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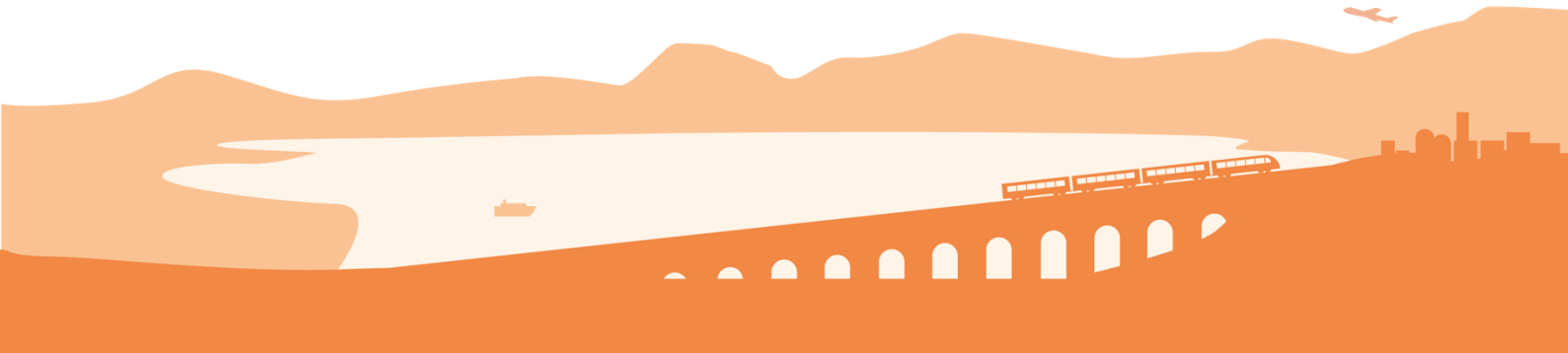

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1. Overview

This report provides an in-depth account of the joint solution consisting of two complementary pilots developed and implemented under the ACCESSMILE project by Gruber Logistics (PP10) and Rostock Port (PP11). The pilot activities focus on Cargo Bundling and Tracking (Topic 3), aiming to enhance the digital connectivity and operational efficiency of logistics chains in rural and peripheral regions of Poland and Northern Germany.

The collaboration between Gruber Logistics and Rostock Port has combined two complementary perspectives:

- the road-based logistics ecosystem led by Gruber Logistics through the MyDesk digital platform, and
- the port-centric, intermodal ecosystem developed by Rostock Port through its Digital Navigator, integrating tools such as Routescanner and Rail-Flow.

Together, the partners have demonstrated that digital interoperability and cargo aggregation can effectively reduce fragmentation, increase visibility, and connect smaller regional operators, freight forwarders and shippers to the Trans-European Transport Network (TEN-T).

The pilots were conceived to address specific barriers typical of peripheral logistics environments — limited digitalisation, fragmented cargo flows, and low coordination between road, rail, and maritime operators. By introducing modular and user-friendly ICT solutions, both pilots have helped to overcome these constraints and created conditions for long-term sustainability, scalability, and transferability of the developed approaches.

2. SWOT analysis of ACCESSMILE pilot solution and adopted technical measures

The joint SWOT analysis provides a structured evaluation of the pilots implemented by Gruber Logistics and Rostock Port within the ACCESSMILE framework. It examines the internal and external factors that influenced the design, deployment, and performance of the ICT tools - particularly MyDesk and the Digital Navigator - in their respective operational environments.

The analysis aims to identify the main drivers of success and potential barriers to large-scale implementation, while capturing lessons learned and opportunities for replication in similar contexts. It reflects both the operational dimension (digital workflows, user engagement, data interoperability) and the strategic dimension (policy alignment, scalability, and long-term sustainability).

By systematically assessing strengths, weaknesses, opportunities, and threats, the SWOT analysis serves as a foundation for future decision-making, ensuring that the pilot results can be effectively transformed into mature, market-ready digital logistics solutions capable of supporting rural and peripheral regions' inclusion in the European transport network.

