WATERBORNE

MAGAZINE

Edition February 2025

Waterborne Days 2025

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Showcasing
groundbreaking European projects

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Celebrating the 20th anniversary of the Waterborne Technology Platform

Eero Lehtovaara

Chair of the Waterborne Technology Platform

This year, we celebrate the 20th anniversary of the Waterborne Technology Platform, starting with the Waterborne Days, which is now organised for the second time. The Platform was launched in January 2005, primarily as a forum to bring together all stakeholders from the waterborne sector to define and share a common vision. Based on this, the Waterborne Strategic Research Agenda was established. The starting point for the establishment of Waterborne was the so-called Lisbon Declaration, setting a new strategic goal for the European Union: 'to become the most competitive and dynamic knowledge-based economy in the world by 2010'.

In July 2013, the European Commission recognised Waterborne as a European Technology Platform. A bit closer to today, in April 2019, the legal entity Waterborne Technology Platform was established, and in 2021, the Memorandum of Understanding for the Co-Programmed Partnership on Zero-Emission Waterborne Transport was signed by both the European Commission Services as well as the Waterborne Technology Platform.

Looking back, one could wonder whether the overall objectives of the Waterborne Technology Platform have changed significantly over the years. Research, development, innovation and the deployment of innovations will remain key to facilitate the transition towards a resilient, competitive and sustainable future, ensuring that the EU's Waterborne Transport Sector remains a global leader and delivers quality jobs. This transition is the core of a Joint Declaration signed by 13 European associations representing the European waterborne transport sector. While our overall objectives remain largely the same as when the Platform was established, the cooperation between all actors of the European waterborne sector increased significantly.

"Innovation and the deployment of new technologies are key to a sustainable, competitive future."

In February 2024, the long-term strategy of the Waterborne Technology Platform was approved. Centred around technology leadership, the goal of the strategy is to support achieving the objectives outlined in the Joint Declaration. Technology leadership means being a frontrunner in enabling transformation, which entails developing and deploying competitive solutions to mitigate climate change, providing the capability to become climate resilient, eliminating harmful pollutants, improving working conditions and creating new jobs, and stimulating economic prosperity.

"Digitalisation and sustainability will be the key focus."

During the coming years, digitalisation and sustainability, in particular circularity and competitiveness, will be the key focus of our Platform. Competitiveness stands for utilising the results of research, development and innovation, as well as deploying new technologies and concepts, to maintain the leading position of the European waterborne sector in the relevant technology areas. In addition, it refers to the capabilities and potential of the waterborne transport sector compared to other modes of transport.

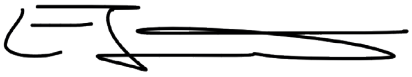
The European waterborne sector includes all relevant actors of the sector, including shipyards and equipment manufacturers, shipowners (both maritime and inland navigation), ports,

classification societies, blue economy, infrastructure and service providers and the academic and research communities. These actors play a pivotal role in contributing their expertise and resources and are highly interdependent. According to a recently published evaluation report on the Partnership on Zero-Emission Waterborne Transport, a major outcome of the Partnership is the coordination, collaboration, and capacity building across combined sectors with often contrasting needs, objectives and strategies.

Cooperation will be at the core of our activities in 2025. The current Waterborne Days are a unique example of that. The programme has been co-designed by members of the Platform, different European Commission Services, as well as a broad group of stakeholders from the European waterborne sector. An interesting aspect of this organisational process is how different cultures (either different countries, or different actors from the waterborne sector) perceive this process and contribute to shaping the success of the Waterborne Days.

And finally, I am extremely proud that in addition to increasingly improved collaboration in the Waterborne Technology Platform as well as with external stakeholders, there has been significant progress in equality over the past couple of years. All of us are equally important, and all contributions to our activities are highly appreciated. In this first edition of the magazine, gender balance has been chosen as one of the key themes, to further stimulate discussions on equality.

Only together, we can achieve the objectives jointly defined for our sector, which is of strategic importance for the European Union and the daily lives of its citizens.



Eero Lehtovaara

“Only together, we can achieve the objectives jointly defined for our sector, which is of strategic importance for the European Union and the daily lives of its citizens.”

The European Research and Innovation Platform for the Waterborne Sector

Innovation and Collaboration Towards 2050

The Waterborne Technology Platform (TP) plays a pivotal role in providing policy guidance on research, development and innovation (RD&I) to European institutions. Its scope includes defining long-term research needs for the European waterborne sector, often looking as far ahead as 2040 or 2050.

Since 2021, the Waterborne TP is also coordinating the private side of the Co-Programmed Partnership on Zero-Emission Waterborne Transport (ZEWT) within the Horizon Europe framework. This partnership is a collaboration between the European Commission and the Waterborne TP, aiming to deliver and demonstrate zero-emission solutions for all main ship types and services by 2030. These efforts will enable the sector to achieve zero-emission waterborne transport by 2050.

How are RD&I priorities defined?

The platform's RD&I priorities are established through collaboration between its key working groups. Central to this process are the Industrial Research Advisory Groups (IRAGs). These groups adopt a bottom-up approach to identify the technical priorities and develop the technological roadmap for the waterborne sector. The three current IRAGs focus on:

- Ships & Shipping
- Ports & Logistics
- Blue Growth

To ensure alignment across activities, the Alignment Group oversees all technical RD&I matters, including the ZEWT Partnership. Members of this group include the IRAG Coordinator & Chairpersons, the Chair of the Delegates Group, liaison officers, and the Secretary General.

Organisational Structure and Governance

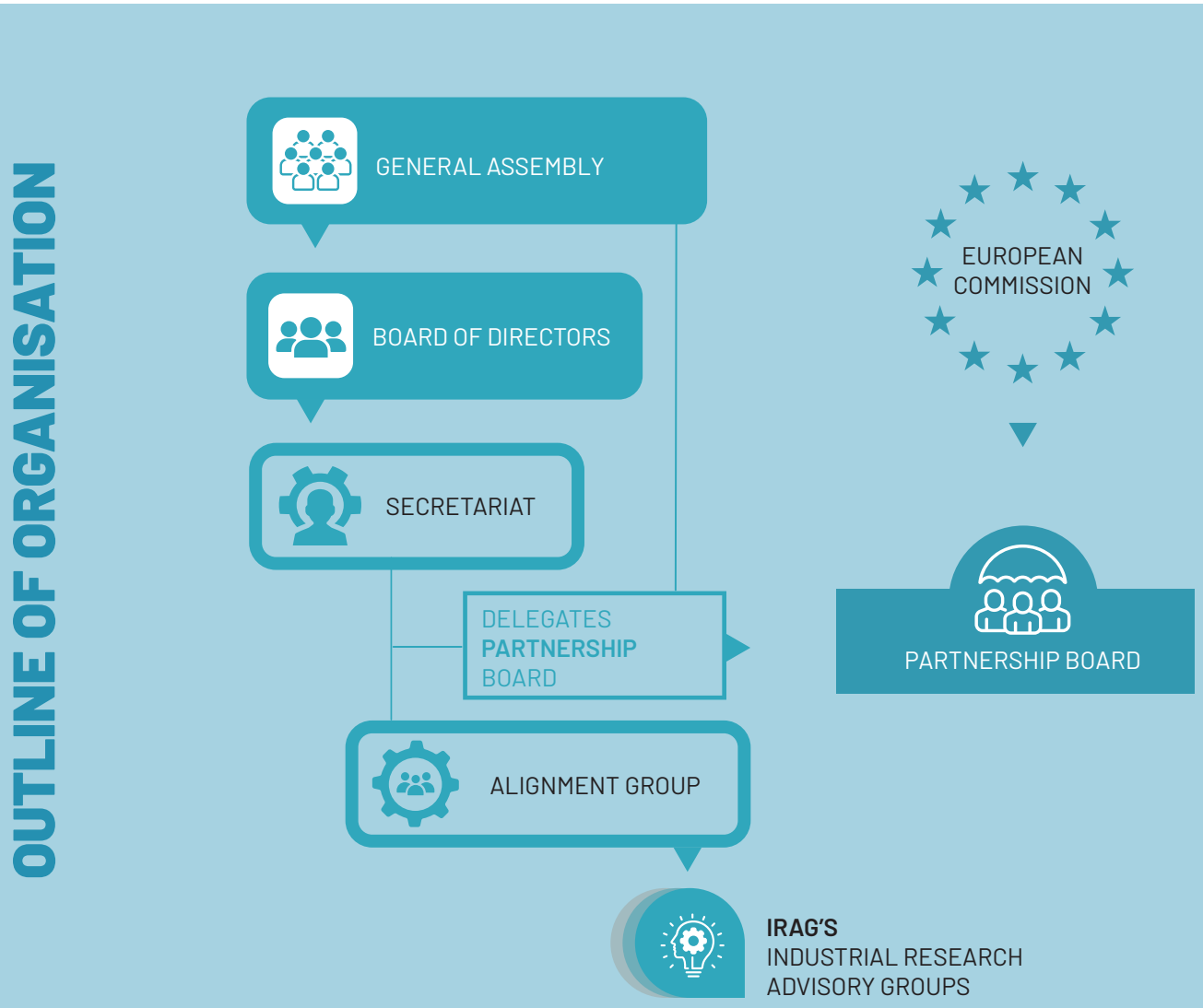
The Waterborne TP is governed by a structured framework to ensure effective decision-making and alignment with its strategic goals.

1. General Assembly
As the highest decision-making body, the General Assembly represents all members and approves the platform's policies and budget.

2. Board of Directors
This body oversees the legality and proper functioning of the platform and defines its long-term strategies.

3. Delegates Group
The Delegates Group represents the Waterborne TP in the ZEWT Partnership Board and ensures the interests of its members are aligned with European Commission priorities.

