Market observation report on river-sea transport

Workshop on river-sea transport, 11 September 2019

Duisburg

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Market Observation Report on River-Sea Transport
Why such a report?

- EU IWT market observation activities carried out by CCNR in collaboration with the EU Commission and IWT industry associations (EBU/ESO)
- In the context, CCNR tasked with the drafting of a study on river-sea transport.
Chapters of the report

1. Chapter 1 - Methodology and scope of the report

2. Chapter 2 - Seagoing vessels navigating on inland waterways
   a) Legal, geographical and economic aspects
   b) A country by country analysis
   c) Perspective for the future

3. Chapter 3 - The case of inland navigation vessels navigating at sea
   a) Geographical, classification and regulatory aspects
   b) Estuary traffic in Belgium
   c) Inland vessels at sea in France
Methodology and scope of the report
Scope of the report – definition of river-sea transport

River-sea transport can be performed by **seagoing vessels** that can navigate on inland waterways.

A transport operation

Without transshipment

Partly on IWW & maritime waters

River-sea transport

On a single vessel

River-sea transport can be performed by **inland vessels** which have the appropriate authorization to operate at sea.
The case of seagoing ships navigating on inland waterways

River-sea transport maritime transport combined with inland navigation transport

Combination of inland and maritime transport with transhipment

No transhipment

River-sea transport from inland port to maritime port, crossing maritime waters

No transhipment

River-sea transport from an inland port to an inland port, crossing maritime waters

A country by country statistical analysis, regulatory aspects and the perspectives for the future will be discussed in detail during the day.
Inland vessels navigating at sea

Regulatory and classification aspects as well the specific case of Belgium and France will be discussed in detail during the day.

- Maritime port
- Inland port

No transhipment

Inland waters
Navigation allowed

Domestic maritime waters

Appropriate certificate
Authorised to operate at sea (in a restricted manner)

No certificate
Not authorised to operate at sea
Methodology used for the report

- **No centralised** data reporting in place at EU level
- Data mainly gathered directly from **national statistical offices**, other national statistical sources, stakeholders
- Different methodologies for data collection applied: **maritime vs IWT database**
- Different methodologies for identifying river-sea transport on a national basis
Seagoing vessels navigating on inland waterways
3. Outline

a) A country by country analysis

b) Perspective for the future
3.2 River-sea transport (seagoing ship) – Overview

River-sea shipping takes place on all major rivers in Europe having a connection to open sea.

<table>
<thead>
<tr>
<th>Country</th>
<th>Transport volume River-Sea (mio. t)</th>
<th>% of column 2 in river transport</th>
<th>Most important goods segment within river-sea-transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Britain</td>
<td>47.6</td>
<td>1161 %</td>
<td>Crude Petroleum and petroleum products</td>
</tr>
<tr>
<td>Romania</td>
<td>4.5</td>
<td>15.2 %</td>
<td>Agricultural products</td>
</tr>
<tr>
<td>Belgium</td>
<td>1.9</td>
<td>1.0 %</td>
<td>Iron and Steel</td>
</tr>
<tr>
<td>Finland</td>
<td>1.3</td>
<td>315 %</td>
<td>Timber and raw minerals</td>
</tr>
<tr>
<td>Germany</td>
<td>0.76</td>
<td>0.4 %</td>
<td>Iron and Steel</td>
</tr>
<tr>
<td>France</td>
<td>0.75</td>
<td>1.3 %</td>
<td>Ores, metallurgical scraps and metal products, Agricultural products</td>
</tr>
<tr>
<td>Sweden</td>
<td>8.0</td>
<td>...</td>
<td>Timber and oil products</td>
</tr>
</tbody>
</table>

River-sea transport allows to connect the hinterland of these countries with marine basins, such as the North Sea, the Mediterranean sea the Baltic Sea.
### 3.3 River-sea transport (seagoing ship) – A country by country analysis

#### The United-Kingdom

*Source: UK Department of Transport*

<table>
<thead>
<tr>
<th>Rivers</th>
<th>R-S transport volumes (mio.t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>River Thames</td>
<td>24,3</td>
</tr>
<tr>
<td>River Forth (estuary in the eastern half of Scotland)</td>
<td>8,8</td>
</tr>
<tr>
<td>Manchester Ship Canal / River Mersey</td>
<td>4,8</td>
</tr>
</tbody>
</table>
3.3 River-sea transport (seagoing ship) – A country by country analysis

