



Strengthening of the European inland waterway transportation in the Baltic Sea Region: the INTERREG project EMMA



Stefan Breitenbach

Head of Project Department

Port of Hamburg Marketing



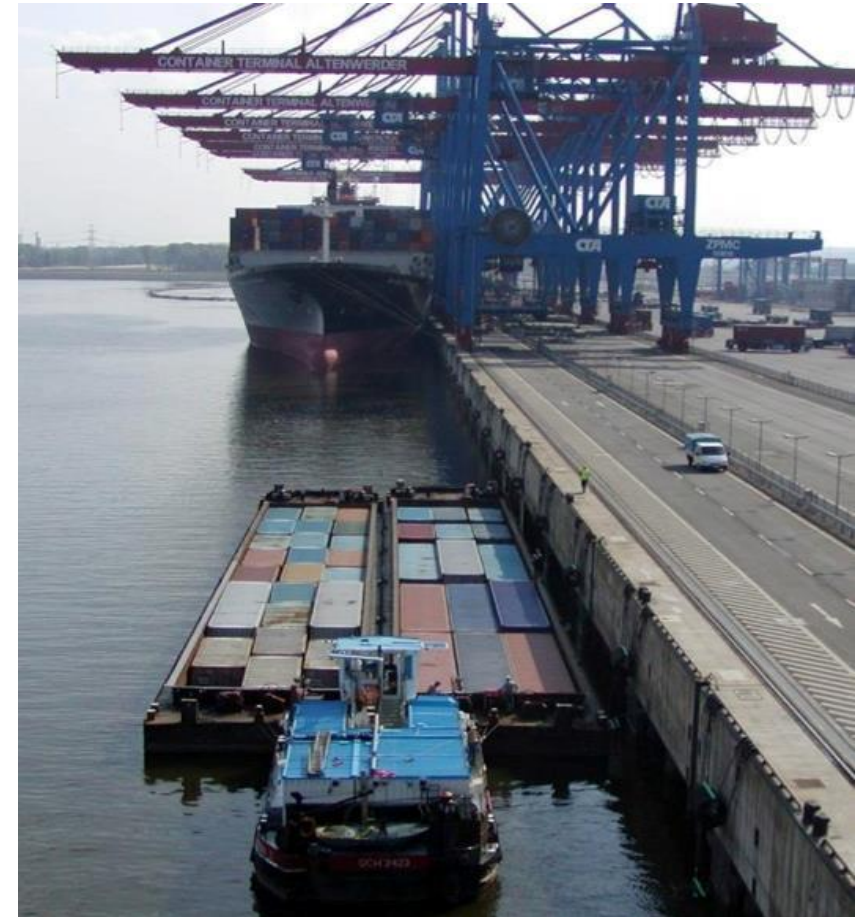
2018-02-21 | EMMA-KEO Annual Conference | Berlin



1. Background of the project application „EMMA”

2. The EMMA project in more detail

3. Pilot activities and benefits



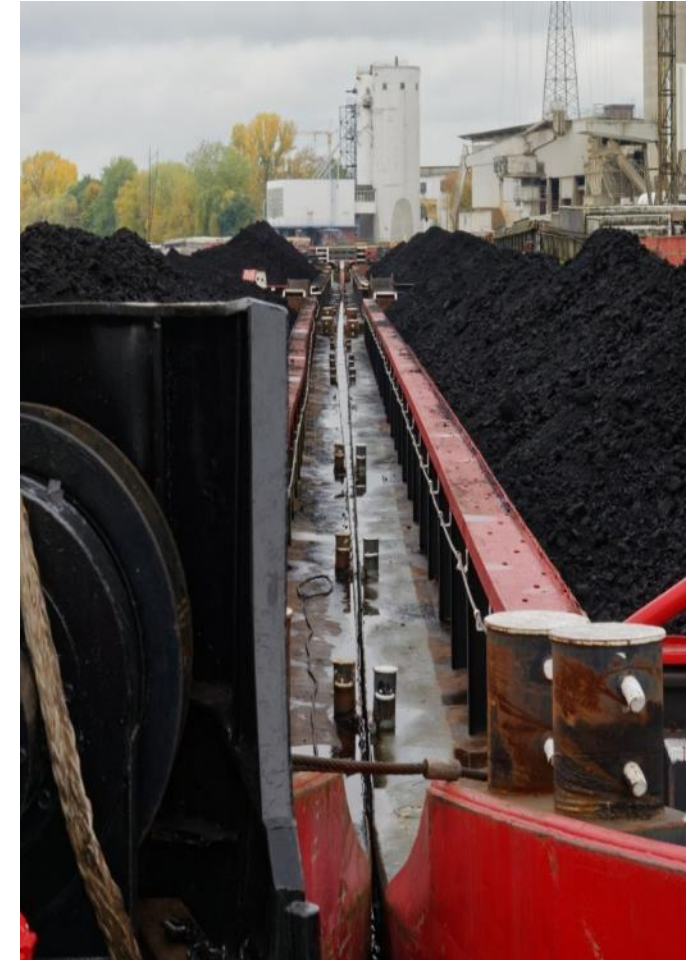
...AIMS TO ENHANCE INLAND NAVIGATION IN THE BALTIC SEA REGION

*Enhancing freight **M**obility and logistics in the BSR by strengthening inland waterway and river sea transport and pro**M**oting new intern**A**tional shipping services*

