



What is a Smart Port? A best practice approach for digital port infrastructure

Dr. Stefan Wiech

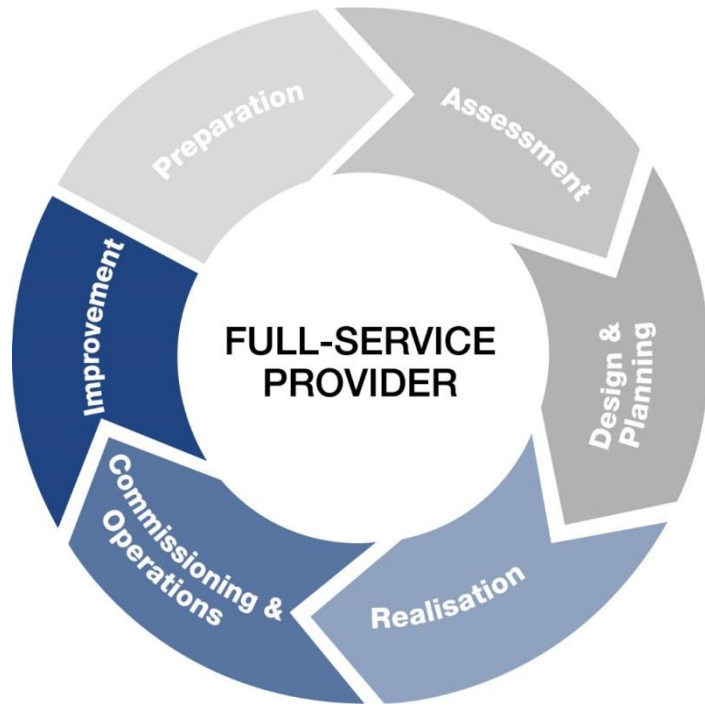
Smart Ports and Terminals Forum



HPC Hamburg Port Consulting

We take your segment's view and look at your specific needs

OUR APPROACH IS YOUR SUCCESS



Marine Container Terminals

We've got the key to successful container terminal operation



Governments, Communities, Ports

We provide a fundamental understanding of ports and transport



Intermodal Rail Terminals

Managing growth and increasing efficiency in intermodal terminals



Multipurpose Terminals

Providing flexible and efficient operating concepts to create solutions for a modern port



Bulk Terminals

Let's grab the bulk



Cruise Terminals

Cruising on the wave of success



Airports

Ready for takeoff to your destination



Marine Shipping

Mastering the challenges is the key success of our team

Background HPC

Global Experience, Operational Innovation and Down-to-earth Attitude

History & experience

- Founded in 1976 as subsidiary of HHLA Hamburger Hafen und Logistik AG
- Around 100 experts, annual turnover in 2018: approx. €12m
- Reputation as one of the world's leading consultants in the port and transport sector
- Since 1976 port and transport-related projects in more than 120+ countries, both in the private and public sector



