Set-up of Green Transport Chains
Rail Ferry Case Rostock - Trelleborg

Interreg Baltic Sea Region

Co-funded by the European Union

BLUE ECONOMY
Blue Supply Chains

Stefan Breitenbach

Port of Hamburg Marketing | breitenbach@hafen-hamburg.de

ROSTOCK PORT

Trelleborgs Hamn AB -Port of Trelleborg-

Stena Line

SGKV

Port of Hamburg Marketing

Blue Supply Chains aims at fostering Port Authorities‘ role…

Interreg Baltic Sea Region

Co-funded by the European Union

BLUE ECONOMY
Blue Supply Chains

…to support **greening of port operation** activities

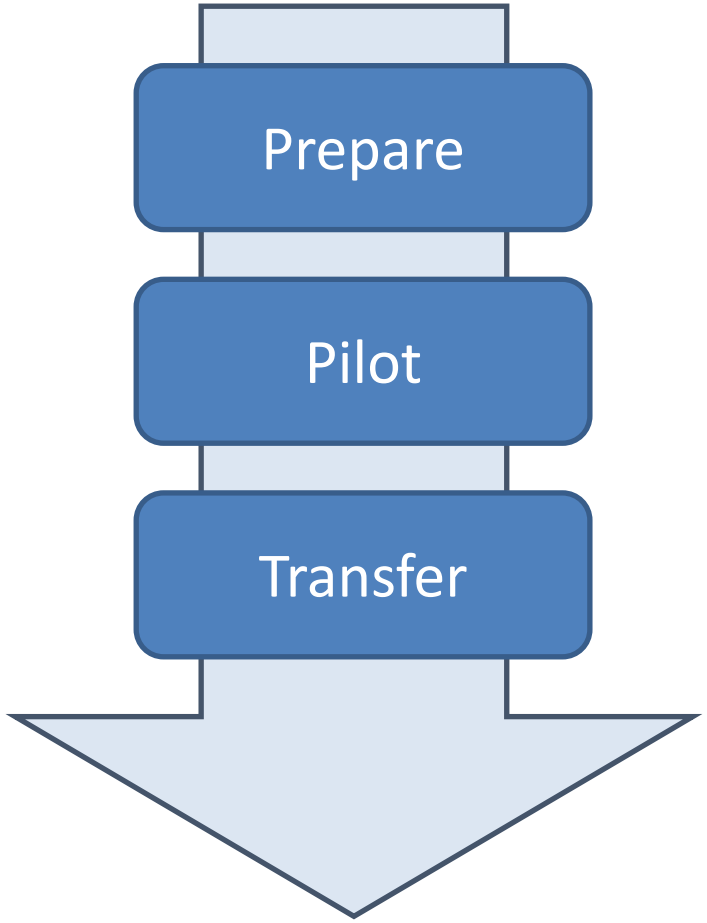
- Mobile on-shore power supply solution (DK)
- Retrofitting concept - diesel RTGs towards alternative fuel powered RTGs (PL)

…in **green energy supply** for transport chains

- Regional green energy supply concept for the port of Umeå (SE)
- Zero-emission inland waterway between Klaipeda and Kaunas (LT)

…in **the set-up of green transport chains** between BSR ports

- Proof-of-concept on cooperation pushing green combined transport solutions between Baltic ports leading to an improved rail ferry service and preparations for necessary adjustments in the ports of Rostock & Trelleborg (SE | DE)
- Start-up pitches to find new green transport solutions (LV)



Port of Hamburg MARKETING

Project Partners & Associated Organisations

Interreg Baltic Sea Region — Co-funded by the European Union

BLUE ECONOMY
Blue Supply Chains

SWEDEN

CLOSER
ivl Swedish Environmental Research Institute
UMEÅ ENERGI
UMEÅ KOMMUN
Umeå Hamn
Trelleborgs Hamn AB -Port of Trelleborg-