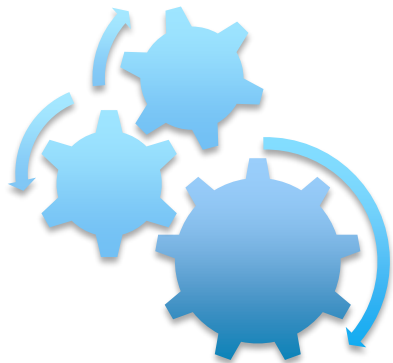
- Lead Partner: Port of Hamburg Marketing
- Project Partners: 20 (from DE, FI, LT, PL, SE)
- Associated Partners: 45+

- Funding Programme: Interreg Baltic Sea Region Programme
- Project Budget: 4.42 million €
Thereof ERDF co-financed: 3,45 million €

- Project duration: 3/2016 – 2/2019



- Integration of inland waterway transportation (IWT) in supply chains must be optimised.
- Investment and innovation backlog
- Forced lobbying by creating a strong network in the canal and Elbe area



- ✓ Fund requests
- ✓ ITS-Strategy IWT
- ✓ Initiatives of industry partners



Installation and support of digitalisation and telematics network!

Support of innovation and investment willingness!

Aims of the project

- Fostering a better integration of inland navigation and river-sea shipping in transport strategies of the BSR & EU
 - Policy Paper “Strengthening IWT in the Baltic Sea Region”
 - Cooperation with IWT Associations
- Strengthening cooperation between interest groups
- Strengthening of inland waterway and river-sea shipping in public perception (image)
- Analysis and suggestion of new services in order to integrate IWT into supply chains, by:
 - Investigation of regional challenges that hinder better integration
 - Identification of potential consignors and investigation of their needs
 - Proof of feasibility and possibilities of IWT by pilot actions
- Tackling administrative and regulatory barriers

The EMMA project



21 project partners from 5 countries

Sweden



Finland



Lithuania



KLTC - KSRC



Germany



Poland



The EMMA project



48 associated partners from 8 countries

National ministries

- Federal Ministry of Transport and Digital Infrastructure (DEU)
- **Lithuanian** Maritime Safety Administration
- Ministry of Transport and Communication of the Republic of **Lithuania**
- **Swedish** Transport Agency
- **Finnish** Transport Agency

Chambers of Commerce & regional authorities

- Ministry of Economy, Transport and Innovation of the Free and Hanseatic City of **Hamburg**
- Chamber of Commerce Mälardalen (**FI**)
- **Flanders**´ Institute for Mobility
- Häme Chamber of Commerce
- Chamber of Industry and Commerce **Lüneburg Wolfsburg**
- Regional Water Management Authority Gdansk (**PL**)

Shipping companies

- BKS Binnenschiffahrtsskontor Sommerfeld GmbH
- Deutsche Binnenreederei AG
- Reederei Ed Line GmbH
- VT Shipping Company
- Walter Lauk Ewerführerei Ltd.
- Zegluga Bydgoska Sp. z.o.o.

Industry

- PCC Intermodal S.A.
- SIEMENS AG WP ON LOG LS
- Technische Werke Schwedt GmbH

Organisations and associations

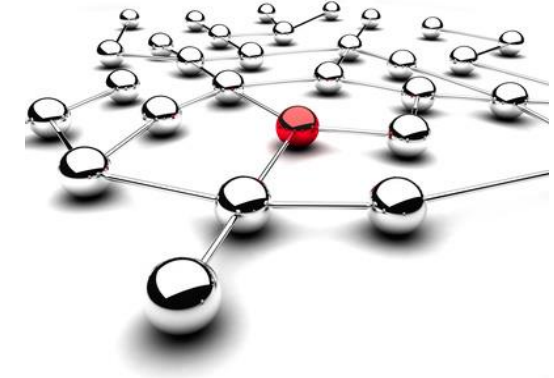
- East West Transport Corridor Association
- Elbe Allianz e.V.
- European RiverSeaTransport Union e.V.
- Swedish Shipowners´ Association
- Association for European Inland Navigation and Waterways
- Association for Promotion of the Oder/Havel River Basins
- Weitblick Verkehrsinfrastruktur, Wirtschaft und Logistik e.V.
- European Barge Union (EBU)
- School of Business and Management of Technology of the Belarussian State University
- Association of Polish Regions of Baltic Adriatic Transport Corridor
- Inland Navigation Europe
- Lithuanian Intermodal Transport Technology Platform (LITTP)
- Süderelbe AG
- ShortSeaShipping Inland Waterway Promotion Center Germany
- Shortsea Promotion Centre (SPC) Finland

Inland Ports

- Hafenbetriebsgesellschaft Eisenhüttenstadt mbH
- HTAG Häfen und Transport AG
- Ports of Stockholm
- Schwedter Hafen
- Saimaa Ports Joensuu
- Port Authority of Södertälje
- Hamburg Port Authority AöR
- LUTRA Lager Umschlag Transport
- Mittelbrandenburgische Hafengesellschaft mbH



GNS Consortium



EMMA was approved as flagship in the Policy Area Transport of the EUSBSR.

The project's **flagship status** reflects the importance the European Commission attaches to the further development of inland navigation in the Baltic Sea Region!

Cooperation with the “**Good navigation Status**” initiative of the European Commission DG MOVE by providing input to the: “Study on support measures for the implementation of the TEN-T Core Network related to sea ports, inland ports and inland waterway transport”.