Operator focus

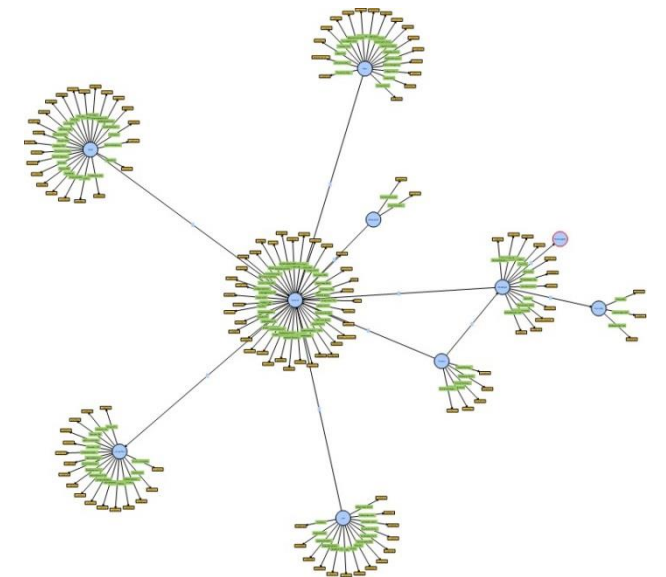
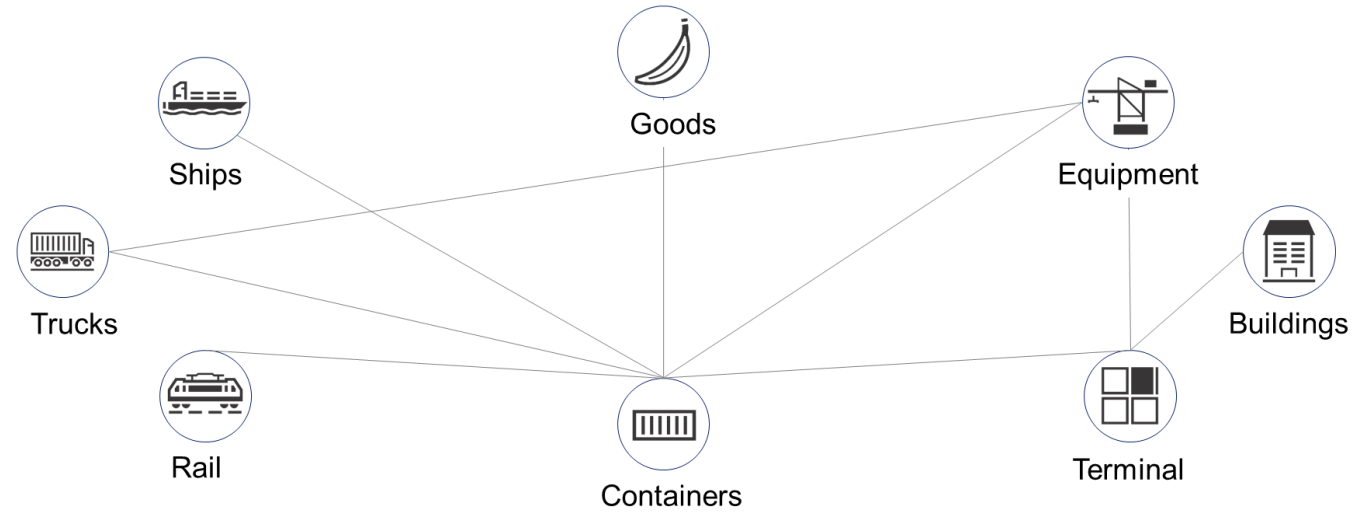
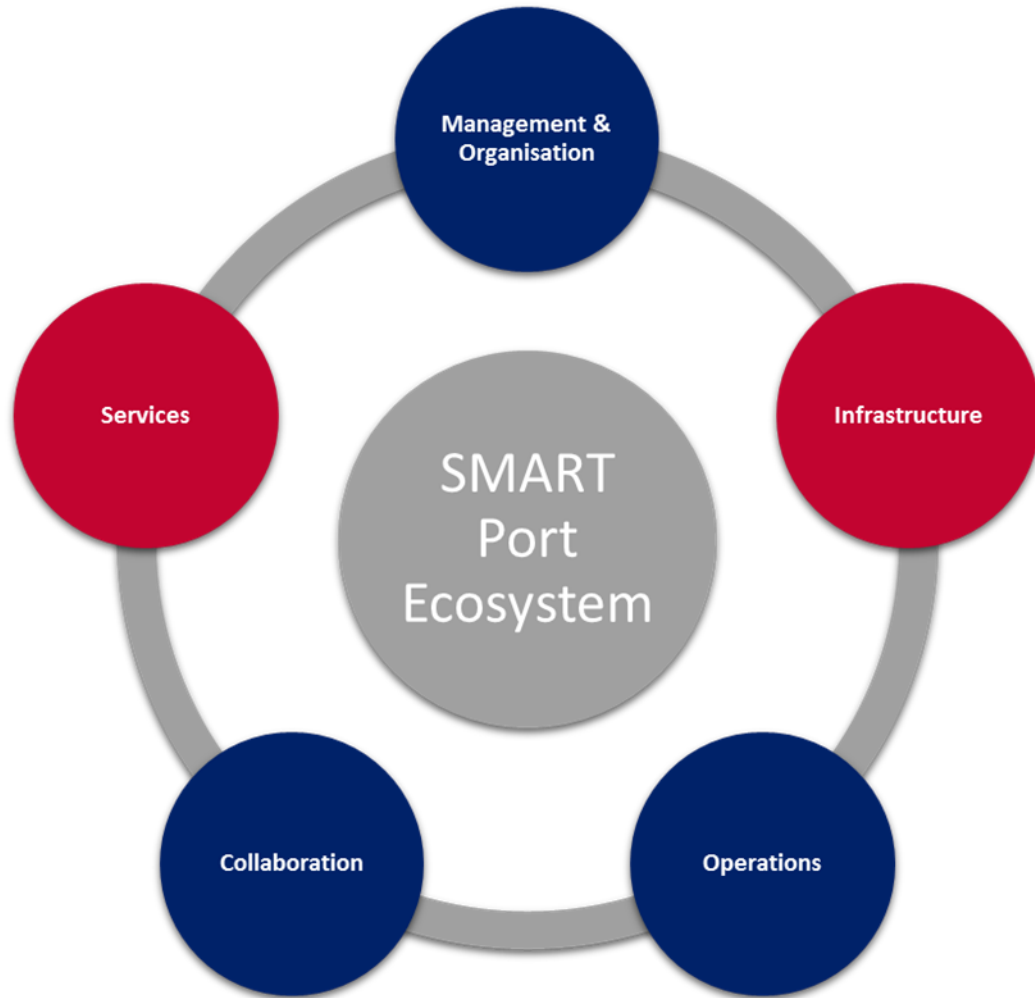
- Approx. 1,600 projects world-wide with extensive experience in container terminal planning
- Developed HPC Ukraina (now CTO) as terminal operator in Odessa (Ukraine)
- Accredited with all major development organizations and banks (World Bank, IFC, ADB, KfW, etc.)
- Independent assessment of solutions, no affiliation with any equipment manufacturer in the market