DENMARK

PORT OF SKAGEN

LATVIA

VHTP VENTSPILS HIGH TECHNOLOGY PARK

NORWAY

Shipping Offshore NETWORK

POLAND

HUTCHISON PORTS GDYNIA
UNIVERSITY OF GDANSK
motus foundation

ESTONIA

BPO BALTIC PORTS ORGANIZATION

LITHUANIA

KLAIPĖDA SCIENCE AND TECHNOLOGY PARK
VĮ VIDAUS VANDENS KELIŲ DIREKCIJA

GERMANY

INTERMODAL COMPETENCE SGKV
Stena Line
ROSTOCK PORT
Port of Hamburg

Associated Organization (selection)

Hamburg | Behörde für Wirtschaft und Innovation
GDYNIA moje miasto
TRAFIKVERKET SWEDISH TRANSPORT ADMINISTRATION
DH DANSKE HAVNE
Bundesministerium für Verkehr und digitale Infrastruktur
TRAFICOM Finnish Transport and Communications Agency
VASAB VISION & STRATEGIES AROUND THE BALTIC SEA
LAND BRANDENBURG — be Berlin — Gemeinsame Landesplanungsabteilung
EUSBSR EU STRATEGY FOR THE BALTIC SEA REGION — POLICY AREA 'TRANSPORT'
EUSBSR EU STRATEGY FOR THE BALTIC SEA REGION — POLICY AREA 'SHIP'

Port of Hamburg MARKETING

Rail Ferry Service Rostock - Trelleborg

Interreg Baltic Sea Region — Co-funded by the European Union

BLUE ECONOMY
Blue Supply Chains

The Setting & Vision

Goal

Future proof rail ferry service between Rostock – Trelleborg
to support a sustainable and resilient transport system

Tools

- Stakeholder management & engagement plan
- Preparations for necessary adjustments in ports
- KV4.0 Data Hub - DXI intermodal visibility portal
- Policy paper to formulate infrastructure related investment needs
- Campaigning- & marketing plan

Partnership

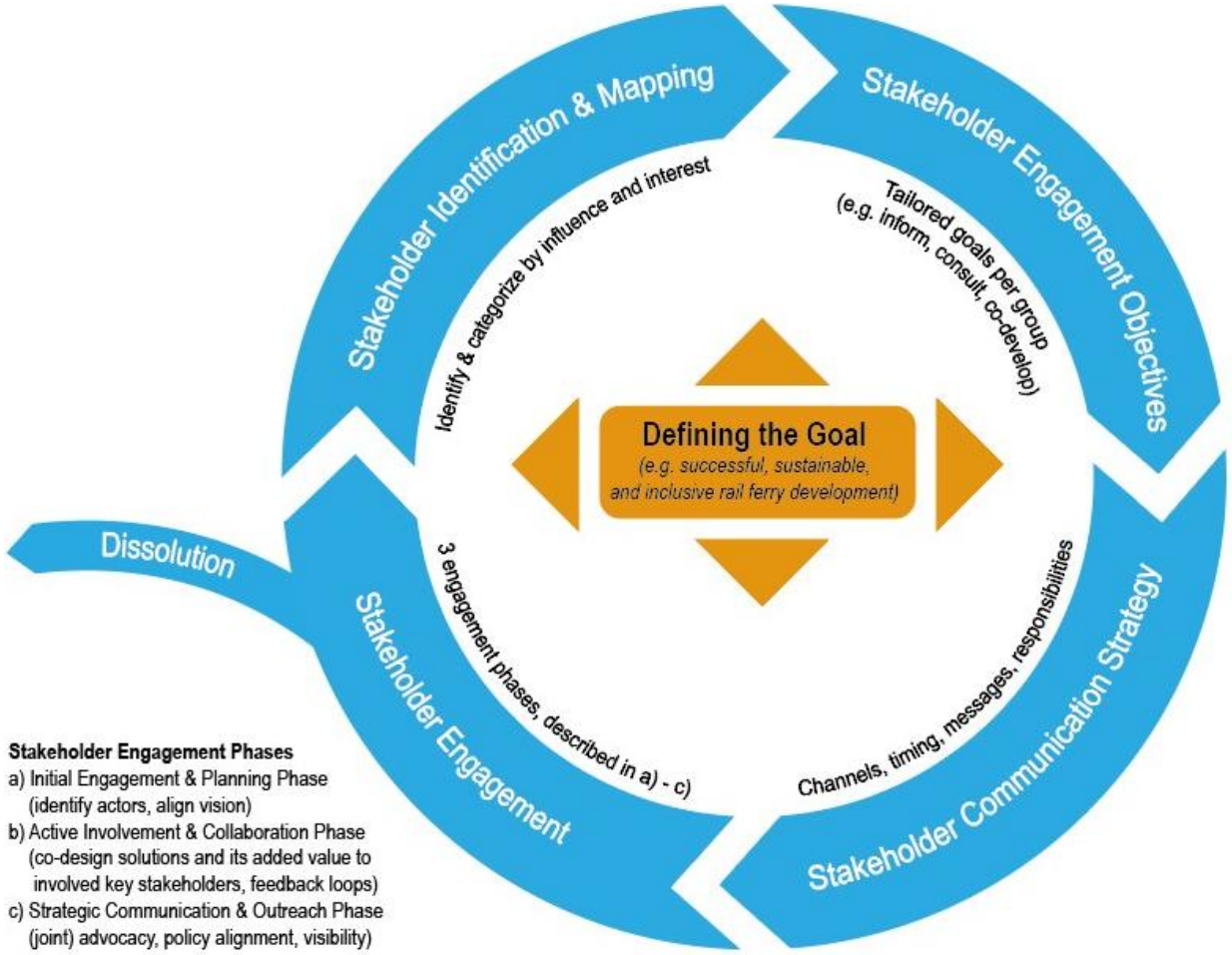
ROSTOCK PORT · Trelleborgs Hamn AB -Port of Trelleborg- · StenaLine · SGKV · Port of Hamburg MARKETING

