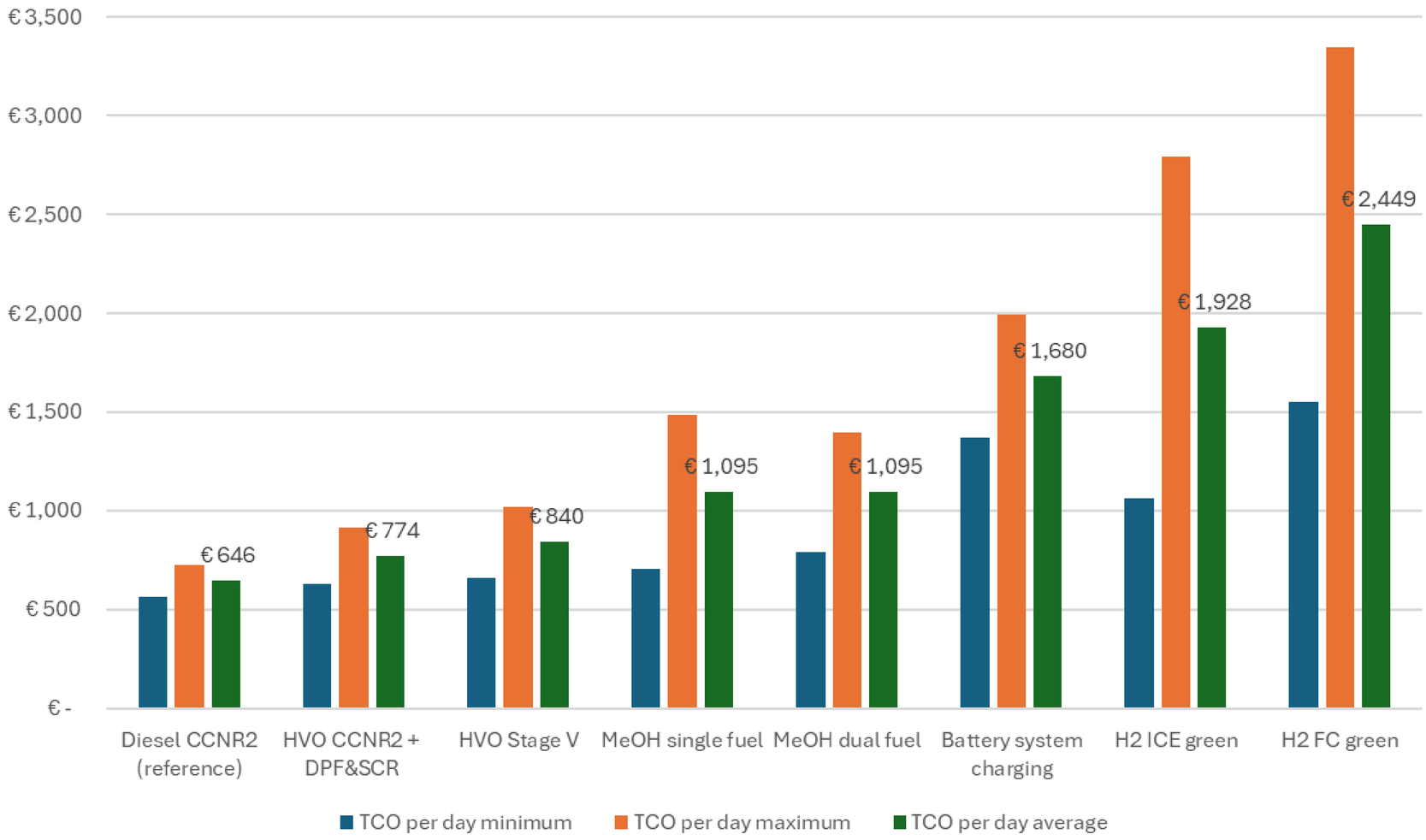
Total Cost of Ownership analyses

Scenario for a dry cargo vessel, investing in 2025:

- Dimensions: 105m * 9.5m* 3m, 2000 tons
- 750 kW installed power, CCNR 2 engine
- 135 tons of diesel per year
- Required autonomy: 1 day
  - 2.2 MWh storage for full battery-electric application
  - 133 kg H2 per day
- CAPEX prices today
- Energy prices according to STEPS scenario for 20 year period (2025-2044)

TCO – impact assessment: gaps versus diesel

TCO gap with diesel (avg)	
HVO CCNR2 + DPF&SCR	+20%
HVO Stage V	+30%
MeOH single fuel	+69%
MeOH dual fuel	+69%
Battery system charging*	+160%
H2 ICE	+199%
H2 FC	+279%



**@battery system: the pay-per-use option is not yet included here for swapping battery packs. This can however bring further cost savings and avoid a CAPEX barrier for vessel owners*

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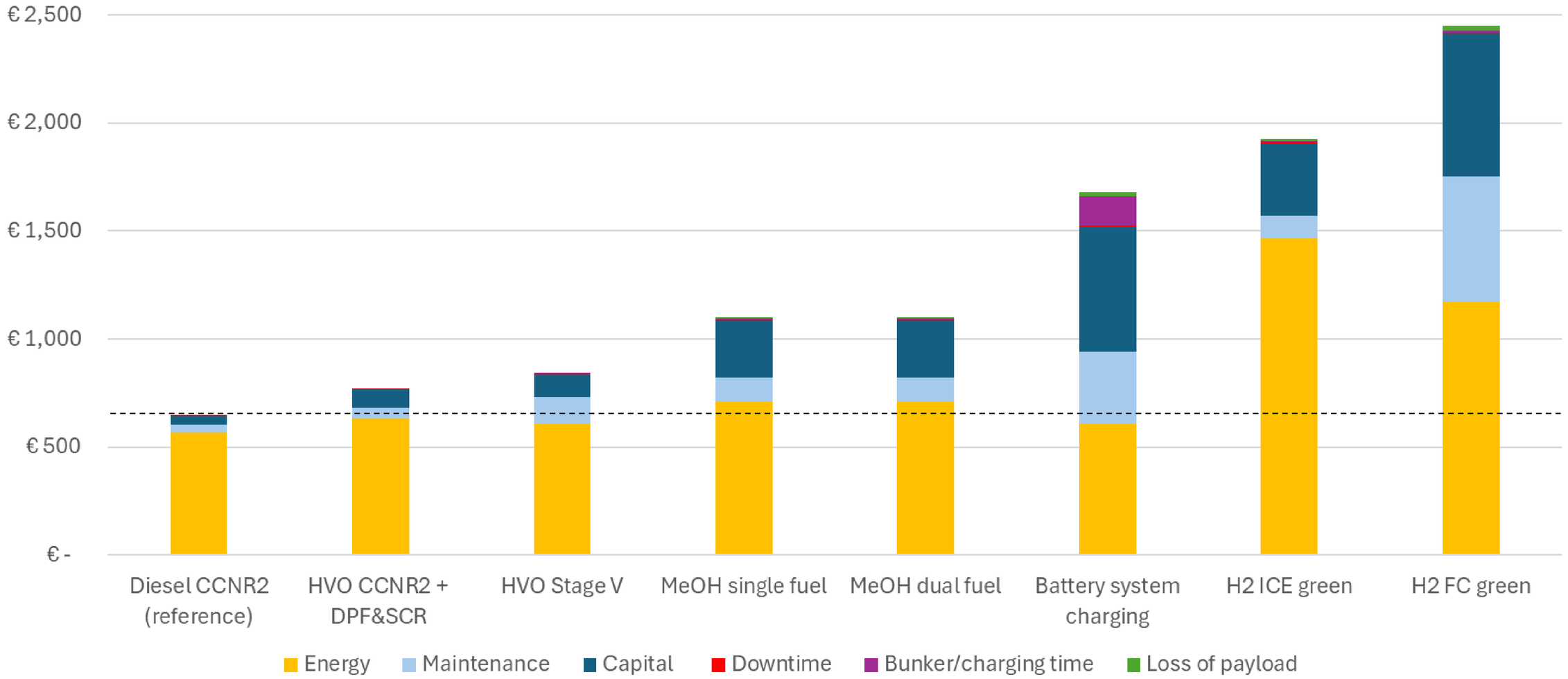
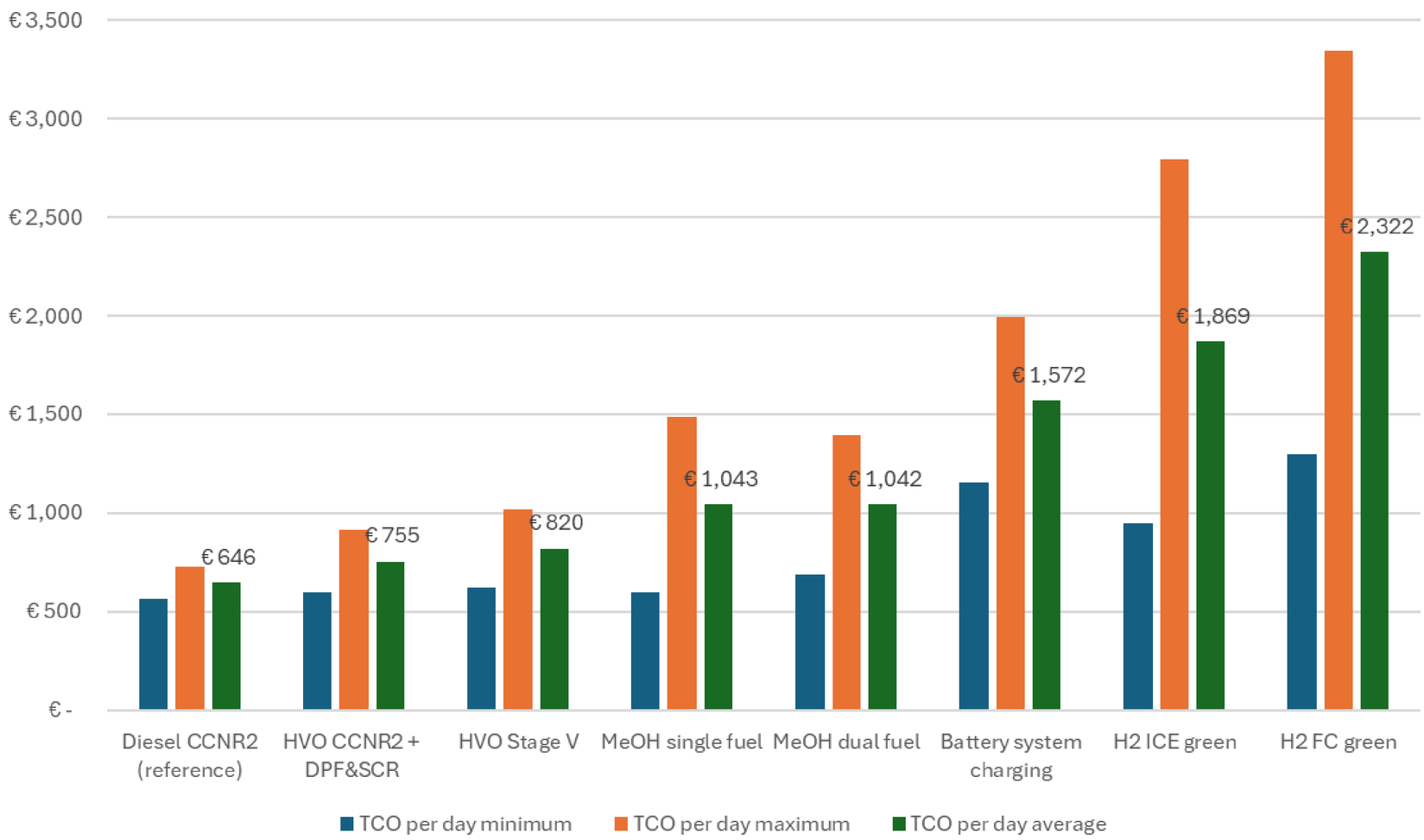
TCO – impact assessment: break down into cost components



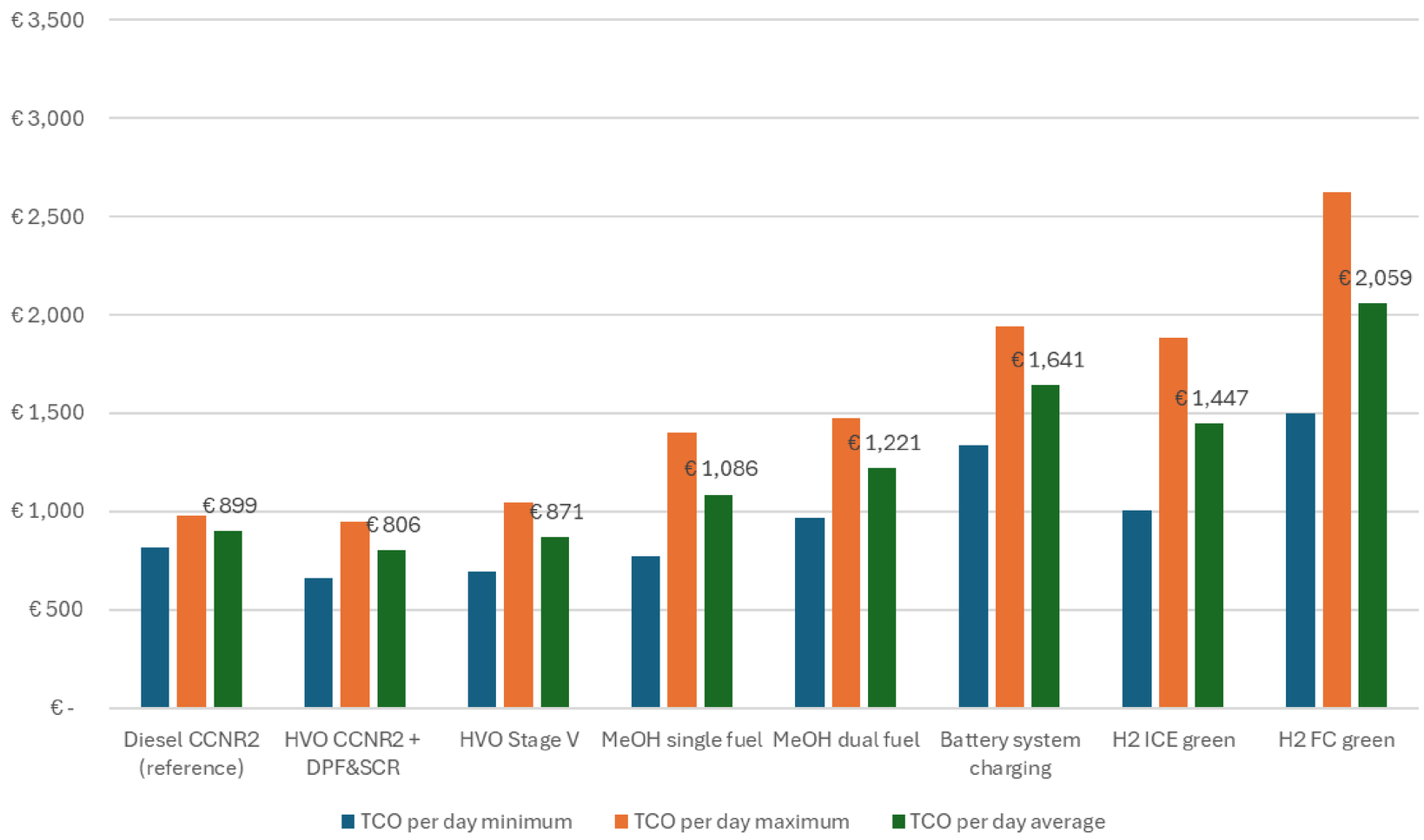
TCO – impact assessment: STEPS and CAPEX at 50%

TCO gap with diesel (avg)	
HVO CCNR2 + DPF&SCR	+17%
HVO Stage V	+27%
MeOH single fuel	+61%
MeOH dual fuel	+61%
Battery system charging	+143%
H2 ICE	+189%
H2 FC	+259%