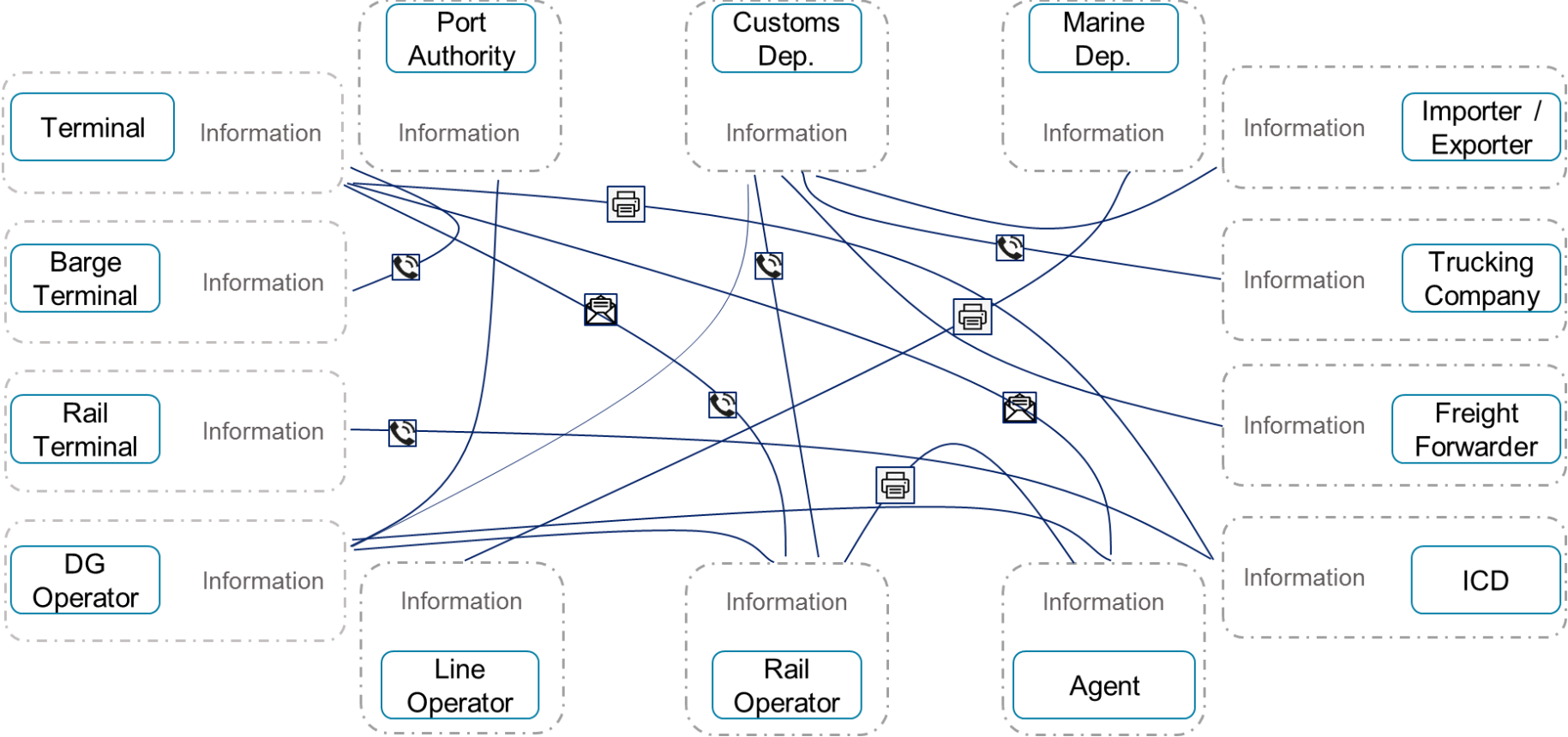
Digitalisation



The Significance of Data

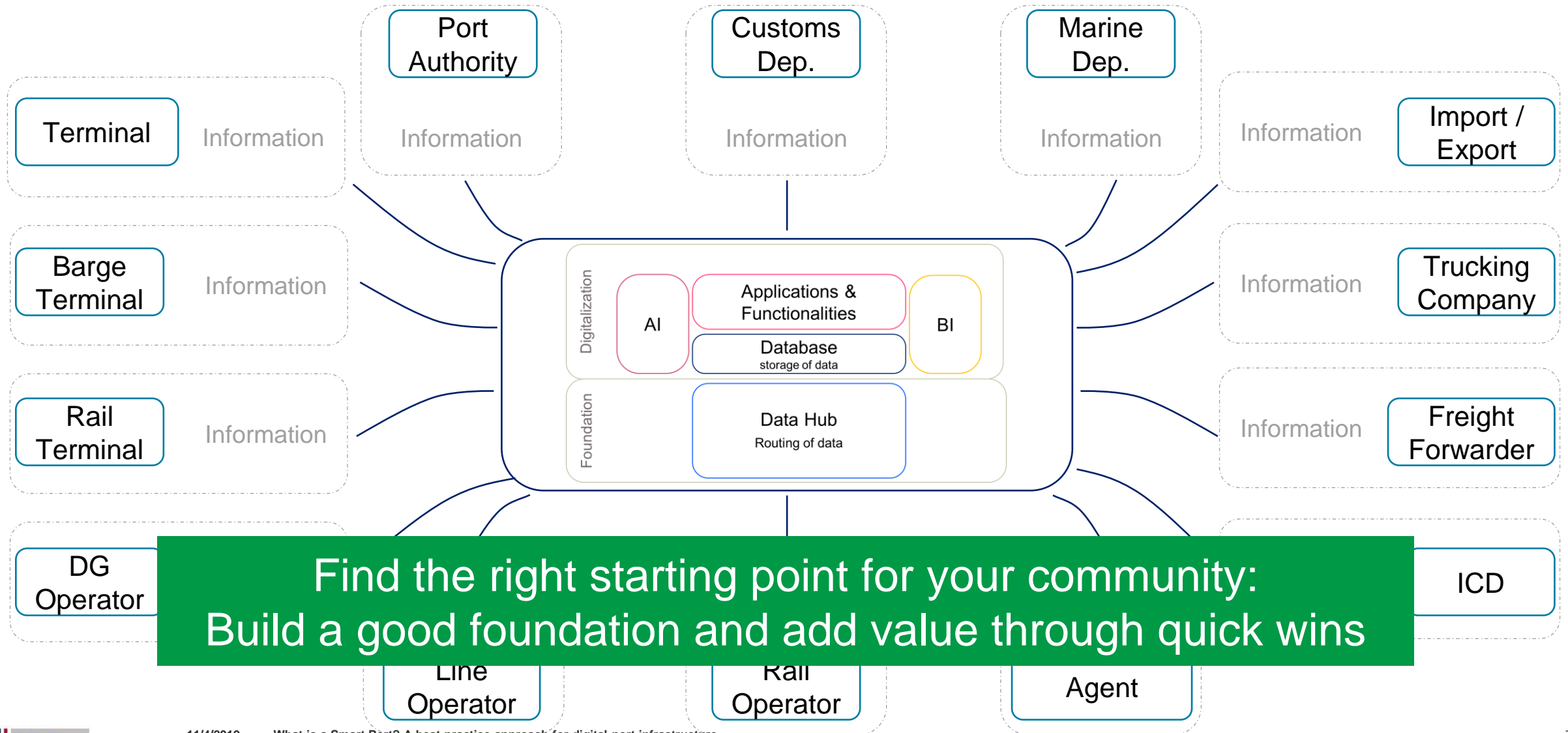


Degree of Digitalisation



There are a lot of opportunities to improve

Implementation Strategies



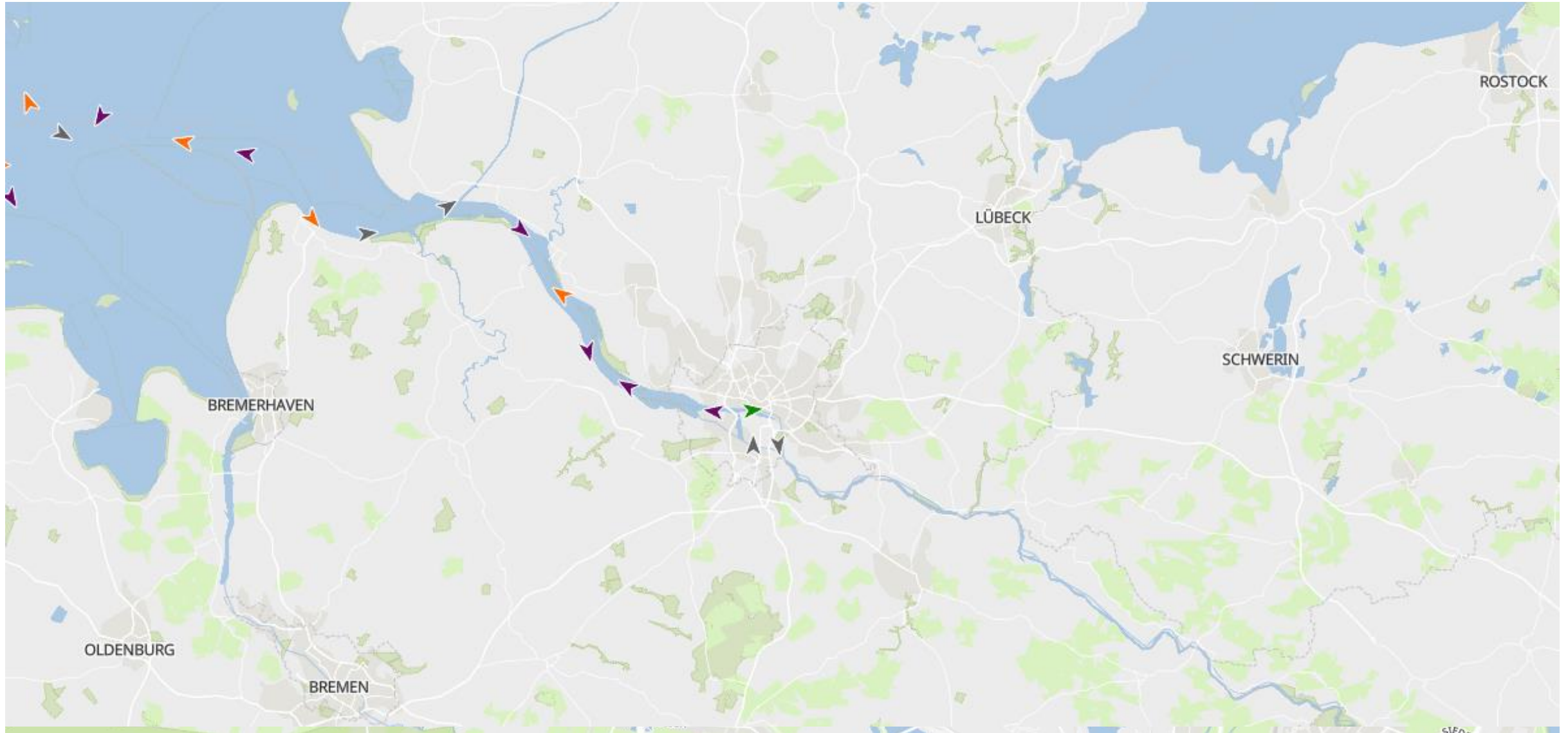
Success Story

01

HVCC Hamburg Vessel Coordination Center