© StenaLine

Methodology

Rail Ferry Service Rostock - Trelleborg

Stakeholder Engagement Plan



Stakeholder Engagement Phases
a) Initial Engagement & Planning Phase
(identify actors, align vision)
b) Active Involvement & Collaboration Phase
(co-design solutions and its added value to involved key stakeholders, feedback loops)
c) Strategic Communication & Outreach Phase
(joint) advocacy, policy alignment, visibility)

Strategic Benefits

- Risk mitigation
- Project efficiency
- Knowledge integration
- Trust & Partnerships
- Policy alignment

Rail Ferry Service Rostock - Trelleborg

Stakeholder Engagement: Goal setting & Filed of Action Definition

1st STEP - Identification of "Field of Actions" for achieving the goal

- Field of Action I: (Floating) infrastructure related to enable a green transport chain by rail ferries
- Field of Action II: Market related to attract customers using the rail-ferry

2nd STEP - Mapping of key challenges per Field of Action

3rd STEP - Mapping of key stakeholder needed, their role and how to engage them (→ Stakeholder Engagement Plan)

Field of action 1:
(Floating) infrastructure related to enable a green transport chain by rail ferries.

1st key challenge:

System parameters for low- or zero-emission rail ferry calls need to match in the ports of call and with the rail ferry. → **Definition of key stakeholder**

2nd key challenge:

Future de-carbonisation of port handling equipment and maintenance/upgrade of (floating) infrastructure require enormous investments. → **Definition of key stakeholder**

3rd key challenge:

Market uncertainties preventing (floating) infrastructure investments. → **Definition of key stakeholder**