More than **50 Organisations supporting EMMA** to bring this project to success!

JOIN US!



[@project_emma](https://twitter.com/project_emma)



www.project-emma.eu

The EMMA project



Pilot practices and demonstrators

Finland: Saimaa Canal & Lake Area
Pekka Koskinen
Vice Chairman of the Board | Finnish Waterway Association

Germany: North German river basin
Stefan Breitenbach
Head of Project Department | Port of Hamburg Marketing

Lithuania: The River Neman
Andrius Sutnikas
Communication Manager | Klaipeda Science & Technology Park

Poland: The River Vistula
Rafał Modrzewski
Head of the ETC Division | Kujawsko Pomorskie Voivodship

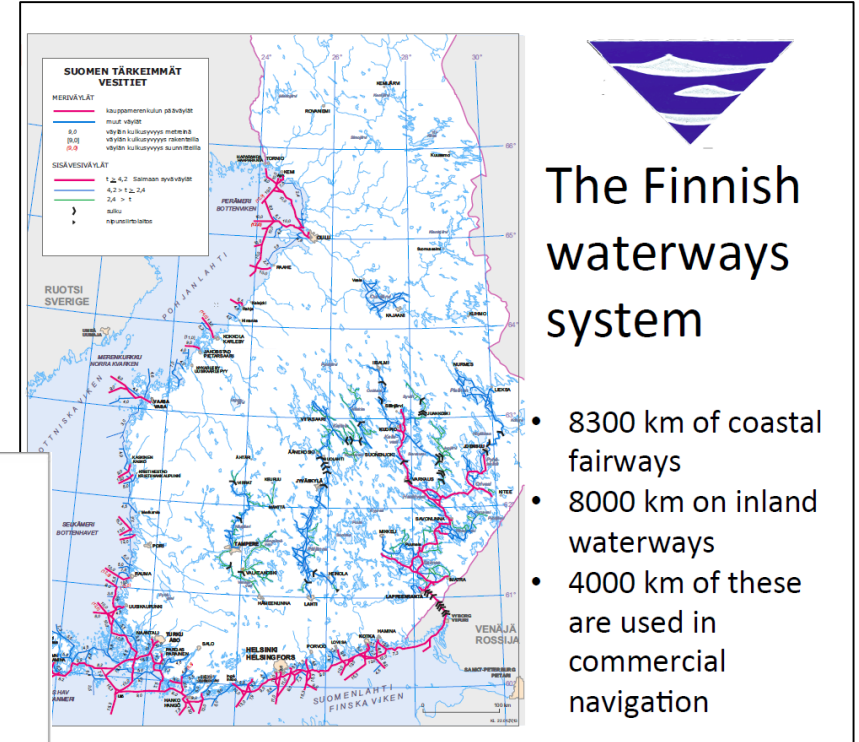
Sweden: Lake Mälaren & Lake Vänern
Johan Lantz
CEO | AVATAR Logistics AB



Facts about Lake Saimaa and Saimaa Canal

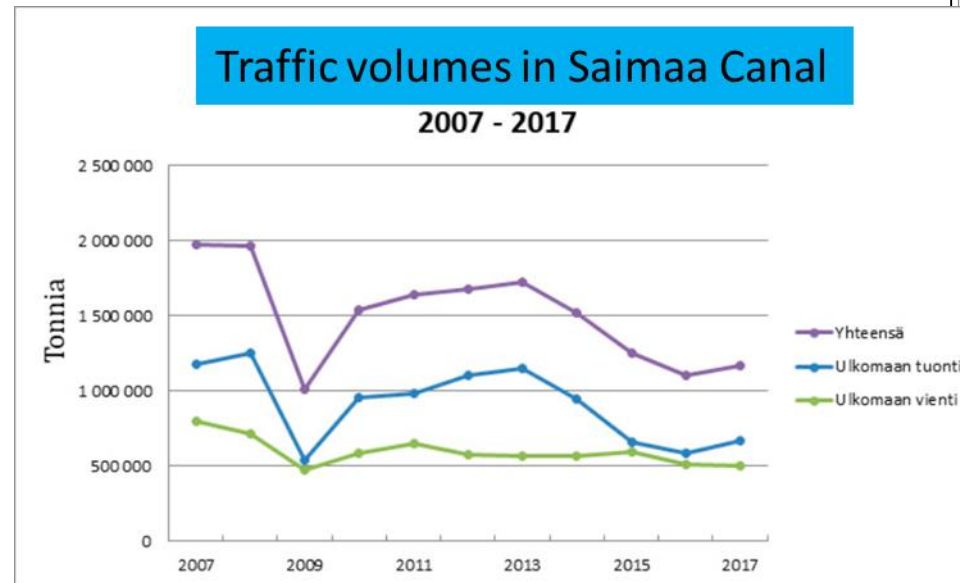
Saimaa deep fairway (Canal and lake)

- Operational time 9 months/a
- 772 km long fairway
- Two locks in the lake area
- Eight locks in the Canal
- Draught 4,35m
- Max height 24,5
- "Saimax" vessel type