Strengths	Weaknesses
• Strong policy alignment with EU priorities on digitalisation, green logistics, and multimodal accessibility (Green Deal, eFTI, DTLF). • Proven operational efficiency: digital coordination reduces empty runs, optimises vehicle routing, and supports load consolidation. • Complementarity between MyDesk and Digital Navigator, bridging road-based SMEs with intermodal and maritime networks. • Ease of adoption thanks to intuitive user interfaces and mobile-first architecture, especially suitable for small carriers with limited IT resources. • High stakeholder involvement, including Polish and German carriers, regional authorities, logistics clusters, and port communities. • Environmental impact through reduction of CO_2 emissions due to improved planning and modal shift potential.	• Heterogeneous IT environments: lack of full interoperability among small carrier systems and public digital services. • Low digital literacy among micro and small enterprises in rural Poland, requiring continuous mentoring and training. • Limited testing timeframe within the project period, restricting large-scale operational validation. • Absence of permanent institutional structures for maintaining cross-border digital coordination post-project.
Opportunities	**Threats**
Technical advancements: • High replication potential across Central and Eastern Europe, particularly along the Baltic-Adriatic and North Sea-Baltic corridors. • Synergies with EU digital initiatives, including the European Digital Identity framework and Smart Mobility Strategy.	**Technical advancements:** • Financial sustainability risks if user uptake remains below critical mass. • Resistance to behavioural change among traditional carriers accustomed to manual processes.

• Potential for integration into Gruber Logistics' broader digital service portfolio and Rostock Port's corporate ICT ecosystem. • Growing demand from shippers and clients for transparent, trackable, and sustainable logistics chains. • Public–private cooperation models can attract co-financing for long-term platform maintenance.	• Regulatory divergence between national data protection and transport rules. • Market fragmentation: emergence of competing private tools without interoperability could dilute adoption.

Table 1 - SWOT analysis of pilot action no. 3 - cargo bundling & tracking

The pilot phase confirmed that digital cargo bundling and tracking solutions are most effective when designed as lightweight, user-oriented and interoperable tools. In particular, the experiences gathered within ACCESSMILE demonstrated that simplicity of use, accessibility and gradual integration into existing workflows are essential to ensure uptake among SMEs and operators located in rural and peripheral regions.

The following table translates the critical issues identified in the SWOT analysis into concrete mitigation measures aimed at supporting the successful replication and scale-up of the pilot action in other regions. The measures focus on overcoming structural, technical, and regulatory barriers that may affect future adopters, ensuring that the solutions developed during ACCESSMILE can evolve into stable, interoperable, and widely used digital logistics services.

Key issues from the SWOT analysis	Potential measures to overcome weaknesses and threats	Expected effects
Heterogeneous IT environments and lack of interoperability among small carriers and public digital systems	Promote the adoption of open standards (API, EDI, XML), lightweight integration templates, and interoperable data exchange guidelines for SMEs	Smoother onboarding and lower technical barriers for new adopters; improved cross-system data consistency
Low digital literacy among micro and small enterprises in rural areas	Introduce continuous training programmes, e-learning modules, and local digital facilitators supporting SMEs during early adoption	Higher digital maturity and improved user confidence, enabling stable and long-term usage
Limited pilot timeframe and lack of large-scale validation	Extend testing periods through follow-up regional initiatives and Living Lab environments; engage new logistics operators for stress testing	More robust evidence base and stronger justification for policy integration and funding
Absence of stable institutional structures for cross-border digital coordination	Encourage the formation of regional user groups, corridor-level coordination clusters, and structured governance models	Continuity of cross-border cooperation and shared ownership of digital services
Risk of insufficient user uptake to ensure financial sustainability	Develop incentive schemes, phased subscription models, and public-private co-financing mechanisms	Increased adoption rates and long-term financial viability

Resistance to behavioural change among traditional transport operators	Launch awareness campaigns, real-life demonstrations, and pilot-based success stories illustrating tangible benefits	Faster behavioural shift and improved acceptance of digital workflows
Regulatory divergence across countries (data protection and transport rules)	Establish compliance guidelines, data governance templates, and harmonisation dialogues with national authorities	Reduced legal uncertainties and smoother cross-border implementation
Market fragmentation due to competing, non-interoperable private tools	Promote interoperability frameworks and encourage voluntary alignment with EU-level standards (eFTI, DTLF, DTCs)	Prevention of digital silos and creation of a unified logistics data ecosystem

Table 2 - Possible measures to overcome identified key weaknesses and threats

3. Long-term sustainability goals and strategies of the pilot solution

Three long-term sustainability goals have been identified for the continuation of the new processes in improving transport flow management:

- **Goal G1: Maintain and expand the digital systems implemented during the pilots.** This includes the continuous development of **MyDesk** and the **Digital Navigator**, regular updates to ensure compliance with evolving EU digital transport standards (eFTI, DTLF), and the integration of additional logistics nodes and service providers across Central Europe. Both systems are modular, ensuring scalability and adaptability to different operational contexts.
- **Goal G2: Promote widespread uptake among logistics operators and authorities.** Awareness-raising and capacity-building activities will be crucial to engage small and medium-sized transport companies, particularly in **rural and peripheral regions** of Poland and Germany, where digital maturity remains limited. The strategy foresees cooperation with **regional chambers of commerce**, **transport associations**, and **public authorities** to demonstrate the cost-efficiency, accessibility, and environmental benefits of digital cargo bundling tools.
- **Goal G3: Strengthen cross-border institutional cooperation and policy alignment.** Sustaining the achieved results requires stable governance and policy coordination between logistics operators, ports, and public institutions. Building upon the collaboration between Gruber Logistics and Rostock Port, the partners plan to formalise a **Digital Logistics Cooperation Framework**, ensuring data exchange, interoperability, and shared strategic objectives in line with **EU Green Deal** and **Smart Mobility Strategy** priorities.

Together, these goals define a comprehensive strategy for long-term sustainability—combining technological continuity, stakeholder engagement, and institutional anchoring. By pursuing them, the ACCESSMILE pilot solution can evolve into a permanent, self-sustaining component of Central Europe's digital logistics landscape, fostering efficiency, transparency, and inclusiveness in freight transport operations.

The following table summarises the three long-term sustainability goals identified for the continuation and consolidation of the pilot actions. For each goal, the table outlines the proposed strategies required to ensure effective implementation and the expected long-term impact on the digital logistics ecosystem. This

structured overview provides a clear framework to guide the transition from pilot activities to fully operational, scalable, and durable digital solutions across Central Europe.

No.	Long-term sustainability goals	Proposed strategies for implementation of goals	Expected long-term impact
G1	**Maintain and expand the digital systems implemented during the pilots**	Ensure continuous investment in system upgrades; integrate new data sources; promote interoperability across corridors; support SMEs in onboarding.	Stable, future-proof digital ecosystem enabling efficient and transparent logistics operations at scale.
G2	**Promote widespread uptake among logistics operators and authorities**	Develop training programmes; incentivise adoption through simplified procedures; foster public-private cooperation; align onboarding processes.	Broad adoption of digital logistics tools, leading to harmonised processes, reduced administrative burden, and improved multimodal integration.
G3	**Strengthen cross-border institutional cooperation and policy alignment**	Create permanent cross-border working groups; develop harmonised frameworks; promote data-sharing agreements; integrate pilot outcomes into policy cycles.	Enhanced coordination across regions and Member States, supporting seamless, predictable, and resilient transport flows.

Table 3 - Proposed strategies to provide long term continuation of improved cargo bundling & tracking

3.1. Hints for continuation & extension of the solution

Gruber Logistics' MyDesk and Rostock Port's Digital Navigator provide a foundation for continuing and extending ICT-enabled cargo bundling solutions in multimodal logistics. By integrating third-party tools such as Routescanner and Rail-Flow, the platforms enhance cargo visibility, optimise operations across road, rail, and port terminals, and support the consolidation of smaller cargo streams into efficient transport units.

For long-term continuity, both partners plan to maintain partnerships with digital service providers, continuously update platform functionalities, and actively engage shippers, freight forwarders, and hinterland operators. Extension of the solution can be supported through regional coordination forums, joint promotional campaigns, and capacity-building activities to increase awareness and adoption among small and medium-sized operators in rural and peripheral areas.

The long-term vision includes developing a fully interoperable logistics ecosystem connecting Gruber Logistics' operational network with Rostock Port's digital hub. This would ensure seamless data exchange, alignment with EU data-sharing and digital transport frameworks, improved environmental monitoring, and sustainable integration of peripheral regions into the TEN-T network. Collectively, these actions position MyDesk and the Digital Navigator as permanent enablers of efficient, inclusive, and sustainable European freight transport.