↓

Stakeholder engagement plan: Infrastructure

Rail Ferry Service Rostock - Trelleborg

Stakeholder Engagement: Objectives, Comms Strategy & Engagement

Stakeholder engagament plan: Infrastrucutre

1st aim	Stakeholder(s) needed	Stakeholder(s) role	Stakeholder(s) engagement	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
				2024				2025											
Finding (and ideally agreeing to) future system parameters to enable low- or zero-emission rail ferry calls in the Ports of Trelleborg and Rostock.	Port Authority Rostock	Discuss and agree upon e.g. standards, needs, etc. to be prepared for future investments in port infrastrucutre and the ferry.	Joint workshops		1st meeting: Lead: **Stena** (pysical, or teams,…)	2nd meeting (optional): Lead: **Rostock** (pysical, or teams,…)	3rd meeting (optional): Lead: **Trelleb.** (pysical, or teams,…)	**Working group meeting**: **Definition of future system parameters to enable zero-emission rail ferry calls** in the Ports of Trelleborg and Rostock. E.g. E-Ferry or Methanol ? Which port needs to offer which infrastructure? What does it mean in terms of investments? How much emission could be saved?										
	Port Authority Trelleborg																		
	Rail-ferry operator: Stena Line							**Working group meeting 2-3 (optional): Discuss and provide input if needed, based on 1st meeting (facts, data, statements, pre-conditions) to the report which needs to be prepared by Stena.**										
	Local energy grit operator in Rostock and Trelleborg	Discuss about energy needs, peak times and grit stability.																	

2nd aim	Stakeholder(s) needed	Stakeholder(s) role	Stakeholder(s) engagement																
								Meetings on the different topicy (low-/zero emission rail ferry calls & port handling equipment) could be combined if sensefull and feasible									
Exchange on future de-carbonisation aims and plans for port handling equipment and the potential upgrade of (floating) infrastrucutre to support long-term decarbonisation aims in ports.	Port Authority Rostock	Discuss and agree upon e.g. standards, needs, etc. to be prepared for future investments in the electrification of terminal handling equipment and/or terminal vehicles.	Joint regional stakeholder workshops. And an interregional exchange between Port Authorities and Stena Line. Stena Line to organise working group meetings (alll PPs & AOs) to provide input to adjust the blueprint concerning general technical questions on the electrification of terminal equipment, on-shore power supply solution and to provide energy for future e-ferries.		**1st meeting:** Lead: **Stena** Working group meetings with needed PPs and AOs (see left), e.g.: Rostock/ Trelleborg/ SGKV.	**2nd meeting:** Lead: **Rostock** Working group meetings with needed PPs and AOs (see left), e.g.: Stena/ Trelleborg/ SGKV.	**3rd meeting:** Lead: **Trellebo**. Working group meetings with needed PPs and AOs (see left), e.g.: Stena/ Rostock/ SGKV.	**Working group meeting 1**: Definition of what terminal handling equipment to decarbonise, effects on Stena Ferrry Operations, and which date to collect (positive effects on emissions etc) **Working group meeting 2-x**: Discuss and provide input (facts, data, statements, pre-conditions) to the report which needs to be prepared by Stena. Input to adjust the blueprint concerning general technical questions on the electrification of terminal equipment, on-shore power supply solution and to provide energy or alternative fuels for future zero-emission ferries										Content of workshops and/or meetings to be discussed during our partner meeting. We assume a lot of the information is available already. Aim should be, to provide input for the marketing campaign and to enrich the campaigna and policy work with a factful vision on further de-carbonisation. At the same time, needs for policy support (and funds) shall be derived. COMMENT: Some workshops and meetigs of both topics (decarbonisation of the ferry respectively decarbonisation of terminal handling equipment) could be combined to increase efficiency and speed-up the progress. COMMENT: Preparational work of SGKV/UIRR (greening terminals) could be used here. Same applies for the studies already delivered, which can be used too.
	Terminal operators in Rostock																		
	Port Authority Trelleborg																		
	Terminal operators in Trelleborg																		
	Rail-ferry operator: Stena Line																		
	Local energy grit operator in Rostock and Trelleborg	Discuss about energy needs, peak times and grit stability, in respect of a further electrification of terminal handling equipment and/or terminal vehicles.																	
	Business support organisations: BPO, SKGV, UIRR	Supporting the Port Authorities, terminal operators and Stena Line in external communication, especially towards policy levels.	Joint workshops with Port Authorities, terminal operators, Stena Line.				**Stena:** finalises a report on a future decarbo-nisation vision												
	Policy level: National- and European policy level in charge for funding measures for (maritime) transport, de-carbonisation, modal shift actions	Long term planning support in respect of energy transition measures. Development of suitable funding measures and/or funding schemes.	Reached by individual contacts from Port Authorities, Stena Line and/or by business support organisations. Invitation to panels on conferences and/or workshop particiation.	--> Policy level involvement to be combined with "Infrastrucuture: 3rd aim" and "Market - 2nd aim"															