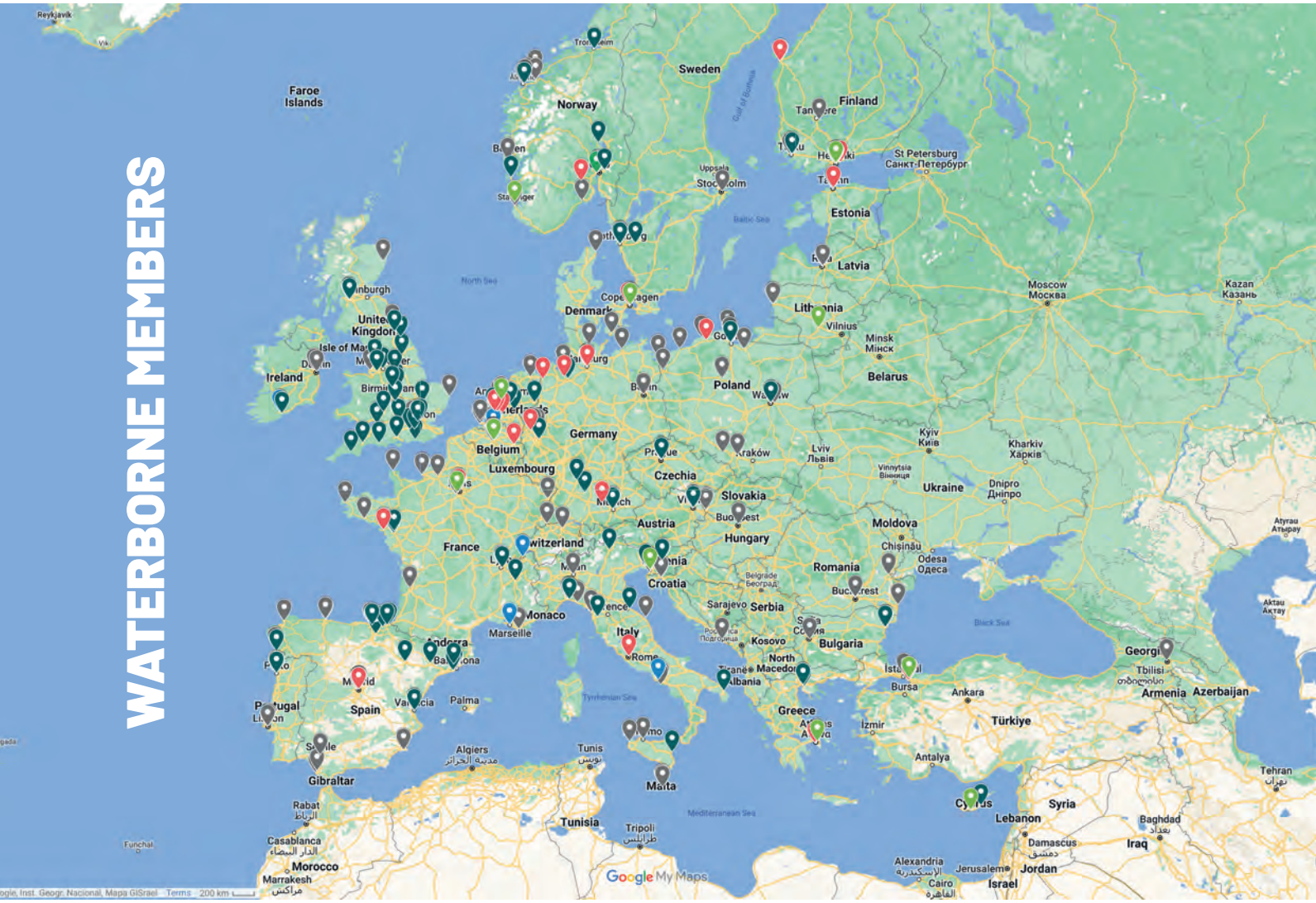
4. Secretariat
The Secretariat, led by the Secretary General, manages the platform's daily operations and provides organisational and administrative support.



Membership: A Diverse Network

There are currently more than 120 full members, mainly coming from industry, not to mention academia, research institutes and associations. There are eight categories of members:

- **Ship owners:** ship owner means the registered owner of a seagoing or oceangoing vessel, or any other person such as the bareboat charterer who is responsible for the operation of the ship, which includes all kind of ships (cargo, merchant, tourism, or any other activity)
- **Class societies:** are organisations which develop and apply technical standards for the design, construction and survey of ships and which carry out surveys and inspections on board ships
- **Inland waterways sector:** refers to all actors who have activities relative to the sector covering all transport activities which are related to European rivers, canals, lakes; both transport of goods and people is involved. "Activities" cover a broad scope: operations executed by barge owners/operators (shipping), research & innovation (from ship design to ship operations)
- **Research organisations:** governmental or private entities, consultants, universities, research institutes or associations, with the main purpose to initiate, facilitate and/or perform waterborne research and innovation
- **Shipyards and equipment manufacturers:** shipyards that build and repair civil or military ships and/or (offshore) platforms, maritime equipment manufacturers
- **Blue Growth sector:** concerns all the actors which have clean, climate-proof and sustainable Blue Economy activities, such as, among others, offshore support vessels, floating platforms, offshore renewable energy and aquaculture
- **Ports sector:** concerns all the actors who have activities relative to a shelter fitted out to receive ships, for the embarkation and disembarkation of their cargo
- **Waterborne related services:** services and energy providers



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waterborne days | 4/5 FEBRUARY 2025 BRUSSELS

Jointly setting priorities for the future

Cooperation is at the heart of the Waterborne Technology Platform (TP), representing more than 120 members from 18 EU Member States and several countries associated to Horizon Europe.

The waterborne sector is dynamic, featuring a diverse array of public and private stakeholders. These stakeholders range from classification societies, shipbuilders, and shipowners (both maritime and inland navigation) to equipment manufacturers, ports, infrastructure and service providers (e.g. dredging), as well as universities and research institutes. Small and medium sized enterprises (SMEs) form the largest part of the EU waterborne sector and play a crucial role in the sector and the European economy. The various stakeholder groups offer a wide range of services, trades and products. For example, the global fleet can be categorised by different ship types and services, classified according to power requirements and autonomy. These categories include inland waterway transport vessels, ferries, short sea, cruise, intercontinental and offshore ships. Further distinctions must be made between liner and tramp shipping and their business models, as well as between retrofitting existing vessels and building new ones. Considering these specificities, including the average lifetime of a vessel and meeting the environmental targets set, is a race against the clock for all waterborne stakeholders.

Gathering representatives of the European waterborne sector (both public and private stakeholders) to showcase results of European projects, and to discuss the future research, development and innovation needs of the European waterborne sector, including the deployment of innovations, is in the DNA of the Waterborne TP. For this reason, in 2023, the first edition of the Waterborne Days was organised in the context of the LASTING project, a project financed by Horizon 2020. The project was aimed at boosting stakeholder engagement and increasing the impact of European RD&I activities. One of the key results of this project is the plug-and-play concept developed for the Waterborne Days.

The Waterborne Days is a showcase of cooperation. The agenda has been jointly developed by the members of the Platform, the European Commission Services, and the broader group of stakeholders of the sector. For two days, interactive discussions will focus on research, development, innovation and deployment needs of the waterborne sector. The first day is aimed at setting the scene, in terms of European and national policy and strategy developments, as well as emerging discussions in the area of digitalisation and the blue economy. Furthermore, the first day will highlight the need of a systematic approach of deploying innovations, involving all key stakeholders of the sector. The second day is aimed at further detailed discussion, focussed on the six ship types identified in the ZEWT Partnership. Dedicated workshops on funding and financing, ammonia, wind assisted propulsion and waterborne innovation and skills will complement the programme. Furthermore, the European Commission is organising a set of workshops to gather input from the sector on essential topics like sustainable alternative fuels for the waterborne sector, the upcoming industrial maritime (and inland waterway transport) strategy and the upcoming port strategy.

This edition of the Waterborne Days would not have been possible without the continued support of all organisations sponsoring and supporting the event.

Whereas the Waterborne Days is organised every two years and thereby the next edition will be scheduled for 2027, this edition is a special one, since we celebrate the 20th anniversary of the Waterborne Technology Platform.

Pioneering Sustainable Solutions in the Waterborne Sector

Interview with Henk Prins

Collaboration for green waterborne solutions

In your view, how can partnerships between industry, research institutions, and policymakers drive innovation in green waterborne technology? Are there specific models of collaboration or projects that you think could serve as benchmarks?

Partnerships like the Zero-Emission Waterborne Transport partnership are crucial in bringing together all stakeholders. Setting a common agenda to tackle industrial and societal challenges helps all stakeholders to work together towards the common goals, instead of in competition. We appreciate the partnership model with low overhead: no dedicated office with large staff, but a collaboration between an association and governments. What should be improved, is the turn-around time to come from ideas to projects. Collaborative industrial projects (sometimes called Joint Industry Projects or JIPs) are often set up within a couple of months from idea to start; collaborative projects within the ZEWT partnership take many years from idea to start of the project. We need more flexibility in defining topics and starting projects.

The role of research in policy development

How can research institutions like MARIN contribute to shaping EU policies that support a sustainable waterborne sector? Are there gaps in the current policy where further research could guide more effective or ambitious environmental strategies?

We feel that collaborative research is a key element for shaping policies at EU or IMO level. Although we as research institute can contribute to policies directly, we need the whole sector including the shipping companies as end-users, to support successful future policies. Bringing together the sector in such collaborative research is an important role for MARIN as research institute. Since we are independent and have a broad network in the sector, this role suites us well. A recent example is the collaboration on preventing container loss at sea in the TopTier Joint Industry project.

A major research gap for ambitious environmental policies is the lack of knowledge on the consequences of underwater radiated noise (URN), and the lack of technologies to prevent environmental damage due to URN cost-effectively. As not all noise frequencies are harmful, we need the knowledge and tools to efficiently predict the radiated noise during the design phase of a ship. Simplified tools are available, but they lack in accuracy needed for future regulations.

Sustainable innovation in the waterborne sector

What emerging technologies do you see as most promising for driving sustainability in the waterborne sector? How can MARIN and similar research institutes support these advancements?

The most obvious emerging technology is the use of sustainable fuels, like ammonia or methanol. Engines have been developed to use these fuels. However, regulations and the lack of availability of these fuels will hamper the uptake of these fuels for some time to come. For the shorter term, wind assisted propulsion seems the favourite to achieve significant reductions in GHG emissions from shipping. For shorter ranges, electrification can be an option, in combination with wind-assist.

Hydrodynamic research and energy efficiency

Hydrodynamic optimization plays a vital role in reducing emissions in the waterborne sector. What recent advancements has MARIN made in this area, and what impact could these have on reducing fuel consumption and emissions in the sector?

For many years, ships have been optimized hydrodynamically for the design condition, i.e. a condition put forward in a contract, but which hardly ever is achieved in reality. With the sector, we are now moving towards optimization for true operational conditions. But for many ships, the future operational profile is hard to estimate. Therefore, we are looking at robust designs: designs that perform very well for a range of conditions, although maybe not being optimal the design condition. Furthermore, we are researching the combined automatic optimization of hull and propeller.

With the uptake of wind-assisted propulsion, also the hydrodynamic optimisation changes. The propeller will be partially unloaded, and the inflow to the propeller will be asymmetrical due to the (small) yawing angle of the sailing vessel. Our computational techniques have to be adapted to these new design points.

An important aspect in energy saving is the management of bio-fouling on vessels. Bio-fouling can increase the resistance of a ship significantly, and ship hulls are therefore

regularly cleaned. However, this cleaning is an expensive process. Would it be possible to predict the effect of bio-fouling and monitor the actual drag increase from operational data? And can cleaning intervals then be scheduled more effectively?

MARIN's role in low-emission solutions

With increasing pressure to decarbonize, what role do you see for MARIN in developing low-emission solutions for the waterborne sector? How is MARIN helping the sector implementing these solutions?"

As MARIN, we do not develop innovative solutions ourselves. Our role as a research institute is to help industry to develop these solutions, and to independently verify the potential energy or emission savings. Often, innovations are tested in one-to-one contract research. But also collaborative projects with several stakeholders can be a way to develop and verify innovations. We actively pursue such collaborative projects involving the wider maritime industry in Europe. Additionally, we support SMEs with their innovations by offering free test-time in one of our basins to validate a first prototype of their innovative solution.

Digitalisation and autonomous vessels

With the shift toward digitalization, what challenges do you foresee in implementing autonomous and smart systems within the waterborne sector? How is MARIN addressing these challenges to help the sector adopt these technologies safely and effectively?"

Personally, I feel that full autonomy for ocean-going merchant shipping is out-of-reach due to regulatory issues. As MARIN, we therefore focus on autonomous sub-systems on a vessel, and the interaction between these sub-systems and the human crew operating the ship. The crew can be assisted with decision support systems, but we need to investigate how to best assist the crew. How should information be presented to avoid boredom or fatigue? And how can we best train the crew for the rare events the autonomous sub-systems fails? A topic we are investigating in our ALERT Joint Industry Project.