Lessons learned from the pilot phase highlighted that the effectiveness of cargo bundling and tracking platforms depends not only on technical functionality, but also on their ability to integrate into broader logistics ecosystems. The pilots demonstrated that interoperability with digital gate systems, booking tools, PCS environments and intermodal coordination platforms is essential to maximise operational benefits and ensure long-term scalability.

4. Financial indications related to the long-term sustainability

The long-term financial sustainability of the solution relies on cost-effective implementation and gradual adoption by end users.

Also, the financial viability of the solution is supported by its integration into existing IT infrastructures. Routine maintenance is covered under the digitalisation budgets of each implementing partner. Future upscaling may rely on a mix of funding sources:

- EU programmes (Interreg, CEF, Horizon Europe) for interoperability and decarbonisation;

- National and regional funds for port innovation;

- Private contributions through service fees for premium functionalities – where applicable.

A shared financial model could include cost-sharing agreements between port authorities and terminal operators, ensuring continuous operation and future scalability.

5. Recommended pilot solution governance schemes

A multi-level governance model is recommended to maintain and expand the developed solutions.

For Gruber Logistics, governance should focus on data standardisation, user support, cybersecurity, and coordination with EU digital frameworks such as eFTI and the Digital Transport and Logistics Forum (DTLF).

For Rostock Port, governance should build on cooperation with ICT providers, regional authorities, and logistics communities to ensure data interoperability and effective monitoring of multimodal performance. Both should establish continuous dialogue mechanisms with regional stakeholders and maintain regular updates of digital tools.

The pilot experience also demonstrated that governance and stakeholder coordination are critical enabling factors for digital cargo coordination services. Continuous interaction between logistics operators, ports, ICT providers and public authorities is necessary to ensure data quality, maintain interoperability and progressively adapt the services to changing operational and regulatory conditions.

6. Recommendations and suggestions for the replication of the pilot solution beyond the pilot area

The joint solution on topic no. 3 – cargo bundking & trucking - is highly replicable across European rural and peripheral areas, especially those characterised by low digitalisation levels and fragmented logistics operations.

Key recommendations include:

- Adoption of modular, scalable ICT tools that can easily integrate with existing infrastructure.
- Early involvement of local logistics operators to ensure buy-in and build long-term engagement.
- Alignment with EU policy frameworks such as eFTI, TEN-T, and the Green Deal.
- Development of regional incentive schemes and funding instruments for digital uptake.

- Continuous dissemination and awareness campaigns to promote trust in digital logistics tools.

The ACCESSMILE pilot phase identified several enabling conditions for successful replication:

- interoperability with existing digital logistics systems and operational workflows;
- low entry barriers and user-friendly interfaces, particularly for SMEs;
- active stakeholder engagement and coordinated governance structures;
- phased and adaptive implementation approaches allowing gradual operational integration.

Replication should therefore not be understood as the direct transfer of a fixed technological solution, but as the adaptation of common principles and interoperable tools to different logistics and territorial contexts.

7. Conclusion. ACCESSMILE jointly developed solution to be taken up / upscaled.

The ACCESSMILE pilots led by **Gruber Logistics** and **Rostock Port** have demonstrated that digitalisation and cargo bundling represent fundamental enablers for achieving **sustainable, efficient, and inclusive logistics systems**, particularly in **rural and peripheral regions of Europe**.

By deploying two complementary digital platforms — MyDesk and the Digital Navigator — the pilots provided tangible evidence that digital ecosystems can reduce fragmentation, enhance coordination, and enable the participation of small and medium-sized operators (SMEs) in multimodal transport chains traditionally dominated by large logistics players.

Throughout the pilot implementation, both partners successfully validated new models for cargo visibility, coordination, and consolidation.

In Poland and Northern Germany, where rural logistics ecosystems are often characterised by limited ICT infrastructure and dispersed traffic flows, MyDesk and the Digital Navigator served as critical digital bridges connecting smaller operators with the TEN-T freight corridors.

The results clearly demonstrated that:

- Digital cargo bundling allows rural operators to optimise vehicle capacity and reduce empty runs, directly lowering CO_2 emissions.
- Integrated Track & Trace functionalities and real-time communication modules increase shipment reliability and transparency, generating trust along the supply chain.
- The interoperability between MyDesk and Rostock's intermodal digital services (Routescanner, Rail-Flow) offers a scalable model for linking road, rail, and maritime transport.
- Active stakeholder engagement throughout the pilot ensured that the developed tools remained practical, intuitive, and compatible with existing workflows.