The United-Kingdom - methodology

Source: UK Department of Transport, Domestic Waterborne Freight: 2017: notes and definitions (Technical note)

Inland waters traffic (by barges and seagoing vessels)

- **non-seagoing traffic**
  - wholly within inland waters (inside the Smooth Water Line or SWL)

- **seagoing traffic (r-s-t)**
  - crosses into inland waters from the sea

  - **foreign traffic (≈ 80 %)**
    - (traffic between foreign countries and UK inland ports)

  - **coastwise traffic**
    - (traffic between UK seaports and UK inland ports)

  - **one port traffic**
    - traffic between UK offshore installations and UK inland ports

Where is the boundary between “sea” and “inland waters”? → Inland waterways boundary (IWB):
The most seaward point of any estuary, where the width of the water surface area is < 3 km at low water and < 5 km at high water.
3.3 River-sea transport (seagoing ship) – A country by country analysis

The United-Kingdom

Source: UK Department of Transport

- R-S transport can be split up into three components: **foreign, coastwise and one-port traffic.**
- Foreign traffic = 80% of UK R-S transport in 2017.
3.3 River-sea transport (seagoing ship) – A country by country analysis

River-Sea-Transport in Germany by type of goods (2018, in %)

- Pig Iron and Steel: 12.7%
- Gaseous, liquefied or compressed petroleum products: 7.2%
- Non-ferrous metals and semi-finished products thereof: 4.1%
- Stones, sands, gravel, clay: 3.4%
- Chemical raw materials: 3.0%
- Products of plant origin: 2.9%
- Salt and sodium chloride; seawater: 2.4%
- Cereals: 1.2%
- Waste and secondary raw materials: 0.7%
- Tubes and hollow sections: 0.5%
- Other goods: 0.7%

Germany

Source: CCNR based on Destatis

R-S traffic defined according to **port of loading and unloading**.

Total R-S traffic in Germany in 2018: **765 000** (1.4 mio. t in 2016).

Main trading partners: **UK, Norway, Sweden**

Container traffic currently not relevant within German river-sea-transport.
3.3 River-sea transport (seagoing ship) – A country by country analysis

**Germany**
Source: CCNR based on Destatis

River-sea by type of transport:
- Export: 65%
- Import: 33%
- National: 2%

**River-Sea exports** by Germany: most important routes in 2018 (in 1000 t)

<table>
<thead>
<tr>
<th>Region of loading</th>
<th>Region of unloading</th>
<th>Goods segment</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Düsseldorf</td>
<td>Great Britain</td>
<td>Crude Iron, steel</td>
<td>270</td>
</tr>
<tr>
<td>Düsseldorf</td>
<td>Great Britain</td>
<td>Non-ferrous metals and semi-finished products</td>
<td>38</td>
</tr>
<tr>
<td>Düsseldorf</td>
<td>Norway and Sweden</td>
<td>Crude Iron, steel</td>
<td>86</td>
</tr>
</tbody>
</table>

Total exports by river-sea-transport from Germany 494

**River-sea imports** to Germany less important (252 000 tonnes):
- Regions of loading: Norway, Lithuania, France, Great Britain ...
- Goods transported: Gaseous, liquefied/compressed petroleum products, Stones, sands, gravel, clay, Crude Iron and steel.
3.3 River-sea transport (seagoing ship) – A country by country analysis

**Belgium**

Source: CCNR based on Stat.Bel

**Evolution** of River-Sea-Transport in Belgium

- **2011**: 2.3 Mio. t
- **2012**: 2.9 Mio. t
- **2013**: 2.5 Mio. t
- **2014**: 2.7 Mio. t
- **2015**: 2.5 Mio. t
- **2016**: 2.3 Mio. t
- **2017**: 1.9 Mio. t

River-Sea transport **equally distributed** by type of transport and country of loading/unloading:

- **Export** (27%) – 0.54 mio. t
- **Import** (45%) – 0.82 mio. t
- **National** (28%) – 0.55 mio. t

**River-Sea transport exports and imports in Belgium by trading partner** (2017)

- **United Kingdom**: 32%
- **Spain**: 20%
- **Norway**: 12%
- **Morocco**: 9%
- **Estonia**: 5%
- **Latvia**: 4%
- **France**: 4%
- **Portugal**: 5%
- **Netherlands**: 2%
- **other countries**: 7%

R-S transport identified according to **vessel type** used for the journey and by country of **loading and unloading** of the cargo.
3.3 River-sea transport (seagoing ship) – A country by country analysis

In Belgium, there are also inland vessels which partly cross into maritime waters, known as estuary vessels. However, this type of river-sea-traffic by estuary vessels is currently not identified within the IWW statistics.