Technically, remote operated inland vessels would be a possibility. But in this specific sector, this would require an enormous shift in business models: most barges are now family-owned, with onboard housing and living quarters. The first uptake could maybe be on smaller inland channels which are too small for the current fleet of barges.

A crucial part of this digitalisation is the development of digital twins.

Henk Prins, Manager Research & Development, MARIN

MARIN, the Maritime Research Institute Netherlands, is a globally recognised top institute for maritime research. Their mission 'Better Ships, Blue Oceans' is standing for clean, smart and safe shipping and sustainable use of the sea. They do this as an independent knowledge partner for the maritime sector, government and society.

Digital computer models of various parts of the vessel do already exist. But an overall digital model of all systems on board is more difficult to achieve. Standardisation within our sector is therefore very important. And an important factor often overlooked, is that all digital models will be imperfect. How are we going to deal with deviating digital models, and synchronize the models with reality, while at the same time using these deviating models to detect anomalies?

Long-term vision for waterborne sustainability

As someone deeply engaged in the sector, what is your long-term vision for sustainability in the European waterborne sector? How do you envision MARIN's role evolving to support this vision over the next decade?

As said, the shift to clean, sustainable alternative fuels will be crucial in achieving the IMO goals for emission reduction in shipping. But the implementation of these fuels in the wider sector will take many years if not decades. Therefore, focus on energy saving in design and operation of a vessel is crucial: e.g. wind-assisted propulsion, design for true operations, and reducing the growth of bio-fouling.

Waterborne is turning 20 this year. How do you see the next 20 years? What should be Waterborne's priorities?"

It is of course difficult to foresee the priorities of Waterborne for the next 20 years. But a priority for the Waterborne association should be to listen carefully to the societal requirements, manifest in EU and national policies, and to the needs of our end-users, the ship owners and operators. Of course we have a lot of excellent technical ideas ourselves, but they can only be implemented successfully if they match a societal or operational need. Having said that, I believe that apart from the environmental issues of GHG emissions and underwater-radiated noise, improving the safety of shipping should be a priority. Our sector is falling behind with respect to other industrial sectors. Still too many crew members loose their life at sea. And too often, ships are involved in environmental pollution after incidents like loss of containers. We definitely should be working on improving our record in this respect.

Model testing

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The Green Horizon of European Waterborne Transport

Interview with Magda Kopczyńska

Encouraging sustainable innovation in the waterborne sector

Sustainability is at the heart of the EU's transport policies. How is DG MOVE supporting innovation in the waterborne sector to ensure the sector will be able to meet the sustainability targets set, and what role do technological advancements, including digitalisation, play in these efforts?

You are right, decarbonising and digitalising Europe's transport sector are key political priorities for DG MOVE, and we know that innovation will help us achieve both.

To support this innovation, we provide financial support through various instruments, notably Horizon Europe and the Innovation fund. Cluster 5 of the Horizon Europe Work Programme is most relevant for us, and is where we find the private-public partnership 'Zero Emission Waterborne Transport'.

I know that the partnership will be at the centre of the technological advances needed for more sustainable waterborne transport. The goal is to develop the solutions – by 2030 – that will allow the different types of waterborne transport to reach net zero emissions by 2050 at the latest.

We also support the Renewable and Low-Carbon Fuels Value Chain Industrial Alliance, which aims at advancing the production and supply of renewable and low-carbon fuels for the aviation and waterborne sectors.

Sadly, innovation alone will not get us to net zero, as important as it is. As part of the Commission's Fit for 55 legislative package to reduce greenhouse gas emissions by at least 55% by 2030, the FuelEU Maritime Regulation promotes the use of renewable, low-carbon fuels and clean energy technologies for ships, essential to support decarbonisation in the sector. DG MOVE also coordinates the EU's push for greater sustainability at international level. Maritime transport is by nature global, and we need a global framework to a level playing field as the sector works to cut its emissions.

The Zero Emission Waterborne Transport partnership also has a vital role to play at international and European levels – in helping to develop standards and policies for decarbonisation. For example, although we already have the technology to produce and treat alternative fuels, they must be scaled up and adapted to the sector.

Innovation, combined with policy, global cooperation and standards, is how the waterborne transport sector will help the transport sector at large attain its sustainability goals, as set out under the European Green Deal.

Digitalisation and automation for the waterborne sector

Digitalisation is expected to transform the waterborne sector. Which initiatives has the Commission taken to accelerate the digital transformation within the waterborne sector? How can digitalisation transform the European waterborne sector?

First, let's look at why digitalisation is so interesting for the waterborne transport sector: it has the potential to streamline the logistics chain and optimise processes, such as berth allocation and port calls. It will also help increase sustainability by avoiding resource waste.

The Commission supports digitalisation with a number of policy instruments and initiatives.

The European Maritime Single Window environment (EMSWe) will ensure the availability of all relevant port call information through a single-entry point. By harmonising and simplifying data-sharing between maritime operators and Member State administrations via systems hosted by the European Maritime Safety Agency (EMSA), it will make one-time reporting a reality. A complementary Regulation on Electronic Freight Transport Information (eFTI) will digitalise and facilitate business-to-authority reporting for other transport modes, including inland navigation. eFTI is expected to reduce the administrative burden for the entire logistics sector by up to 102 million hours annually.

I am also following the development of autonomous ships with great interest. They can help us achieve our Green Deal targets and further increase safety, while strengthening the European maritime industry and enabling new business models, for instance in short sea shipping. Digitalisation and automation in the maritime sector go hand in hand. In fact, digitalisation is a pre-requisite for automation, both for unmanned as well as remotely controlled vessels, and vessels with automated functions. The Commission issued guidance to allow tests and trials for such vessels and systems to take place safely, and continuously exchanges information with Member State administrations within a dedicated expert group.

Engaging with the wider industry and academic community, the Commission co-hosts annual Autonomy

Magda Kopczyńska is the current Director-General for Mobility and Transport at the European Commission. Magda has held various leadership roles in the Commission, from Clean Transport and Sustainable Urban Mobility to Agriculture and Rural Development. Magda's commitment remains focused on driving positive change in Europe's mobility sector.

Summits. The most recent took place in Hamburg just before the SMM.

The Commission, supported by EMSA, is also following the development of the IMO MASS Code, and has supported the process with proposals and studies.

Last but not least, for inland waterway transport, the Commission proposed in January 2024 to revise the River Information Services Directive. We are also working to implement the digitalisation vision for the IWT sector as adopted by the sector and Member States within the NAIADES expert group.

Incorporating diverse perspectives into policy making

Achieving the twin transition – both green and digital – requires close cooperation among EU Member States. How does DG MOVE facilitate this cooperation to ensure all countries are aligned in advancing sustainability and technological progress in the waterborne sector?

Collaboration between the Commission, Member States and industry will make sure that all share an understanding of the way forward. It is also key to streamlining resources so as to ensure an efficient transition.

The FuelEU Maritime Regulation, our flagship instrument to decarbonise maritime shipping, is an excellent example of how this collaboration should be structured. The Regulation was developed following thorough discussion with Member States and maritime industry stakeholders, including in the context of the European Sustainable Shipping Forum (ESSF). The ESSF is now supporting us with technical implementation work.

Because the availability and affordability of renewable and low carbon fuels is critical to the transition, the Commission established the Renewable and Low Carbon Fuels Value Chain Industrial Alliance. This enables the fuels and maritime industries, with support of the Commission and relevant authorities, to collaborate, advancing the entire value chain, from fuel production to supply. Member State authorities are an essential element because they understand national constraints and market players, as well as national support instruments, including financial ones. Several Member States participate in the Alliance, and I would encourage more to get onboard.

The new Commission has also committed to set up a Sustainable Transport Investment Plan that will build upon the contribution of this alliance and further clarify the needs for upscaling the fuels value chain including instruments for closing the price gap between fossil and alternative fuels.

Promoting sectoral and cross-sectoral cooperation for innovation

Fostering cooperation within and across sectors is key to addressing challenges as regards both the green and digital transition. How is DG MOVE stimulating the cooperation within the waterborne sector and the cooperation with related sectors to drive innovation and sustainability?

We need to only look at the Waterborne Technology Platform to see an excellent example of cross-sectoral cooperation! More widely, EU financing instruments and notably Horizon Europe promote cooperation between stakeholders.

Balancing economic growth with reducing emissions requires a holistic approach. This means joining forces: businesses from different sectors, policymakers and consumers all have a role to play in building a more sustainable and environmentally friendly waterborne transport sector.

Balancing economic growth and sustainability goals

Economic growth implies more need for waterborne transport. As sustainability is one of the key priorities of the European Commission, how would you see the balancing need between economic growth and the urgent need to reduce emissions? Is there room for rethinking current consumption patterns?

With regard to consumption, the Commission already takes a circular economy approach, promoting recycling and sustainable waste management, to reduce waste and promote sustainable consumption patterns. Ensuring products remain affordable is part of that approach.

More broadly, it's clear that we need a multifaceted approach, as I just mentioned, when balancing economic growth and sustainability. By 2050, the world fleet of more than 110,000 seagoing vessels will have to be replaced or upgraded so that the EU complies with the IMO and EU climate targets. The green and digital transition therefore creates tremendous economic opportunities for Europe's innovative waterborne industrial sector, in particular for equipment manufacturing and retrofitting. That is why President von der Leyen has committed to present a new Clean Industrial Deal for competitive industries and quality jobs in the first 100 days of her second term. Lastly, harnessing these opportunities will be one of the main areas of focus for our upcoming industrial maritime strategy.

This involves the transition to cleaner fuels. Our FuelEU Maritime Regulation, together with the Alternative Fuels Infrastructure Regulation and the inclusion of shipping in the Emissions Trading System will encourage the use of green methanol, hydrogen, and other low-carbon fuels in waterborne transport, and reduce greenhouse gas emissions and air pollution. The transition will also boost the provision of shoreside electricity to passenger and container ships. We also support work at the IMO leading to more energy-efficient technologies, such as propulsion systems and hull designs, to reduce energy consumption and emissions. The Commission is also aiming at establishing green corridors for waterborne transport, where ships can travel the world on sustainable fuels.

"By 2050, the world fleet of more than 110,000 seagoing vessels will have to be replaced or upgraded."

"Balancing economic growth with reducing emissions requires a holistic approach."

Deployment of innovations

Innovation is key to achieve policy targets. However, deployment of innovations will be instrumental to reach the objectives set timely. Which elements of deployment of innovations will be key to achieve sustainable competitiveness of the European waterborne sector?

Indeed, we can only reap the results of investment in research and innovation by placing innovative products on the market. The current Horizon Europe programme has a keen focus on the deployment of innovation through pillar 3, encouraging participation by SMEs, and through the European Innovation Council.

Deploying innovation in waterborne transport, as in other areas, requires the right conditions for

investment. We need to coordinate our efforts for this to happen. Investment in waterborne is long term, so we require a long-term scenario that provides certainty and makes economic sense. We need a critical 'mass' for decarbonisation technologies as a basis for economically sustainable growth (including infrastructure, supply chains and technology). Given the international dimension of maritime transport, we will also work to ensure an adequate framework for decarbonisation at international level.

Supporting career development in the waterborne sector

Which role does DG MOVE play in supporting career development in the European waterborne sector (attracting new workforce, retainment, upskilling and reskilling)?