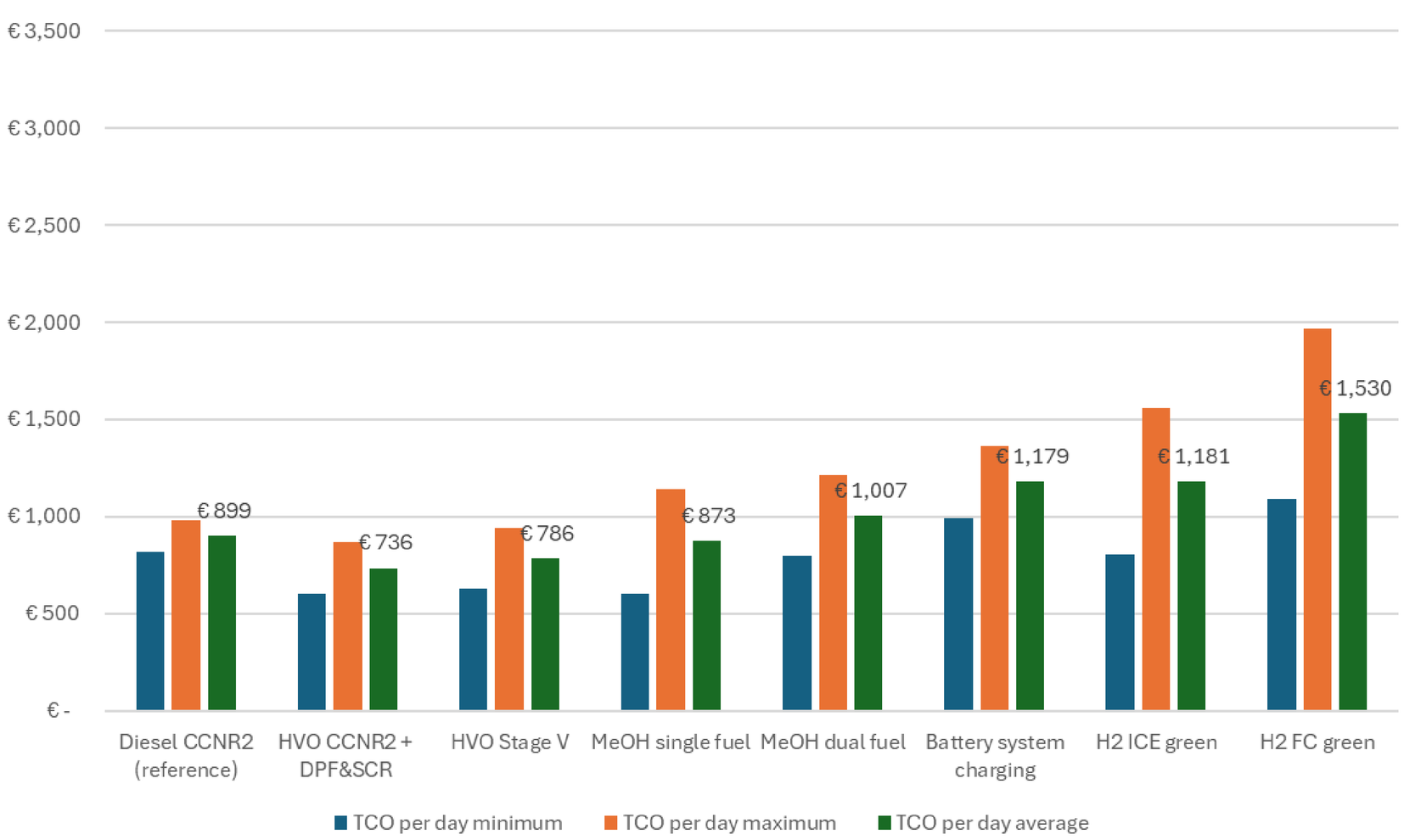
TCO – impact assessment: NZE scenario

TCO gap with diesel (avg)	
HVO CCNR2 + DPF&SCR	-10%
HVO Stage V	-3%
MeOH single fuel	+21%
MeOH dual fuel	+36%
Battery system charging	+82%
H2 ICE green	+61%
H2 FC green	+129%



TCO – impact assessment: NZE + 80% CAPEX funding

TCO gap with diesel (avg)	
HVO CCNR2 + DPF&SCR	-18%
HVO Stage V	-13%
MeOH single fuel	-3%
MeOH dual fuel	+12%
Battery system charging	+31%
H2 ICE	+31%
H2 FC	+70%



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TCO – impact assessment: comparing scenarios
TCO gap with fossil diesel (average), 2025-2045

Energy and technology	STEPS	STEPS & CAPEX grant 50%	NZE	NZE & CAPEX grant 80%
HVO CCNR2 + DPF&SCR	+20%	+17%	-10%	-18%
HVO Stage V	+30%	+27%	-3%	-13%
MeOH single fuel	+69%	+61%	+21%	-3%
MeOH dual fuel	+69%	+61%	+36%	+12%
Battery system charging	+160%	+143%	+82%	+31%
H2 ICE	+199%	+189%	+61%	+31%
H2 FC	+279%	+259%	+129%	+70%

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Conclusions

- There is a TCO gap when investing in 2025, but over time, it is expected that costs for fossil diesel will exceed the costs of renewable options
- Large uncertainty on development of energy prices but – sooner or later - renewable energy will become competitive because of internalisation of GHG costs
- Most cost effective: for existing fleet: retrofit SCR+DPF and HVO and Stage V engine and HVO for new vessels.
- Energy policies are effective for bridging the TCO gap, as energy costs have the largest share in the TCO (except for full battery electric). CAPEX grant support effective for reducing gap with full and H2FC solutions.
- Without strong funding support and internalisation of GHG costs, there is no business case for (near) zero emission solutions.

Thank you for your attention!

Further information: m.quispel@eicb.nl, k.tachi@eicb.nl

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

RLCF Alliance

Renewable and Low Carbon Fuels Industrial Alliance

Boosting the availability of **renewable** and **low-carbon** fuels for **Aviation** and **Maritime** transport

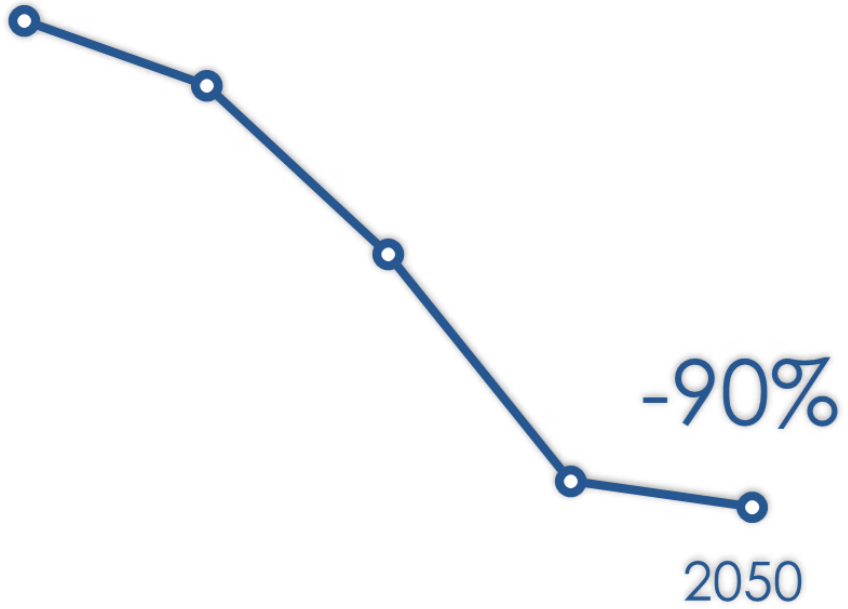
PLATINA4Action event – 4 November 2025

European Commission

Why the RLCF Alliance?

Transport accounts for a quarter of the EU's greenhouse gas emissions.

To achieve climate neutrality, a **90% reduction in transport emissions** is needed by 2050.

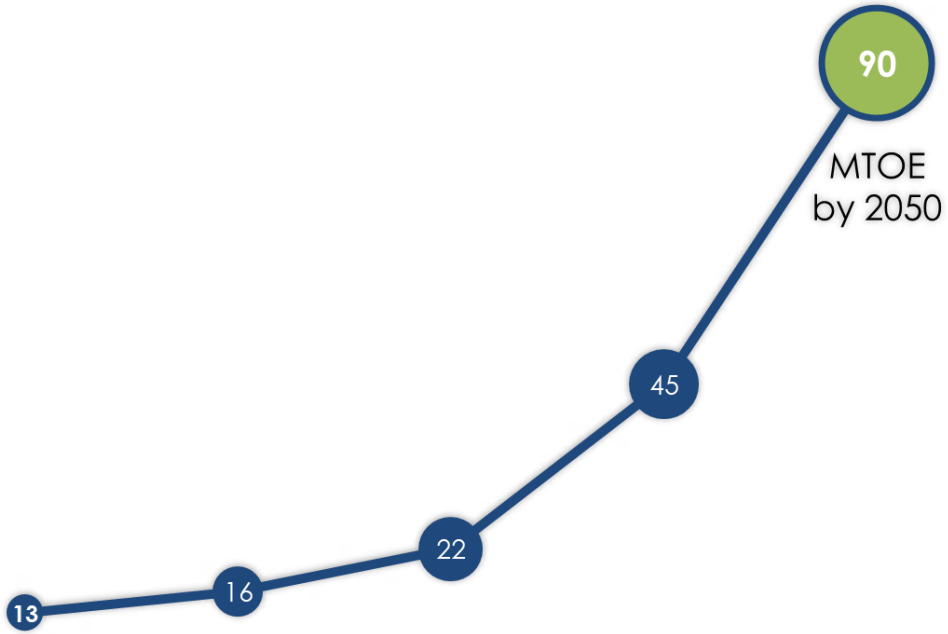


European Commission

Why the RLCF Alliance?

To make this happen, the EU will need to build on **renewable and low-carbon transport fuels**.

Quick ramp-up is needed, which requires industry, transport and energy policies to work effectively together, supported by public financing & private investments.

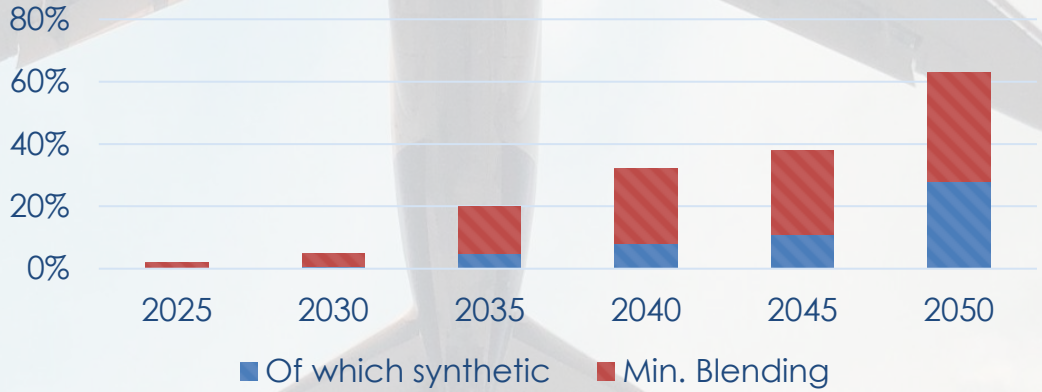


European Commission

Demand-side measures

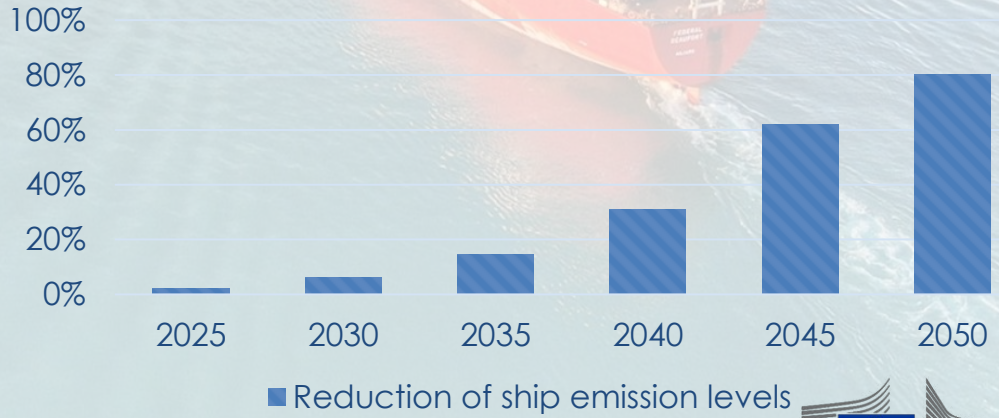
RefuelEU Aviation

- Obligation for fuel suppliers to integrate sustainable aviation fuels to airlines at all EU airports.
- Only drop-in fuels considered (according to the text, SAFs = biofuels, advanced biofuels and RFNBOs).



FuelEU Maritime

- Introduction of a fuel standard, in the form of average yearly limits on GHG intensity of energy used on-board a ship (CO2eq/MJ) starting in 2025 until 2050.

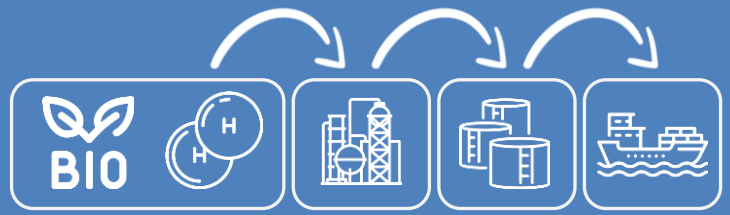


European Commission

RLCF Alliance

Objective

Rapidly boost production, storage and distribution capacity of renewable and low-carbon fuels without compromising access of other transport sectors



Who are the Alliance members?

Businesses and Business associations

EU Bodies and Agencies

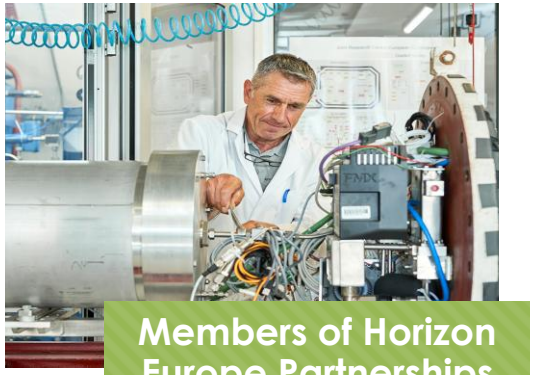
Member States and their agencies

Local and Regional Authorities

Recognised Social Partner Organisations

Other Stakeholder Groups

Civil Society Organisations



Members of Horizon Europe Partnerships

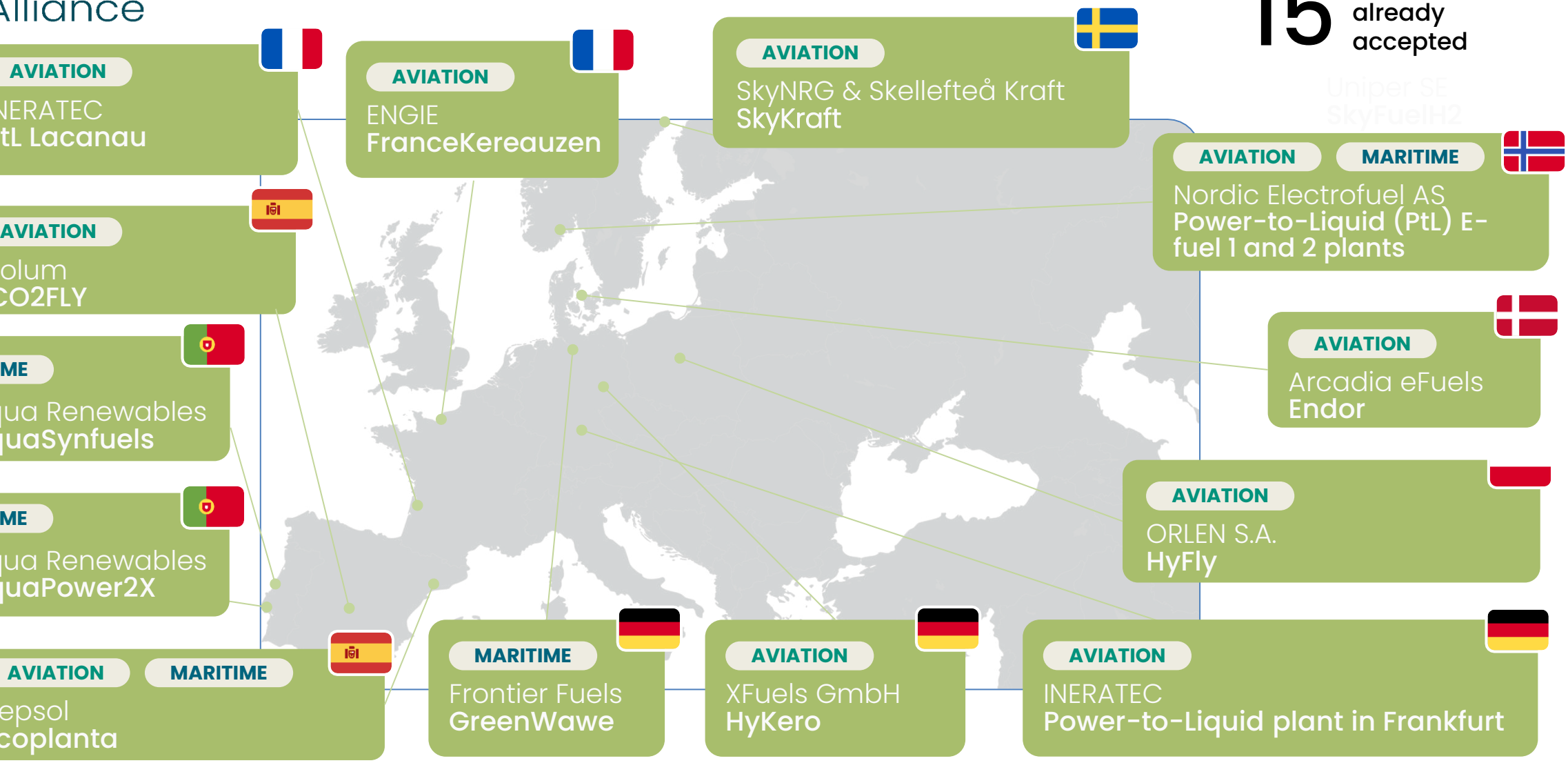
RLCF Alliance

RLCF Alliance's Deliverables

Contribute to the future value chains of fuels supply for maritime and aviation sectors

RLCF Alliance Project Pipeline

15 Projects already accepted



AVIATION
NERATEC
tL Lacanau

AVIATION
ENGIE
FranceKereauzen

AVIATION
SkyNRG & Skellefteå Kraft
SkyKraft

AVIATION MARITIME
Nordic Electrofuel AS
Power-to-Liquid (PtL) E-fuel 1 and 2 plants

AVIATION
olum
CO2FLY

AVIATION
Arcadia eFuels
Endor

ME
qua Renewables
quaSynfuels

AVIATION
ORLEN S.A.
HyFly

ME
qua Renewables
quaPower2X

AVIATION MARITIME
epsol
coplanta

MARITIME
Frontier Fuels
GreenWawe

AVIATION
XFuels GmbH
HyKero

AVIATION
INERATEC
Power-to-Liquid plant in Frankfurt

Projects with no specified location yet:

MARITIME Tree Energy Solutions
e-NG

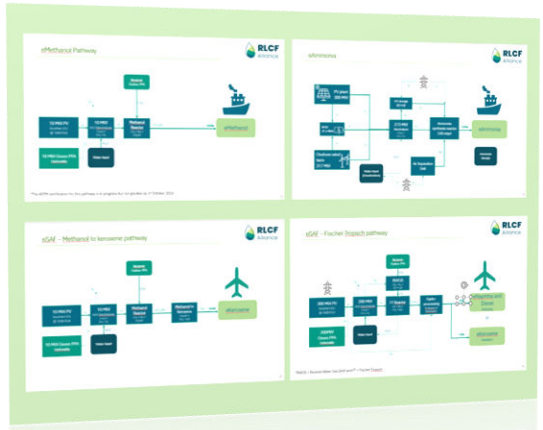
MARITIME Vital Energy
Waste Conversion Innovation Project

Deliverables on access to finance

Project Bankability guide

- Roadmap for investors, project developers, and financiers alike.
- Collection of supporting instruments.

