MultiRELOAD synergetics pro DANUBE DANUBE Ports Network Funded by the European Union

Summary, Key Takeaways

Keynote Speeches, 23 November 2023

The Danube Ports Days 2023 event, a collaborative effort by Pro Danube in partnership with the EU-funded Green Inland Ports Study, MultiRELOAD and SYNERGETICS projects, and with support from the Danube Ports Network, has successfully concluded. This groundbreaking event served as the focal point for high-profile representatives from the European Parliament, European Commission, international river commissions, port authorities, and various stakeholders in the inland waterway transportation (IWT) sector.

The two-day event, held on 23 and 24 November in Vienna, provided a unique platform for participants to explore innovative tools and solutions geared towards achieving green objectives, sharing experiences, addressing common challenges, and staying updated on latest industry developments. With a specific focus on the European Green Deal, the Danube Ports Days aimed to facilitate collaboration between public and private entities, fostering know-how sharing and feedback collection in pursuit of the ambitious climate targets enshrined in the European Green Deal.

One of the highlights of the Danube Ports Days 2023 event was the insightful video message delivered by **MEP Marian-Jean Marinescu**, European Parliament. In his address, he emphasised the crucial role of the Green Inland Ports Study, shedding light on the strategic importance of connecting Europe and unlocking the vast, yet under-utilised potential of inland waterway transport (IWT). MEP Marinescu's video message not only highlighted the significance of the Green Inland Ports Study but also underscored the strategic importance of connecting Europe through efficient and sustainable means. As we face the challenges of today, exploring the untapped potential of IWT becomes crucial for fostering economic growth and environmental sustainability. Moreover, MEP Marinescu reflected on the strategic significance of connecting Europe and shed light on the often under-utilised potential of inland waterway transport. With his extensive experience and deep understanding of transport policies, he offered valuable insights into how improving connectivity and harnessing the potential of inland waterway transport can have a transformative impact on Europe's infrastructure and sustainable development.

Marta Wolska, DG MOVE, European Commission, highlighted that inland ports aren't just logistics and transport nodes; they're crucial for socio-economic development and sustainability. The Sustainable

and Smart Mobility Strategy points to their potential to be zero-emission nodes, fostering sustainable mobility, clean energy, and circular economy development. To achieve this vision, ports need to adopt environmentally-friendly and sustainable solutions, focusing on energy efficiency, innovative environmental strategies, and advanced monitoring tools. For this very reason, the Green Inland Ports is of great importance. The study aims to identify key factors influencing sustainable development within inland ports, proposing innovative solutions that align with both environmental and economic objectives and is set to play a crucial role in shaping policies and strategies to enhance the sustainability of inland navigation, addressing the growing need for eco-friendly practices within the industry.

Sarah-Bittner Krautsack from the City of Vienna highlighted the key position of the Port of Vienna on Vienna's pathway towards climate neutrality. The Port of Vienna serves as a key element in sustainable logistics by providing eco-friendly transportation options through rail and waterways. It plays a vital role not only in Vienna's economic development but also supports the city's goal of achieving climate neutrality by 2040. Sarah Bittner-Krautsack detailed about the journey towards a greener future, emphasising the positive impact on both the environment and the economy.

Róbert Rafael, from Pro Danube, the host organisation of the conference, moderated the event and highlighted in an intervention the role of the Danube Ports Network (DPN). DPN's journey began in the frame of the DAPhNE project and was further strengthened by DIONYSUS, being hosted and managed by Pro Danube and having the mission to foster collaboration and to accelerate progress in the Danube Region's port industry.

<u>Green Inland Ports Session, 23 November 2023</u>

Commissioned by the European Commission to explore and drive sustainable practices within the inland navigation sector, the Green Inland Ports Study marks a pivotal step towards a greener and economically robust future for inland ports. **Geert Smit**, from Ecorys, the organisation leading the study, highlighted that inland ports are deemed vital for EU's connectivity, economy, and regional development, aligning with the European Green Deal's objective to reduce transport emissions by 90% by 2050. The study focuses on evaluating the environmental impact of inland ports, exploring the role of digitalisation for sustainability, and identifying opportunities for adopting inland waterway transport for urban and short-distance mobility.