As the maritime sector continues to evolve, it is essential that we invest in the next generation of seafarers to ensure their future is safe, inclusive and equipped to navigate the changing social landscape. The rapid adoption of new technologies, including autonomous ships and sophisticated digital equipment, requires seafarers to possess technical skills and knowledge in areas such as cybersecurity. At the same time, the transition towards the decarbonisation will make knowledge of the use of alternative fuels, such as ammonia, methanol and hydrogen, vital. Unless properly handled, they could represent a significant health and safety risk. Upskilling and reskilling are therefore essential. This is a pressing concern for the industry, and addressing it requires a sustained effort. At DG MOVE, we are playing a leading role in the review of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), which will need to be adapted to the green and digital transition to equip young seafarers with the necessary skills and knowledge.

"Deploying innovation in waterborne transport, as in other areas, requires the right conditions for investment."

Attracting and retaining talent is equally important. A first step is to improve living and working conditions on board ships. I'd also like to see maritime industry becoming more inclusive. By embracing diversity and promoting work-life balance, we can foster innovation and resilience, and make the profession more appealing to the next generation.

We are also working with Member States to propose amendments to the international Maritime Labour Convention, covering issues such as maximum duration of service periods on board, and training to prevent and address bullying and harassment.

20 years of Waterborne Technology Platform

During the Waterborne Days, we celebrate the 20th anniversary of the Waterborne Technology Platform. During these days, we look back, and we will certainly look forward. Which key messages would you like to give to the waterborne community?

Firstly, I would like to express my heartfelt congratulations on reaching this important milestone!

As you look forward, you know as well as I do that innovation and sustainability go hand-in-hand. So continue to invest in research and development that will mitigate emissions and ensure the long-term viability of the waterborne sector.

The future is digital. Embrace digitalisation and innovation to improve efficiency, safety, and sustainability.

Also, never forget the importance of collaboration and coordination. Foster close collaboration and coordination among stakeholders, including industries, governments, and NGOs. This is key to addressing the complex challenges facing the waterborne transport sector.

"Education and skills development are crucial."

And last but not least, education and skills development are crucial. Invest in both to ensure that the waterborne transport sector has the expertise necessary to adapt to changing demands and technologies.

You can count on DG MOVE's support!

From Strategy to Action: Research, Collaboration, and Sustainability in the Waterborne Sector

Interview with Rosalinde van der Vlies

Supporting the transition to a zero-emission waterborne sector

At the heart of the European policies is the transition to a climate-neutral economy. What role does DG RTD take in supporting technological innovations specifically tailored for the waterborne sector?

As the President of the European Commission Ursula von der Leyen said, research and innovation need to be at the heart of our economy. The report of Mario Draghi made it very clear: the EU lags behind its global competitors and needs to step up its investments in research and innovation. The European Commission invests in research and innovation through its flagship programme Horizon Europe and plays an important role in reducing the fragmentation of the European research and innovation ecosystem through developing a European Research Area and through fostering collaborations with all relevant stakeholders, including industry, academia, and civil society as well as Member States.

Research and innovation activities are crucial to accelerate the transition to a climate-neutral economy but also to foster the sustainable competitiveness of our European industry. Research and innovation partnerships with the European industry are a key instrument of our European Framework Programmes for research and innovation to pool together public and private investments in R&I around a commonly agreed strategic research and innovation agenda. This research and innovation agenda does not only cover technological innovation but also other types of innovations such as social innovation and innovation in governance.

Under Horizon Europe, the Commission supports technological innovations in the waterborne sector through the Zero-Emission Waterborne Transport (ZEWT) partnership which aims to demonstrate by 2030 the solutions enabling zero-emission waterborne transport by 2050. This partnership has an impressive leverage effect: the Commission invests 530 million euros through HE grants in the period 2021-2027 and the industry committed 3.3 billion to the goals of the partnership in the same period.

The research and innovation activities carried out through the partnership do not stand in isolation, we ensure that these activities are aligned with other EU programmes and initiatives, notably such as the Connecting Europe Facility, the European Investment Bank, the Global Gateway and the Innovation Fund and at international level with the Zero Emission Shipping Mission of Mission Innovation.

Integrating sustainable energy sources in the waterborne sector

With the growing importance of the clean energy transition, the availability of sufficient quantities of sustainable energy sources, at affordable price, is an urgent requirement for the waterborne sector to be able to achieve the climate targets. Which role does DG RTD play in combining research, development, and innovation with supporting the roll-out of technologies in the market?

Through different initiatives, DG RTD stimulates that R&I investments on sustainable energy sources lead to the roll-out of these technologies in the market. For example, Hydrogen Valleys and the Strategic Energy Technology Plan aim to accelerate and scale-up the deployment of clean energy technologies. Ports are key in the scale-up of both production and distribution of energy, especially for the waterborne sector. Our R&I activities will create a critical mass to ensure that the production and distribution of a wide array of alternative low-carbon fuels are scaled up at affordable prices and available in ports. Our ambition is to ensure that producers, distributors, and end-users all gain certainty that their long-term investments will pay off. We are addressing this "chicken and egg dilemma" when preparing our research portfolio to deliver on the targets of FuelEU Maritime, addressing the whole supply chain up to its final stretch, through R&I in bunkering, on-board storage, and a diverse portfolio of energy conversion systems.

Enabling Digital Transformation in the waterborne sector

The twin transition implies both green and digital advancements. How is DG RTD supporting the waterborne sector's shift towards digitalization? How can these technologies help Europe's waterborne sector comply with sustainability objectives?

Digitalization offers multiple benefits. DG RTD prioritizes the digitalization of the waterborne sector

where it can lead to safer operations and reduction of emissions of greenhouse gasses and other pollutants and a more competitive and resilient sector. For example, we have funded projects establishing energy management systems, improving monitoring and verification of emissions, digitalization of ports and vessels, developing digital twins, implementing tools for remote and autonomous shipping, and even introducing digital solutions to prevent the spread of diseases on-board of vessels.

Twin Transition: Challenges and Opportunities

What role do you see for society in driving the twin transition, particularly in ensuring that diverse perspectives inform research and innovation strategies?

The twin transition will only succeed if there is public acceptance for the changes, and the public is willing to adopt the solutions that we develop. And the best way to ensure that is to involve society at all levels. If for instance, a dockworker or shipping crew perceive that digital transition may result in fewer jobs and leaving parts of the labour force behind in terms of needed skills, this is an issue that needs to be addressed. Research and Innovation programmes should therefore have a holistic perspective and include issues such as societal acceptance.

Diversity and Innovation

Research shows that diverse teams lead to more innovative solutions. How is DG RTD promoting gender balance and equality of opportunity in research projects related to climate action? What impact do you believe this will have on the effectiveness of the twin transition?

Diversity encompasses a wide range of dimensions, including gender, ethnicity, age, and cultural background. In an area as focused on technology as the waterborne industry, some might wonder why it is critical to emphasize diversity? We know that diverse perspectives lead to more creative and innovative solutions, it ensures that we tap into the full talent pool, creates a more inclusive and equitable industry, and reflects the diversity of the world we live in. The European Commission is committed to promote diversity, equality, and inclusion in the EU transport sector. To do this, it launched for example the Diversity Ambassadors in Transport initiative in 2022. Moreover, all research and innovation projects across Horizon Europe, are required to compose balanced teams - especially at leadership level, work package leaders and in their outreach activities, and the gender balance among researchers is a ranking criterion for proposals with the same evaluation scores.

Rosalinde van der Vlies is the Director of the Clean Planet Directorate in the European Commission's Directorate-General for Research and Innovation, Deputy Mission Manager of the Climate-Neutral and Smart Cities Mission, and Chair of the Mission Innovation Steering Committee.

Engaging stakeholders for change

Decarbonisation requires collaboration among various stakeholders, including industries and consumers. How is DG RTD fostering broad stakeholder dialogues?

Collaboration is really in the DNA of the European Union and fostering collaborative research is one of

the unique selling points of our EU Framework Programme for research and innovation. We are fostering broad stakeholder dialogues through our Horizon Europe partnerships, which do not only bring together industry representatives but also foster collaboration with Member States through State Representative Groups. Our Horizon Europe work programmes are co-created between relevant European Commission services and Member State experts in the so-called comitology committees. Furthermore, we organise structured consultations with stakeholders in the preparation of new EU policies and initiatives. This is part of our Better Regulation policy. At international level, we foster stakeholder dialogues through Mission Innovation, including on the topic of zero-emission shipping. In the mission letters of the new Commissioners, there is a renewed emphasis of stakeholder dialogues, including with youth and regions, so we can expect enhanced stakeholder dialogues in the future.

Balancing economic growth and sustainability goals

Economic growth implies more need for waterborne transport. As sustainability is one of the key priorities of the European Commission, how would you see the balancing need between economic growth and the urgent need to reduce emissions? Is there room for rethinking current consumption patterns?

2024 is the hottest year on record globally, and for the first time the average temperature has surpassed the 1.5 Celsius degrees above pre-industrial levels which was agreed in the Paris Agreement. While this number is difficult to grasp, recent tragedies like the floods in Valencia make climate change very concrete and remind us that any tenth of degree higher is already too much. The crisis is multifaceted: we face both climate change, biodiversity loss and natural resource depletion – in combination a truly existential challenge.

Growth without sustainability is not an option. We must reduce our greenhouse gas emissions, improve energy, and resource efficiency in all sectors. The EU should lead the way also within the waterborne sector and set an example for others to follow. The EU has a growing basket of targeted policies and impactful research and innovation programmes. I am also hopeful that new global regulations and policies from the International Maritime Organization will support the green transition in the maritime sector.

Sustainability must be a key feature of our growth strategy. I believe that the EU can leverage on its legislation and industrial position to exploit the opportunities and address the challenges at hand. Waterborne transport is arguably the most energy-efficient mode of transport. However, if we continue with business as usual, the waterborne sector will constitute a significant and increasing share of global greenhouse gas emissions, while land-based industries and other modes of transport achieve deep reductions. We must continue to promote smart and green growth that respect planetary boundaries. I firmly believe that energy and resource efficiency within the waterborne sector can become our competitive advantage.

"We need to develop a "team Europe" approach, so we all contribute to delivering zero-emission shipping by 2030"

20 years of Waterborne Technology Platform

During the Waterborne Days, we celebrate the 20th anniversary of the Waterborne Technology Platform. During these days, we look back, and we will certainly look forward. Which key messages would you like to give to the waterborne community?

Thanks to the Waterborne Technology Platform, we have been able to roll out and implement a European strategic research and innovation agenda supporting the transition towards zero-emission shipping. The strategic directions and the commitment of all players are clear. We now need to make sure that we can accelerate action towards meeting our strategic objectives. This means that we need a much better alignment between the European research and innovation activities that are done at national level by the Member States and by the private sector. We need to develop a "team Europe" approach, so we all contribute to delivering zero-emission shipping by 2030. We need to identify European flagship projects that can make a real difference for the competitiveness of the European industry while at the same time delivering on our European Green Deal ambitions. Secondly, we need to better link the research and innovation results with our deployment activities, bridging the so-called "valley of death". And thirdly, we need to turn our European ports into world leading innovation hubs to pilot and demonstrate new technologies, such as alternative fuels (e.g., hydrogen, ammonia) and electrification infrastructure.

The transition towards the sustainable competitiveness of the European shipping sector will only happen thanks to initiatives like the Waterborne Technology Platform and its strong involvement in the ZEWT. I want to end with thanking you for your commitment. And of course, I want to congratulate you on your first 20 years of operation. Continue to be brave, bold and innovative!

Insights from Board Members

On the Future of the Platform

VISION FOR GROWTH: "Looking ahead, what are your top priorities for the Waterborne Technology Platform? How do you envision it evolving over the next few years and address pressing challenges like climate resilience?"