Identified Measures for Implementation

Rail Ferry Service Rostock - Trelleborg

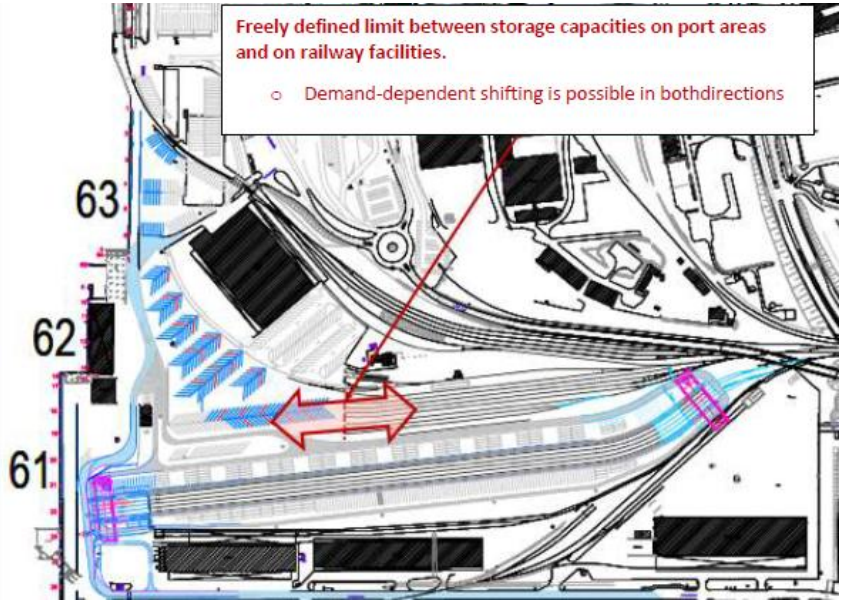
Preparations for Adjustments in the Port of Rostock

Extension of the Combined Transport terminal

- New storage areas covering almost 30,000 m²
- Extension of the track system to 680 m

Efficient port logistics - for less emissions and noise

- Process optimisation (ferry operations, trucks' idling)
- More efficient loading and unloading processes



Rail Ferry Service Rostock - Trelleborg

Interreg Baltic Sea Region | Co-funded by the European Union

BLUE ECONOMY
Blue Supply Chains

Preparations for Adjustments in the Port of Trelleborg

Efficient port logistics - for less emissions and noise

- Process optimisation (ferry operations, trucks' idling)
- More efficient loading and unloading processes
- More concentrated intermodal terminal operations, reducing the driving distances of working vehicles

Renew vehicles and other equipment

Largest machines, tug masters and reach stackers, equal 90% of the emissions from the port's fleet of vehicles

- E-Tug master
- PESA's hydrogen shunting locomotive "SM42-6Dn"
- Onshore power supply

Port of Hamburg MARKETING

Rail Ferry Service Rostock - Trelleborg

Interreg Baltic Sea Region | Co-funded by the European Union

BLUE ECONOMY Blue Supply Chains

Preparations for and Done Adjustments for the Rail Ferries

Efficient crossing - for less emissions and noise

- Silicone painting (underwater environment and less friction)
- TTO – terminal time optimization (fuel consumption – less CO2)
- AI on board (crossing based on AI proposal depending on weather, flow, wind, cargo utilization)
- Propeller adjustment (less consumption = less CO2)
- Bunker of biofuel on this corridor under investigation (depending on availability)

Renew machines on vessels

All machines on vessel are under renewing (extend life span of ferries and prepare for alternative consumption)