The Finnish waterways system

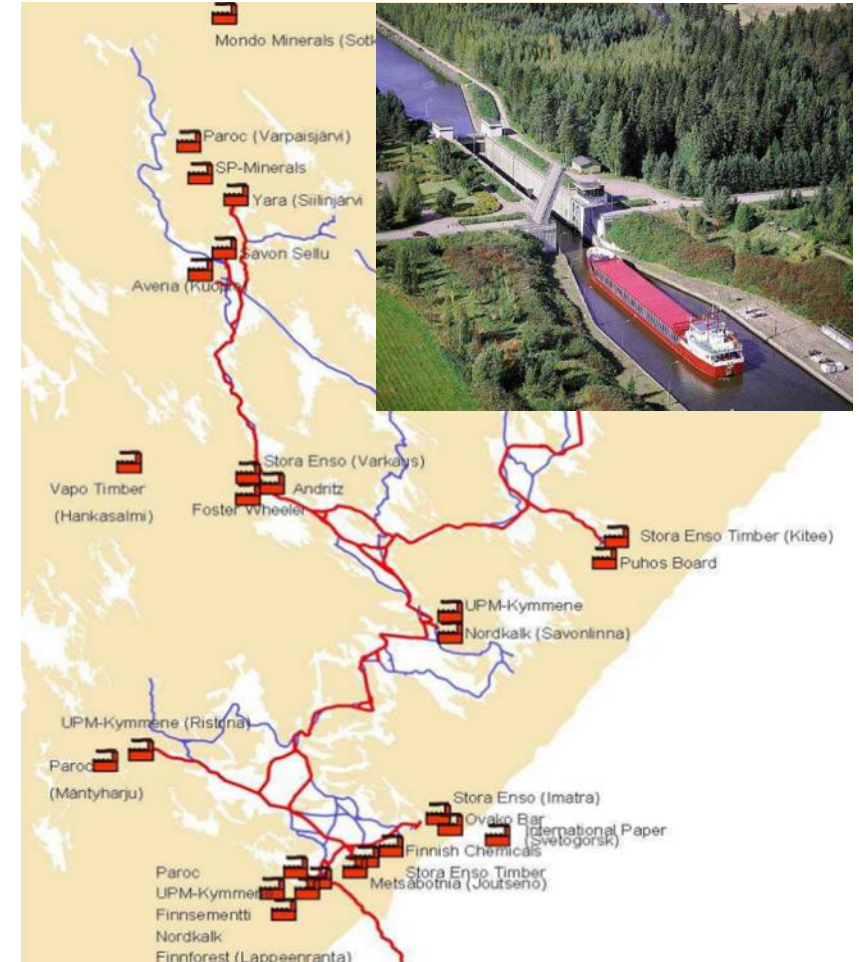
- 8300 km of coastal fairways
- 8000 km on inland waterways
- 4000 km of these are used in commercial navigation



All sea transports in Finland: approximately 95 million tons

Strengthening IWT in Saimaa region

- Saimaa Inland waterways in Finland can be reached only by passing through Saimaa canal
 - Operational time 9 months/a
 - 772 km long fairway
 - Two locks in the lake area and eight locks in the Canal
- Lower part of the canal is leased from Russia for next 50 years in 2012
- Max vessel size - Saimaa max:
L/W/H: 82,5m x 12,6m x 24,5m / draft: 4,35m / height: 24,5
→ *Modernisation of the lock in the discussion*
- Goods mainly from forest-, mining- and chemical industries
- All sea transports in Finland: ca. 95 million tons



Ongoing and planned development projects

Ongoing governmental development

Renewal of the lower locks, 15 meur

Two new bridges, 75 meur

New ice breaking bow, 8 meur

Approximately 100 meur investments

Planned governmental investments 2019 – 2022

12 m longer lock chambers, 60 meur

Two new ice breakers, 5 meur

10 cm higher water level in the Canal, 5 meur

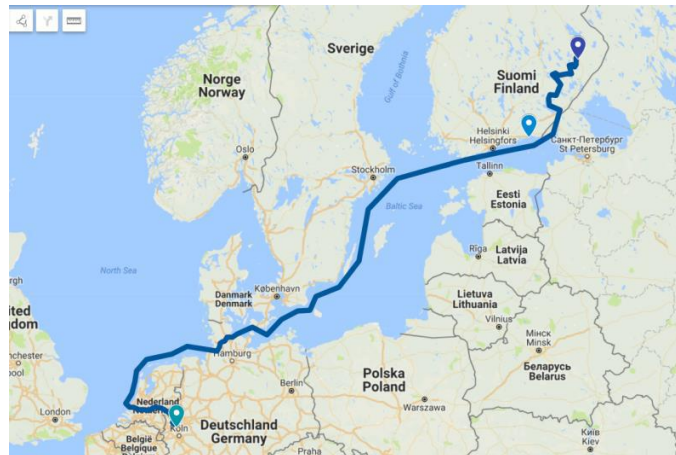
Approximately 70 meur investments



Related to different transport scenarios

Business case

- Joensuu – Düsseldorf
- 200,000 tons of pulp annually
- 40 years time span
- 6 transport scenarios
- Vessel size 2 500 – 3 200 tons
- 11 months traffic



Calculation components

Identified valuable effects

- Transport cost
 - Distance based, fuel costs, other distance based costs such as maintenance etc.
 - Time based, including wages, maintenance, insurance, capital costs
- Loading and unloading costs
- Emissions
- Infrastructure costs (wear and tear)
- Accident costs
- Fairway dues