Interactive financial models



- Including potential financial gaps, sensitivity analyses, break-even calculations, and project internal rate of return

EIB Study on Sustainable Liquid Fuels

- Identify barriers preventing projects from accessing financing and propose solutions to overcome them.

elivering
n key
pics for
LCFs

rk ongoing)

1. Financing Mechanisms for eSAF and eSMF

2. Labelling scheme for RLCF projects

3. EU-wide assessment of infrastructure for RLCFs

RLCF Alliance

Thank you!

Visit us at: RLCF Website (DG MOVE website > Clean Transport > Alternative Fuels)

&

Contact us at: MOVE-RLCF-ALLIANCE-TEAM@ec.europa.eu

European Commission

Ministerie van Infrastructuur
en Waterstaat

PLATINA 4Action

Energy transition in IWT

2nd Stage Event

04-11-2025

Budapest

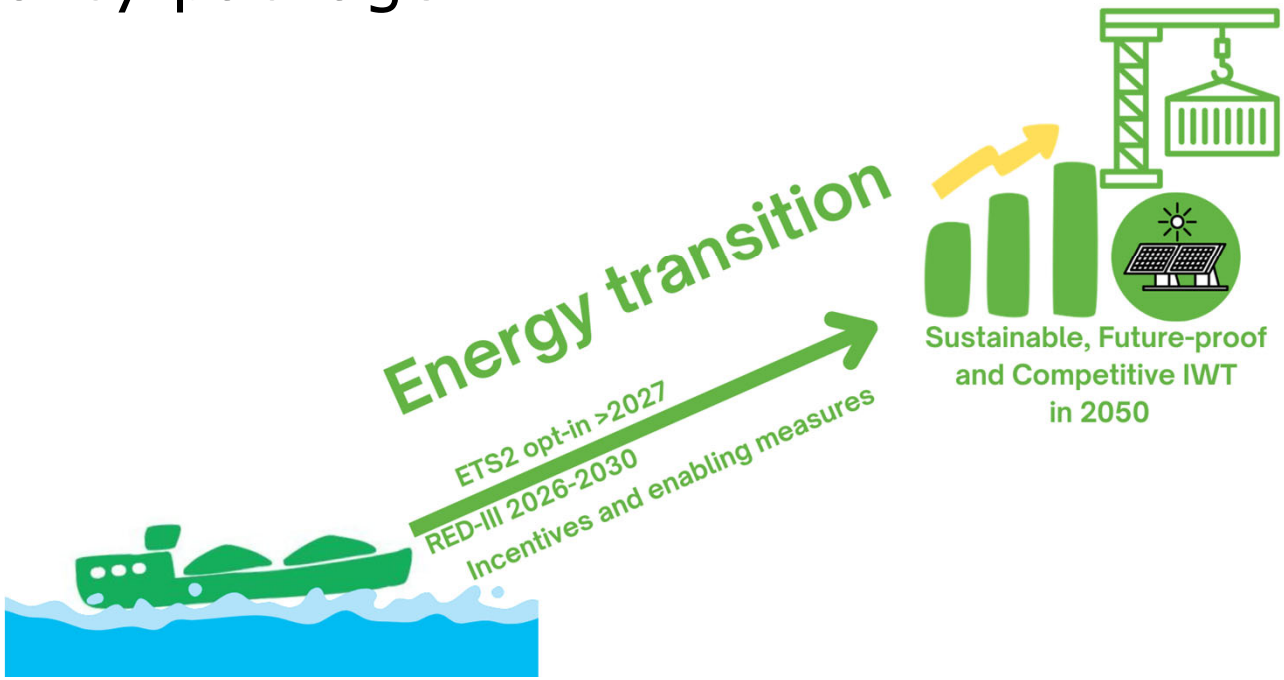
Salih Karaarslan

Targets

- EU Green Deal & Smart Sustainable Mobility Strategy.
- Mannheim Declaration & Roadmap.
- ➔ Emission reduction targets 2035 & 2050:
  - reducing GHG emissions by 35% compared with 2015 by 2035.
  - reducing pollutant emissions by at least 35% compared with 2015 by 2035.
  - largely eliminating (≥90%) GHG and other pollutants by 2050.
- Also 25% modal shift target for IWT and short-sea by 2030 and 50% by 2050.

Coherent policy package

- Norm-setting, pricing and stimulation measures.
- At its core, the policy package comprises:
  - RED-III
  - ETS2 opt-in
  - Grants



Main challenges

- Level playing field with EU Directives RED-III & ETS2.
- Appropriate EU funding instruments for IWT energy transition.


LUMARA


DDSG MAHART Kft.
registered in Hungary
based in Hungary
Hungarian shipping licence
pays tax in Hungary
DDSGMAHART

DDSG MAHART Kft.

DDSG MAHART Kft.

According to the EU transport policy objective approved in 2011, by 2030, 30% of road freight transport over a distance of 300 kilometers and 50% by 2050 should be taken over by other transport modes, such as rail or river transport.

DDSG MAHART Kft.

DDSGMAHART

HUNGARIAN CENTRAL STATISTICAL OFFICE

24.2.1.3. National transport of goods by mode of transport quarterly*

Period		Transported goods					Freight ton-kilometres				
		total, thousand tonne[a]	of which:				total, millions[a]	of which:			
			rail transport	road transport	waterway transport	transport by pipeline		rail transport	road transport	waterway transport	transport by pipeline
2021	Q1	47,126	2,178	40,128	13	4,808	4,342	271	3,456	1	614
	Q2	53,119	2,443	46,736	34	3,905	4,546	295	3,749	1	501
	Q3	57,520	2,792	51,200	9	3,520	4,897	356	4,081	1	459
	Q4	53,681	2,780	46,154	17	4,730	4,684	356	3,724	1	603
2022	Q1	46,771	2,536	39,236	8	4,990	4,557	295	3,622	1	640
	Q2	52,352	3,115	45,348	36	3,853	4,582	451	3,646	1	483
	Q3	52,219	2,814	45,680	17	3,709	4,630	415	3,741	1	473
	Q4	43,580	2,685	37,218	27	3,651	3,998	432	3,106	1	460
2023	Q1	41,907	2,132	36,070	6	3,698	4,057	327	3,239	0	491
	Q2	45,873	2,071	40,269	37	3,492	4,221	324	3,441	1	454
	Q3	50,704	2,136	44,812	12	3,743	4,622	302	3,848	0	471
	Q4	45,602	2,475	39,716	31	3,380	4,365	374	3,545	1	446
2024	Q1	39,245	2,097	33,676	9	3,463	3,783	277	3,045	1	460
	Q2	44,150	2,488	38,321	37	3,304	4,103	385	3,280	1	437
	Q3	42,064	1,969	37,449	12	2,634	3,840	274	3,220	1	345
	Q4	38,812	2,334	32,889	38	3,551	3,692	338	2,886	1	467
2025	Q1	36,719	1,578	31,155	26	3,961	3,718	209	2,994	1	515
	Q2	38,723	1,662	33,726	40	3,295	3,693	238	3,007	1	446
	Q3										
	Q4										

DDSG MAHART Kft.

DDSGMAHART

HUNGARIAN CENTRAL STATISTICAL OFFICE

24.2.1.4. International goods transport by mode of transport quarterly*

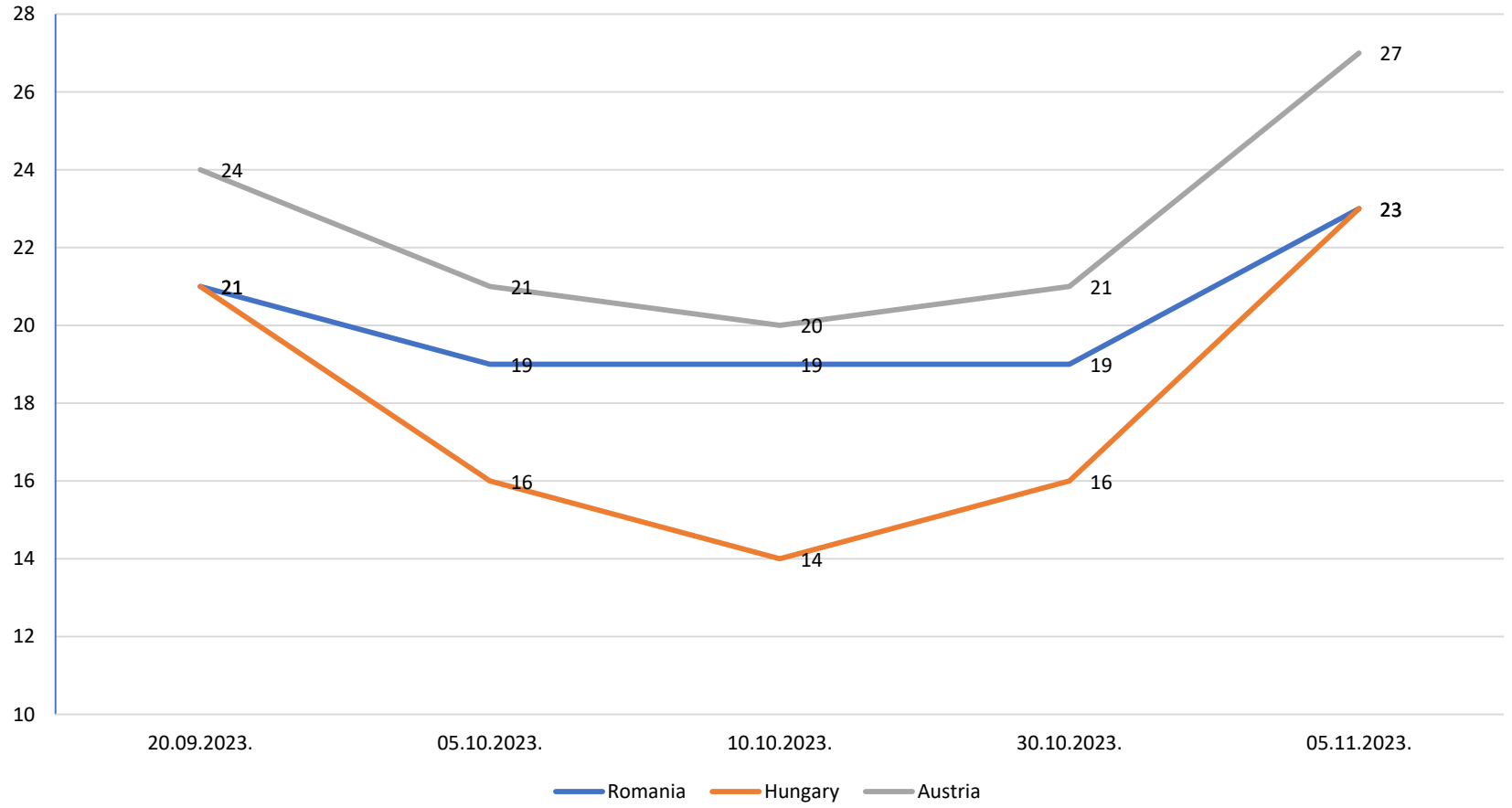
Period		Transported goods					Freight ton-kilometres				
		total, thousand tonne[a]	of which:				total, millions[a]	of which:			
			rail transport	road transport	waterway transport	transport by pipeline		rail transport	road transport	waterway transport	transport by pipeline
2021	Q1	25,420	10,112	9,312	2,213	3,766	9,861	2,486	6,039	504	812
	Q2	24,802	10,008	9,313	2,051	3,420	9,481	2,459	5,762	490	757
	Q3	24,197	10,097	8,743	2,066	3,286	8,921	2,472	5,244	494	704
	Q4	23,787	10,620	8,333	1,619	3,213	8,702	2,651	5,046	382	620
2022	Q1	25,635	9,694	9,642	1,792	4,503	9,861	2,385	6,219	454	783
	Q2	25,926	10,379	9,615	1,891	4,034	9,916	2,479	6,150	492	781
	Q3	24,554	10,090	9,477	952	4,032	9,064	2,454	5,676	249	665
	Q4	23,770	10,385	8,492	1,198	3,688	8,637	2,439	5,284	310	579
2023	Q1	22,844	9,380	8,391	1,232	3,822	8,666	2,263	5,370	327	690
	Q2	23,263	9,267	8,114	1,288	4,589	8,496	2,283	4,971	343	888
	Q3	23,467	8,965	7,883	1,414	5,201	8,140	2,216	4,671	343	898
	Q4	21,778	9,336	7,167	1,178	4,079	7,582	2,371	4,268	300	622
2024	Q1	24,516	9,720	9,023	1,698	4,068	9,478	2,526	5,886	428	615
	Q2	25,568	9,260	9,102	1,536	5,662	9,213	2,309	5,692	403	789
	Q3	23,346	8,863	8,320	1,330	4,830	8,384	2,133	5,248	338	658
	Q4	23,779	8,976	8,153	1,440	5,204	8,280	2,156	4,974	368	769
2025	Q1	23,396	8,336	9,138	1,461	4,457	8,998	2,024	5,913	364	686
	Q2	24,284	8,698	8,587	1,365	5,629	8,825	2,118	5,395	343	922
	Q3										
	Q4										

Challenges

DDSGMAHART

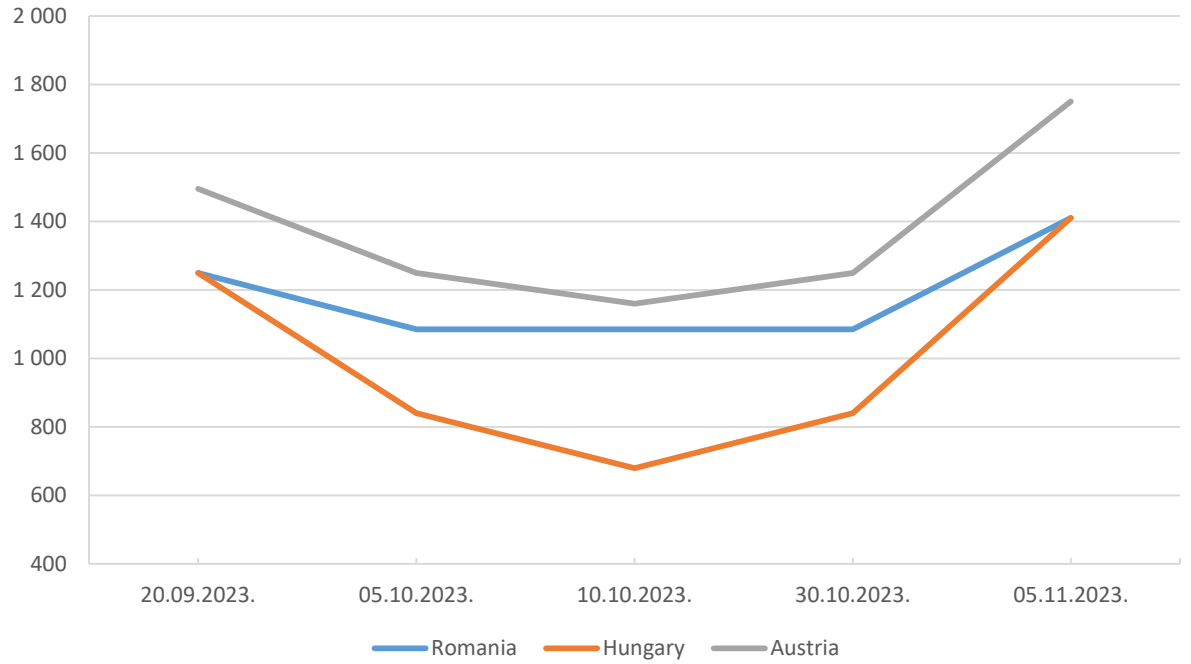
First-DDSG Logistics Holding GmbH (DDSG MAHART Kft.)

draft datas, 20.09.2023-05.11.2023. (dm)



First-DDSG Logistics Holding GmbH
(DDSG MAHART Kft.)

cargo quantity datas, 20.09.2023-05.11.2023. (mts/river unit)



Area	20.09.2023.	05.10.2023.	10.10.2023.	30.10.2023.	05.11.2023.
Romania to Hungary	0mt	-245mt	-405mt	-245mt	0mt
	0%	-23%	-37%	-23%	0%
Austria to Hungary	-245mt	-410mt	-480mt	-410mt	-340mt
	-16%	-33%	-41%	-33%	-19%

Constrictions on Hungarian Danube

- 1960s>pushing navigation
- leader shipping companies
- gauge Budapest:
  213 cm>good water-level
- Notwithstanding
  14! constrictions of waterway
- Hungarian regulation is to take recommendation of Danube Commission into consideration
- It is min. 120-150 m width!