Theresia Hacksteiner
Executive Director, Inland Waterway Transport Platform
Secretary General, European Barge Union (EBU)

Theresia: *"In view of the main goals and topics of the new European Commission, the Waterborne Technology Platform is expected to strongly voice the waterborne interests in the development of the Industrial Maritime/ Waterborne Strategy as part of the Clean Industrial Deal, for which in February 2025 a Commission Communication is expected. These strategies will be guiding in the coming years.*

The Platform will play a pivotal role in guaranteeing a strong position of the waterborne sector to highlight its importance to EU's economy and society."

Chiara Notaro
Naval Architect
CETENA-RTD Management

Chiara: *"The Waterborne Technology Platform has been a game-changer within a hard-to-abate sector like waterborne transport, especially thanks to the establishment of the cPP on Zero-Emission Waterborne Transport (ZEWT), which is bringing a variety of solutions progressively deployed to decarbonize every ship type by 2050. The decarbonisation challenge has only began, and the uptake of green technologies in the waterborne transport sector is already facing several challenges, given the technical, economic, regulatory, and operational barriers. The current geopolitical situation and its consequences on global shipping are also playing a big part into shaping the future of the waterborne sector, together with climate resilience. Looking at the future, leveraging digitalization in the context of decarbonisation and competitiveness of the European Blue Economy will be key to address resilience and prosperity at all levels. In the long-term perspective, a thriving European Blue Economy will have established its leadership in decarbonisation technologies as well as in its industrial capabilities, sustained by European technology companies, Academia and research centers like CETENA. Additionally, the European shipbuilding industry, in urgent need to defend their technological leadership over international competitors, is poised to benefit significantly from Industry 5.0 scenarios, adopting disruptive technologies that can come from putting research efforts into exploring innovative ideas at low TRL."*

STAKEHOLDER ENGAGEMENT: "How do you plan to strengthen collaboration across different segments of the waterborne sector within the platform? Are there specific new partnerships or initiatives you think are critical to the platform's future success?"

Marjolein: *"The strength of the Waterborne Technology Platform lies in the power of its network and cooperation across both the waterborne value chain as well as the EU. A varied representation in the platform further enhances both the network as well as the individual member. This is why the Dutch shipowners have become involved as an active member.*

Dutch merchant shipping is characterised by a wide variation of trades and destinations. The sector includes deep sea and has a strong short sea presence in Europe. The deployment of offshore workboats is ever increasing. After the shipowners, another sector that is currently underrepresented concerns the ports. As the development of port infrastructure is essential for the whole maritime value chain, ensuring a dialogue with the Ports is high on my list."

Marjolein van Noort
Head of EU Representation
Royal Association of Netherlands Shipowners (KNVR)

Jenny Braat
CEO, Danish Maritime

Astrid Rusås Kristoffersen
Director Group Research & Development
DNV

INNOVATION STRATEGY: "As technology advances, where do you see the most promising areas of innovation for the waterborne sector? How is the platform positioned to support this next wave of technological advancements?"

Jenny: *"Innovation is the backbone of the maritime sector's future competitiveness and sustainability. The most promising areas of innovation lie within advanced digitalization, such as autonomous shipping systems, artificial intelligence and vessel designs, materials and equipment that enhance energy efficiency. Moreover, the transition to alternative fuels, including hydrogen, ammonia, and e-methanol, will revolutionize our industry. The Waterborne Technology Platform plays a crucial role in this transformation by fostering collaboration among stakeholders, facilitating funding opportunities, and ensuring alignment with EU research goals. Through its activities, the platform helps bridge the gap between groundbreaking research and market-ready solutions, ensuring that innovation delivers tangible benefits for the waterborne sector."*

Theresia: *"The inland waterway transport sector is currently investigating various technological solutions to contribute to the sustainability goals and to realise the energy transition. It does not have the solution yet, meaning that further research will be needed in particular to find the right solutions for a broad deployment of promising technologies at economically feasible conditions."*

Astrid: *"The waterborne sector is very diverse, ranging from inland waterways and short-sea shipping to intercontinental deep-sea shipping, and from cargo and passenger vessels to service, support, and construction vessels. Consequently, part of the key to success lies in identifying which waterborne sectors require what type of innovation.*

I will bring up some key points going forward:

ELECTRIFY WHERE POSSIBLE: This is currently applicable for short sea shipping. Continued battery research is essential to extend the range of fully electric ships. DNV uses physics-informed machine learning for battery prognostics and health management. In the longer term, quantum computing may enable batteries with new materials and better performance.

SUSTAINABLE FUELS: Hydrogen- and ammonia-fuelled ships have been piloted and should be scaled and industrialized. Sustainable fuels are costlier than fossil fuels today. While we continue to do R&D to improve their efficiency and reduce their cost, we need policies to support their adoption such that they can scale.

AI AND DIGITALIZATION: Digital tools can enhance energy efficiency and reduce costs. Future ships will therefore be highly digital and AI-enabled, from sensors to the cloud. The intricate interplay between physical and digital systems needs to be understood and assured to ensure safety at sea. Optimised logistics value chain and route planning using AI will also contribute to bring total costs and emissions down.

SAFETY AND SECURITY: New technologies lack historical data, making research crucial to prevent accidents. DNV is providing science-based insights which, when combined with trusted operational data, can improve safety (freedom from unacceptable accidental harm) and security (freedom from unacceptable adversarial harm) and reduce costs.

QUANTUM COMPUTING: This emerging technology poses both risks and opportunities, potentially enhancing sensor accuracy and computational efficiency, but also constituting a potential weapon in the cyber-security and

encryption arms race. Like AI, its energy footprint is also an issue.

The waterborne platform covers several of the above topics, but needs to intensify its focus on digitalization and AI-enabled systems with focus on safety and security for these systems. "

On Decarbonisation and Sustainability

DECARBONISATION GOALS: "With the EU's ambitious climate targets, how do you see the platform supporting the transition to zero-emission vessels and cleaner ports? What are the major obstacles, and how can the sector work collectively to overcome them?"

Jenny: *"The climate targets of the EU and IMO set an ambitious yet necessary course for the maritime sector, emphasizing the urgency of decarbonisation. The Waterborne Technology Platform supports this transition by acting as a hub for knowledge sharing and collaboration, identifying pathways for zero-emission vessels and clean port operations. Furthermore, increased investments in research into and the development of energy efficient solutions are needed, both to reduce emissions today and reduce the cost of future zero emission fuels and propulsion technologies. Overcoming these challenges requires a united front: industry, academia, and policymakers must align their efforts, share risks, and invest in large-scale pilot projects. The platform facilitates this cooperation by promoting holistic strategies that integrate decarbonisation across the value chain."*

Theresia: *"The inland waterway transport sector in its energy transition is strongly depending on the availability of alternative fuels infrastructure along the entire network of waterways at affordable costs. Currently, it hampers availability of alternative fuels to be sufficiently supplied with. Therefore, transitional solutions will be required at affordable prices to meet the short term sustainability goals.*

The sector collective should engage in the availability of these solutions at economically feasible conditions as well as for sufficient funding for the short- and long-term solutions."

INNOVATIVE FUNDING: "With limited funding and a need for cost-effective solutions, how does the platform prioritize or advocate for projects that balance financial feasibility with high impact in emissions reduction?"

Jenny: *"Securing adequate funding remains a challenge, but it is essential to prioritize research and innovation projects with both high impact and economic viability. The Waterborne Technology Platform advocates for increased public-private partnerships to leverage resources effectively. By aligning project proposals with EU funding frameworks, such as Horizon Europe, and emphasizing innovation's societal and environmental benefits, we ensure that critical initiatives receive support. The platform also encourages modular and scalable solutions, enabling gradual adoption while maintaining cost-effectiveness. This pragmatic approach balances immediate emissions reduction goals with long-term financial sustainability."*

SUSTAINABLE ALTERNATIVE FUELS AND ALTERNATIVE ENERGY: "In the push for decarbonisation, what potential do you see for sustainable alternative fuels or alternative energy sources? Are there any technologies you think are especially promising or challenging?"

Marjolein: *"No matter how numerous the 'ready-to-sail-on-alternative-fuel' ships are, without sufficient and wide availability of sustainable maritime fuels, the energy transition will likely fail. As far as we can see now, there is no silver bullet. However, we do want to emphasize that energy efficient technologies are and will be key together with the uptake of alternative fuels."*

Astrid: *"The maritime industry is at a pivotal moment in its journey towards decarbonisation, driven by stringent regulations and the urgent need to reduce greenhouse gas emissions. The transition to carbon-neutral fuels such as LNG, LPG, methanol, ammonia, and potentially nuclear is essential for achieving significant emissions reductions. Larger ships with dual-fuel propulsion capabilities are becoming more common, allowing vessels to operate on both conventional and alternative fuels. Implementing energy-saving technologies can provide cost-efficient and predictable pathways to emissions reduction, enhancing overall energy efficiency.*

Digitalization is transforming the industry by improving transparency on vessel performance and supporting the design and operation of energy-efficient ships. Carbon capture and storage (CCS) from continued use of fossil fuels can significantly contribute to decarbonisation, though developing the necessary infrastructure for handling and storing CO2 is a challenge that needs to be addressed. Utilizing shore power while ships are in port can reduce emissions from onboard diesel generators, provided that the shore power capacity is sufficient and ships are equipped with the necessary capabilities.

However, the adoption of new technologies and fuels increases the costs of seaborne transport, which must be passed through the value chain to consumers, resulting in higher prices for goods. Navigating the evolving regulatory landscape is complex. The limited supply of several carbon-neutral fuels poses a significant challenge, making it critical to ensure a steady and sufficient supply to achieve decarbonisation targets.

In conclusion, the maritime industry's decarbonisation journey involves a combination of sustainable alternative fuels, innovative technologies, and strategic investments."

Chiara: *"The use of liquefied natural gas (LNG), hydrogen, fuel cells, and overall digitalization has the potential to create greener and more technologically advanced ships. These innovations cannot only reduce CO2 emissions but also improve energy efficiency. Among the emerging technologies, nuclear energy for clean maritime propulsion stands out as a promising field of research. However, before it can be considered a viable solution, significant progress is needed to address the challenges of integrating nuclear technologies on board, considering the full life-cycle perspective. Lead-cooled small modular reactors (SMRs) could significantly reduce carbon emissions and present an attractive business case for the shipping sector, as they require infrequent refueling and no additional infrastructure. Additionally, there are significant growth opportunities in the offshore wind market. The demand for clean electricity is driving innovation in technologies and manufacturing processes for offshore wind farms, making this sector particularly promising."*

On Gender and Leadership in the Waterborne Sector

PERSONAL JOURNEY: **"Could you share a bit about your career journey and how you navigated your path to leadership in the waterborne sector? What challenges have you faced, and how did you overcome them?"**

Theresia: *"Being trained as a lawyer in international and EU law, and specialised in transport law I became involved primarily in legal topics like the elaboration and negotiation of international conventions in freight and liability law in IWT. From that position, I became involved in the European policy areas and consequently appointed as Secretary General of the organisation representing the European inland navigation industry, EBU, that was established at the beginning of the century in Brussels.*

From that position, I initiated and realised the establishment of the IWT Platform as an executive expert organisation of EBU and its sister organisation ESO in 2017.

In my career, I faced many challenges and was able to translate them into solutions and positive developments for the industry I represented due to high support from the members.

I was and am privileged working in a positive, motivating environment."

