Port of Hamburg – smartPORT and Partner in green logistics

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Hangzhou, 10th October 2016
Port of Hamburg: In the Heart of Europe

IDEALLY LOCATED IN THE HEART OF EUROPE
Bulk Cargo Terminals – Dry Bulk & Liquid Cargo Terminals

Dry Bulk Terminals

Liquid Cargo Terminals

- Vopak Dupec Terminal
- Boominflot Tanklager
- Hansaport
- Neuhof Hafengesellschaft
- Kali Transport Gesellschaft
- Oiltanking Terminal
- Raffinerie Hamburg
- Raffinerie Hamburg (Shell)
- H. Jürgen Müller

- Buss Ross Terminal
- OAM Baustoffe
- Euryza
- Peute Baustoff
- Getreide Terminal Hamburg
- HaBerMa Futtermittel
- Hahlermann Products
- Silo P. Kruse
Heading into a greener Future: smartPORT
The strategy for intelligent and green port development

smartPORT energy
Lower energy use and environmental impact

smartPORT
Efficient use of energy and infrastructures

smartPORT logistics
Optimized supply chain and transportation networks
Driving forces behind current developments in the port

High cargo volumes in limited areas
2000: 85 million tons
2015: 138 million tons

Larger vessels & cargo loads
2000: 126 ships
2015: 617 ships

Increasing traffic

Limited parking areas

Increased environmental awareness
smartPORT energy – green directions in production and use

- Development of innovative technology
  - Reducing dependency on conventional energy sources

- Improved energy efficiency
  - Reducing emissions

- Innovative transportation planning
  - Reducing energy use and costs
Onshore power supply facility in the Hamburg Cruise Center Altona

Floating liquid gas power plant LNG Hybrid Barge “Hummel”

Landside power supply for cruise ships reduces emission compared to ships’ generators – reduction of air pollution, CO2 and noise emission
Excursus: – LNG PowerPac®

LNG PowerPac®

Alternative for shore power supply for moored ships

Two units of the size of 40” containers are loaded onto the ships and will supply those with LNG generated power

Generators of ships can be turned off

No cables from shore to ship

First PowerPac® in the Port of Hamburg in 2017
smartPORT energy – for example: energy production

Wind turbines in the port area

Solar energy plants in the port area

Alternative power production instead of conventional power plants reduces air pollution and CO2
smartPORT logistics
smartPORT logistics – green through efficient transportation

Optimized transportation management & use of traffic networks

CO₂

Long-term reduction of emissions and air pollution

More efficient use of existing infrastructures

Development of new intelligent infrastructures

Optimization of the flow of traffic and goods traffic

Digital networks link all processes and participants
smartPORT logistics – Flow of traffic and goods

Future Port Traffic Center

Existing IT Platforms

Optimizing the flow of traffic and goods –
Customers (forwarders, logistics providers, and freight agents) can choose the most efficient transport mode (added value)
smartPORT logistics – for example: shipping

Port Monitor

Control station software for the port vessel traffic center

Collection, processing, and presentation of information from various data collection and communication systems in the port

Comprehensive and up-to-date overview of vessel traffic in the port
smartPORT logistics – for example: railways

transPORT rail

Information system to link all data on railcars and cargo for rail transport companies, Hamburg Port Authority, and terminals

Optimal train scheduling

Increased efficiency in rail transport
smartPORT logistics – for example: railways

smartSWITCH

- Real-time information system to monitor the condition of rails and switches via sensors
- More effective use of the rail infrastructure
- Early warning on traffic conditions and malfunctions
- Better planning of maintenance
smartPORT logistics – for example: road traffic

Port Road Management

Traffic control system based on detectors and sensors in the port road network

- optimizes the flow of traffic through intelligent traffic management LED message boards
- dynamic traffic control in case of congestion and to improve use of parking spaces
- reduces fuel consumption and emissions
smartPORT logistics – for example: road traffic

smartPORT Logistics (SPL) App

Online traffic management application for truck traffic in the port

traffic information
routing
expected time of arrival
information on parking spaces
information on construction sites
closure times for moveable bridges
interfaces for further applications
Thank you for your attention!