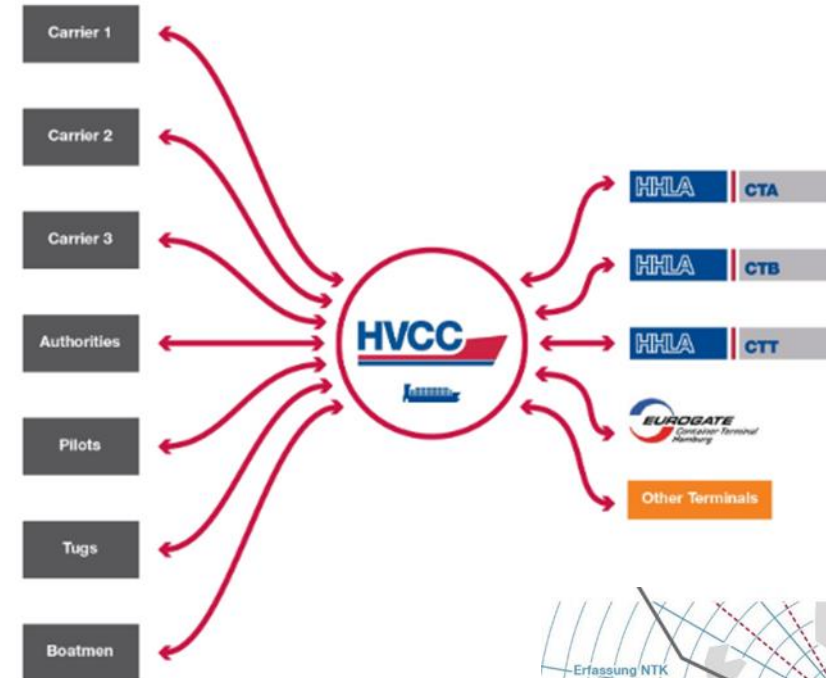
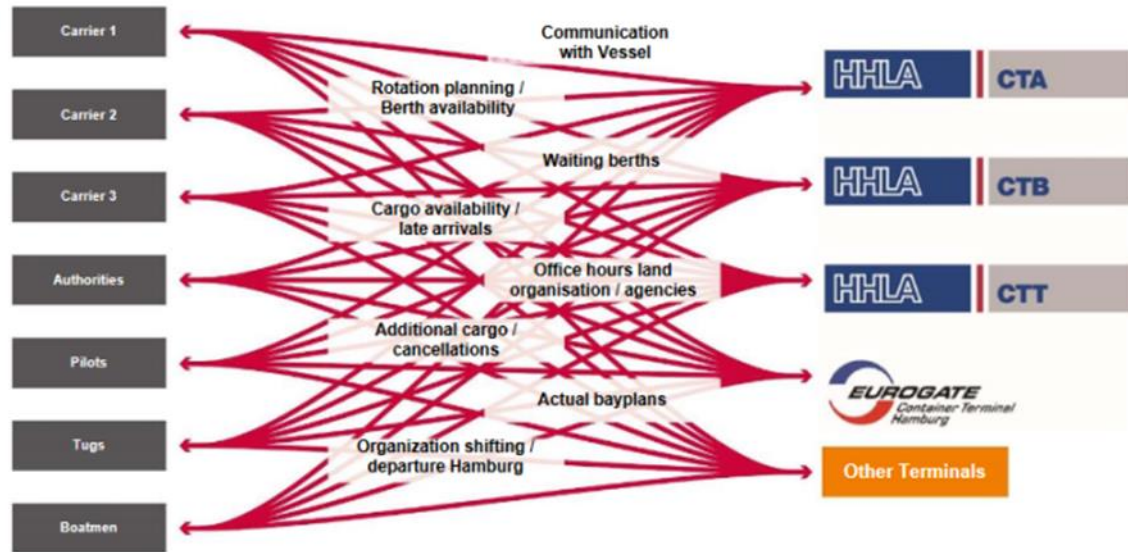
Success Story 1: HVCC – Hamburg Vessel Coordination Center

Geography



Vessel Routing Optimisation with HVCC

Hamburg Vessel Coordination Center – Feeder Logistics Center – Nautical Terminal Coordination