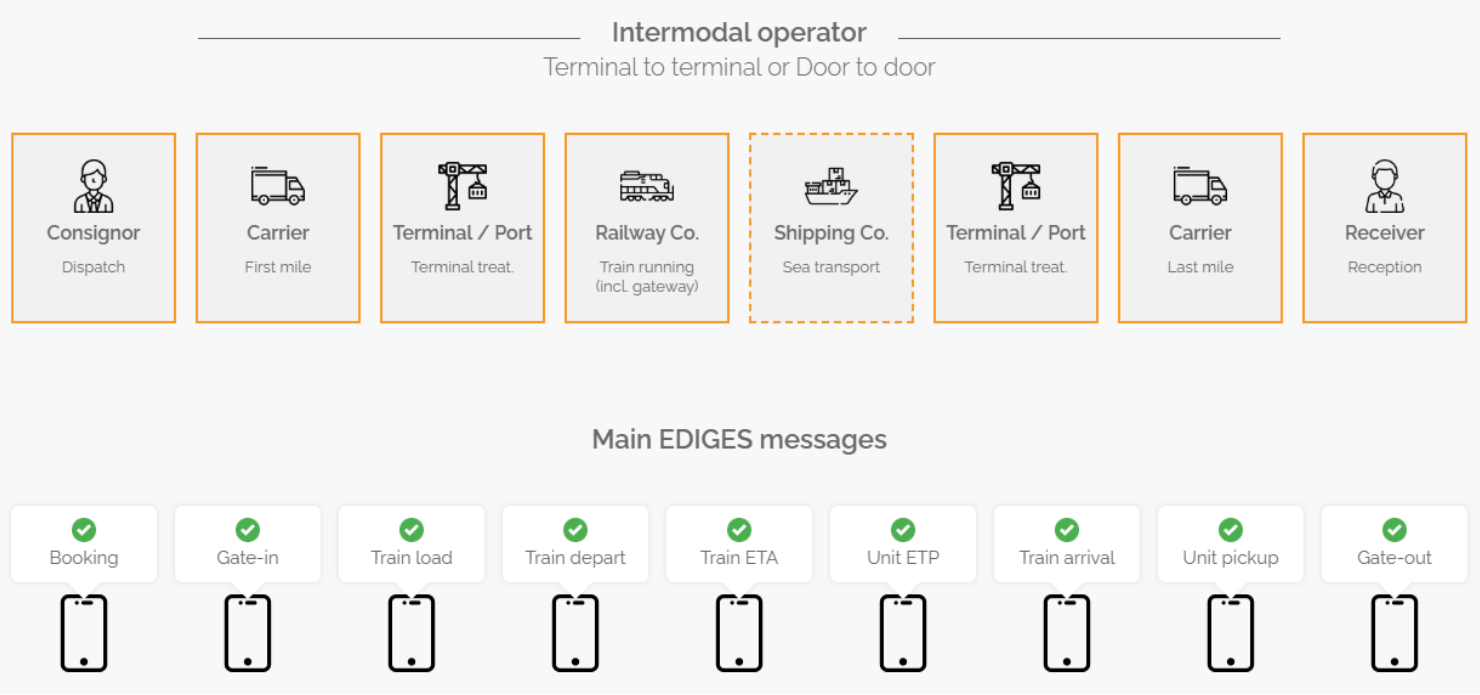
Stena Futuro - Concept vessel
(corridor of use not known yet)