Anne Kleijn and **Nicole Imholz** from CE Delft shed in their joint presentation light on the pivotal role of inland ports and their profound impact on our daily lives. Ports play a crucial part in the transshipment of goods, which are the backbone of our society. The presentation focused on the research elaborated in the frame of the Green Inland Ports Study, which quantifies the environmental impact of port activities and takes inventory of the best practices to achieve emission reductions. This approach goes beyond focusing on greenhouse gas emissions alone, as it also explores areas like air quality, water, and soil. The presentation furthermore uncovered the crucial balance between economic prosperity and environmental conservation providing insights into Life Cycle Analysis (LCA) methods, revealing emissions commonly found in ports and exploring sustainable practices to enhance their environmental footprint.

Frank Stevens from Erasmus University Rotterdam provided the audience with insights into the legal challenges of implementing environmental measures in ports. The greening efforts of ports need to fit with the European legal framework. Is the existing framework fit for purpose? Do inland ports have the legal tools they need to move into the green future, or are changes or additions required? Finding responses to these crucial questions is of utmost importance for the proceedings of the Green Inland Ports Study.

Likewise important, in terms of digitalisation, **Charlotte Siot**, from Pro Danube, presented on behalf of Frank Stevens the challenges faced by digitalisation from a legal perspective. The focus was on reliability in case of damages accidentally provoked by software operated by ports.

Saša Jovanović shed light on Pro Danube's vital contribution to the Green Inland Ports Study, focusing on port digitalisation. Digitalisation in the context of port operations refers to the application and integration of available digital technologies to enhance various processes and activities within ports. The primary goal is to improve efficiency, streamline operations, reduce risks, lower costs, minimise environmental impact, and provide better services across the port industry and the entire supply chain. Inland port digitalisation is a game-changer for supply chain efficiency, sustainability, and resilience. By embracing cutting-edge technologies, ports can drive the shift towards digital and green supply chains, fostering innovation, and promoting a more sustainable future for global trade.

MultiRELOAD User Forum, 23 November 2023

Elvina Nowak, from ETP Alice, moderated the inaugural MultiRELOAD User Forum, which featured engaging discussions and insights. The first MultiRELOAD User Forum served as a dynamic platform for collaboration and feedback within the IWT industry and covered key aspects such as presenting the core objectives of MultiRELOAD, unveiling the initial results of three project demonstrators, and introducing the Open Innovation Challenge under the lead of Thinkport Vienna. The challenge focuses on revolutionising the transportation of agricultural products on inland waterways and encourages participants to share innovative ideas for consideration.

Jan-Christoph Maass, from Duisburger Hafen AG, lead partner of MultiRELOAD, introduced the project. This ambitious initiative unites a consortium of ports, cutting-edge technology, logistics and service providers, leading European research institutions, and well-connected networks. Their mission? To drive a profound modal shift towards sustainable transport, achieve a radical enhancement in supply chain efficiency, and promote capacity-sharing in critical Trans-European Transport Networks (TEN-T) corridors, specifically the Rhine-Alpine and Rhine-Danube Corridors.

The Port of Duisburg, with its international connectivity and reputation as a digital innovation trendsetter in global logistic supply chains, takes center stage in the MultiRELOAD project. Collaborating with Hafen Wien GmbH and Schweizerische Rheinhäfen, they're leading the way in transforming inland ports into carbon-neutral hubs. This transformation involves rigorous testing, demonstration, evaluation, and rollout of highly innovative multimodal freight solutions across seven distinct demonstrations, each falling under the three thematic innovation areas mentioned above.

The MultiRELOAD project calls for the establishment, implementation, and evaluation of demonstrators by regional consortia. These groups consist of port authorities, operators, technology and service providers, and research organisations. The result? A significant boost in flexibility, service visibility, and an impressive average cost reduction of freight transport by approximately 10%.