Adjusting speed on transit to Elbe approach

NTC distributed 2018 more than 3,350 passage plans for an optimal speed instruction



If sailing with 14 kn
instead of 18 kn

22 t

bunker savings

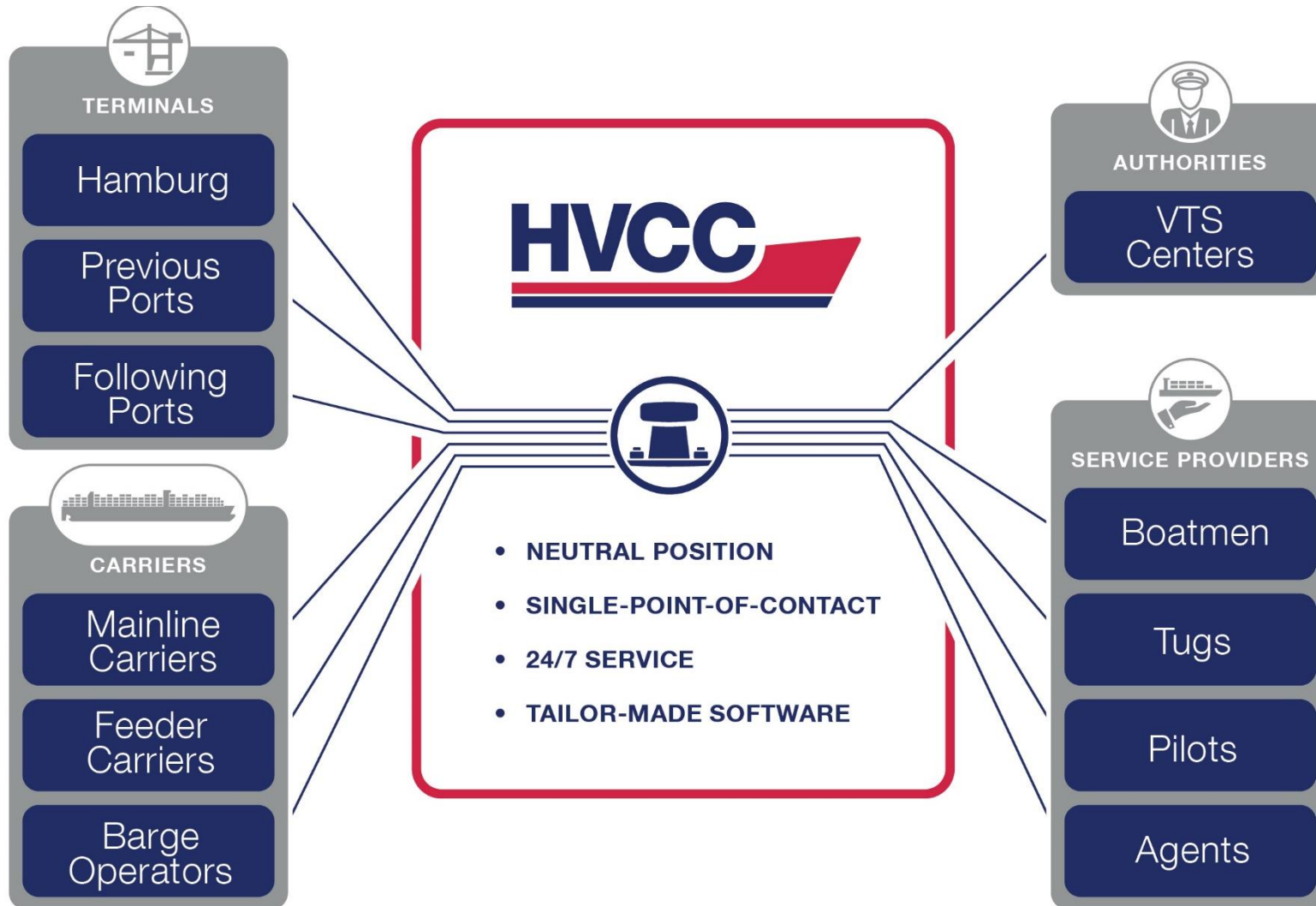
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less CO₂-emissions