Országos Vízjelző Szolgálat

Napi hidrológiai jelentés

2023.03.20.

Állomás	Folyó	Vízállás [cm]	24 órás változás [cm]	Vízhozam [m³/s]	Vízhő [°C]	Jégviszonyok
Schärding	Inn	362	2			
Pfelling	Duna	389	-11	435		
Hofkirchen		294	-13	598		
Passau		455	-1			
Engelhartszell		401	5			
Linz		354	-8			
Ybbs		243	-4	1360		
Kienstock		240	-4	1380		
Korneuburg		248	-6	1380		
Dévény		206	-4	1500	6,9	
Rajka		33	-4	240	7,2	
Dunaremete		24	-4	197	6,4	
Medve		171	-20	1370	6,6	
Gönyű		84	-23	1150	8,2	
Komárom		154	-22	1510	9,2	
Esztergom		140	-18		7,2	
Nagymaros		88	-14	1830	7,3	
Vác		108	-14	1340	7,2	
Budapest		213	-14	1900	7,6	
Dunaújváros		87	-8	2060	7,7	
Dunaföldvár		-22	-6		7,7	
Paks		127	-2	2060	7,8	
Baja		267	2	2110	7,9	
Mohács		283	4	2070	8,5	
Bezdán		127	5	1960	8,6	
Apatin		199	7		8,2	
Gombos		177	8	2430	8,7	
Vukovár		164	5			
Újvidék		261	-2	2350	8,2	
Zimony		431	-7		8,6	
Ómoldova		720	-2		7,5	
Orsova		2370	-5		7,5	
Morvaszentjános	Morva	205	-9	98	6,5	
Szentgotthárd	Rába	-96	1	7,36	8,3	
Körmend		-11	0	8,18	8,3	
Ragyogóhíd		-104	0	10,7	8,8	
Vág		-106	0			
Árpás		-97	-1	6,49	10,4	
Győr		243	-7	2,12	7,1	
Sztrecsény	Vág	94	-16	69	4,9	jégmentes
Vágsellye		174	0	92	6,1	jégmentes
Magasmart (Brehy)	Garam	88	-3	54	5,5	jégmentes
Nógrádszakál	Ipoly	84	-2	7,73		
Balassagyarmat		-48	-2	11,2		
Siófok-Balatonkiliti	Sió					
Simontornya		133	-4	7,13	9,5	
Szekszárd (Palánk)		191	-3		9,1	
Kurd	Kapos	85	-2	3,8	9,6	
Őrtilos	Dráva	-117	-2	223	8,3	
Barcs		-129	-11	252	9,6	
Drávaszabolcs		10	-29	284	10,9	
Eszék (Osijek)		-51	0			
Letenye	Mura	106	1	84,8	8,4	
Zágráb	Száva	-217	3			
Jasenovac		465	-50			
Bród		435	-32			
Szávaszentdemeter		492	-21	2880	9,2	

Országos Vízjelző Szolgálat

Gázlóviszonyok a Dunán

2023.03.20.

No.	Kezdete [fkm]	Vége [fkm]	Mélysége [dm]	Szélessége [m]	Hossza [m]	Helye	Mélysége [dm]	Szélessége [m]	Hossza [m]	Egyéb kód
1	1799.0	1798.7	HU	110	300					
2	1797.4	1796.6	HU	100	800					
3	1796.3	1795.5	HU	110	800					
4	1795.5	1795.2	HU	100	300					
5	1793.9	1793.3	HU	100	600					
6	1792.1	1791.6	HU	100	500					
7	1667.8	1666.4	HU	80	1400					
8	1638.6	1637.1	HU	80	1500					
9	1623.7	1622.5	HU	120	1200					
10	1619.1	1618.0	HU	90	1100					
11	1569.8	1569.0	HU	90	800					
12	1567.3	1566.2	HU	80	1100					
13	1558.0	1557.2	HU	80	800					
14	1555.8	1554.6	HU	60	1200					

Gázlóviszonyok a Tiszán

2023.03.20.

No.	Kezdete [fkm]	Vége [fkm]	Mélysége [dm]	Szélessége [m]	Hossza [m]	Helye	Mélysége [dm]	Szélessége [m]	Hossza [m]	Egyéb kód
A mai napon nincs gázló.										

HU - hajóút-szűkület; HV - hajókaravánok találkozása tilos; HS - hajózás szünetel; ET - éjszakai hajózás tilos; PU - piros úszó mellett; ZU - zöld úszó mellett; KO - középen; BP - bal part mellett; JP - jobbpart mellett

Shallow sections (fords) on Hungarian Danube

- navigation in caravans with river units on max. drafts
- leader shipping companies
- lowest gauge Budapest in 2023.
- 46! fords
- it means ford in each 8 river km!

DDSG MAHART

Országos Vízjelző Szolgálat

Napi hidrológiai jelentés

2023.10.18.

Állomás	Folyó	Vízállás [cm]	24 órás változás [cm]	Vízhozam [m³/s]	Vízhő [°C]	Jégviszonyok
Schärding	Inn	362	-5			
Pfelling	Duna	264	0	195		
Hofkirchen		191	7	299		
Passau		401	-4			
Engelhartszell						
Linz		349	-3			
Ybbs		215	-2	1090		
Kienstock		160	7	881		
Korneuburg		203	9	935		
Dévény		117	9	950	13,4	
Rajka		12	0	243	13,9	
Dunaremete		32	0	242	12,1	
Medve		56	32	862	14,6	
Gönyű		-13	21		15,4	
Komárom		30	6	967	15,8	
Esztergom		5	-4		13,9	
Nagymaros		-49	-8	877	13,8	
Vác		-31	-5	740	13,6	
Budapest		66	-6	1020	14,3	
Dunaújváros		-57	-3	914	14,6	
Dunaföldvár		-179	-2		15,1	
Paks		-67	-3	972	14,6	
Baja		58	-4	991	15,1	
Mohács		79	-4	1010	16	
Bezdán		-74	-3	1020	16,2	
Apatin		-2	-1		15,2	
Gombos		-2	2	1330	16,8	
Vukovár		-19	-3			
Ujvidék		12	-2	1310	16	
Zimony		193	0		16,4	
Ómoldova		710	4		17	
Orsova		2530	0		17	
Morvaszentjános	Morva	93	-3	27	12,1	
Szentgotthárd	Rába	-87	1	9,91	13,2	
Körmend		10	0	14,8	11,4	
Ragyogóhíd		-88	0	18,5	12	
Vág		-92	0			
Árpás		-91	1	9,6	13,5	
Győr		133	-2		9,9	
Sztrecsény	Vág	87	-5	54	13,7	
Vágsellye		178	48	12	14,3	
Magasmart (Brehy)	Garam	18	0	13	10,4	
Nógrádszakál	Ipoly	39	-1	1,56		
Balassagyarmat		-90	0	1,85		
Siófok-Balatonkiliti	Sió	-1	0			
Simontornya		88	-5	2,4	10,2	
Szekszárd (Palánk)		188	4		16,9	
Kurd	Kapos	72	1	2,17	13,6	
Őrtilos	Dráva	-77	17	322	13,6	
Barcs		-121	-21	268	14,2	
Drávaszabolcs		44	-6	349	14,5	
Eszék (Osijek)		-97	35			
Letenye	Mura	113	-2	94,5	11,5	
Zágráb	Száva	-217	0			
Jasenovac		34	48			
Bród		13	8			
Szávaszentdemeter		27	8	386	16,5	

Országos Vízjelző Szolgálat

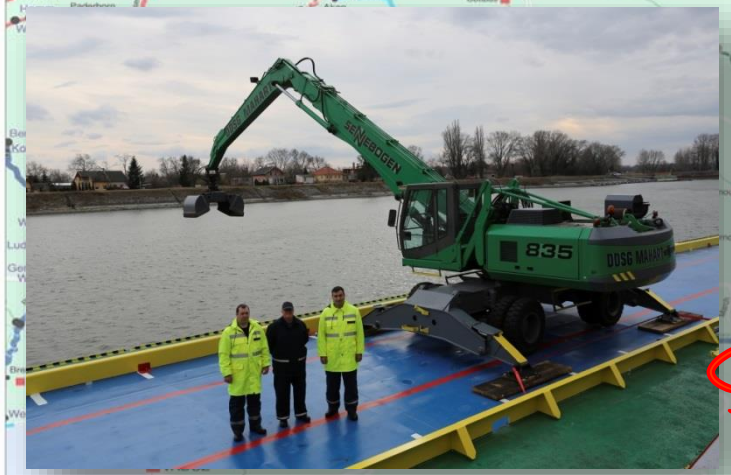
Gázlóviszonyok a Dunán

2023.10.18.

No.	Kezdete [fkm]	Vége [fkm]	Mélysége [dm]	Szélessége [m]	Hossza [m]	Helye	Mélysége [dm]	Szélessége [m]	Hossza [m]	Egyéb kód
1	1808.1	1807.6	22	120	500	PU	24	60	500	
2	1799.0	1798.7	27	100	300					
3	1797.4	1796.6	27	80	800					
4	1796.3	1795.5	27	100	800					
5	1795.5	1795.2	27	80	300					
6	1793.9	1793.3	27	80	600					
7	1792.1	1791.6	21	100	500	ZU	23	60	500	
8	1791.4	1791.1	27	120	300					
9	1789.2	1788.3	21	120	900	PU	23	80	900	
10	1786.7	1785.9	21	120	800	ZU	24	80	800	
11	1764.3	1764.0	24	150	300					
12	1757.1	1756.7	24	150	400					
13	1754.3	1754.1	24	150	200					
14	1740.2	1739.8	24	150	400					
15	1735.2	1733.3	15	100	1900	PU	17	60	1900	
16	1732.6	1732.2	18	150	400	ZU	22	90	400	
17	1726.0	1724.4	18	130	1600					
18	1714.4	1713.9	23	120	500					
19	1711.5	1710.7	16	100	800	PU	18	60	800	
20	1701.2	1700.5	17	80	700	ZU	18	50	700	
21	1699.3	1697.7	15	120	1600					
22	1695.8	1695.4	16	120	400	ZU	17	100	400	
23	1694.7	1694.6	17	120	100					
24	1682.8	1682.3	22	100	500					
25	1681.0	1679.8	22	100	1200					
26	1675.5	1675.3	22	100	200					
27	1667.8	1666.4	16	80	1400					
28	1653.0	1651.3	18	120	1700					
29	1638.6	1637.1	17	60	1500					
30	1623.7	1622.5	23	80	1200					
31	1619.1	1618.0	18	90	1100					
32	1616.7	1616.3	18	110	400					
33	1615.6	1615.3	19	120	300					
34	1591.8	1591.3	21	110	500					
35	1590.5	1590.1	18	110	400	ZU	19	80	400	
36	1582.9	1579.9	22	110	3000					
37	1569.8	1569.0	20	90	800					
38	1567.3	1566.2	20	80	1100					
39	1560.8	1560.6	16	120	200					
40	1559.7	1559.4	20	140	300	BP	23	60	300	
41	1558.0	1557.2	18	80	800					
42	1555.8	1554.6	21	60	1200					
43	1551.5	1551.0	HU	100	500					
44	1541.0	1540.0	25	100	1000					
45	1522.0	1520.8	22	120	1200					
46	1515.8	1514.8	25	100	1000					
47	1513.0	1511.9	25	80	1100					
48	1451.2	1450.7	HU	140	500					

DDSG MAHART Kft.

performing cargo deliveries to Hungary or proceeding via Hungary, lightening (cargo transhipment) of loaded river units is required during low water-levels situation



KOMÁROM

MADOCSA

transhipped cargo quantity (in 1.000 mts)	on Hungarian Danube
2019	54
2020	81
2021	130
2022	50

Danube-Black Sea Canal and Constanta Port:

- increased canal dues
- increased port fees and charges

DDSG MAHART Kft.

DDSGMAHART

DDSG MAHART Kft.

Actual river freight market:

- recession in Europe>less cargo
- too many freight (market) breakers, Who do not pay crew salary, taxes, dues and fees>low freight rates
- high freights in Ukraine-Europe have created many new River Owners, Who are performing now on peanuts>low freights and unfavorable terms and conditions

DDSGMAHART

A 10 legjobb francia film [31.] - Filmworlds


DDSG MAHART Kft.
We are GREEN enough!
DDSGMAHART

a pushed caravan is equivalent with the cargo capacity of about 13 block trains, and more than 800 trucks.

1 Danube caravan is close to 20.000 mts DWCC

it is equivalent with about 13 block trains,

and more than 800 trucks (14 km long line)

DDSG MAHART

DDSG MAHART Kft.

CO_2 friendly carriage

CO_2 emission/tkm (tonkilometer)

26,26 g CO_2/tkm *

66,1 g CO_2/tkm **

* as per the average performance of DDSG MAHART fleet in 2022.

** as per the datas of „Emissions Key Figures 2022" (Federal Ministry Republic of Austria Climate Action, Environment, Energy, Mobility, Innovation and Technology)

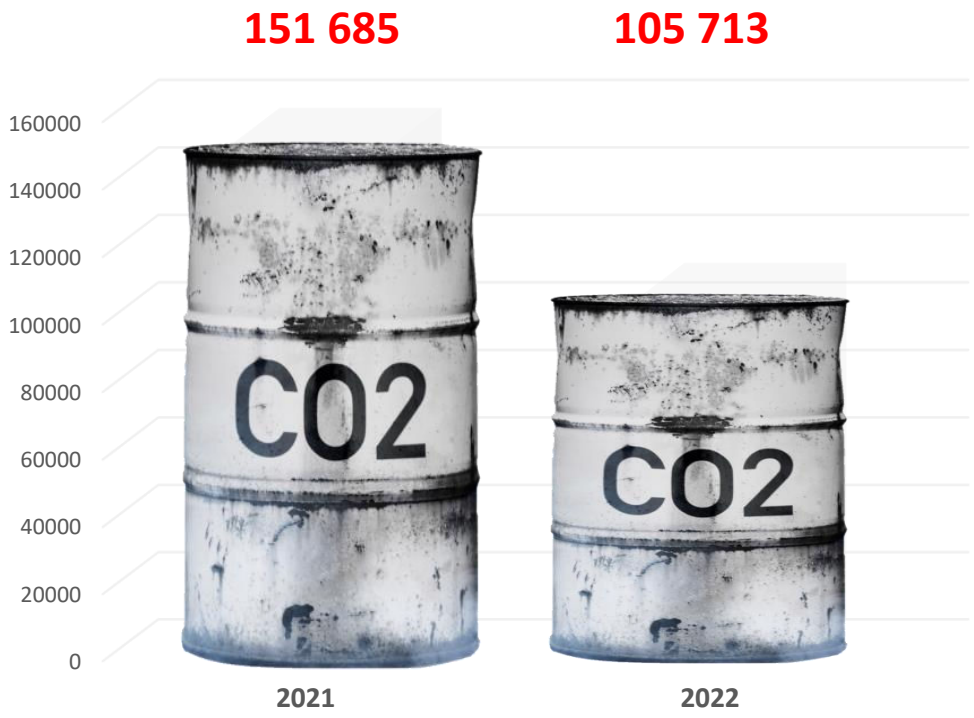
DDSG MAHART Kft.