Cost benefit analysis, socio-economic cost



Calculation results

Scenario	1 Direct Vessel	2 Truck + roro ship + truck	3 Trailer + trailer in roro + trailer	4 Truck + break bulk ship (4,500 ts) + truck, route A	5 Train + break bulk ship (4,500 ts) + train, route A	6 Truck + break bulk ship (4,500 ts) + truck, route B	7 Train + break bulk ship (4,500 ts) + train, route B
Distance costs	27,3	240,7	711,2	235,7	78,2	242,1	84,3
Time-based cost	60,7	198,8	499,8	205,3	73,8	209,7	77,2
Loading and unloading	138,9	230,1	51,9	234,7	247,8	234,7	247,8
Emissions	14,9	29,7	71,3	27,0	5,0	27,6	8,6
Infrastructure costs	-	6,9	21,4	6,9	16,9	7,1	18,3
Accident costs	-	11,3	35,3	11,3	-	11,6	-
Fairway dues	43,4	28,6	39,6	28,6	-	28,6	-
Total cost	285,2	746,1	1430,4	749,4	421,8	761,5	436,2

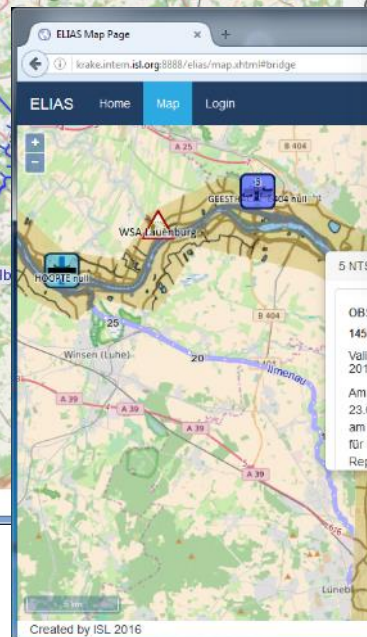
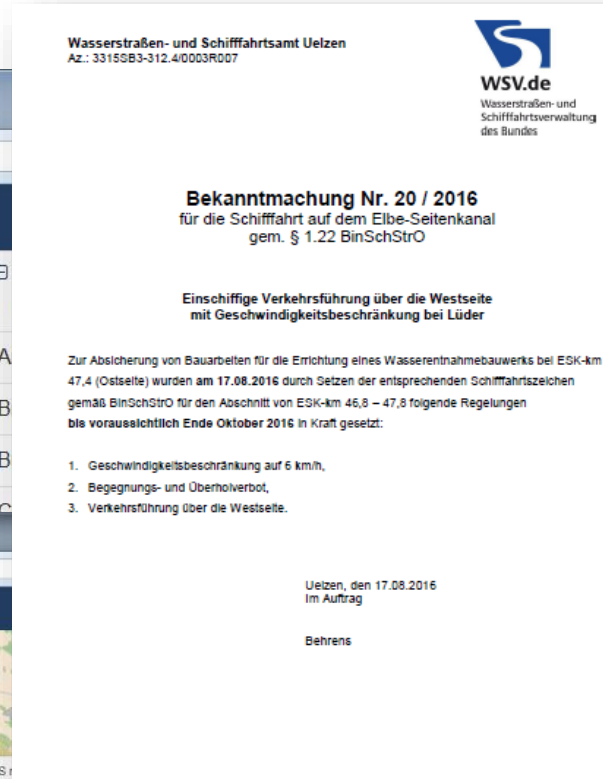
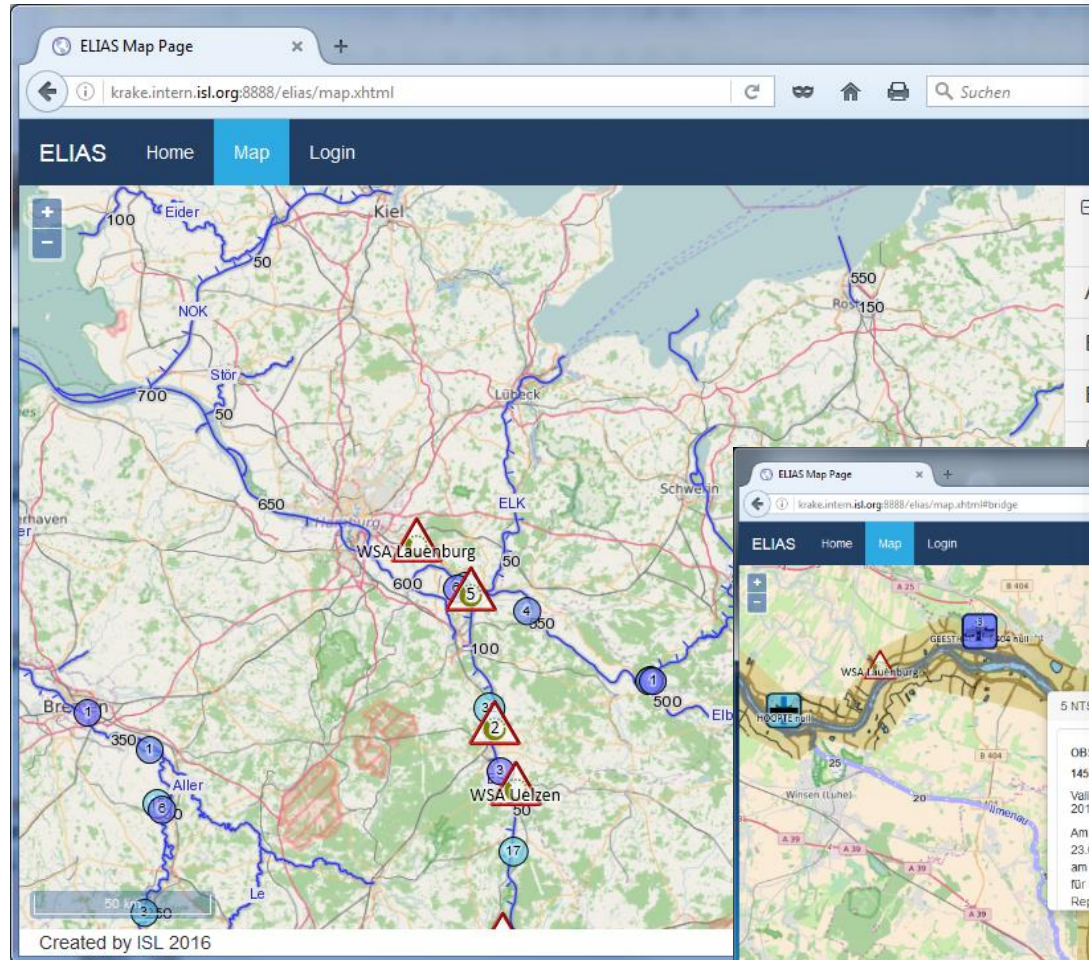
1