HVCC software project 2.0

2017-2018: Partner specific dashboard-solutions and interfaces



- Integration of partners and strengthening of networking through tailor-made dashboard solutions, interfaces and reporting functions as part of the Software as a Service (SaaS) model

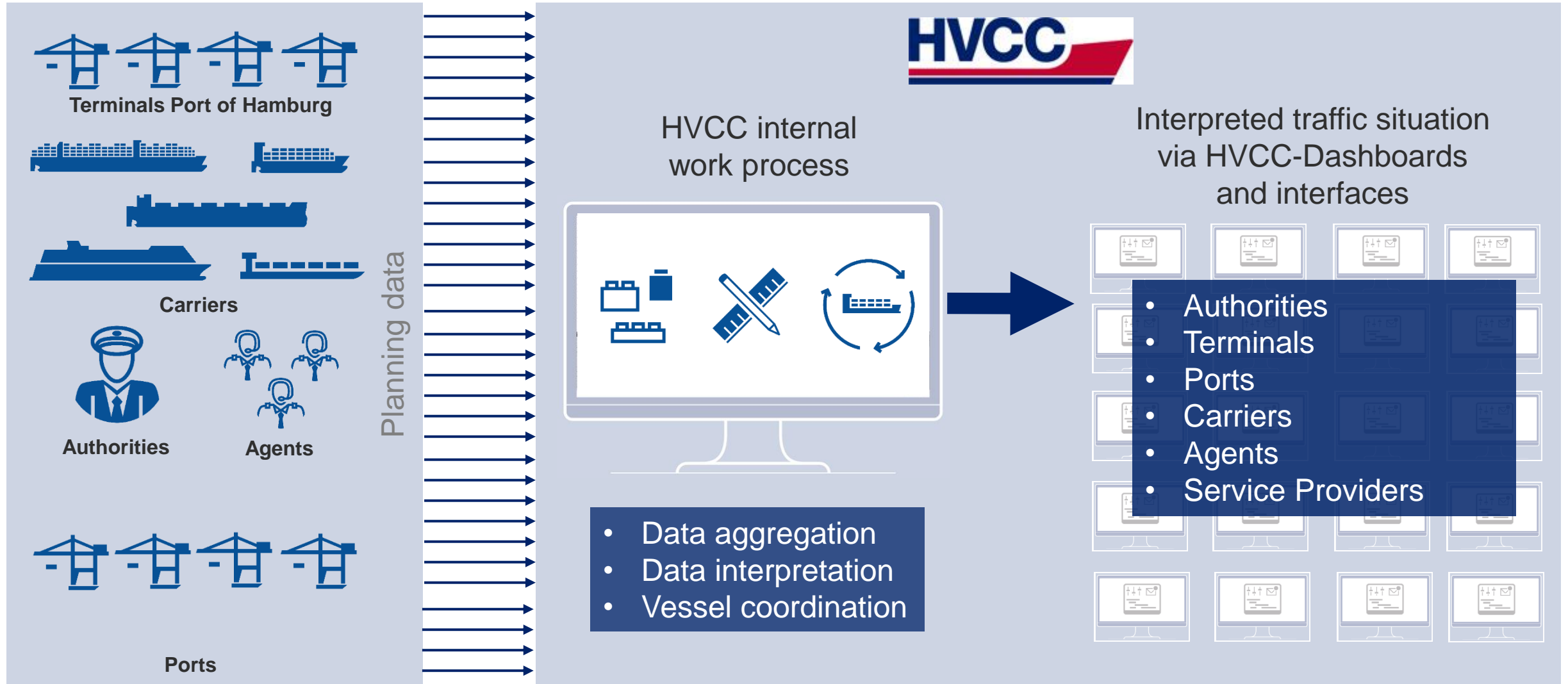
- Project co-financed by the Transport within the IHATEC-project



- Service providers benefit from data and established planning process
- HVCC and Port of Rotterdam established first operational interface based on Sea-Traffic Management (STM) Standard