MultiRELOAD's solutions will progress towards solid business plans and models, setting the stage for widespread adoption, and thereby enhancing the overall market maturity. The project leverages the expertise of two established business incubators, startport GmbH in Duisburg and thinkport VIENNA - smart urban logistics, to nurture new services and startups focused on intelligent multimodal solutions.

Moreover, MultiRELOAD actively involves a wide array of end customers, including logistics service providers, freight forwarders, and cargo owners, through the MultiRELOAD User Forum. Their involvement ensures that these groundbreaking solutions are market-ready and meet the needs of the logistics industry.

Herfried Leitner, from TTS GmbH, introduced the "Multimodal Transport of Bulk Cargo on the Danube" demonstrator. The initiative aims to establish connections between multiple sellers and buyers by leveraging multimodal equipment, benefitting carriers, shippers, and industries dealing with fertilisers, grains, and general freight transport. The key advantages include addressing transshipment challenges to reduce cargo loss and storage costs, promoting green transport aligned with the European Union's sustainability goals, and achieving significant CO2 emission reductions through enhanced river transport accessibility. The innovative approach holds promise for the Danube Region, fostering sustainability, efficiency, and economic growth, with the potential to contribute to a greener and more interconnected future.

Henrike Bauer, representing Thinkport Vienna and Port of Vienna, introduced the Open Innovation Challenge, an initiative launched in the frame of MultiRELOAD. The MultiRELOAD Open Innovation Challenge seeks to revolutionise the transport market by finding innovative and cost-effective solutions for multimodal transportation of part loads on inland waterways. The focus is on transporting smaller quantities of various products efficiently through inland waterways, expanding the possibilities for cargo transportation beyond traditional methods. The challenge invites individuals with ideas for sustainable change in inland waterway transportation to submit their proposals, with the chance to gain advantages such as networking opportunities with industry leaders, PR activities, visibility, and the potential to implement their ideas with project partners. The initiative not only aims to drive transformative change but also offers recognition and prizes for the best ideas, providing an opportunity to shape the future of inland waterway transportation.

Silvia Dopler, from University of Applied Sciences Upper Austria, introduced the audience into the benefits of the potential use of containers in Danube IWT. The potential for containerised Danube transports is largely untapped, with significant market opportunities. By shifting just 5% of tonne-kilometres from road to inland waterways in European Union countries along the Danube, there could be a substantial 47% increase in Danube freight transport. This highlights the potential for growth and efficiency in utilising containerised transportation along the Danube.

Ismael Torres, from Prodevelop, introduced the audience into the exciting world of digital twins and their capacity to enhance port operations in terms of greening and sustainability. The cutting-edge demonstrator discussed represents a powerful application of digital twins' technology, revolutionising port operations by integrating various facets into a unified system. The primary mission of this innovation is to effectively control, monitor, optimise, and ultimately minimise the environmental impact associated with port activities. This demonstrator, developed within MultiRELOAD, promises to be a game-changer for IWT.

Stefan Wiech, from bloog GmbH, introduced the audience into the possibilities created by RPIS for the Danube Region. The objectives of this MultiRELOAD demonstrator are focused on creating a unified and competitive inland navigation and hinterland logistics sector. The key goals include standardising and facilitating data exchange among ports, terminals, skippers, and other logistics operators. The current focus is on optimising waiting times for vessels and terminals through a transparent and user-friendly slot booking system provided by the Real-time Port Information System (RPIS). The next step involves automating the creation of port statistics and the collection of dues by integrating all relevant stakeholders on the platform. This integration aims to streamline complex data collection and analysis processes in the industry.

The **Danube networking cruise**, organised in the aftermath of the MultiRELOAD User Forum, emerged as a great success, serving as the social highlight of the event. Participants engaged in vibrant discussions and dynamic project presentations, emphasising the crucial role of ports in Europe's evolving transport system's greening. The cruise facilitated meaningful connections, idea exchange, and exploration of innovative initiatives within the IWT sector. A dedicated exhibition area of the cruise featured EU-funded projects such as Ploto, Seanergy, and ReNEW.