5x

2

3

FUNCTIONALITIES



- Browsable map pan & zoom
- Info on RIS objects
- Geocoded NtS message display
- Link to external details

RISECDIS

RISNTS

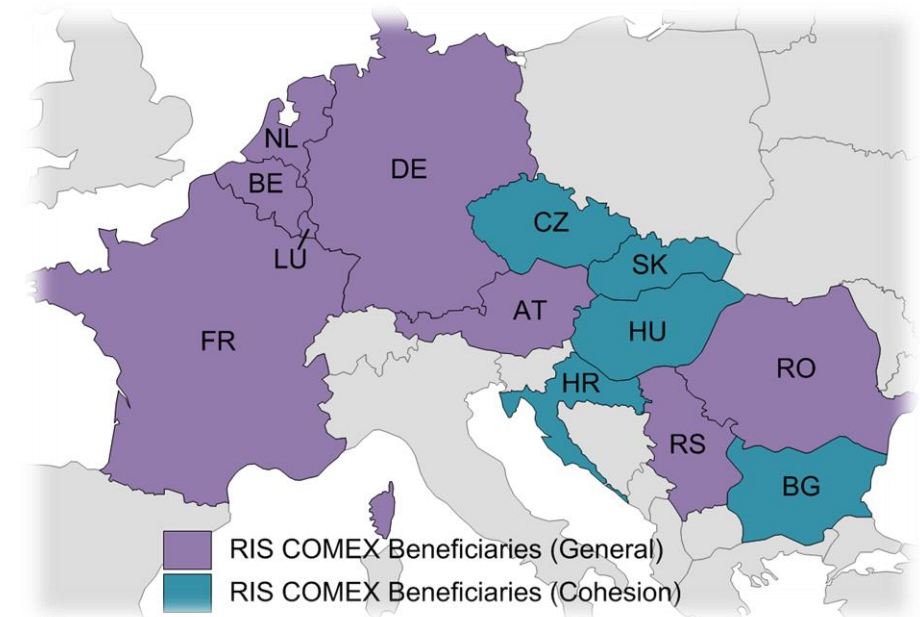
RISVTT

EMMA co-operates with the RIS COMEX project (CEF Programme) | Project coordinator: viaDonau

- RIS COMEX aims to establish a common European RIS Corridor Management implementation.
- River Elbe is set as one of the pilot corridors to test RIS application.
 - Equipment with AIS infrastructure
 - AIS and ECDIS testsfield
 - Pilot lead Elbe: Federal Ministry of Transport and Digital Infrastructure



 Co-financed by the European Union
Connecting Europe Facility



DEVELOPMENT OF IWT

- Analysis of river Neman's IWW potential connecting the hinterland to the Port of Klaipeda
- Special barge design for oversize cargo transportation
- Light ship tonnage to cope with difficult navigable conditions
- Testing container transportation by IWW between Klaipeda and Kaunas (planning coming summer)



Challenges and Business opportunities

- In Lithuania we have 424,7 km of inland water ways in operation.
- There are 2 cargo ports and 5 marinas for IWT service in Lithuania
- IWT in Lithuania is challenging due to the allowed droughts (1-1,5 m) and navigation period (is 199 days from 25th of April to 9th of November)

Business opportunities:

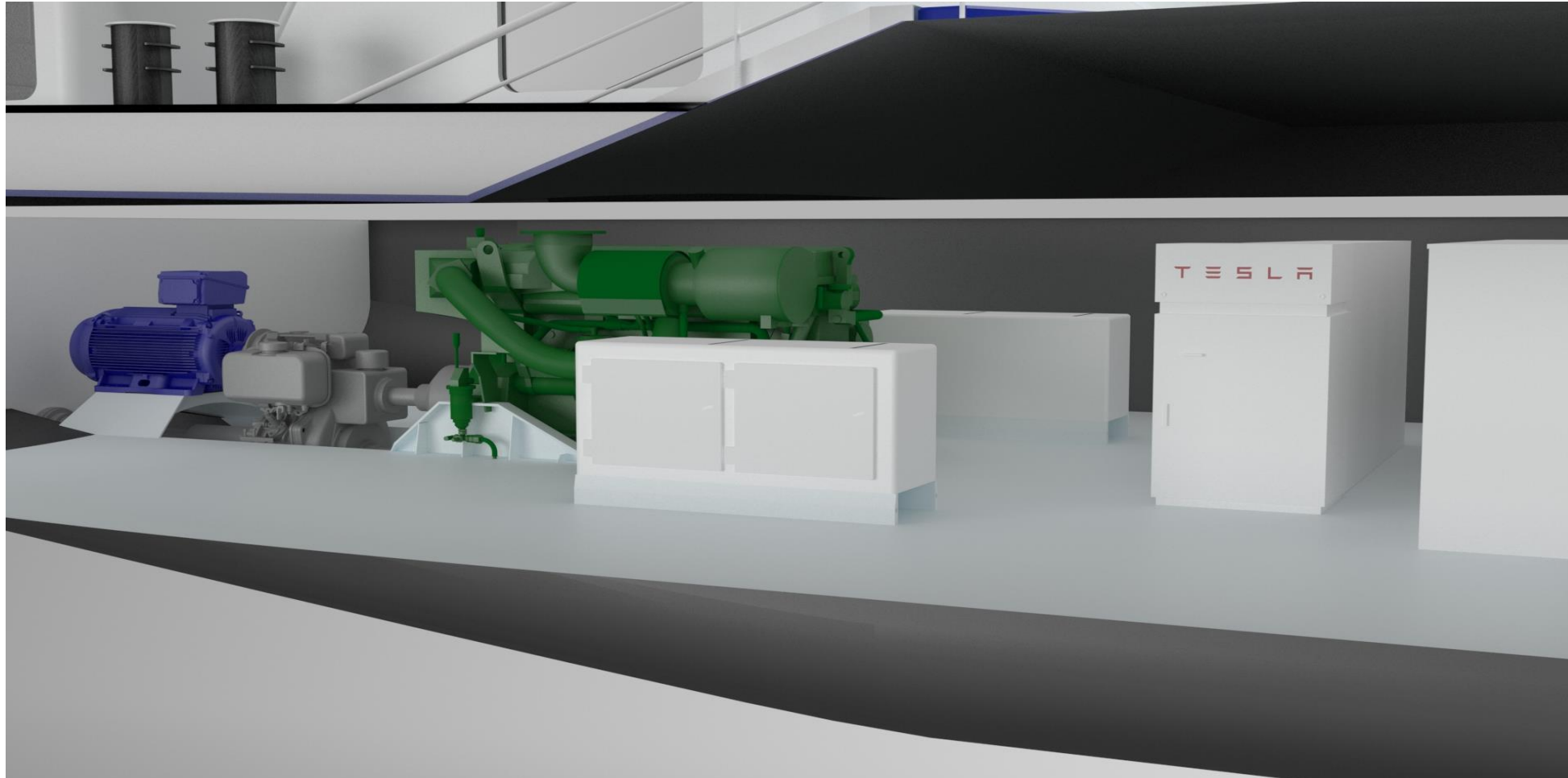
- Oversize cargo transport.
- Container service to improve access for Belarusian and Polish markets.
- Bulk cargo and new mining developments of anhydrite near by Kaunas.



Utilizing LNG capacity in Lithuania for clean IWT solutions

- LBG/Hybrid barge solution for the inland water transport
- LBG the sustainable fuel for inland water transport
- Dealing with the emissions in the cities and ports
- Reducing CO₂; Sox ; NO_x and Particle emissions

Machinery



LBG tanks on board of the barge



Promotional, educational and lobby activities supported by the EMMA project

- Boat workshops on the Vistula river in 2016 and 2017
- The Year of the Vistula River 2017
- Organization of meetings and conferences on economic use of rivers
- National contest of inland navigation and waterways for high school students
- Cooperation with local, regional and national bodies responsible for IWT and water management
- Cooperation with other regional authorities situated along E40 and E70 waterways
- Active participation in ministerial working group on IW investments and national board of development