HVCC collaboration platform

Aim: One single truth across all partners



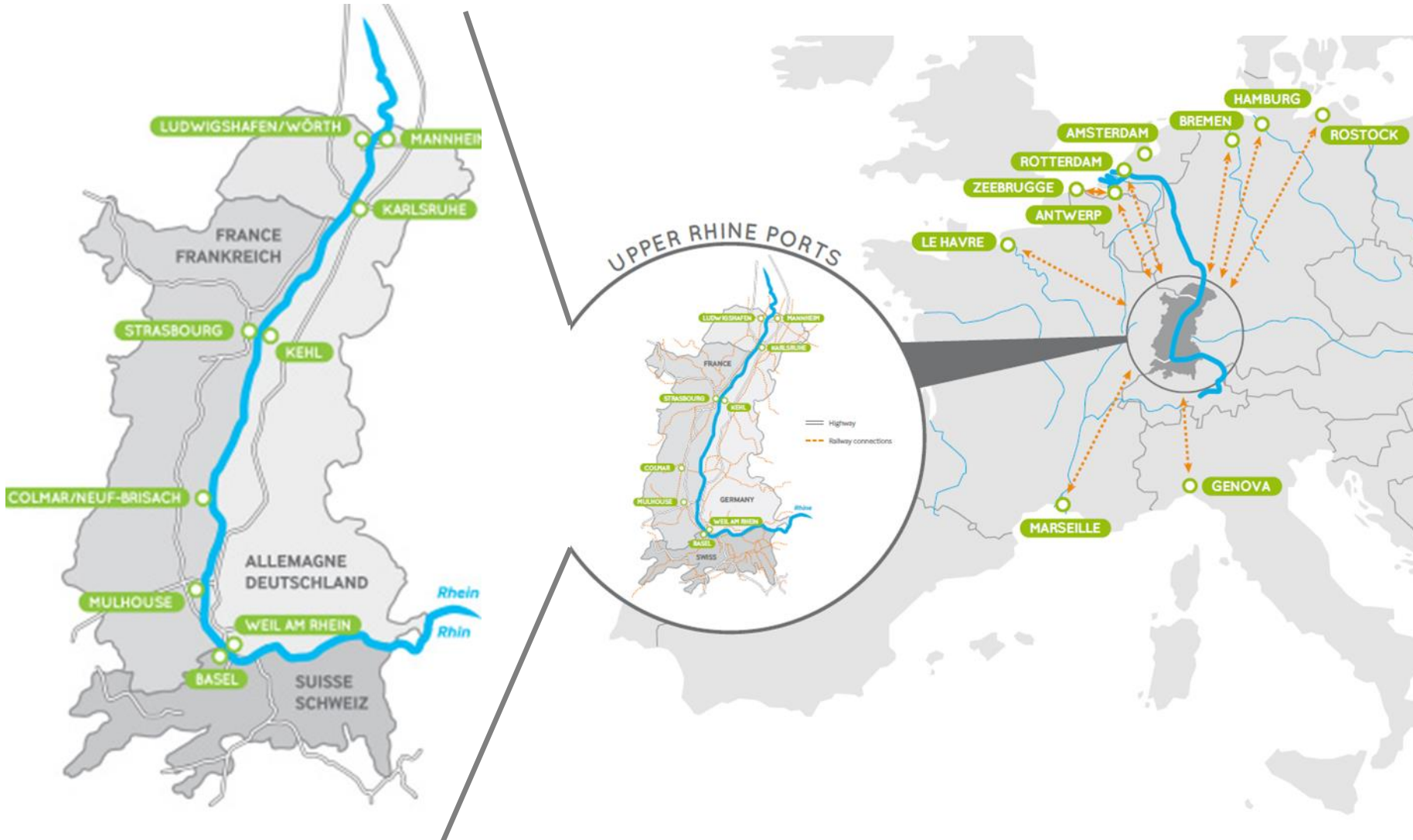
Success Story

02

RPIS – RheinPorts Information System

Success Story 2: RheinPorts & Upper Rhine Information System

Transparency matters

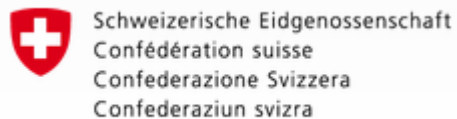


Objectives:

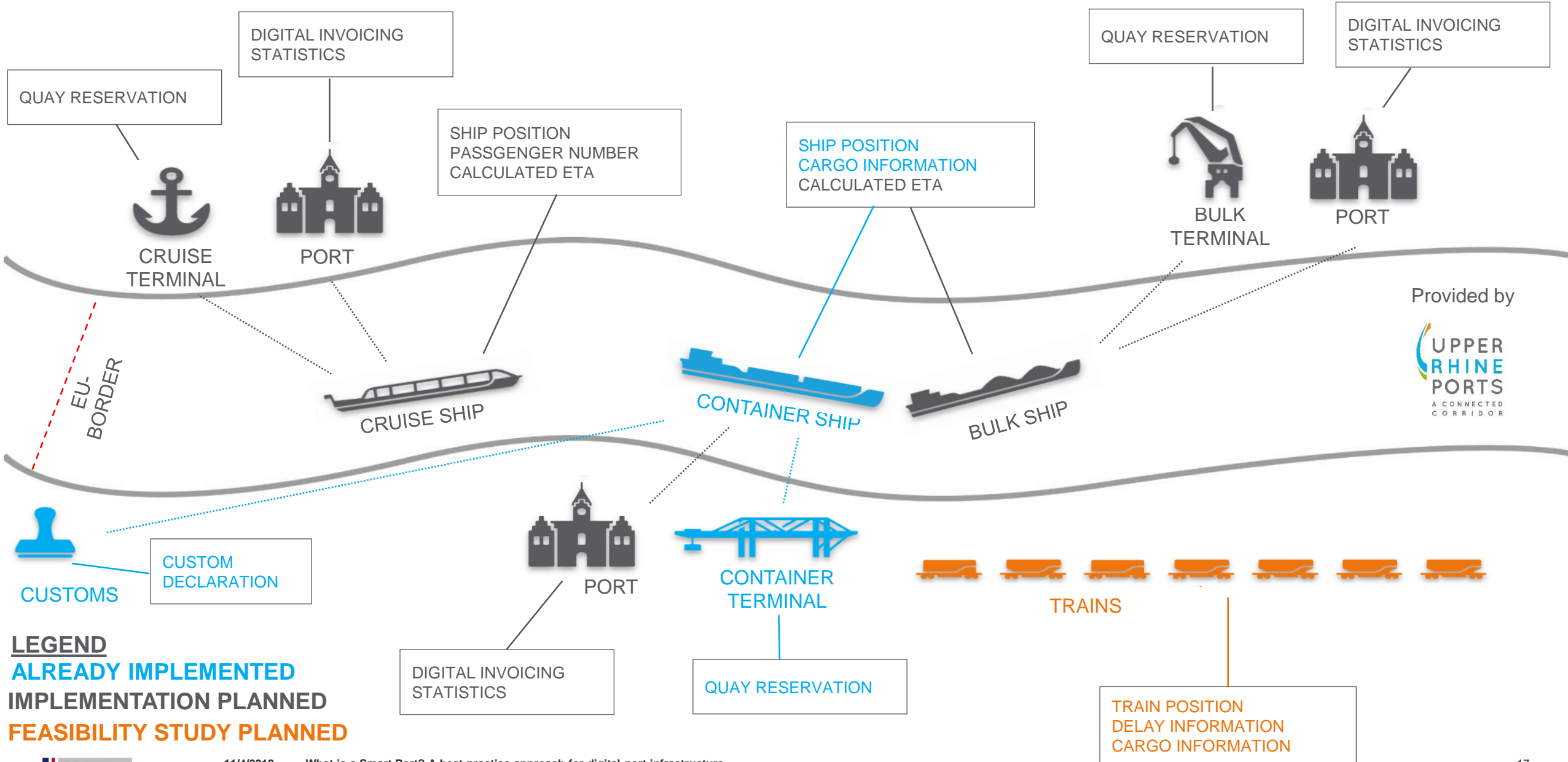
- Create visibility to supply chain partners
- Better utilisation of physical infrastructure
- Increase service level