SYNERGETICS Session, 24 November 2023

On the second day of the event, the **SYNERGETICS** project took centre stage. This initiative focuses on accelerating the greening of inland shipping throughout Europe, providing retrofit solutions to facilitate the green transformation of inland vessels and coastal ships.

Igor Bačkalov, representing DST, the lead partner of SYNERGETICS, outlined the core objectives of the project. The mission of SYNERGETICS is to unlock the green potential in shipping. Inland and coastal shipping play a pivotal role in reducing greenhouse gas and air pollutant emissions, driven by European policy, regulatory changes, and the need for competitiveness. The existing European waterway fleet holds significant green potential through proper retrofitting, but the scattered nature of solutions hampers large-scale implementation. The Technology Transfer Forum, moderated by Igor Bačkalov in the frame of the Danube Ports Days 2023 event, aimed to be a platform for discussing and exploring green transformation solutions. The focus on hydrogen, methanol, and electrification reflects the diverse and innovative approaches necessary to address the challenges posed by European policies and regulatory developments.

Bengt Ramne, from ScandiNAOS AB, is dedicated to discovering sustainable solutions aimed at reducing the climate and environmental effects of shipping. His focus over the past decade has been on advocating for the use of methanol as a marine fuel. Now, he is extending this effort to the inland waterways industry, aiming to bring sustainable practices to this sector as well.

Bernhard Bieringer, a representative from Kanzlei Anzböck, addressed the challenges associated with transitioning to alternative fuels in the Danube IWT sector. Traditionally, diesel has been the dominant fuel in Danube navigation. However, the future presents uncertainties as various alternative fuels are gaining prominence. Bernhard Bieringer explored the intricacies related to infrastructure, vessel equipment, autonomy range, costs, safety, and environmental impact in the context of adopting these alternative fuels in the Danube IWT sector.

Koen van Eig, representing Zero Emission Services (ZES), highlighted the potential of electrification in achieving climate-neutral waterborne transport. ZES proposes an innovative energy system for making inland shipping more sustainable. This comprehensive solution includes exchangeable battery containers powered by green electricity, charging stations, technical support, and an inventive payment model for barge owners. The aim is to provide a clean and climate-neutral alternative, positioning it competitively against traditional fossil fuels in the shipping industry.

Jan Andreas, from Argo-Anleg GmbH, presented the potential of hydrogen as a clean fuel for the IWT industry. Argo-Anleg GmbH, the company he represents, offers a comprehensive range of products and services in modern hydrogen technology. They provide customers with well-established individual components in H2 valve technology and deliver fully tested and ready-to-operate systems for hydrogen production, transport, and utilisation. The company covers the entire performance spectrum of hydrogen technology, emphasising its commitment to advancing the use of hydrogen in the IWT sector.

Updates from SEANERGY, 24 November 2023

Karin Voglsam, representing the Port of Enns, updated the audience on the SEANERGY project, which aims to transform ports into zero-emission hubs for clean energy, including integrated electricity systems, hydrogen, and other low-carbon fuels. The project also focuses on testing waste reuse and circular economy practices through the SEANERGY Master Plan. Karin Voglsam emphasised the Port of Enns' commitment to providing advanced conditions for clients while prioritising sustainability in all

aspects of port operations. The initiatives align with the broader European focus on energy transition and greening in ports.

Updates from the Danube Commission, 24 November 2023

In a presentation, **Dejan Trifunovic**, provided an update on the Danube Commission's efforts to support sustainable port development in the Danube Region. Dejan Trifunovic, on behalf of the DC Secretariat, discussed knowledge exchange and action plans for Danube ports, particularly within the context of the Expert Group Meeting on Ports. He highlighted the upcoming Expert Group Meeting on Ports on March 12, 2024, and the progress made in developing the Joint Statement of the Danube Port Authorities and Ports Stakeholders initiative. Additionally, **Antonio Stoean**, an external consultant to the DC Secretariat, shared information on activities and positive outcomes related to the EU-UA Solidarity Lanes initiative since May 2022.

Attendance:

	On-site	Online
Day 1	82	48
Day 2	61	35

Presentations and recordings are available for download here:
https://www.prodanube.eu/inforoom/events