Astrid: *"My carrier started with a master in applied math, and a PhD in physics. After my PhD, I started working in R&D with a private company. I supported product development and projects with my expertise in computation fluid dynamics. I grew into leadership positions through my technical competence as being a group leader first. Later, I took on responsibilities for larger engineering organisations, as well as sales and business development, and P&L leadership. I entered the maritime business in a leadership role. Business is always offering some challenges, whether it is technical, cost or contractual challenges. In addition, the changing external environment with focus on security and climate impacts challenges us to think differently. Having a learning mindset has been my way to overcome challenges, and keeping in mind that next time, I know even better how to deal with the unknown.*

There is always a human element in everything we do. We need to remember this from how new technologies will impact the seafarers as well as office workers. I believe that an environment where business leaders, researchers and engineers can respectfully challenge each other, is helping us in finding the way forward in managing both the digital transformation as well as the decarbonisation journey."

GENDER DIVERSITY: **"Despite progress, the waterborne sector still has lower representation of women. How can the Waterborne Technology Platform foster greater inclusivity and encourage more women to enter and advance in the sector?"**

Jenny: *"The maritime sector is dynamic with exciting career opportunities, offering a wide range of roles that combine innovation, design, and the chance to make a tangible difference. In our sector, it is possible to make a real difference for the global sustainability agenda – it is important to convey this message broadly. Furthermore, the Waterborne Technology Platform can foster greater inclusivity by promoting diverse career paths within the sector, emphasizing how individuals can contribute to the green transition and drive sustainable development.*

Leadership diversity has been shown to improve company performance, and ensuring diverse representation at all levels, including women in leadership, is essential. By advocating for policies that remove barriers and sharing success stories that highlight women thriving in maritime roles, we can inspire the next generation."

Marjolein: *"As any other industry, the waterborne sector would benefit from more gender diversity and inclusivity. The sector faces both opportunities and challenges which require an open mind to bringing in different perspectives from outside. It simply means that we must engage a diverse group of people. Hence, the Waterborne Technology Platform would help itself by welcoming new people to step up and become active and challenge members to have people from their organisations joining the dialogue."*

MENTORSHIP AND SUPPORT: **"Have mentorship or role models played a role in your career? How can the platform or the sector create mentorship opportunities to support the next generation of women leaders in waterborne technology? What would you say to the upcoming generations of girls about this field?"**

Theresia: *'In my career, I did not have mentorship but certainly saw various inspiring role models. However, I certainly would support mentorship opportunities to support the next generation female leaders in the sector.*

And once again, I only can encourage young generation females to join this interesting waterborne & technology driven sector.'

LEADERSHIP PERSPECTIVE: "How do you think being a woman in a male-dominated sector has shaped your perspective on leadership and problem-solving? What unique insights or approaches do you feel you bring to the platform as a female leader?"

Chiara: *"I joined CETENA almost 20 years ago, starting in the private research and consultancy sector for maritime field as a young naval architect, freshly graduated from the University of Genova. When I began in January 2005, there were not many women in technical roles, and even fewer female naval architects just a few years older than me. This was largely because, as is still the case today, fewer women pursue STEM disciplines and face more challenges fitting into an industry traditionally shaped by male perspectives, both in thinking and organisational aspects. In my early years as a junior researcher, I sometimes struggled to bring my ideas forward and had to work on my adaptability to find collaborative solutions. This experience highlighted the importance of resilience, creativity, and flexibility, skills that were fortunately part of my personal attitude but grew stronger through my professional journey. As a female engineer, I bring a collaborative approach to the platform, emphasizing the value of organised teamwork and clear communication. Additionally, I firmly believe in a servant leadership style, which I learned from my father and strive to embody in every situation where I lead a team, to empower the people and thrive as a group."*

On Future Challenges and Opportunities

PREPARING FOR FUTURE CHALLENGES: "What do you see as the biggest upcoming challenges for waterborne transport in Europe? How is the platform working to prepare the sector to address these effectively?"

Jenny: *"The waterborne sector faces significant challenges, including the integration of digital and green technologies, evolving regulatory requirements, and adapting to seismic geopolitical shifts. A critical aspect of this transition is the electrification of coastal ferries, which play a vital role in reducing emissions and advancing sustainable waterborne transport in Europe.*

The Waterborne Technology Platform addresses these challenges by fostering resilience through innovation. An important element of this will be fostering the development of innovative and energy efficient electric propulsion systems for ferries and other short-sea vessels, ensuring the sector contributes to achieving Europe's climate goals. By aligning its roadmap with foresight analyses, supporting the development of green technologies, and prioritizing skills development, the platform ensures that the sector is equipped with the knowledge, tools, and workforce necessary to drive this essential transformation and thrive in a rapidly changing landscape."

Marjolein: *'Today, the biggest challenge is to bring about a true energy transition of waterborne transport, and to continue with this task in spite of all other challenges that the sector is confronted with. A second major challenge is to motivate people to pursue a maritime career, which is needed for the continuation of sharing knowledge and skills from one generation to the next. The platform brings all relevant actors together that are needed for the green and digital transition and inviting companies and organisations to showcase the groundbreaking work being done whether it is in early-stage technology development or the deployment of innovative technologies.'*

ADVICE FOR EMERGING LEADERS: "What advice would you give to young women and emerging professionals who aspire to play a role in waterborne technology or the wider waterborne sector? How can they prepare for the challenges and opportunities ahead?"

Chiara: *"Despite the positive push given by green and digital transformative innovations, the waterborne sector still needs to work on diversity, equity, and inclusion, especially for women in technical or operational roles. First of all, I would encourage girls and young women to let their curiosity guide them towards STEM subjects, particularly those related to naval architecture, marine engineering, and telecommunications. Nowadays, it is also important to pursue advanced academic degrees like PhDs or certifications that can provide a competitive edge and a deeper understanding of the various fields of waterborne technology. Like in every job, finding something you are truly passionate about is crucial. Seeking a female mentor or networking with other female professionals in the field can provide support and guidance. Moreover, throughout my years working in diverse teams, I have learned that good communication and organisational skills, the ability to work on challenging tasks or projects both in a team and independently, and resilience are essential. These skills are crucial for professional growth and leadership development. Finally, I fully recommend that girls always voice their ideas and be ready to take initiative. Indeed, bringing our diverse female perspectives is important, as is being adaptable. I am convinced that we can foster innovation and positive change by making efforts every day, to shape the future of equality we envision for ourselves and future generations."*

Column by Maria Boile

20 Years of Waterborne Technology Platform – A Coordinator's Perspective

The European Waterborne Technology Platform (Waterborne TP) marks 20 years of fostering collaboration and driving progress in research, development and innovation across the waterborne transport sector. This milestone offers an opportunity to reflect on the platform's collective achievements, as well as the challenges and rewards of uniting a diverse group of stakeholders toward a common vision.

The Waterborne TP brings together over 120 members and stakeholders, including shipowners, shipbuilders, classification societies, equipment manufacturers, ports, academic and research institutions. Representing networks, multinationals and SMEs from 18 European Union Member States and four other countries, these stakeholders operate within diverse geographical, economic and operational contexts. The platform's success is rooted in its commitment to collective action and shared vision of a sustainable, competitive and resilient waterborne transport sector.

Maria Boile,
Coordinator Waterborne Technology Platform

Professor, and Director of the M.Sc. in Shipping at the University of Piraeus, Department of Maritime Studies. Head of Unit on Maritime Transport Systems and Services, at the Hellenic Institute of Transport (HIT), Centre for Research and Technology Hellas (CERTH)

Uniting such a fragmented and diverse sector to achieve consensus on strategic research priorities and develop a comprehensive approach to research, development and innovation (RD&I) is a complex and challenging undertaking. It requires patience, a broad understanding of the sector, and the ability to mediate between often contrasting objectives. Through extensive dialogue, trust building, co-creation and sometimes compromise, the platform has developed strategic documents and RD&I priorities that reflect a unified version of the sector. The recent evaluation of the Zero-Emission Waterborne Transport (ZEWT) Partnership highlights the success of this collaborative effort. Recognized for its transparency, openness, and industrial embeddedness, ZEWT exemplifies the achievements possible through collective commitment. It is worth to underline the Draghi report's recent call for a dedicated waterborne public-private partnership, which further validates the importance of such initiatives, emphasizing the need for targeted research funding and mechanisms to bridge the gap between technological readiness and market deployment, challenges that the platform continues to address.

A critical outcome of these efforts is the platform's potential to enhancing the competitiveness of the European waterborne sector. By driving innovation, aligning strategic priorities, and fostering collaboration across all stakeholders, Waterborne TP supports the development and deployment of solutions to address pressing environmental challenges and support the sector's global leadership, long-term prosperity and resilience.

Looking ahead, Waterborne TP is poised to play a crucial role in shaping the next decade of European research, development and innovation. With technology leadership at its core, the platform aims to position Europe as a global leader in sustainable waterborne transport. The journey so far has demonstrated that addressing the sector's challenges – climate change, digitalization, and resilience – requires collective effort and commitment.

On a personal note, serving as the Coordinator of this remarkable platform has been both a challenging and deeply rewarding experience. It has been an honor to work alongside such a talented and dedicated group of individuals and organizations, each bringing their unique expertise and perspective to our shared mission. Witnessing the transformation of fragmented ambitions into a cohesive vision for the future of waterborne transport has been a source of pride and inspiration.

The past 20 years have laid a strong foundation for the future. By continuing to foster collaboration, drive innovation, and champion technological leadership, Waterborne TP is well positioned to ensure that the next 20 years will be even more impactful than the last.

Column by Pieter Huyskens

A Shared Voyage: Celebrating 20 Years of Waterborne Research and Innovation

Pieter Huyskens,
Co-Chair Partnership Board

Director Damen Research, Development & Innovation B.V.

At this second edition of the Waterborne Days, we celebrate the **20th anniversary of the Waterborne Technology Platform**. A testament to the adage that while one may go faster alone, together we can go further.

The challenges we face today-**decarbonization and digitalization**-are monumental and cannot be addressed effectively by individual companies, governments, or organizations alone. To truly believe in the future is to believe in collaboration.

Collaboration is ingrained in our shipbuilding DNA. Traditionally, our sector has thrived by **bringing together people with diverse skills and perspectives**. Shipbuilders are integrators. Building a ship is not the work of one, but of an entire ecosystem - engineers, designers, suppliers, and builders all contributing their expertise to create something greater than the sum of its parts.

To drive meaningful progress in the sustainability and advancement of global waterborne transport - and, by extension, our world-requires an even larger ecosystem. This philosophy is at the heart of the Waterborne Technology Platform. By fostering a culture of openness and collaboration, we can achieve shared goals and drive forward positive change.

At Damen, we are committed to this vision, leading by example to pave the way for a better future for all generations. We are proud to be at the forefront of this movement, working together with our partners to create a better future - for us today, and for future generations to come.

Happy anniversary, Waterborne! Let us continue to innovate and collaborate for a sustainable maritime industry.

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The organisation of the Waterborne Days 2025 has been made possible thanks to the sponsoring of the following companies and organisations.