Operationally, both platforms proved capable of **simplifying access to multimodal logistics services**, promoting greener and more efficient freight transport between secondary regions and primary European corridors. These outcomes are particularly relevant in the context of EU territorial cohesion objectives, where balanced accessibility and digital inclusion are central to sustainable growth.

Beyond operational efficiency, the pilot phase confirmed the strategic relevance of Topic 3 solutions in improving market accessibility and visibility of intermodal logistics opportunities for smaller transport

operators. The implemented tools demonstrated that digital coordination platforms can reduce administrative complexity, increase transparency and facilitate the participation of SMEs in structured logistics chains.

The lessons learned also highlighted that cargo bundling and tracking solutions achieve their highest effectiveness when combined with the governance, gate automation and transport flow management approaches developed under Topics 1 and 2, contributing to the creation of an integrated and interoperable logistics ecosystem.

The ACCESSMILE joint solution directly contributes to the main policy priorities of the European Green Deal, the Smart and Sustainable Mobility Strategy, and the EU Digital Transport Corridors initiative.

By improving data availability, interoperability, and multimodal coordination, the pilots advance the EU's ambition to create a **seamless, data-driven logistics ecosystem** supporting both economic competitiveness and environmental performance.

Furthermore, the project aligns with the eFTI Regulation (Electronic Freight Transport Information) and the Digital Transport and Logistics Forum (DTLF) recommendations, demonstrating how interoperable ICT solutions can facilitate regulatory compliance and information exchange between public authorities and private logistics operators.

The joint approach adopted by Gruber Logistics and Rostock Port also supports the European objective of promoting cross-border digital governance. Both partners have laid the foundations for future cooperation models, where ports, logistics hubs, and inland operators share data securely and transparently under common standards.

From an institutional perspective, the pilots have shown that sustainable logistics innovation is not solely a technical challenge but also a matter of governance and stakeholder coordination.

Gruber Logistics and Rostock Port jointly developed an approach where **digital inclusiveness** becomes a key principle for regional development:

- For Gruber Logistics, MyDesk provides a replicable blueprint for empowering small carriers in peripheral areas, enabling them to join larger logistics networks without costly IT investments.
- For Rostock Port, the Digital Navigator strengthens the port's role as an intermodal gateway, connecting hinterland logistics communities with European maritime and rail corridors.

The pilot experience highlighted that long-term sustainability will depend on maintaining active cooperation between public and private actors. Regional authorities, chambers of commerce, and transport associations should therefore be involved in the governance of digital logistics platforms, ensuring that data sharing and service provision remain fair, inclusive, and in line with public-interest goals.

This institutional anchoring will also facilitate access to additional funding opportunities under Horizon Europe, CEF Digital, and national or regional digitalisation programmes, ensuring that the systems remain updated, secure, and widely adopted.

Financial sustainability is a critical factor for the continuation and upscaling of the pilot results. Both MyDesk and the Digital Navigator were designed with cost-efficiency in mind. Their modular architecture and cloud-based deployment minimise maintenance costs, allowing integration into existing IT frameworks without major infrastructure investments.

Future financial models could follow a **freemium approach**, maintaining basic functionalities free of charge to ensure widespread adoption while offering premium analytical or integration services for professional users.
In parallel, partnerships with digital service providers and regional authorities can help to reduce operational costs and enhance visibility.

By combining **private** user fees, regional co-financing, and EU innovation grants, both platforms can ensure the continuity of services and ongoing technological updates.

Moreover, the demonstrated efficiency gains—such as reductions in empty mileage and improved coordination—provide measurable economic benefits that can attract private investment and accelerate market uptake, particularly among small carriers seeking to digitalise their operations at low cost.

One of the most relevant achievements of the joint ACCESSMILE pilot solution lies in its high degree of transferability.

The MyDesk and Digital Navigator models can be easily replicated across other **Central European regions**, especially where logistics fragmentation and limited digital maturity persist.

Replication efforts should follow a stepwise approach:

1. Conduct regional needs assessments to identify bottlenecks in transport coordination and data sharing.
2. Introduce modular digital tools compatible with existing workflows and interoperable with national and European systems.
3. Build strong public-private partnerships to support uptake and ensure that local SMEs perceive tangible value from digital adoption.
4. Promote transnational governance mechanisms to coordinate data standards, interoperability, and shared use cases.