CO_2 freindly carriage

CO_2 emission/year

	2021	2022
loaded quantity (mts)	2 398 634	2 290 014
tkm (tonkilometer)	3 583 517 446	2 653 141 747
CO_2/tkm difference river vs road (g)	42,33	39,84
CO_2 difference in total river vs road (t)	**151 685**	**105 713**

CO_2 EMISSION SAVING WITH RIVER CARRIAGE VS ROAD TRANSPORT



Ferrexpo Port Services GmbH

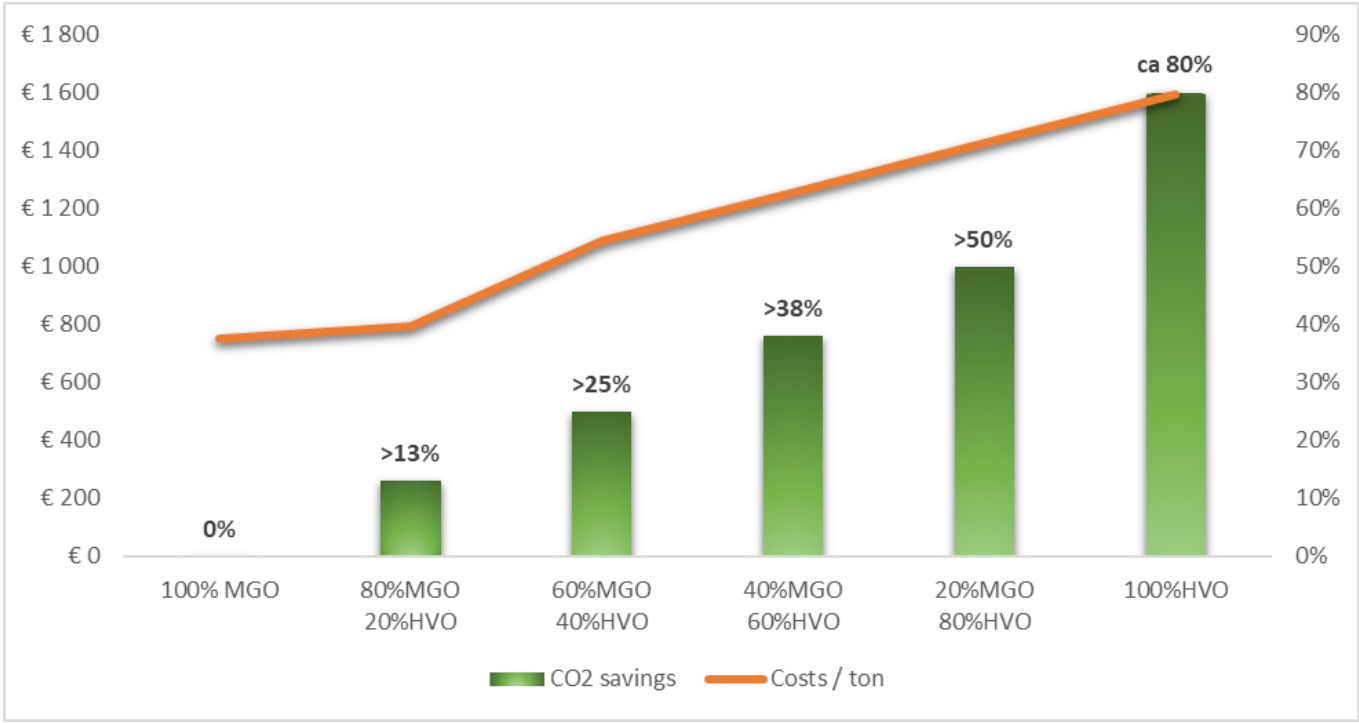
Project „Wientank 1”: usage of HVO as marine fuel (1)

- own river tanker of the Holding
- co-operation with OMV Vienna, to supply Maritime GasOil ECO 20 with 20% HVO
- actually negotiating with Clients and Suppliers, to match details, requirements and delivery logistics

Ferrexpo Port Services GmbH

Project „Wientank 1": usage of HVO as marine fuel (2)

➢funding program of Austrian Authorities: „Subsidy Program for Climate- and Environmentally-Friendly Shipping"

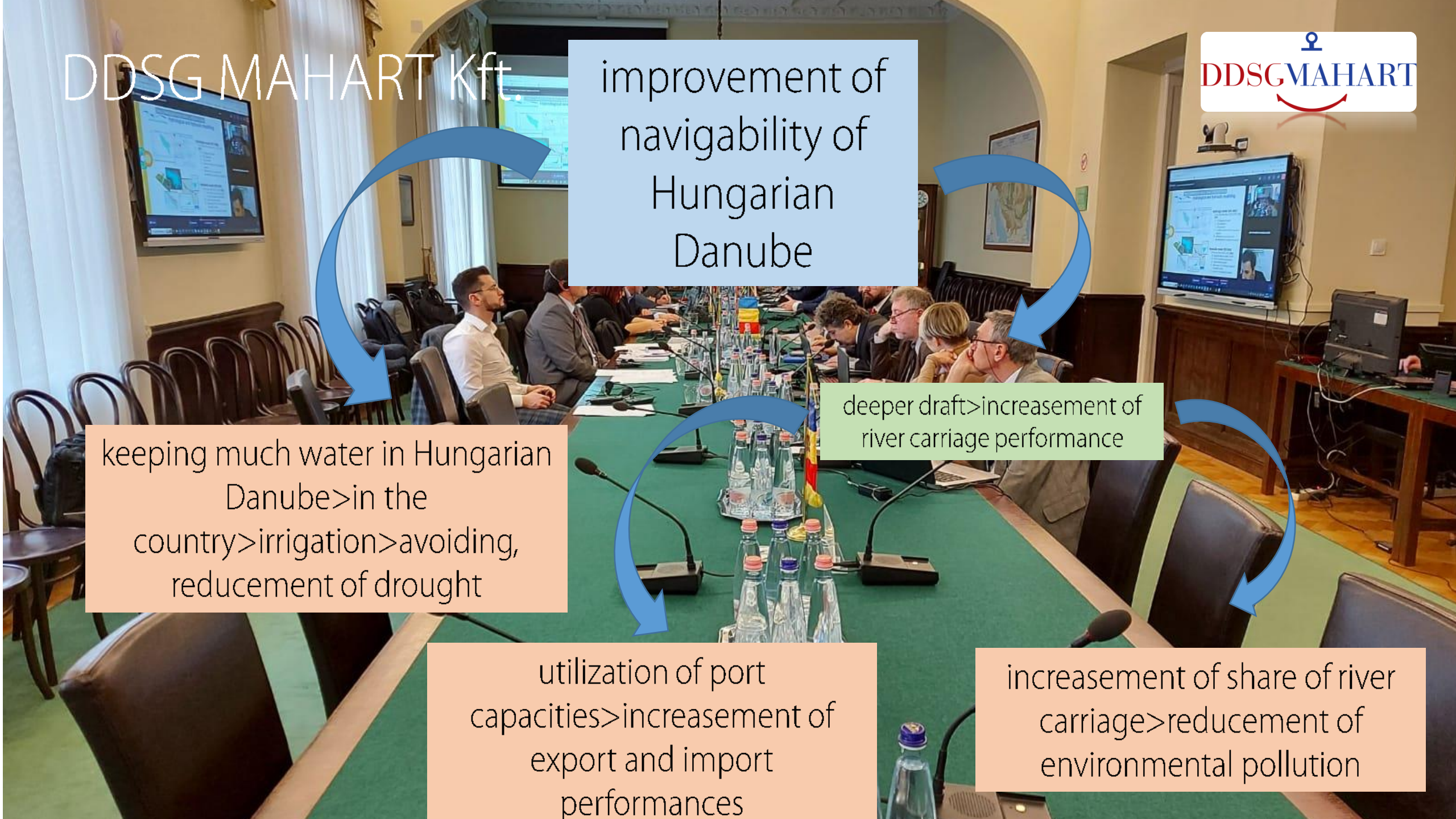


First-DDSG Logistics Holding GmbH

Future Project: alternative-fueled port pusher

- own port pusher
- relatively low fuel consumption
- small operational cost increasement
- trial period>small financial risk
- offering environmentally-friendly service to Others

DDSG MAHART Kft.



PLATINA 4Action

Thematic Session 3

Human element in IWT and its future development

4 November 2025

Theresia Hacksteiner
Secretary General European Barge Union EBU and Executive Director
European Inland Waterway Transport Platform

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

Drivers

- In 2020, approximately 41,923 people were employed on board of inland vessels across Europe, with 44% in passenger transport and 56% in freight transport.
- The **sector since long is facing a shortage of qualified personnel, prompting efforts to attract young people and lateral entrants**. Digitalisation and automation will enhance the sector's attractiveness and efficiency, offering new job opportunities and career prospects.
- To address the labour shortage and prepare the workforce for the green and digital transformation, updating legislation, supporting lateral entry into the profession and providing targeted funding for training are essential steps. Efforts are being made at various levels to attract new entrants, particularly from adjacent sectors like maritime professionals transitioning to inland navigation. Current qualification frameworks are too rigid to allow for lateral entry into the profession, limiting the pool of potential workers. In 2022, Regulation (EU) 2017/2397, aimed at harmonizing professional qualifications and improving labour mobility, came into force. While it introduced flexible educational pathways for sector transitions, it has unintentionally created more entry barriers. It is essential to urgently **adjust the EU Professional Qualifications Directive and modernise European crewing standards. Equally important are funding mechanisms to support training in areas such as alternative fuel operations and digital vessel management**.
- EBU/ESO are in a successful social dialogue and closely cooperating with ETF, representing workers in EU

The Need to Adapt to New Developments

- Continuous technological change
- Training must be purposeful and practice-oriented
- Use of modern tools and technology

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Smart Design of Training and Competence Development

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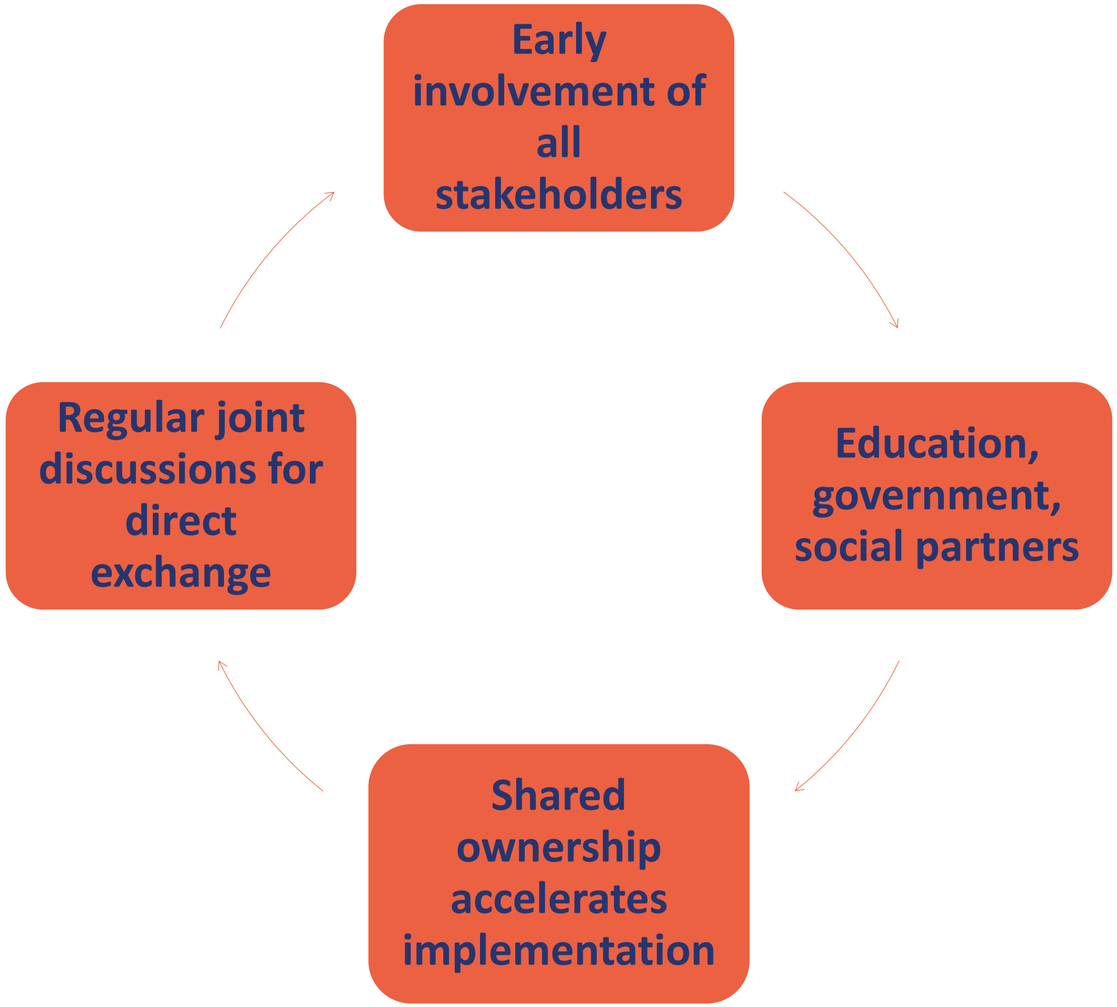
Collaboration Across the Sector



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The Role of Education and New Learning Approaches

- Involve teachers and students in innovation
- Research, testing, and bridging theory and practice
- Recognize generational differences
- Learn from maritime education

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Modern Learning Tools and Simulator Training

- Online modules, webinars, VR, simulators
- Simulator time could count as navigation experience
- Focused training in complex situations

Opportunities for the Labour Market

- Simplified tasks and reduced administrative burden
- Less onboard maintenance, more shore-based support
- Flexible crewing through digital tools
- Attraction of new workforce profiles

Risks and Human Factors

- Lag in standards and regulation
- Training fatigue and employer costs
- Maintaining competence in remote operations
- Human limitations in digital environments

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Conclusion – Building the Future Together

Collaboration and flexibility are key

Education bridges innovation and practice

People remain at the core of safe operations

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Session speakers

Education and training in the Danube Region
***Gabriel Benga**, President, Education in Inland Navigation EDINNA*

Crewing challenges in the Danube Region and measures taken by shipowners
***Mladen Grujić**, CEO, Jugoslav River Shipping*

CESNI Guidelines: Competence requirements for the operation of craft using batteries and methanol as fuel *Charline Daloze, Administrator responsible for inland vessel technical regulations, Secretariat of the Central Commission for the Navigation of the Rhine*

Presentation of the project "1System4IWT"
***Jan Smallegange**, Project Manager, STC Group*

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Table debate

***Kristijan Ležaić**, Policy Officer, DG MOVE, European Commission*

***Milan Popovic**, SDS Schifffahrt GmbH*

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Thank you and the floor is to our distinguished speakers

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

The Human Element in Inland Waterways Transport

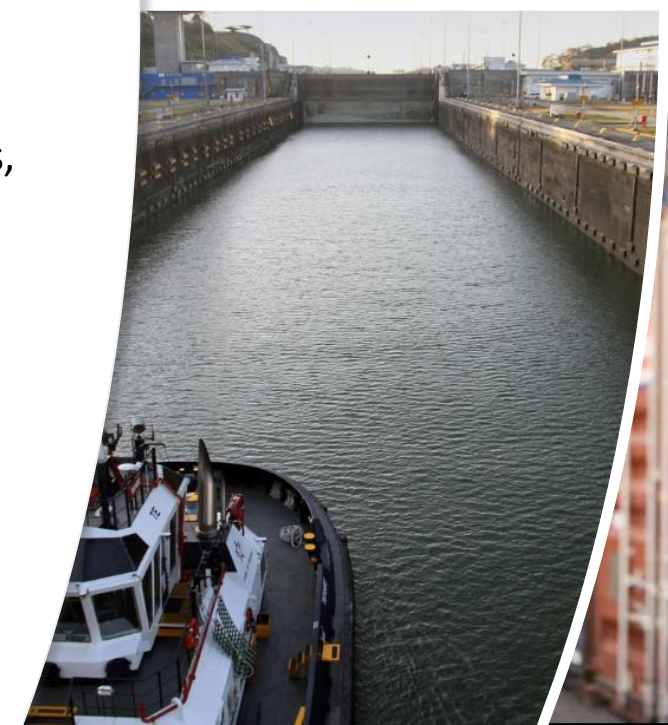
15 countries, 25 members, one goal: Harmonised Education in IWT

Introduction

- Infrastructure and technology often dominate discussions
- But the real foundation: people
- Captains, crews, lock keepers, port operators, engineers
- Without skilled, motivated people, the system cannot function