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BUREAU VERITAS

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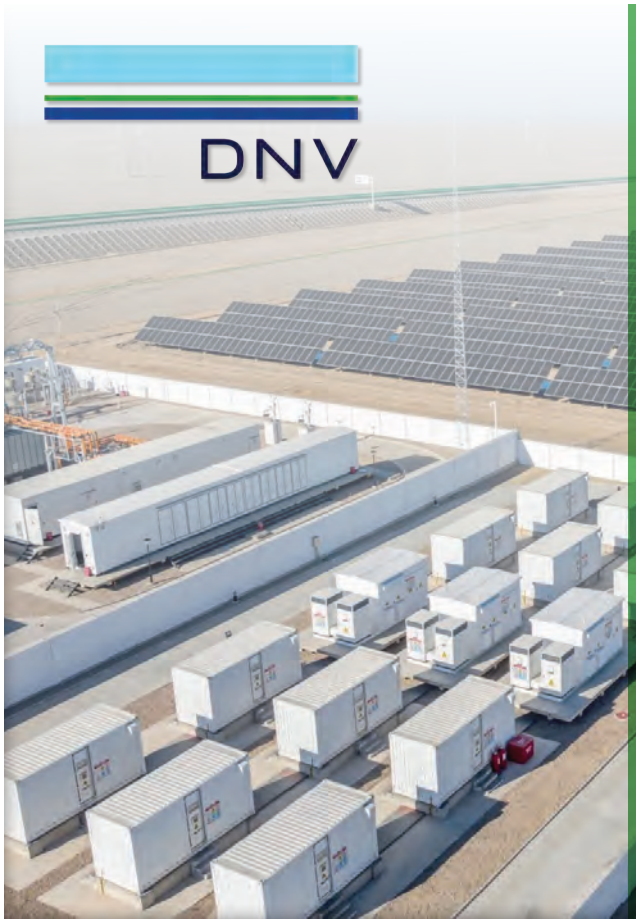
At Bureau Veritas, Research & Development (R&D) is the backbone of our technical expertise. The insight we gain through collaborative and in-house research shapes our Rules, guidelines and software developments.

We are pioneers in safety and performance, whether investigating alternative fuels and propulsion methods, or deepening our understanding of hydrodynamics and structural considerations. Innovation is in our DNA, and we continue to build on this legacy with over 70 ongoing R&D projects today.

Working in-house or collaboratively with maritime and external partners, we keep the needs of marine and offshore stakeholders top of mind. Where regulations lag behind technological innovation, our R&D teams help us to bridge that regulatory gap to help the maritime industry



DNV

DNV is an independent assurance and risk management provider, operating in more than 100 countries. Through its broad experience and deep expertise, DNV advances safety and sustainable performance, sets industry standards, and inspires and invents solutions.

Whether assessing a new ship design, qualifying technology for a floating wind farm, analysing sensor data from a gas pipeline, or certifying a food company's supply chain, DNV enables its customers and their stakeholders to manage technological and regulatory complexity with confidence.

Driven by its purpose, to safeguard life, property, and the environment, DNV helps its customers seize opportunities and tackle the risks arising from global transformations. DNV is a trusted voice for many of the world's most successful and forward-thinking companies.

www.dnv.com

TNO innovation for life

TNO (Netherlands Organisation for Applied Scientific Research) is one of Europe's leading non-profit contract research organisations. With over 4,000 employees and an annual turnover exceeding 700 million Euros, TNO conducts impactful research across four key areas:

- Safety & Security
- Sustainability
- Digitalisation
- Health

As an intermediary between fundamental research institutions and industry, TNO translates scientific knowledge into practical applications, enhancing the innovation capacity of businesses and governments, from small enterprises to large corporations.

Within the Maritime domain, TNO's goal is to enable the safe, sustainable, and reliable operation of ships and offshore structures. This applies to both new designs and existing floating structures, pushing technological boundaries while adapting to changing conditions and extreme environments. TNO supports the maritime energy transition by developing and validating sustainable technologies for internal combustion engines, fuel cells, and batteries. We also provide insights into the energy demand and operational profiles of various ship segments, along with the development of biofuels and e-fuels.

A key focus of our maritime research is the development of public-private partnerships. A prime example is the Green Maritime Methanol project, where a consortium of international maritime companies explores the use of methanol as a sustainable transport fuel for the sector. Launched in 2018, the project is now in its third phase, involving 37 partners, including shipowners, shipbuilders, engine manufacturers, ports, fuel suppliers, and research institutes. This multidisciplinary project covers research into safe storage and handling, engine development, ship design for various operational profiles, and the sustainable methanol supply chain.

Waterborne Awards: nominated projects

The Waterborne Awards, held during the Waterborne Days, celebrate innovative European projects in sustainability, innovation, and market impact. Projects can compete in **Environmental Impact, Innovation, Economic Viability, or all three for the "Outstanding Innovation" award**. A jury from the European Commission and Waterborne Technology Platform has nominated the finalists.

ENGIMMONIA - is at the forefront of revolutionizing the maritime industry by significantly reducing carbon dioxide (CO2) emissions. By delving deep into the intricacies of ammonia combustion, we're paving the way for its seamless integration into ship engines, powering both propulsion and onboard power generation. This groundbreaking approach holds the potential to drastically reduce CO2 emissions from the current levels to a remarkable zero. Ammonia, a carbon-free fuel, offers a compelling solution to the pressing environmental challenges faced by the shipping sector. This project has received funding from the European Union's Horizon 2020 research and innovation programme.

www.engimmonia.eu

FLAGSHIPS - has taken zero-emission waterborne transport to an entirely new level by deploying two commercially operated hydrogen fuel cell vessels. Though the road has been a long and winding one, the consortium of 11 European industry and R&D partners has now successfully brought two zero-emission vessels to realization, thus significantly raising the technological and commercial readiness level of hydrogen for waterborne transport. This project has received funding from Clean Hydrogen Partnership.

www.flagships.eu

NAUTILUS - developed an integrated marine energy system that will use liquefied natural gas. The project built a pilot technology that will gradually replace the internal combustion engine-based generators with a solid oxide fuel cell-battery hybrid genset. What is more, Nautilus worked on a digital design and a demonstrator of an on-board energy system for vessels transporting 1.000 and more than 5. 000 passengers, which will be evaluated according to the marine safety regulations. This project has received funding from the European Union's Horizon 2020 research and innovation programme.

www.nautilus-project.eu

SHYPS - Hydrogen fuel cells are powering thousands of vehicles on roads. Owing to their success, they could also be integrated into maritime vessels. The technology enhances energy security, reduces oil dependency and does not generate greenhouse gas emissions. The EU-funded sHYpS project is supporting Italy-based company Navalprogetti in integrating a hydrogen-based system on board multiple types of vessels. Researchers aim to design a hydrogen plant to ensure safe handling, containment and usage of the fuel on board. Project activities are an important step towards transitioning the maritime industry away from fossil fuels to zero-energy fuels. This project has received funding from the European Union's Horizon Europe research and innovation programme (Zero-emission Waterborne Transport Partnership).

www.shyps.eu

MARI4_YARD - The European shipbuilding industry is a dynamic and competitive sector that is linked to other sectors, including transport, security, energy, research and the environment. Maintaining its lead over competition from countries like China and South Korea means leveraging advancements in technologies, particularly in small and medium-size shipyards. In this context, the EU-funded Mari4_YARD project leveraged the potential of the Internet of things (IoT), mobile and ubiquitous ICT tools, and robotics for implementing a novel connected shipyard, offering the European shipbuilding the opportunity to stay at the leading edge. Specifically, the project implemented a portfolio of worker-centric solutions by relying on novel collaborative robotics and ubiquitous portable solutions. This project has received funding from the European Union's Horizon 2020 research and innovation programme.

www.mari4yard.eu

Hyper powered vessel battery charging system

HYPOBATT - HYPOBATT aims to revolutionize maritime electrification by developing a scalable, multi-megawatt fast-charging system for electric and hybrid vessels. The project focuses on modularity, interoperability, and energy efficiency, ensuring seamless integration across diverse maritime environments. By fostering collaboration among industry stakeholders, HYPOBATT is setting new standards for vessel charging, driving decarbonisation in waterborne transport, and contributing to the EU's green transition goals. This project has received funding from the European Union's Horizon Europe research and innovation programme (Zero-emission Waterborne Transport Partnership).

www.hypobatt.eu

NOUVEAU - The NOUVEAU project aims to develop the solutions and operating procedures that will enable scalable and efficient inland waterway transport (IWT) based on autonomous control with remote human supervision, a concept called 'onshore supervised autonomy'. The solutions will be demonstrated on a commercial passenger ferry service in Stockholm, Sweden. The project will adapt relevant autonomy technologies and create an onshore remote operations centre in Trondheim where one Zeabuz engineer will monitor and interact with the ferry and its passengers at a distance. The project will work with industry experts to develop best practices and operational guidelines to ensure efficient and safe operations and collect the evidence needed to prove trustworthiness and equivalent safety towards regulators. Finally, the findings and best practices will be shared to raise public awareness about the potential and benefits of autonomous urban ferries. Our project will pave the way for sustainable and efficient IWT. Co-funded by EIT Urban Mobility.

www.eiturbanmobility.eu/projects/nouveau

FASTWATER - Waterborne transport must become sustainable. The EU-funded FASTWATER project aims to reduce its greenhouse and pollutant emissions by using methanol fuel. Methanol is a clean fuel, available in large quantities in most ports, and can easily be stored on board. FASTWATER elaborates an evolutionary pathway for methanol, including retrofit solutions. The project will develop retrofit kits and methanol engines and demonstrate these in a harbour tugboat, a pilot boat and a coast guard vessel. A methanol powered river cruise vessel design is also included, as well as logistics and bunkering, revision of rules and regulations, and crew training. Eventually, FASTWATER will implement business plans including the life cycle performance analysis of costs, CO2 and pollutant reductions, to commercialise the developed solutions. The project has received funding from the European's Horizon 2020 research and innovation programme.

www.fastwater.eu

Quotes from key stakeholders of the Waterborne Sector

We strongly believe that the waterborne transport sector can have a green and prosperous future and that there is a real opportunity for Europe to lead in this important field. European manufacturing workers have a vital role to play in this respect. They are at the heart of the waterborne transport sector and their contributions are crucial. Up-skilling and re-skilling of the workforce is key for the sector to preserve its competitive position, for innovation leadership and for good industrial jobs!

Shipyards are of strategic importance for energy supply, transport and security in Europe. We are glad to see the initiative of the Maritime strategy and the sustainable Transport Investment Plan for the shipbuilding sector: the adoption of a forward-looking industrial investment plan that promotes a resilient, fair and sustainable future for the European shipbuilding and maritime equipment industry and its jobs is urgent.

Judith Kirton-Darling,
General Secretary,
IndustriAll Europe

Each time, EU policies left out the cluster approach to privilege one sector over the other, the result has been detrimental less than a decade later. No more silos and inclusive policies should be the driving force of our common future. The EU needs to keep the know how through innovation and preserve the competitiveness of all actors of the waterborne transport sector.

Lamia Kerdjoudj,
Secretary General, Feport

Driving the maritime sector forward, including the European towage sector, demands a relentless commitment to research, development, and innovation—pioneering technologies that enhance operational efficiency and steer us toward a sustainable and resilient maritime future. Collaboration among the different stakeholders is key to strengthening the effectiveness of the European R&I in the waterborne sector. The ETA is committed to cooperation with stakeholders for a sustainable future.

Anna Maria Darmanin,
Secretary General,
European Tugowners Association

Congratulations to the Waterborne Technology Platform on its 20th anniversary! Over the past two decades, the platform has played a pivotal role in shaping the EU's R&D agenda for the waterborne sector, driving innovation and fostering collaboration across stakeholders. The co-Programmed Partnership on Zero-Emission Waterborne Transport is a clear legacy to this collective effort, serving as a cornerstone for achieving a zero-emission waterborne transport industry. Close cooperation with all key waterborne stakeholders remains essential to ensure that research and development efforts address the industry's priorities.