Potential replication corridors include Baltic-Adriatic, North Sea-Baltic, and Mediterranean routes, where improved cargo visibility and coordination could significantly enhance competitiveness and sustainability.

Beyond operational benefits, the ACCESSMILE joint solution contributes to broader European objectives related to territorial cohesion, digital transformation, and green transition.

The project has shown that rural and peripheral regions can actively participate in the digital logistics revolution when provided with accessible, affordable, and interoperable tools.

This directly supports EU ambitions to avoid a two-speed Europe, where only metropolitan and high-traffic areas benefit from innovation.

The success of Gruber Logistics and Rostock Port demonstrates that **regional inclusion and technological excellence** can coexist, delivering mutual value: peripheral areas gain access to high-level logistics services, while major nodes benefit from increased cargo aggregation and improved network efficiency. In this sense, the pilot represents a tangible contribution to the concept of a "Smart TEN-T", where data exchange and digital collaboration drive competitiveness, sustainability, and cohesion simultaneously.

Building on the successful outcomes of ACCESSMILE, several recommendations can guide the future development of digital logistics ecosystems in Central Europe:

- Institutionalise cooperation frameworks such as a "Digital Logistics Partnership" connecting ports, logistics companies, ICT developers, and regional authorities.
- Harmonise data standards and interfaces across digital platforms to ensure full interoperability in line with EU regulations.
- Support SMEs' digital transition through targeted funding schemes, vouchers, and training programmes, particularly in rural areas.
- Promote cross-border governance mechanisms ensuring that information exchange and service provision are managed under transparent and mutually beneficial arrangements.

- Monitor environmental and operational KPIs (CO_2 emissions, empty mileage reduction, modal shift rate) to quantify impacts and guide further investments.

These measures would help to consolidate the results of ACCESSMILE into a durable, Europe-wide digital logistics framework aligned with the goals of climate neutrality, competitiveness, and cohesion.

The table here below summarises the conclusions.

ACCESSMILE Solution Topic.3: Cargo bundling & tracking	
Final users/target groups	SMEs and small hauliers in rural and peripheral regions (Poland, Germany); transport operators, regional authorities, port communities.
Final user needs addressed	Accessible, modular, and interoperable digital platforms; real-time shipment tracking; improved coordination; capacity optimisation; environmentally sustainable logistics; simplified access to TEN-T network.
Co-design process (involved partners and country involved)	Joint development by Gruber Logistics (Poland) and Rostock Port (Germany); engagement with carriers, forwarders, terminals, chambers of commerce, and regional authorities; iterative feedback for usability and adaptation.
Taken up strategy	Deployment of MyDesk and Digital Navigator; awareness-raising and training; modular adoption integrated with existing workflows; stakeholder engagement; demonstration of cost-efficiency and environmental benefits.
Up-scaling Strategy	Replication across Central Europe and other fragmented logistics regions; regional needs assessments; strong public-private partnerships; cross-border governance; monitoring KPIs (CO_2 emissions, modal shift, efficiency); alignment with EU digital transport policies.

Table 4 - ACCESSMILE Topic 3. up-scaling strategy

In conclusion, the ACCESSMILE pilots coordinated by Gruber Logistics and Rostock Port have proven that digitalisation, collaboration, and inclusiveness are indispensable pillars of the future European logistics landscape.

By successfully integrating SMEs from rural and peripheral areas into the digital supply chain, the project has demonstrated that advanced ICT tools can serve as true equalizers—bridging gaps in capacity, geography, and access.

The joint solution is not only a technological innovation but also a **strategic enabler for regional resilience and sustainability**. Its upscaling will empower local logistics ecosystems, foster greener transport modes, and strengthen the digital backbone of the TEN-T network.

Ultimately, the ACCESSMILE experience provides a clear message:

The digital transition of European logistics must be inclusive, interoperable, and anchored in real operational needs.

Through cooperation between leading industry players such as Gruber Logistics and Rostock Port, Europe can move closer to a fully integrated, sustainable, and intelligent transport system — one that truly connects its regions, strengthens its competitiveness, and delivers on the promise of a Green and Digital Europe.