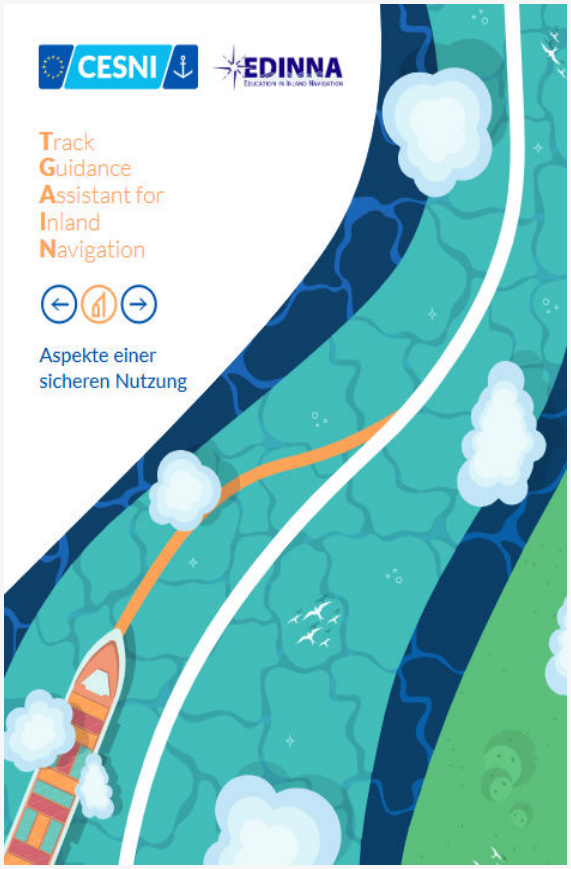
Importance of the Human Element

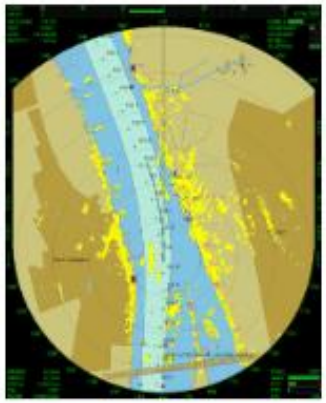
- People at the center of every operation
- Captain’s judgment in narrow passages/locks
- Crew vigilance during fog, currents, or cargo loading
- Technology supports, but humans interpret & decide
- Includes inspectors, trainers, and families supporting crew



Challenges

- Aging workforce – shortage of skilled staff
- Training needs – adapting to new vessels and systems
- Working conditions – long absences, physical strain
- Safety risks – human error remains leading cause of accidents
- International diversity – communication & cultural challenges



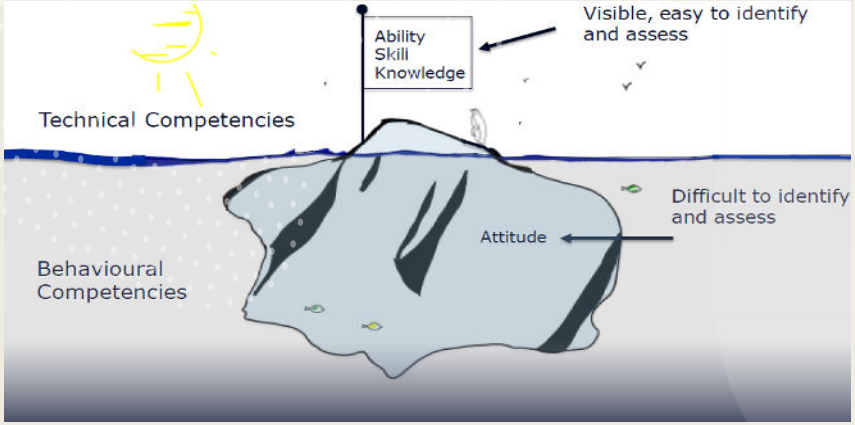


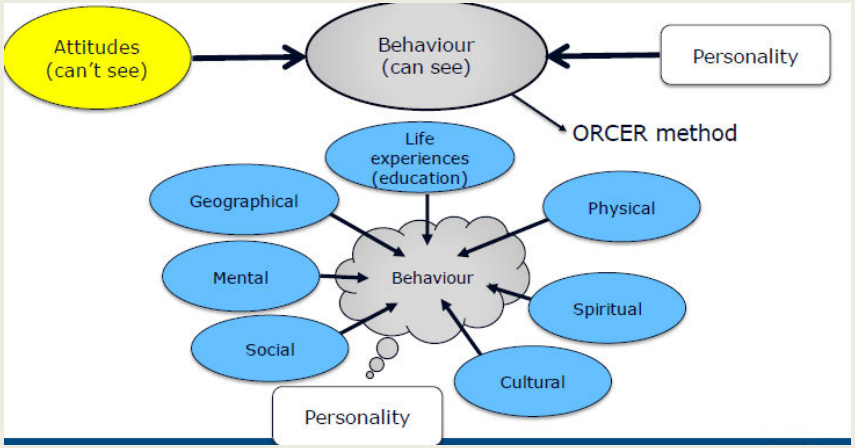
Human Element in the Digital Era

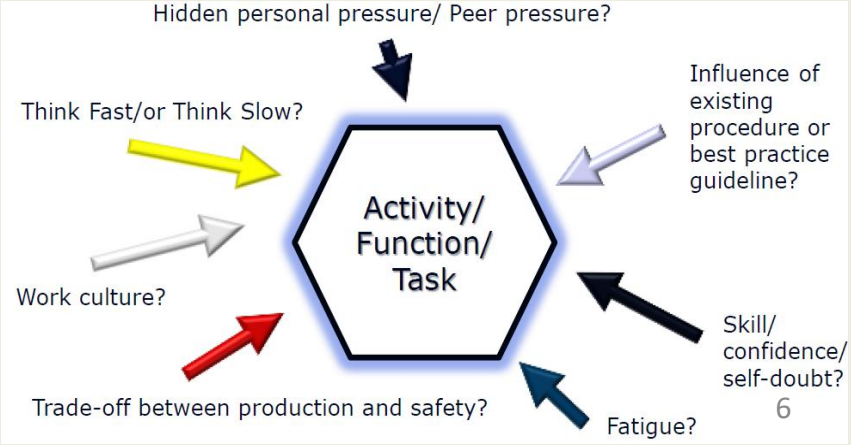
- Digital tools: simulators, charts, AIS, automation
- Paradox: more tech → greater reliance on people
- Example: flood → captain must decide
- Example: simulators help training → leadership saves lives
- Need for a balanced human–machine partnership

The Role of Soft Skills

- Communication – prevents accidents
- Teamwork – essential for smooth operations
- Leadership – decisive in crisis situations
- Conflict resolution – harmony on board
- Adaptability – responding to unexpected challenges







Investing in People

- Education & training – modern, harmonized standards (Erasmus+ projects: 1S4IWT, ARIELL)
- Lifelong learning – reskilling and upskilling
- Better working conditions – comfort, diversity, fair pay
- Safety culture – responsibility, reporting, learning

ARIELL

Co-funded by the European Union

Project period:
November 2024 - October 2027

Transformative Learning in Inland Waterways Education with Simulators and Digital Innovations (Focus on Management Level, ML)

Objectives:

- Align education and practice with digital support to meet EU Directive 2017/2397 standards
- Equip graduates with essential and advanced skills by dedicated virtual simulation scenarios
- Contribution to the harmonization of education in inland navigation (common lessons)
- Improve the integration of modern IWT-Simulators in the vocational education (online course)
- Reach a wider audience and accommodate diverse learning styles
- Enhance international access to training opportunities

5 Partners:

- SBKR
- University of Craiova
- DST
- University of Applied Science-Upper Austria
- Navi Barging Management S.a.r.l.

4 Workpackages (WP):

- WP1 - Project management
- WP2 - Virtual Simulation Scenarios
- WP3 - E-Learning plattform
- WP4 - Dissemination

© DST

ARIELL

Co-funded by the European Union

Project period:
November 2024 - October 2027

Transformative Learning in Inland Waterways Education with Simulators and Digital Innovations (Focus on Management Level, ML)

Connection of two ship handling simulators at two different locations

© A. Voit / SBKR

Communication via Teamspeak

funded by
Federal Ministry of Transport

Conclusion

- Success depends on the people behind the system
- Human element = greatest asset, not a weakness
- Invest in training, soft skills, safety, and working conditions

Ships may carry cargo or passengers, but crew carry responsibility.

THANK YOU!

Prof. Gabriel Benga, PhD

President of EDINNA

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Crewing challenges in the Danube region and measures taken by shipowners

4th Nov 2025

Mladen Grujic, CEO
JRB AD BELGRADE

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

Crew - the heartbeat of water transport

IMPORTANT

NO CREW – NO VESSEL – NO TRANSPORT !!!

no navigation – no cargo care – no maintenance

No shipping companies

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Crew conditions – comparation 20th - 21st century

20th century

- Large pool of potential crew – recruitment easier
- Less advanced navigation equipment – paper charts
- Low level of communication technology – KT station
- Ports located in city center – crew often in city
- Simple safety procedures
- Normal conditions on the waterways

21st century

- Fewer people - recruitment hard
- Advanced navigation – digital charts
- Advanced communication technology – internet
- Ports located in specialized terminals away from city center
- More sophisticated safety protocols
- Deteriorated conditions on the waterways
- Bureaucratic challenges

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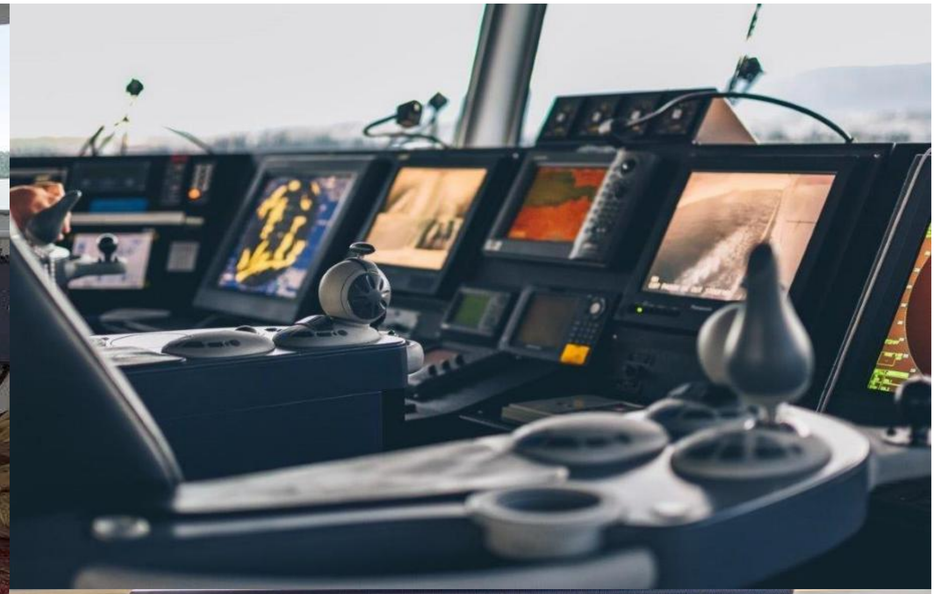
Evolution of conditions



Towing of schleps on the Danube

Pushed barges on the Danube

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Challenges today

- Lack of crew – recruiting young professionals
- Small number of students in secondary river shipping schools
- Dual education
- Increasing of administrative work – impacts to crew
- Complexity of regulation – environmental, safety and other protocols
- More training and education
- Market situation and fleet status
- Plenty new career opportunities and new professions

Long term strategy

- Supporting and investing in secondary education programs for future river captains
- Training and education program must be efficient, engaging and standardized across different countries
- Reducing bureaucracy
- Transfer of crew between sea and river vessels
- 365-day guaranteed 2,5 m waterway depth on Danube
- Increasing of cargo volume on the Danube
- Market stability
- Investment to infrastructure
- Investment in vessels
- Industry more attractive to young professionals

Conclusion

- By improving conditions – waterway depth, modern ports, advanced ships, streamlined regulations – we will attract new talent, young people willing to become a part of river industry and ensure that transport on the Danube stays competitive and sustainable in the long run

- Near future will give answer how AI and automation can shape the future of river transport and role of crew

Thank you for your attention

Mladen Grujic, CEO, JRB Belgrade

mail: grujic@jrb.co.rs

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This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

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CESNI guidelines

Competence requirements for batteries and methanol

4 November 2025

Charline DALOZE
CESNI Secretariat

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

CESNI competence tables for new and innovative technologies

- **On CESNI Work programme 2025-2027** (ongoing or to be started before mid 2026)
- **Priority I**

Alternative energy	Status
Batteries	✓ Adopted and published in April 2024 On CESNI's website: https://www.cesni.eu/en/other-documents-and-guidelines-for-crew/
Methanol	✓ Adopted and published in April 2024 On CESNI's website: https://www.cesni.eu/en/other-documents-and-guidelines-for-crew/
Hydrogen	➢ Ongoing – finalisation expected in 2026

Methodology

- **Risk analysis** as starting point
- **Target audience**
  - Training institutes and schools
  - Craft owners
  - Insurance companies
- **Flexibility** with “guidelines”

- **Tailor-made approach** to anticipate the likely combination of technologies on board a same vessel

Content

- Input
  - Platina3 competence tables
  - Experience from pilot projects
  - Risk-analysis and expertise from CESNI/PT

- Competence tables: knowledge and skills

- Basis for practical exam (if needed)

2. Competences for operation of craft using batteries for propulsion

2.0 General competences

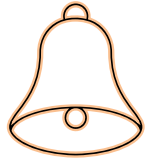
The specialised person shall be able to:

COLUMN 1 COMPETENCE	COLUMN 2 KNOWLEDGE AND SKILLS
1. **ensure compliance with relevant legislation, standards as well as safety and maintenance instructions applicable to craft with batteries;**	1. Knowledge of regulations relating to craft with batteries as energy storage for the power supply such as relevant police regulations and ES-TRIN including the conditions to use and storage the batteries. 2. Knowledge of safety and maintenance instructions. 3. Ability to instruct and monitor crew member operations in order to ensure compliance with legislation, standards and instructions applicable to craft using batteries.

Specialised person

➢ Role of the specialised person (on board / on shore)

- 1) be **familiar with the specific risks** associated with the new technology they will be handling;
- 2) **familiarise other persons** involved (on land or on board), in an instructive function;
- 3) **detect situations** likely to result in an accident;



- 4) **detect when an incident has occurred** and assess the risks for the vessel and the crew;
- 5) **take immediate protective measures** in the event of an incident.

THANK YOU FOR YOUR ATTENTION

Charline Daloze
Administrator for professional qualifications and crew
c.daloze@ccr-zkr.org

PLATINA4Action Stage Event Date 2025

Hybrid event, live from Budapest

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

PLATINA 4Action

1System4IWT Learning

Digital education ecosystem to empower transnational harmonized qualification in IWT education

November 4th 2025

Jan Smallegange
Lecturer/project manager STC Group

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

In retrospective

COMPETING (EACEA funded) ran until Summer 2022

1 System 4IWT Learning ran from Q4, 2022 until Q2, 2025

PLATINA3 (HORIZON CSA funded) WP 3 Jobs & Skills ran until Q2 2023

Task 3.1 draft standards for competence on zero or low emission propulsion systems (MAH)

Task 3.3 draft standards for competence for on-board systems for automation (STC)

PLATINA4ACTION (HORIZON CSA funded) runs since Q1, 2024

Advisory board role (like EDINNA): feedback on matters related to funding opportunities/professional qualification because of greening/role out new energy carriers

Co-funded by the Erasmus+ Programme of the European Union

COMPETING deliverables

- blended learning environment (INeS)
- European Training Record Book OL/ML (EN/FR/NL)
- 14 course manuals (7 competence areas; OL/ML); course manual for setting up TtT's
- auditsystem (meant for competent authorities while auditing e&t institutions)
- 3 videos (for promotional purposes)
- Add-on: QuestionPool (10 MC questions per competence, totalling up 1.550 calibrated questions); additional e-learning material (self-learning quizzes/modules for several competence areas)

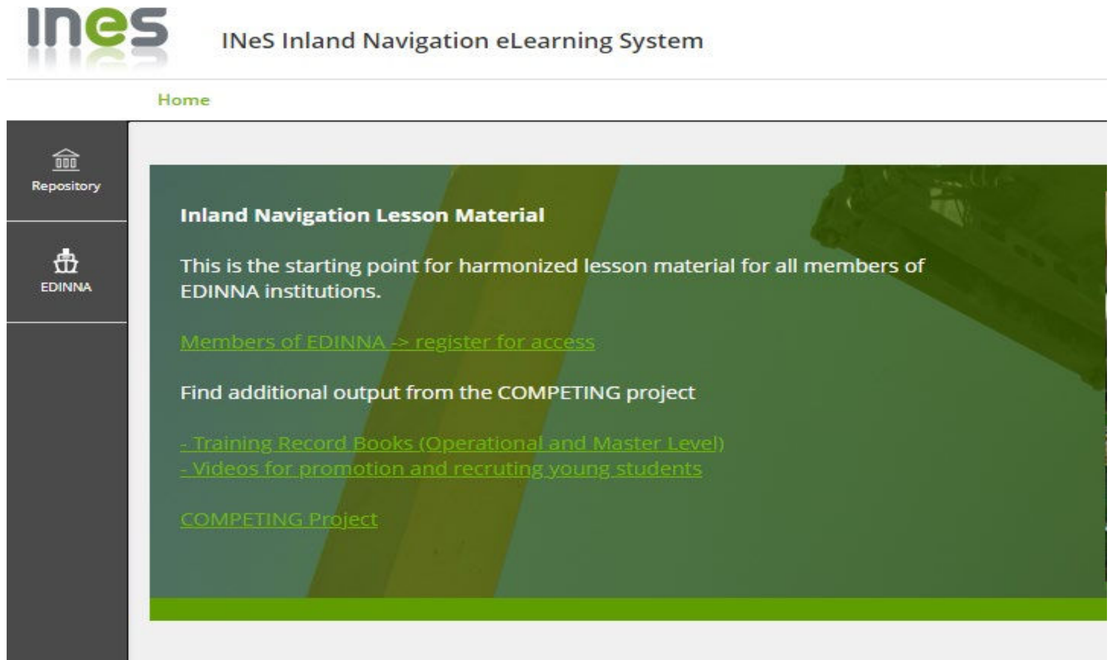
Where to find these materials?