Christophe Tytgat,
Secretary General, SEA Europe

Over the past two decades, the Waterborne Technology Platform has proven itself as Europe's foremost research and innovation hub for the maritime and inland waterborne industries. By uniting policymakers, industry representatives, research organisations and public authorities around shared strategic research and innovation goals, Waterborne TP has catalysed breakthroughs in low-emission technologies, advanced shipbuilding, port operations and, more directly, contributing to Europe's sustainability, competitiveness and innovation agendas.

As the European Inland Waterway Transport (IWT) Platform, we celebrate this milestone anniversary by highlighting the indispensable role of IWT in advancing Europe's green transition, mitigating climate change and reinforcing its global competitiveness.

Looking ahead, we call for the continued commitment of all relevant stakeholders at both national and EU levels, as well as a supportive financial and policy environment, to ensure that forward-thinking research and strategic roadmaps keep shaping a resilient, future-proof waterborne transport sector for the generations to come.

Janeta Toma, General Manager, European IWT Platform

Research is fundamental to broaden our horizon and to meet challenges in a cross-disciplinary way. A strong EU research programme will enable inland waterway authorities to continue pushing barriers in infrastructure innovation, climate preparedness and water resilience, which are cornerstones for our economy and society to strive in a green transition.

Karin de Schepper, Director, Inland Navigation Europe

Inland ports are the European hubs for sustainable trade, connecting regions and fostering economic growth through the power of waterborne transport. As we celebrate 20 years of the Waterborne TP, we honour two decades of groundbreaking research and development, innovation, and collaboration. By guiding the way for advancements in waterborne transport, the Waterborne TP has set the course for a greener, more efficient future. Here's to the past, present, and future of progress on the water."

Turi Fiorito, Director, European Federation of Inland Ports

We are delighted to celebrate two decades of the Waterborne Technology Platform with the launch of this magazine. The collaborative efforts achieved through this platform have demonstrated our dedication to advancing Research, Development, and Innovation, paving the way toward a more sustainable and competitive future.

Samuel Maubanc, Director General, Cruise Lines International Association (CLIA) Europe

Quotes from key stakeholders of the Waterborne Sector

Knowledge is Power, it is a well-known fact that the most successful companies KNOW WHAT they are doing, KNOW WHY they do it, KNOW WHO will do it and KNOW HOW to do it. World leadership in global markets is not a destination but a journey of continuous self-improvement towards the constantly moving target of excellence. In order to maintain and develop their global leadership, the European Dredgers need to innovate constantly, and faster than their competitors can imitate them. Innovative ideas and approaches are the necessary building blocks for identifying and implementing successful step changes as well as for progressing towards a sustainable world. But to do that we need to spend time and effort together. Proper financing of innovation processes has become a vital priority for strategic European industries such as dredging. Public support for research and development reduces risks and stimulates innovation. EU public procurement needs to transition towards a more innovation-friendly governance that promotes goal-based and performance-based standards as well as the optimisation of life-cycle costs of ownership. Moreover, public support in fighting protectionism around the world will lift some of the obstructions to deliver European made world-class innovations and state-of-the-art added value.

Paris Sansoglou, Secretary General, European Dredging Association

The 20th anniversary of the Platform is an opportunity to highlight the enormous investments needed to build a supply chain for clean fuels and technologies for shipping to meet its decarbonisation targets.

The upcoming Clean Industrial Deal needs to support the energy transition of shipping, while increasing industrial capacity in Europe, at a time when global shipping is seeking to reach net-zero by 2050. The EU and the member states must invest the ETS revenues into maritime decarbonisation and enable shipping's access to green energy through dedicated supply requirements on fuel producers in European ports.

Congratulations to the Platform and we look forward to our continued cooperation!

Sotiris Raptis, Secretary General, European Community Shipowners' Associations

Congratulations to the Waterborne Technology Platform on your 20th anniversary! Waterborne TP leads the way in highlighting the crucial role of research, development, technology and innovation, which will enhance the effectiveness of people working in our industry while contributing to a more sustainable future. We celebrate the vision, resilience, and unwavering commitment that have made this anniversary possible. May this milestone usher in a new era of growth and prosperity!"

Aileen van Raemdonck, Secretary General, European Maritime Pilots Association

Who is who in the Alignment Group?

The Alignment group coordinates the technical RD&I matters of the Association, including the cPP on ZEWT, and thereby coordinates the activities of the IRAGs.

The members of the Alignment Group consist of the Coordinator, the IRAG chairpersons (chairs and vice-chairs), the Chair of the Delegates Group, the liaison officer(s) and the Secretary General. In addition, the Pillar Leaders and Chair of other bodies participate in meetings of the Alignment Group. The members of the Alignment Group are volunteers, appointed by the Board with a two-year mandate. The Coordinator is nominated by the Board of Directors and appointed by the General Assembly.

These are currently the members of the Alignment Group

Maria Boile	University of Piraeus, Coordinator
Benoît Loicq	SEA Europe, Chair Member States Reference Group
Elena Ciappi	CNR, Liaison Officer EU Mission: Restore Our Oceans and Waters
Emilio Campana	CNR, Vice-Chair of IRAG Blue Growth
Erdeniz Erol	Elkon, Liaison Officer Partnership for an Industrial Battery Value Chain
Gregory Grigoropoulos	National Technical University of Athens, Vice-Chair of IRAG Ships & Shipping
Hildegunn McLernon	Kongsberg Maritime AS, Chair Working Group Digitalization
Jessica Hjerpe Olausson	RISE, Chair of IRAG Blue Growth
Johannes Oeffner	Fraunhofer CML, Liaison Officer Sustainable Blue Economy Partnership
Jorge Miguel Lara López	Fundación Valenciaport, Vice-Chair of IRAG Port & Logistics
Stefano Deledda	IFE, Liaison Officer Clean Hydrogen Partnership
Jorrit Harmsen	TNO, Chair of IRAG Port & Logistics
Nikolaos P. Ventikos	NTUA, Chair Implementation Review Group
Salvador Furió	Fundación Valenciaport, Liaison Officer Technology Platform ALICE
Yannis Kalenteridis	Rhoé, Liaison Officer with the EU Mission: Climate - Neutral and Smart Cities
Anders Öster	Wärtsilä Marine Power Solutions, Vice-Chair of IRAG Ships & Shipping
Maja Novakovic	MAN Energy Solutions, Chair of IRAG Ships & Shipping
Eva Pérez García	Fundación Valenciaport, Pillar Leader Ports
Tore Boge	Maritime Cleantech, Pillar Leader Electrification
Jan Børre Rydningen	GCE Blue Maritime Cluster, Pillar Leader Digital Green
Kenneth Widell	Wärtsilä, Pillar Leader Use of Sustainable Alternative Fuels

The Waterborne Secretariat

The Waterborne Secretariat provides all necessary organisational and administrative support.

JAAP GEBRAAD
Secretary General

DAVID ABRIL MOLINS
Project Manager

VÉRONIQUE VERHOEVEN
Financial & Event Manager

A Proud Reflection: 20 Years of Advancing the Waterborne Sector

Jaap Gebraad

Secretary General of the Waterborne Technology Platform

Proud is the word that comes to my mind as I am writing this statement. Proud to be part of a community that unites diverse perspectives to develop and deliver solutions for the benefit of current and future generations. Our community comprises diverse actors from the waterborne sector, spanning countries, backgrounds, and expertise. What binds us is not only the inherent interdependence within the sector but, most importantly, our shared commitment.

"Does this sound like a conservative sector? Far from it."

Our sector is often being seen as conservative; I prefer to call it introvert. Despite this perception, the numbers tell a different story. While the European Commission is investing up to € 530 million in the Co-Programmed Partnership on Zero-Emission Waterborne Transport (ZEWT) under Horizon Europe, our members are committing approximately € 3.3 billion over the same period. Does this sound like a conservative sector? Far from it. These investments highlight the sector's forward-thinking approach and dedication. However, we must strive to better communicate these accomplishments to a broader audience. Initiatives like the Waterborne Days and social media campaigns - "Meet our Members", "Meet the Projects" and "Meet the Results" – are critical steps in this direction.

"Planning for future innovation means embracing uncertainty."

Planning for future research, development and innovation means embracing uncertainty. None of us can predict how the world will look like in 2030, 2040 or 2050. This uncertainty extends to the future of the European framework programme, FP10. Although the initial signs are promising regarding both budget and content, nothing is certain until it is confirmed. To achieve a resilient, competitive, and sustainable future for the European waterborne sector, a dedicated European budget, including one for deployment of innovations and related infrastructure, is essential. Simplifying access to EU funds, particularly for SMEs, is equally critical. However, one thing is clear: the continued support for initiatives like the Waterborne Technology Platform will be essential in maintaining momentum. The Platform has already demonstrated its value in driving innovation and aligning the sector's objectives with European strategies. As the saying goes, never change a winning horse.

"As the saying goes, never change a winning horse."

Uncertainty is an inherent part of research, development and innovation. It challenges us to think creatively and adapt to evolving circumstances. However, this very uncertainty underscores the importance of clarity. Over the years, we have prioritized the consistent use of clear and precise terminology and definitions. For instance, when we refer to the "waterborne sector", we encompass all actors involved, not just the Waterborne Technology Platform. Such consistency ensures alignment in understanding and objectives across all stakeholders.

"Cooperation and equality are at the heart of everything we do, unifying the sector around a common Strategic Research Agenda."

Cooperation and equality are at the heart of everything we do. Achieving competitiveness and sustainability demands a joint, coordinated approach involving all stakeholders, public and private alike. Together, we have unified the sector around a common Strategic Research Agenda with a long-term vision extending to 2030 and 2050. This agenda, supported by Strategic Research and Innovation

Agendas, aligns with European and international policies and strategies to ensure technology leadership for the sector's future. This year, we will update these documents, with a timeline of 2040 and 2050.

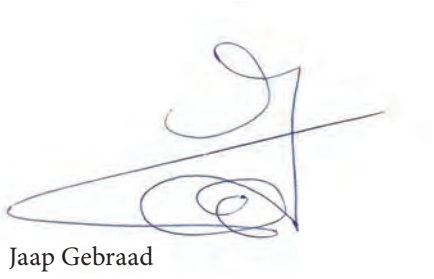
I felt immense pride when we received the independent evaluation report on the Co-Programmed Partnership on Zero-Emission Waterborne Transport. The report highlighted the effectiveness of our organisational structure, which separates governance from execution, and the success of our cooperation and outreach activities. It acknowledged significant achievements in coordinating and building capacity across sectors with often contrasting needs, objectives, and strategies.

As we celebrate 20 years of Waterborne Technology Platform, we look forward to emphasizing themes of cooperation, equality, and cross-cultural collaboration. These themes will guide our activities throughout the years to come, all rooted in our commitment to research, development, innovation and the deployment of innovations.

I am deeply thankful for the continuous and constructive cooperation with colleagues from various European Commission Services. Their commitment and dedication have been instrumental in achieving our objectives. This gratitude extends to the numerous representatives from Member States and countries associated to Horizon Europe. Their contributions were evident in the success of the second edition of the Waterborne Days.

Let us continue our shared journey towards realising our long-term vision: achieving technology leadership for and by the European waterborne sector.

"Let us continue our shared journey towards realising our long-term vision: achieving technology leadership for and by the European waterborne sector."



Jaap Gebraad

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