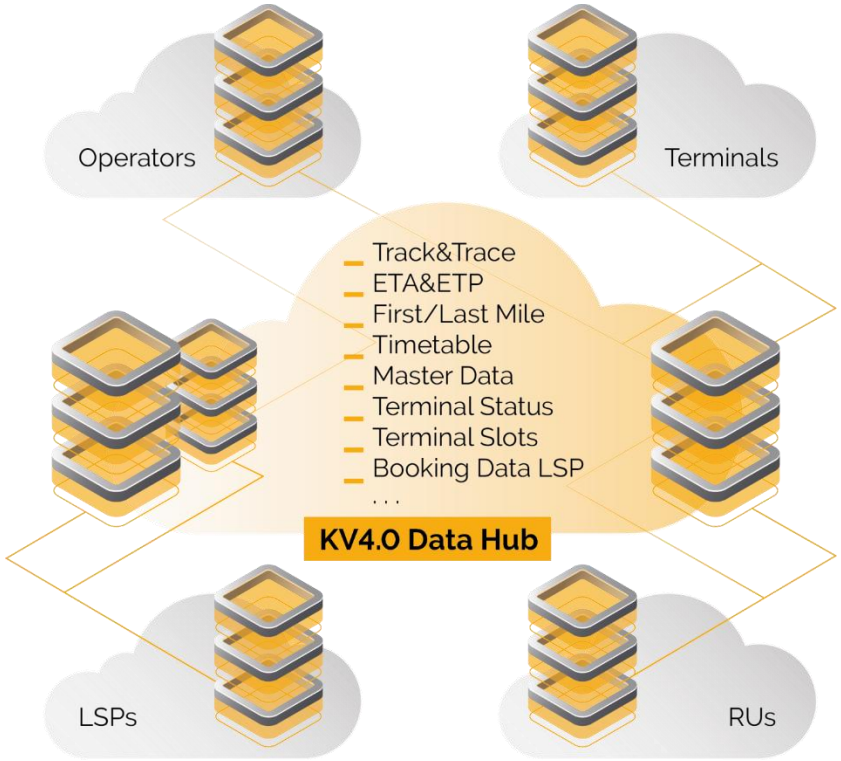
- Hybrid propulsion systems (multiple fuel types, methanol)
- Battery systems enable partial electric operation, e.g. during port manoeuvres
- Solar panels for auxiliary power
- Air lubrication system to reduce hull friction
- Waste heat recovery system to utilize exhaust heat for onboard energy needs
- Retractable 40-meter wing sails (fuel savings up to 15%)

Port of Hamburg MARKETING

Rail Ferry Service Rostock - Trelleborg

KV4.0 Data Hub - DXI Intermodal Visibility Portal





Source and ©: https://www.dx-intermodal.com/Access-requirements-0e933800 and https://www.dx-intermodal.com/KV40-Data-Hub-c3dfab00

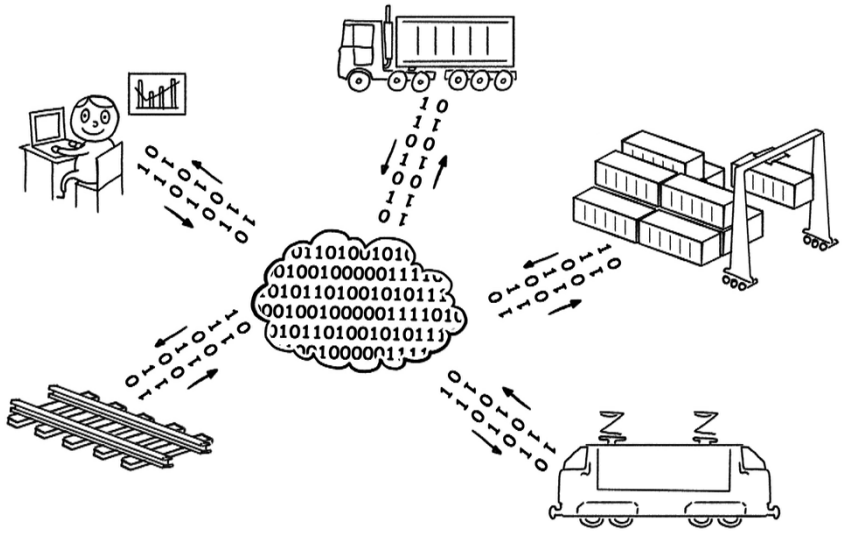
LSPs - Logistic Service Provider | RUs – Railway Undertaking

Rail Ferry Service Rostock - Trelleborg

KV4.0 Data Hub - DXI Intermodal Visibility Portal

Benefits

- KV 4.0 Data Hub covers intermodal units (trailers & container) at all intermodal terminals
- Freight forwarders benefit from data transparency from the booking to the collection of the loading unit at the destination terminal, including optimized forecast data (estimated time of train arrival and estimated time of pick-up).
- Improved terminal slot planning by timely knowledge of planned shipment volume of operators and freight forwarders.
- Optimized truck entrances and processes in the terminal by achieving anticipatory information.
- More flexible scheduling of locomotives and drivers by railway undertakings, based on pre-eta information for transfer point.