EDINNA

- https://www.edinna.eu/new-european-competence-based-teaching-materials/

COMPETING

- https://www.iwt-competencies.eu/downloads/course-manuals-new/



METHODOLOGY 1S4IWT (overview)

WP 1 Project management, Quality Assurance and Evaluation of project's implementation and outcomes (WPL STC Group)

WP 2 Uptake (skills gaps research and gaps in legislation implementation) (WPL CERONAV)

WP 3 Transnational vocational content and life-long training – content for OL (WPL University of Craiova)

WP 4 Setting up Architecture and Framework (minimum viable platform) (WPL University of Applied Sciences Upper Austria (FHOö)

WP 5 Creating a Community of Practice for structured cooperation (WPL MAH)

Co-funded by the Erasmus+ Programme of the European Union

WP2: skills gaps research & gaps in legislation implementation

T2.4 - Jobs & skills

D 2.4 Updated list of jobs on-board IWT vessels and their corresponding professional competences and job descriptions

Developed 3 new competences 2 for entry level and one for OL

D 2.1.1 Report on legislation gap and needs & challenges

T 2.1 - Scanning the IWT environment – legislation and needed competences and developing a methodology for future repetition of assessment

D.2.1.2. Methodology for future repetition of IWT environment' assessment

on EU legislation implementation regarding permanent adaptation of professional competencies of personnel from IWT sector in the Rhine and Danube riparian countries

100+ questionnaires sent; n = 35 (11 countries)

T 2.3 - Gradual implementation of automation in IWT

D 2.3 - Methodology for gradual implementation of automation in IWT

D 2.2 Inventory of competences needed in the IWT sector, including new ones due to innovative technologies and updated/newly developed standards for competences for new jobs onboard IWT vessels

T 2.2 - Revision of standards for competences and corresponding knowledge and skills (ES-QIN)

PLATINA 4Action

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WP2

T 2.4 - Jobs & skills

Collected **findings from human factors** studies in inland navigation with focus on human factors **root causes of accidents** and ways to reduce or prevent inland navigation accidents

Inventory of potential benefits and risks of increased onboard automation with the reduction and/or removal of onboard crew

- **Report on Updated list of jobs onboard IWT vessels and their corresponding professional competences and job descriptions**

Safety aspects on the use of Track Guidance Assistants for Inland Navigation (TGAIN) as adopted during the CESNI meeting in Strasbourg (France) on 10 April 2024

Developed new competences

Entry-level: **deckhand/apprentice**

Operational level Boatman on a remote-controlled craft

Non-technical competencies for operating levels 1 and 2 remote-controlled vessels

Assist with Navigation, Cargo Handling, Maintenance operations, Safety issues

Situational awareness, Communication, Cybersecurity

Co-funded by the Erasmus+ Programme of the European Union

WP3: Transnational vocational and life-long training content

Competence areas:

- Navigation
- Operation of the craft
- Cargo handling
- Marine engineering
- Maintenance and repair
- Communication
- Health and safety and environmental protection

- **D 3.1 Report**
- **(n = 100 ; 6 countries)**

T 3.1 - evaluation of current IWT learning user behaviour

T 3.2 – Transnational vocational content (modules) made interactive based on the table of competences (ES-QIN): 4 comp. areas

Add-on: peer and student reviews (part of train-the-trainer events in Steyr, Apr. 2024 and Duisburg, Nov. 2024)

Co-funded by the Erasmus+ Programme of the European Union

WP3: new e-learning modules

- *T 3.3 – Development of two new learning modules for IWT trends*

Modules for new inland navigation trends:

- Interactive modules (elements of gamification) on cybersecurity and
- on greening (Hydrogen)

Maritieme Academie Harlingen

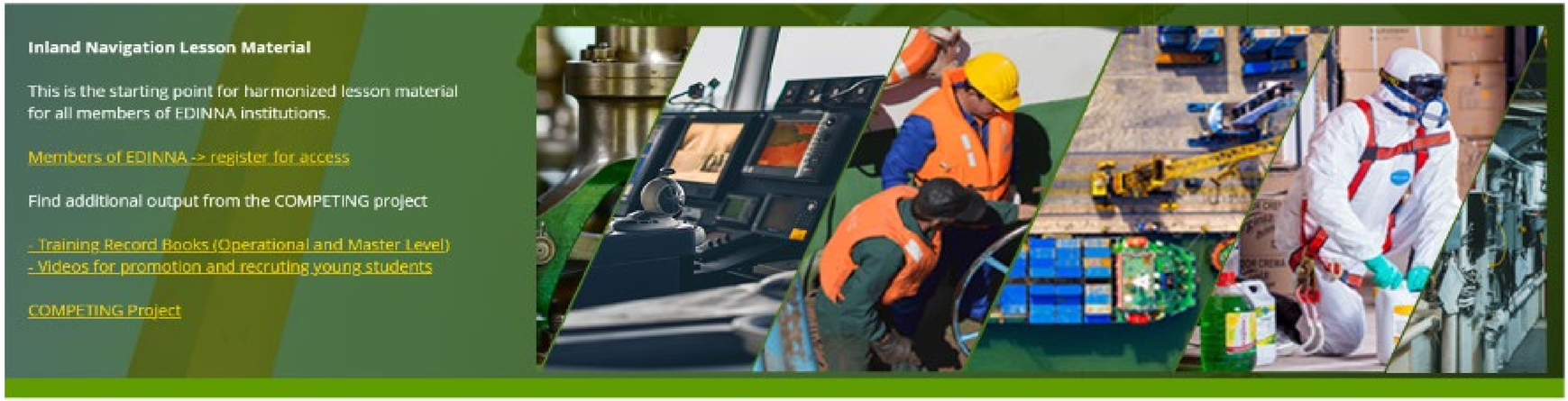
UNIVERSITY OF APPLIED SCIENCES UPPER AUSTRIA

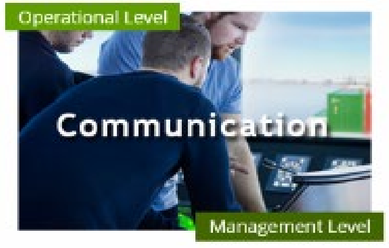
Co-funded by the Erasmus+ Programme of the European Union

Co-funded by the Erasmus+ Programme of the European Union

WP4: initial situation

- Output of COMPETING (2022): digital training material based on competencies according EU Directive 2397
- INeS e-Learning Platform “**I**nland **N**avigation **e**learning **S**ystem” (started in 2005)
- Focused on setting up basic structure (common understanding, streamlining/depth of content,..)
- Corona/Lockdown aftermath
- New demands from sector





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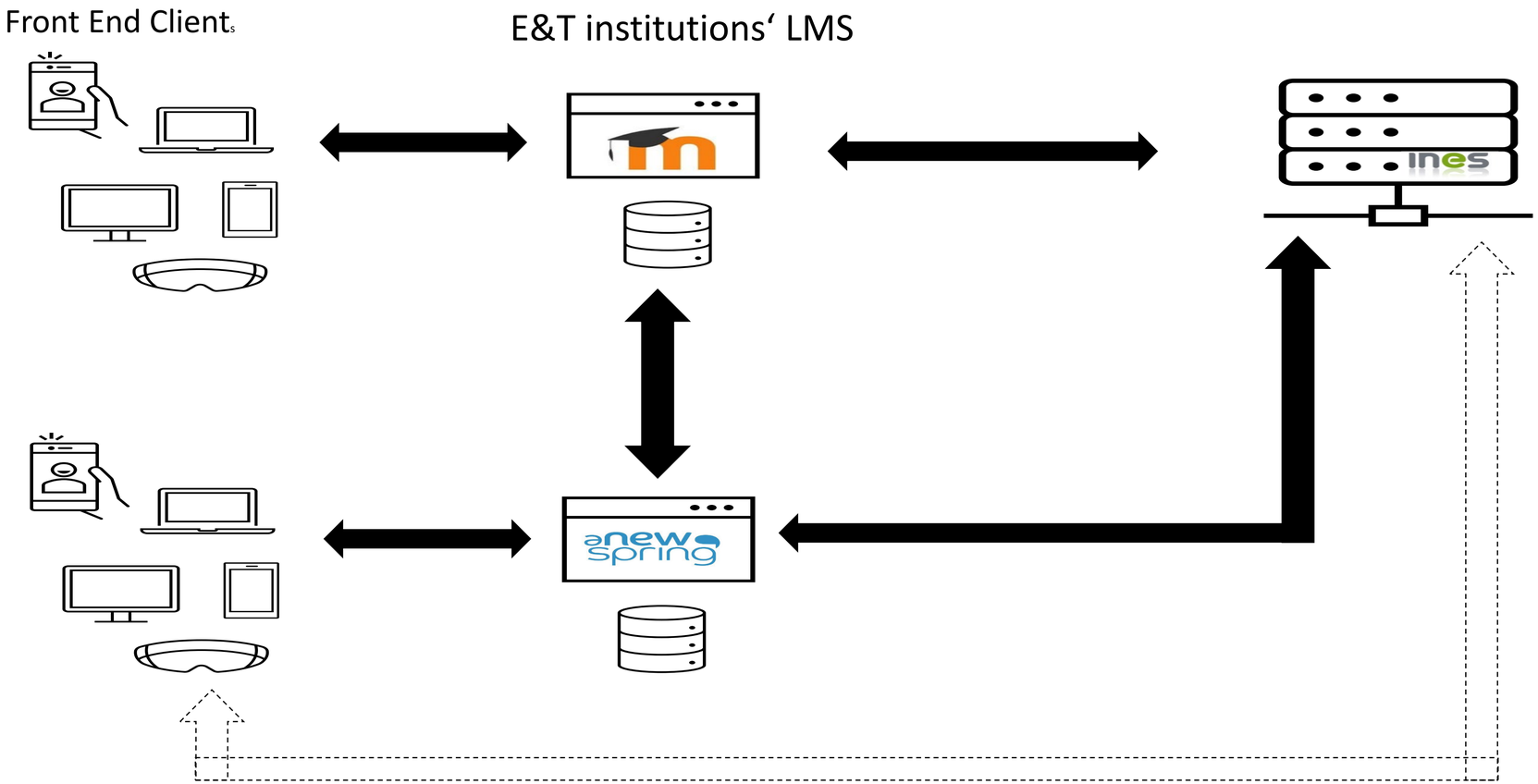
METHODOLOGY: WP4

Focus of 1S4IWT: setting up Architecture & Framework (minimum viable platform)



OER content repository and other virtual learning services and applications

Co-funded by the Erasmus+ Programme of the European Union

METHODOLOGY: WP4

Setting up Architecture and Framework (minimum viable platform)

State of play of deliverables

4.1 LTI connections, enabling learning progress between Moodle – INeS/ANS – INeS

Add on: connection between RealWear smart glass (using VSIGHT platform) – INeS (part of Train-the-Expert/Trainer event March 2024 in Steyr)

4.2 one “train the expert” session per year

Train-the-expert event in Constanta (Oct. 2023)

Train-the-Expert/Trainer event in Steyr (March 2024)

Add on: Train-the-trainer in Duisburg (November 2024)

Co-funded by the Erasmus+ Programme of the European Union

METHODOLOGY: WP5

Creating a Community of Practice for structured cooperation (WPL MAH)

5.1 Expanding the stakeholder ecosystem at EU level. Stretching the EDINNA network (https://www.edinna.eu/membership) up to the workforce.

5.2 Strengthening cooperation with social partners in order to ensure a feasible and workable community for the sector that is mutually accepted, used and promoted by all relevant stakeholders

State of play of deliverables

5.1 A learning community of trainers, teachers and professionals (making use of INeS) which offers a yearly train-the-trainer program for teachers of IWT e& t institutions

Four iwTEACHERScanteens held (May 2023, October 2023, April 2024, April 2025)

5.2 A professional platform (f.i. a LinkedIn Group) *142 followers (and counting)*

Co-funded by the Erasmus+ Programme of the European Union

METHODOLOGY: WP1

WP 1 Project management, Quality Assurance and Evaluation of project's implementation and outcomes (WPL STC)

Some observations:

Working with institutions across the EU: Danube riparian perspective, Rhine delta: respecting each other's legacy and history

Representation of a variety of stakeholders in the advisory board: a.o. KBN, CCNR, European IWT Platform, Ministry of Transport (RO), Sava river commission

Add-on: learning loops/peer principle, student reviews

METHODOLOGY: WP1

WP 1 Project management, Quality Assurance and Evaluation of project's implementation and outcomes (WPL STC)

Impact:

EDINNA Assembly (yearly), ADEM Conference 2023 (RO), GamiFIN2025 Conference (Lapland) introducing Cybra, Transaction Project Meeting LISA (Dubai)

Website: https://www.1s4iwt.eu/

LinkedIn page: 203 followers

IWT Project Platform (1S4IWT included)

Questions?

Contact: Jan Smallegange, MSc
STC Group, Lloydstraat 300, 3024 EA, Rotterdam, NL
j.a.smallegange@stc-r.nl

Co-funded by the Erasmus+ Programme of the European Union

PLATINA 4Action

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

PLATINA4Action Stage Event
Date 2025
Hybrid event, live from Budapest

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

European Commission

DiVINE – supporting the implementation of the Digitalisation vision for the IWT by 2035

Platina4Action 2° Stage Event
Budapest, 04.11.2025

DiVINE

Digitalisation Vision Inland Navigation Europe

LIST OF CONTENT

DiVINE
Digitalisation Vision Inland Navigation Europe

1. PRESENTATION OF THE PROJECT OBJECTIVE

General objective

To contribute to the objectives of the **NAIADES III** Inland Waterway Transport Action Plan 2021 – 2027 aiming at developing a **smart European inland waterway transport sector**. The project should develop closer **public-private cooperation** in IWT and facilitate the implementation of the **IWT Digitalisation Vision** across all navigable EU river basins.

Specific objectives

1. **Phase 1**: To compose a list of all **relevant stakeholders** that need to be involved in the implementation process of the objectives set out in the **IWT Digitalisation Vision**.
2. **Phase 2**: To conduct **desk research and one-to-one interviews** with the relevant actors to further elaborate and refine the **objectives of the IWT Digitalisation Vision**.
3. **Phase 3**: To set up a **stakeholder consultation process** with all relevant stakeholders to discuss the **role and commitment of the different categories of actors** in the **implementation process** of the objectives set out in the IWT Digitalisation Vision. The objective to developing a clear **roadmap** with a concrete definition of **required actions** and related **responsibilities** to ensure that the vision can be implemented by 2035.

1. PRESENTATION OF THE PROJECT OBJECTIVE - BACKGROUND

What OBJECTIVES are set for a DIGITAL VISION of the IWT by 2035?

1. The concept of **SMART SHIPPING** is fully fledged, for each **component**

- Smart **administration** → **LEGISLATION, LOGISTICS, GOVERNANCE**
- Smart **vessels** → **AUTOMATION**
- Smart **infrastructure** → **24/7 AVAILABILITY, REMOTE CONTROL, INTERACTION and COEXISTENCE**
- Smart **data** → **DATA SHARING and EXCHANGE**

2. Full integration of the **IWT data space** into the EU Mobility space

3. Full implementation of the **RIS Network Management Concept**

2. CONSORTIUM PARTNERS

European IWT Platform

The European Inland Waterway Transport Platform is the **lead** organization of the consortium.

