Port of Tallinn - converting ambitions into action

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PORT OF TALLINN
The Port of Good News
BUSINESS FIELDS

Port of Tallinn aims to become the **most innovative port on the shores of the Baltic Sea** by offering its customers the best **environment** and **development** opportunities.

### Passengers
- 10 mln passengers a year
- 5000 ferry calls a year
- Old City Harbour and Saaremaa Harbour
- Welcoming passenger ships, offering and developing the port infrastructure, serving passengers and vehicles

### Cargo
- 20 mln tons of cargo a year
- 1600 cargo ship calls a year
- Muuga Harbour, Paldiski South Harbour
- Welcoming cargo ships, offering and developing the port infrastructure

### Shipping
- Operating ferry traffic between the mainland and major islands
- 2 mln passengers, 1 mln vehicles a year
- Ice breaking in the ports of Northern Estonia

### Real Estate
- 16 ha Old City Harbour real estate development
- 76 ha Muuga Industrial Park
- 39 ha Paldiski South Harbour Industrial Park
- 10 ha Saaremaa Harbour
- Land and commercial space

Offshore Marine services

Port of Tallinn aims to become the most innovative port on the shores of the Baltic Sea by offering its customers the best environment and development opportunities.
Where we operate from harbours to vessel operations

Port of Tallinn doesn’t by far mean ports in the city limits of Tallinn.

Port of Tallinn is a port complex with harbours located all over Estonia.
2 of our harbours service passengers: Old City Harbour and Saaremaa Harbour

Regular passenger lines from Tallinn’s Old City Harbour:

Tallinn – Helsinki – Tallinn
Tallinn – Mariehamn – Stockholm – Mariehamn – Tallinn
Regular Cargo Lines
Domestic Connections

Operating ferry traffic between Estonia’s major islands Saaremaa (Muhu) and Hiiumaa and the mainland (contract with the state).

5 ferries

Over 2 million passengers and 1 million vehicles a year
Port of Tallinn’s Subsidiaries

**TS Laevad OÜ**
Operating ferry traffic between Estonia’s major island and the mainland.

**TS Shipping OÜ**
Providing icebreaking and other maritime support/offshore services with the multifunctional icebreaker MPSV Botnica, being contracted by state of Estonia for winter periods. It also provides full management services for vessels, including commercial, technical and crewing.

**Green Marine AS**
Providing and coordinating waste management services to ships within the ports of Port of Tallinn, focuses also on sea pollution prevention, localization and removal issues.
CO₂ mapping

**Scope 2**
Port indirect
- Purchased electricity for port-owned buildings and operations

**Scope 1**
Port direct
- Port-owned fleet vehicles, buildings, stationary sources

**Scope 3**
Port Tenants and other sources
- Ships, trucks, cargo handling equipment, rail, harbour craft, port employee vehicles, buildings, purchased electricity
The Port of Tallinn Group emits 27,069 tonnes of CO₂

Scope 1-2

- 60% TS Laevad
- 20% TS Shipping
- 20% Port of Tallinn
2019 Port of Tallinn's GHG emissions
(incl. operators, tenants, shipping)
Scope 1-3

97,426 tonnes CO₂ eq

- **53%** Ships visiting the harbours
- **23%** Electricity consumption
- **11%** Movable equipment
- **10%** Heat consumption
- **3%** Stationary equipment
Hydrogen in Port community
‘Hydrogen will help Port of Tallinn create new value chains and economic opportunities and in doing so reach carbon neutrality.’
Potential Use Cases

Transportation
H₂ can be used as a direct energy carrier or as a component of advanced fuels.

Industry
As the marginal price of natural gas is still low, hydrogen as a feedstock for Estonian Industry is a pathway for the future.

Energy Storage
Using hydrogen as a buffer for the electricity grid might become a realistic option in the future.

Heating for buildings
When green hydrogen is available in abundance, this becomes a viable option.

Export
Estonia, when using its full potential for green energy production, might become an important player in the new H₂ economy.
Central Node in Hydrogen Ecosystem

Kickstarting the Hydrogen Value Chain

Facilitating collaboration within the port area

Operating $\text{H}_2$ vessels and internal logistics

Being the infrastructural hydrogen backbone

Becoming the Baltic hydrogen hub
• OPS for 2-5 cruise ships with max 16 MW each

• Hydrogen as energy storage:

  \[ 16 \text{ h} \rightarrow H_2 \]

  \[ 8 \text{ h} H_2 \rightarrow \text{Port of Tallinn AS Alexela} \]
- Whole H₂ value chain
  - Retrofit the presently operating LMG 150-DE ferries to battery/hydrogen hybrid operation
  - H₂ production
  - filling stations
  - H₂ trailers, busses and trains

- AS Eesti Energia
- Port of Tallinn, TS Laevad
- AS Alexela
• Big regional hub:
  • $H_2$ production and storage
  • port infrastructure
  • filling stations

• AS Balti Gaas
  Port of Tallinn
  AS Alexela
• Local hub:
  • $\text{H}_2$ production and storage
  • port infrastructure
  • grid connection

• AS Eesti Energia Liwathon
  Port of Tallinn
Potential partners (so far)
Opportunities for the Baltic Sea region
TEN-T North Sea - Baltic

Rail Baltica
Off-shore wind farms plans

Global Offshore Renewable Map
https://www.4coffshore.com/offshorewind/
Future servicing base of off-shore wind farms

Paldiski South Harbour
A green east-west green fuel shipping corridor through the Baltic Sea
Challenges to address

- Legislation and regulation
- State H₂ strategy
- Creating the market
- Green energy production
- Lowering CAPEX cost with subsidies
Tomorrow belongs to those who can hear it coming

David Bowie
Thank You!

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