Source: Animation video EN KV4.0 07.03.2024,
in: www.dx-intermodal.com/Downloads-73449400

Campaigning & Marketing

Rail Ferry Service Rostock - Trelleborg

Interreg Baltic Sea Region | Co-funded by the European Union

BLUE ECONOMY
Blue Supply Chains

Campaigning: Policy Level

- Policy Paper: Safeguarding the Rostock - Trelleborg Rail Ferry
  - Strategic relevance of the ScanMed corridor: It provides resilience, transport route options and military mobility
  - Various freight can be transported (rail stock, oversized and heavy cargo, vehicles of any kind)
  - Specialised infrastructure and vessel requirements
  - Supports modal shift from road to sea, decreases GHG emissions
- Meetings with transport administrations and politicians from various levels (EU, national, regional)
- Interaction during conferences organised by ministries, authorities, administrations, (inter)governmental organisation
- International Union for Road-Rail Combined Transport -UIRR

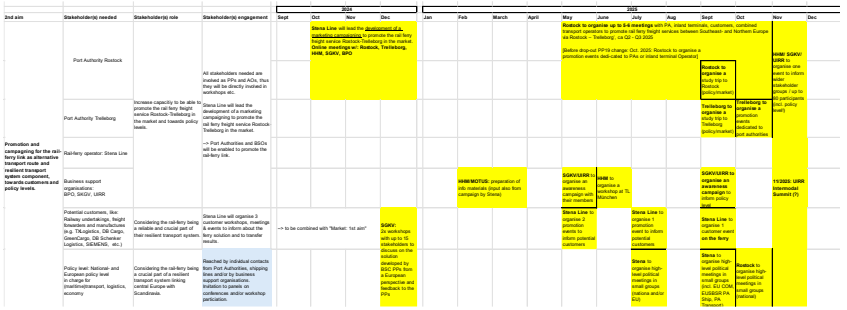
Source and ©: UIRR

Port of Hamburg Marketing

Rail Ferry Service Rostock - Trelleborg

Marketing: Public Awareness

- Organisation of own events, e.g.:
  - Collaborative workshops & seminars
  - Customer Roadshow
  - Logistikforum Rostock
  - Customer Event @ Hanse Sail
- Exhibition booths, e.g.:
  - Transport Logistic Munich
  - Baltic Ports Conferences
- Webpage & Social Media
  of the Blue Supply Chains projekt and partner organisations
- KV4.0 Data Hub - DXI Intermodal Visibility Portal



Rail Ferry Service Rostock - Trelleborg

Learnings

Learnings

- Stakeholder engagement is key, a methodology the backbone!
- Market uncertainties create challenges for long term strategies
- Ports contribute to the common good, and their infrastructure cannot be financed by port authorities alone
- A resilient transport network in the Baltic Sea Region is more important than ever (geopolitical situation and a vital second link beside the Öresund Bridge to avoid only one railroad out of SE)

https://interreg-baltic.eu/project/bluesupplychains

https://de.linkedin.com/company/blue-supply-chains

© StenaLine

Thank you for your attention!

Interreg Baltic Sea Region

Co-funded by the European Union

BLUE ECONOMY
Blue Supply Chains

Stefan Breitenbach

Port of Hamburg Marketing | breitenbach@hafen-hamburg.de

ROSTOCK PORT · Trelleborgs Hamn AB -Port of Trelleborg- · Stena Line · SGKV · Port of Hamburg Marketing