ECORYS

Danube Commission

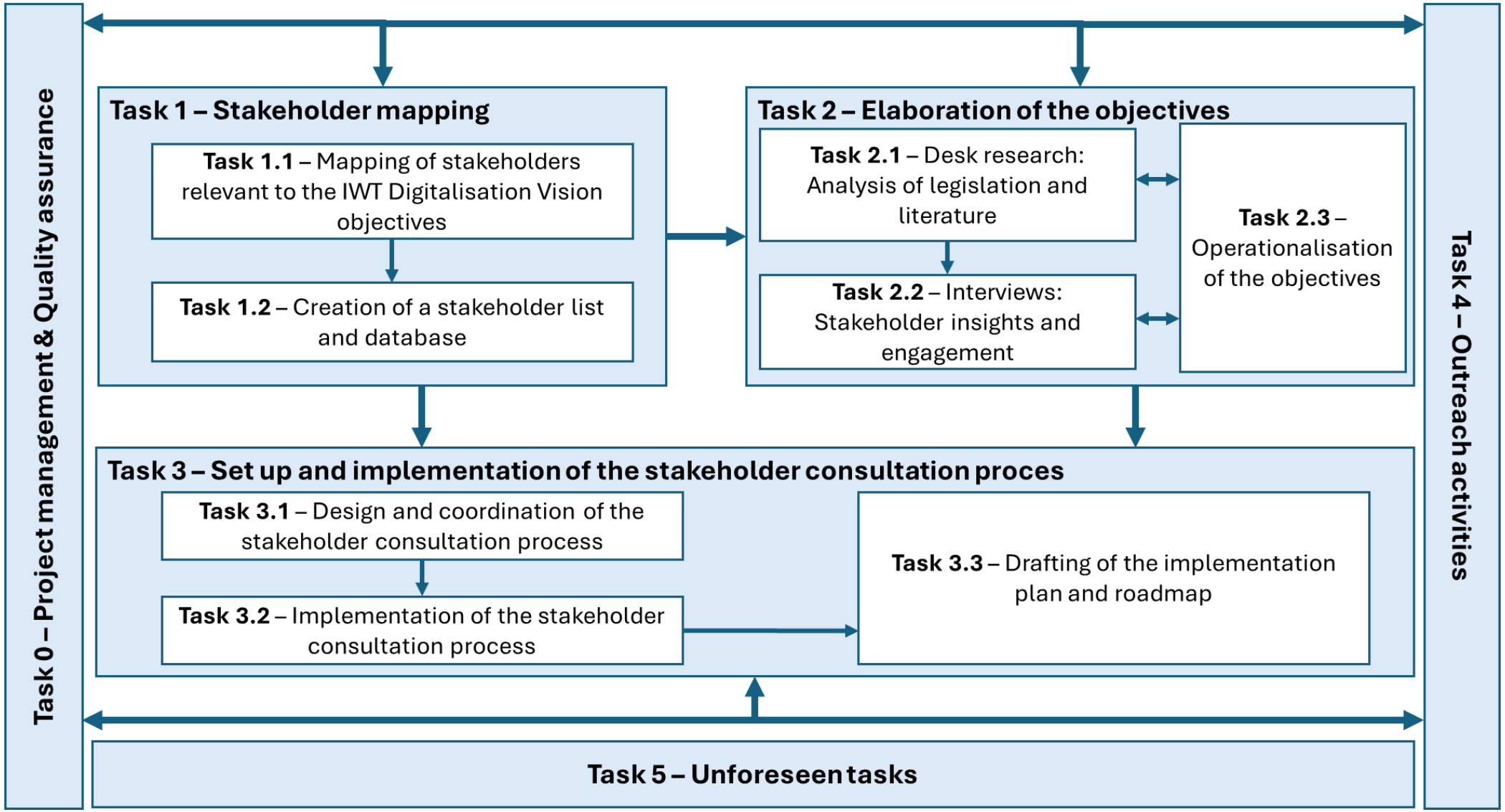
EICB Expertise- en InnovatieCentrum Binnenvaart

viadonau

Circle Group

DiVINE
Digitalisation Vision Inland Navigation Europe

3. STRUCTURE OF THE PROJECT



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3. STRUCTURE OF THE PROJECT – Detail of the tasks

Task 1 – STAKEHOLDER MAPPING – identifying and mapping all stakeholders relevant to the IWT Digitalisation Vision (M1 – M4)

→ **A detailed stakeholder mapping report,** offering an exhaustive analysis of stakeholders, including categorisation, influence-interest levels, and potential roles in the digital transformation process, organized in a **comprehensive stakeholder database**

Task 2 – ELABORATION OF THE OBJECTIVES – defining an operationalized view of the objectives of the IWT Digitalization Vision (M3 – 17)

→ **The initial results** based on research and interviews compiled in the **Intermediate Report 1**, followed by a full **analysis** of the operationalised objectives, compiled in the **Intermediate Report 2**

Task 3 – STAKEHOLDER CONSULTATION PROCESS – discussing with stakeholders on how to concretely ensure the implementation of the objectives by 2035 (M7 – M36)

→ The **final results o**f the stakeholder consultation process, compiled in a **Final Report**, which will include a concrete and detailed implementation plan and roadmap to meeting the objectives by 2035 and address the underlying challenges

Task 4 – OUTREACH ACTIVITIES – ensuring the effective dissemination of the progress, outcomes, and benefits of the project to a broad audience, as well as raising awareness of potentially concerned stakeholders (M1 – M36)

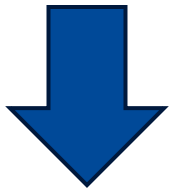
→ A **website** and **social media profiles** dedicated to the project, the participation in **external events** such as EC Expert Groups, meetings of other platforms and other sectoral events

3. STRUCTURE OF THE PROJECT

FOCUS – What to expect at the end of the stakeholders' consultation process, in October 2028?

A complete implementation plan, with a detailed **roadmap**, clearly defining:

- What **actions** need to be completed to achieve the digitalisation vision **objectives**
- **Who** is responsible for delivering on these actions
- **When** such actions will be accomplished by the respective responsible subjects



Concrete, **realistic** and **specific shared** responsibilities for all the involved **parties**

4. EXPECTED TIMELINE & DELIVERABLES

Contract signature: September 2025
Contract duration: 36 months (including T0 signature month)

Month 3:
Inception Report

Month 12:
Intermediate Report 1

Month 22:
Intermediate Report 2

Month 36:
Final Report

DiVINE
Digitalisation Vision Inland Navigation Europe

4. OUTREACH ACTIVITIES

- Elaboration of a **visual identity**
- Creation of a **communication**-related **database** for outreach activities
- Launch of a **website and social media profiles**
- Regular drafting of **press releases** and other **written documents**
- Organization of **webinars** and **meetings,** participation in **external** events

DiVINE

Digitalisation Vision Inland Navigation Europe

THANK YOU for your attention

Questions?

m.matarazzo@inlandwaterwaytransport.eu | geert.smit@ecorys.com
jasper.tanis@ecorys.com

European Commission

IWT projects

Cooperation Platform RD&I projects for IWT

PLATINA 4Action

IWT Projects Cooperation Platform

Objectives, Benefits, Scope, Projects and Activities

Stage Event Budapest - 4 November 2025
Martin Quispel, SPB/EICB

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.

Introduction

- **Creating synergies with cooperation platform for RD&I projects for inland waterway transport (IWT):**
  - **More impact** by means of consolidated / joint statements and recommendations for RD&I and policy measures
  - **Increased visibility** to the community and stakeholders
  - **More efficient and effective execution of projects** in terms of impact, stakeholder engagement, dissemination
  - **Facilitating meetings and document exchange platform** to learning from each other to increase the knowledge base
- Follow-up of **“Joint EU Smart Shipping & Logistics Platform”**, organised by the NOVIMOVE project until May 2024
- **Hosted by PLATINA4Action project** to provide a secretariat function at least until December 2026
- **TEAMS site, website and LinkedIn channel are active and operational**

PLATINA 4Action

IWT projects
Cooperation Platform RD&I projects for IWT

“Synergies between European projects”

IWT Projects Cooperation Platform

- Launch Date: 4 February 2025 at the Waterborne Days in Brussels
- 44 Complementary Projects contributing to innovation in inland waterway transport

Collaborative Ecosystem

- Serves as a hub in a network of European RD&I projects in Inland Waterway Transport

Shared Objectives & Benefits

- Facilitates knowledge exchange among project coordinators
- Encourages best practices and alignment of research goals
- Focus on zero-emission technologies, digitalization, climate resilience, and a skilled workforce

Overcoming Barriers & Policy Influence

- Joint recommendations for policy measures and further research needs
- Enhances visibility of innovative solutions to policymakers, industry, and stakeholders
- Central website: **https://iwtprojects.eu**

PLATINA 4Action

IWTprojects
Cooperation Platform RD&I projects for IWT

European IWT Projects Cooperation Platform

The Inland Waterway Transport (IWT) Projects Cooperation Platform is a dedicated initiative designed to enhance the efficiency, visibility, and impact of Research, Development, and Innovation (RD&I) projects in IWT. By fostering collaboration among stakeholders and facilitating knowledge exchange, the platform aims to drive innovation, strengthen market uptake of new technologies, and influence policy to support the growth and sustainability of IWT.

PROJECTS CONTACT

PLATINA 4Action

IWT projects

Cooperation Platform RD&I projects for IWT

Key Benefits of the Platform

- **Optimized Project Execution**: The platform ensures that RD&I projects are carried out more effectively through improved stakeholder engagement, streamlined dissemination, and impactful communication strategies.
- **Knowledge Sharing**: A space for exchanging documents and insights, enabling participants to learn from each other and increase the collective knowledge base on inland waterway transport innovation.
- **Amplified Impact**: By issuing joint statements and recommendations, the platform provides a consolidated voice to advocate for future RD&I needs and policy changes that address market barriers and support technology adoption.
- **Increased Visibility**: Through online channels such as a dedicated website and LinkedIn, the platform helps projects gain greater recognition and outreach within the IWT community and beyond.

Objectives

The IWT Projects Cooperation Platform aims to:

- **Enable Synergies**: Create connections between ongoing projects, particularly in technical areas, by providing a comprehensive overview of European Union-funded projects and mapping commonalities and gaps across themes, market segments, and geographical scopes.
- **Facilitate Thematic Focus Groups**: Organize task forces on key themes such as zero-emission innovations, offering a forum for discussing barriers, best practices, and feedback from RD&I efforts.
- **Support Event Planning and Stakeholder Involvement**: Coordinate joint consultations and engagement with relevant stakeholders, maintaining an up-to-date list of key players and events related to IWT.
- **Boost Dissemination and Exploitation**: Enhance the visibility and impact of project results through joint events like “IWT RD&I Projects Week” and shared communication channels, including a platform website and social media presence.

Scope

The platform primarily focuses on RD&I projects funded by the European programme Horizon Europe, covering areas such as Zero Emission Waterborne Transport (ZEWT), logistics, human resources, digitalisation, clean hydrogen, and battery technologies. Additionally, it includes other EU-supported initiatives like Connecting Europe Facility, Innovation Fund, INTERREG, and LIFE projects, as well as nationally funded RD&I projects with substantial budgets.

By providing an efficient cooperation environment for these projects, the IWT Projects Cooperation Platform aims to accelerate the transition towards greener and more efficient inland waterway transport solutions.

List of involved projects (44):

1S4IWT
AEGIS
AENEAS
AUTOBARGE
AUTOFLEX
AUTOSHIP
AVIS
BOOSTLOG
CLARION
CLEVER
COMEX2
CRISTAL
CURRENT DIRECT
ENTRANCE
FAIRWAY DANUBE II
FASTWATER
FLAGSHIPS
FLEETFOR55
FOREMAST
FOR-FREIGHT
GRIP
INNOWATR
ISTS
IWETT
IW-NET
LASTING
MAGPIE
MOSES
MULTIRELOAD
NOVIMOVE
PATH2ZERO
PIONEERS
PLATINA3
PLATINA4ACTION
PLOTO
RENEW
RESHIP
RH2IWER
SEAMLESS
SEASTARS
SETO
ST4W
SYNERGETICS
WISTAR

PLATINA 4Action

IWT projects
Cooperation Platform RD&I projects for IWT

Example project tile:

PLATINA4Action

Project details

Project Full Name	PLATform for the Implementation of the Navigation Action programme for Action
Goal	The PLATINA4Action project aims to accelerate the implementation of green and connected inland waterway transport. Activities will focus on 1) supporting and coordinating research and innovation activities focussing on green and connected IWT to find synergies between parallel developments, 2) impact estimations of NAIADES III actions and supporting the policy discussions to achieve modal shift and zero-emission IWT and 3) the updating of the Strategic Research and Innovation Agenda for IWT.
Status	Ongoing
Categories	(Zero-)Emissions, Digitalisation / Automation, Waterway & Port Infrastructure, Logistics & Modal Shift

More information

Cordis Link	https://cordis.europa.eu/project/id/101137650
Website Link	https://platina4action.iwtprojects.eu

PLATINA 4Action

IWT projects
Cooperation Platform RD&I projects for IWT

List of involved projects (44):

1S4IWT
AEGIS
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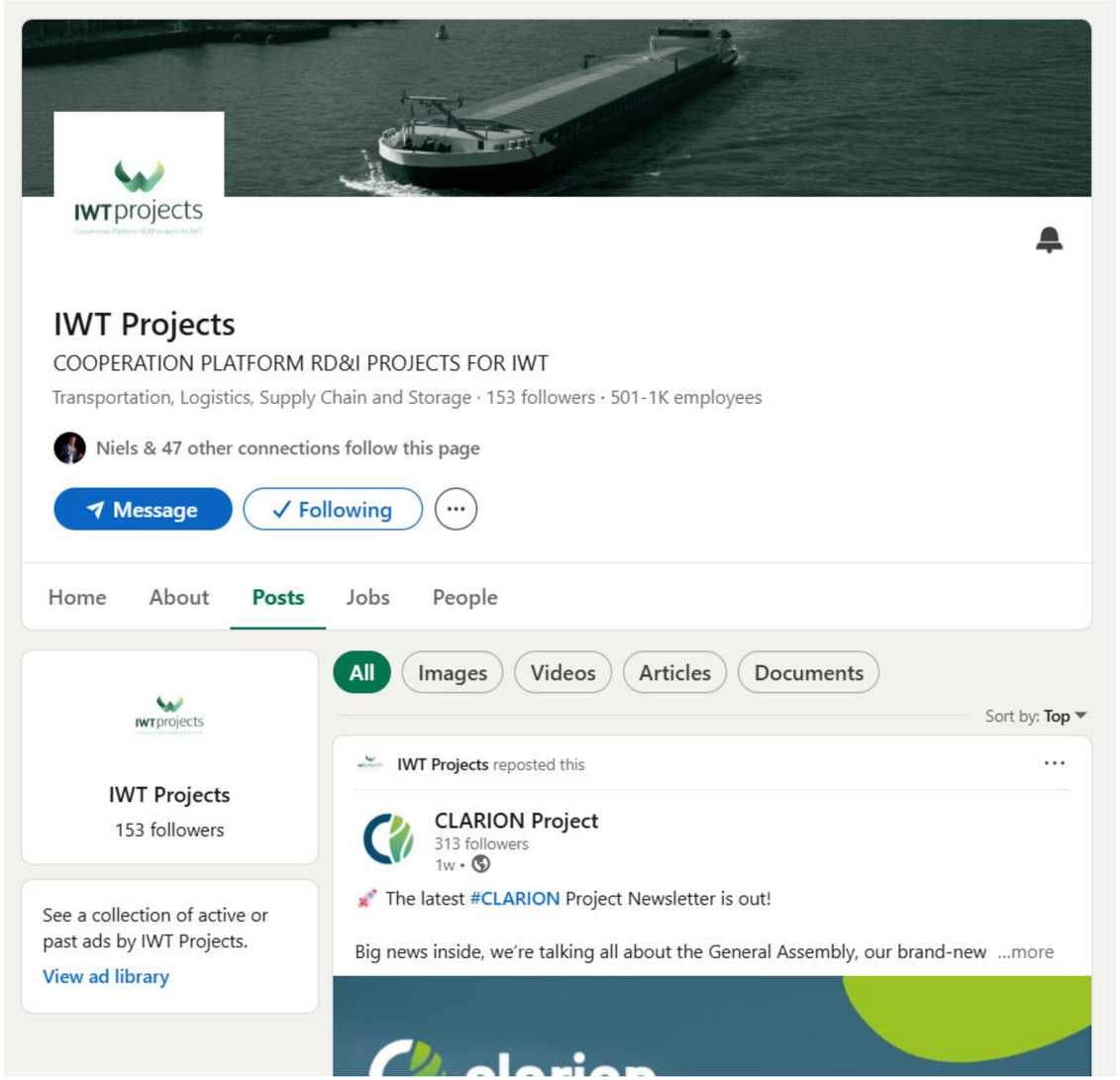
INNOWATR
ISTS
IWETT
IW-NET
LASTING
MAGPIE
MOSES
MULTIRELOAD
NOVIMOVE
PATH2ZERO
PIONEERS
PLATINA3
PLATINA4ACTION
PLOTO
RENEW
RESHIP
RH2IWER
SEAMLESS
SEASTARS
SETO
ST4W
SYNERGETICS
WISTAR

PLATINA 4Action

IWT projects
Cooperation Platform RD&I projects for IWT

LinkedIn channel: https://linkedin.com/company/iwt-projects



PLATINA 4Action

IWT projects
Cooperation Platform RD&I projects for IWT

Actions

- Contact lists and events calendar to support planning and clustering and stakeholder involvement

- Task forces by RD&I project representatives for the following topics:
  - IWT policy requirements and recommendations as input for successor NAIADES III
  - Updating the Strategic Research and Innovation Agenda for IWT
  - Automation / Digitalisation
  - Ports
  - Zero-emission innovations

- Inclusion of new projects, e.g.:
  - DiVINE
  - ISOPROPEL

- General Assembly with members to discuss new developments, progress new activities.
  Next meeting on 12 November 2025

- Continuation plan for post 2026

Thank you for your attention

IWT projects

Cooperation Platform RD&I projects for IWT

Ir. Martin Quispel (MSc.)

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This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101137650.