Promotional and research container cruise from Gdańsk to Warsaw

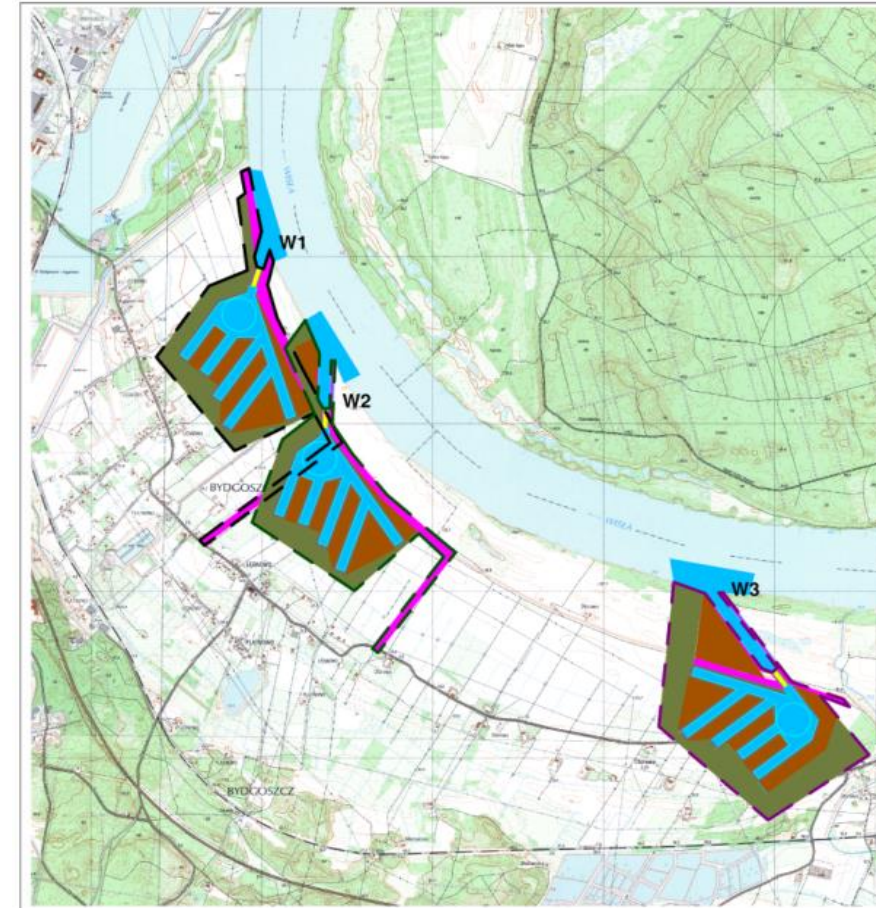


The cruise in a nutshell

- 70 m push convoy loaded with 20 containers, thereof 8 living containers
- Daily distance: 20-80 km (in total 440 km)
- Guests on the barge: 470
- Demonstrative handlings: 2
- Number of locks 3
- Events in cities: 7
- Workshops on board: 7
- Press conferences: 5
- Research on river and infrastructure

Location study of multimodal port Bydgoszcz – Solec Kujawski

- Multimodal platform based on road, railway and water transport
- Transshipment terminal with river port and logistic centre
- Scope: analysis of market environment, sector analysis, financial and risk analysis, planning concept, functional programme, location variants
- Deadline 11.2018
- Interdisciplinary approach
- Extensive expert group involvement
- Inspirations by best examples from EMMA countries



Avatar Logistics AB

- First private company in the BSR program
- Established 2015 – Swedish & Dutch owned
- Inland navigation as business focus
- IWW lobby work as first market actor

- IWT is new transport mode in Sweden
- Decision for two EMMA pilots
- Ice test program for an European standard barge
- Logistics concept based on inland barging



Swedish Pilot: Lake Vänern - First IWT activity in Sweden!



Container Shuttle Port of Gothenburg – Trollhättan

- Regular barge service on Göta älv river a future target
- Modern barge concept might be feasible
- Length limitation 89m due to lock size
- Container crane is needed in Trollhättan
- Positive market response
- A pilot voyage was successfully proven, 7th March 2017
 - Excellent fairway conditions & a lot of free capacity not used today
 - Lock limitation is challenging, especially as the locks are old
 - Replacement of locks are planned



In cooperation with the research institutions KTH (SE) and TUHH (DE)

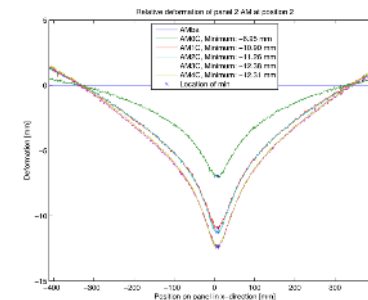
One of the most commonly referred obstacles for IWT is uncertainties on winter navigation in Sweden.

The ice project aims to answer:

- How does Swedish ice conditions impact an EU barge?
- How can the hull designed be improved?
- How will the a hull modification effect the navigation?

Model for calculation ice impact force and energies established

- Test methodology developed
- First test series carried out
- Ice report published Feb 21st



The EMMA project



Pilot practices and demonstrators

Finland: Saimaa Canal & Lake Area
Pekka Koskinen
Vice Chairman of the Board | Finnish Waterway Association

Germany: North German river basin
Stefan Breitenbach
Head of Project Department | Port of Hamburg Marketing

Lithuania: The River Neman
Andrius Sutnikas
Communication Manager | Klaipeda Science & Technology Park

Poland: The River Vistula
Rafał Modrzewski
Head of the ETC Division | Kujawsko Pomorskie Voivodship

Sweden: Lake Mälaren & Lake Vänern
Johan Lantz
CEO | AVATAR Logistics AB



The EMMA project



Lead Partner

Hafen Hamburg Marketing e.V.
Pickhuben 6 – 20457 Hamburg
Germany

Adina Cailliaux
cailliaux@hafen-hamburg.de
Tel: +49 (0)40 37709 – 172

Stefan Breitenbach
breitenbach@hafen-hamburg.de
Tel: +49 (0)40 37709 – 121



Support in Project Coordination

PLANCO Consulting GmbH
Am Waldthausenpark 11 - 45127 Essen
Germany

Gunnar Platz
gp@planco.de
Tel: +49-(0)201-43771-14





Strengthening of the European inland waterway transportation in the Baltic Sea Region: the INTERREG project EMMA



Thank you for your attention.



Stefan Breitenbach

Head of Project Department

Port of Hamburg Marketing



@project_emma



www.project-emma.eu