RheinPorts & Upper Rhine

RPIS – Stakeholders



RPIS 4.0 – Smart Inland Port Community System



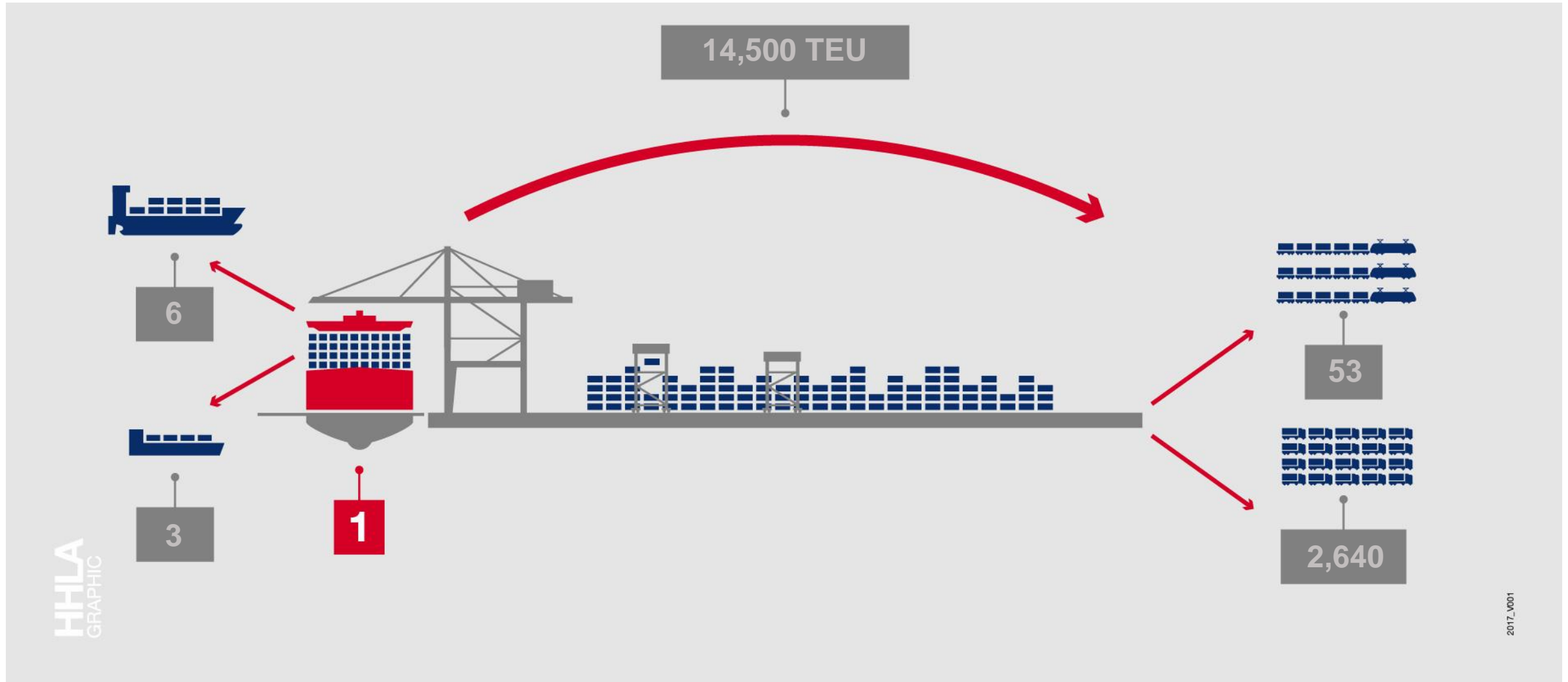
Success Story

03

HHLA Fuhre 4.0 Truck Appointment

Success Story 3: Truck Appointment – Fuhre 4.0

Peak load e.g. 20,000 TEU container vessel



HHLA
GRAPHIC

2017_V001

Key Takeaways



Key Takeaways



Service quality and reliability become increasingly important



Collaboration: Stakeholder, change & integration management are key success factors



Standardisation should be established as much as possible



Modular design of IT systems & flexible interfaces are vital



Involvement of new technologies like IoT & big data, block chain, drones, AI should be considered

Port infrastructure must have a digital counterpart that serves the whole community

Thank You!

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