Main goods segment:
- Iron and steel
- Goods in containers
- Wood and wood products
- Chemicals

River-Sea-Transport in Belgium by type of goods (2017)

- Iron and Steel: 28%
- Goods in Containers: 17%
- Wood and Wood Products: 9%
- Chemicals: 7%
- Sand, stones, gravel: 7%
- Glass and Glas products: 7%
- Coal: 6%
- Liquid mineral oil products: 5%
- Grain: 4%
- all other goods: 4%
3.3 River-sea transport (seagoing ship) – A country by country analysis

Romania
Source: CCNR based on Danube Commission, Romanian Statistical office, Viadonau

River-sea ports of Galati, Braila & Tulcea

Seagoing vessels, coming from the Black Sea, are able to sail upstream on the Danube to these ports

Cargo volume by seagoing vessels in river-sea ports of Galati, Tulcea and Braila

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2018</th>
<th>Main goods segment (in 2018, in 1000 t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galati</td>
<td>1357</td>
<td>1320</td>
<td>Metals and metal products (27%) Agricultural products (22 %)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Iron ores (14 %)</td>
</tr>
<tr>
<td>Braila</td>
<td>494</td>
<td>481</td>
<td>Agricultural products (84%)</td>
</tr>
<tr>
<td>Tulce</td>
<td>9</td>
<td>56</td>
<td>Iron ores (89%)</td>
</tr>
<tr>
<td>Total</td>
<td>1860</td>
<td>1857</td>
<td>Agricultural products (38%) Metals and metal products (19%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wastes (14%)</td>
</tr>
</tbody>
</table>

Extra-EU trade plays = important role for river-sea traffic in those ports
Mainly with countries located in the Mediterranean Sea (Northern Africa).
3.3 River-sea transport (seagoing ship) – A country by country analysis

**Romania**

Source: CCNR based on Danube Commission, Romanian Statistical office, Viadonau

**Sulina Canal**

Runs from Tulcea to the Black Sea and is mainly used by seagoing vessels.

River-Sea-Transport on Sulina-Canal linking the Black Sea with the Danube (in Mio. t)

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>3.66</td>
<td>3.85</td>
<td>3.76</td>
<td>4.31</td>
<td><strong>4.44</strong></td>
</tr>
<tr>
<td>Danube → Black Sea</td>
<td>3.24</td>
<td>3.26</td>
<td>3.25</td>
<td>3.61</td>
<td><strong>3.67</strong></td>
</tr>
<tr>
<td>Black Sea → Danube</td>
<td>0.42</td>
<td>0.58</td>
<td>0.51</td>
<td>0.70</td>
<td><strong>0.77</strong></td>
</tr>
</tbody>
</table>

**Danube-Black-Sea-Canal**

Runs between the seaport Constanza and the Danube.
River-sea transport in 2017: **57,000 tonnes** (13.8 mio.t for total goods transport on this canal)

**Volumes Sulina Canal three Romanian river-sea ports: WHY?**

Sulina Canal also covers large **Ukrainian ports** (Izmail, Reni), and the **Moldavian port** of Giurgiulesti, cargo volumes not taken into account by the Romanian statistical institute.
3.3 River-sea transport (seagoing ship) – A country by country analysis

Inland waterways in Sweden

Lake Mälaren  |  Lake Vänern

Access to the sea via

Trollhätte canal/Göta river  |  Södertälje canal

River-sea transport in Sweden

= Traffic from and to these inland waterway regions via these two canals

River-sea shipping in Sweden: approximately **8 million tons** annually (source: EMMA project)

Main good segments: **timber and oil products**
All the traffic going through the **Saimaa canal** is river-sea transport.

Divided in three category:

- **Cross-border traffic** (import and export)
- **Domestic traffic** (from national inland port to national seaport, on the cost)
- **Timber floating** (only until 1992).
Main trading partners: Russia (631 thousand tonnes), the Netherlands (241), Estonia (164), Germany (107).
3.3 River-sea transport (seagoing ship) – A country by country analysis

**France**
Source: CCNR based on VNF

<table>
<thead>
<tr>
<th>Year</th>
<th>Total imports by river-sea-transport to France in 1000 t (32%)</th>
<th>Total exports by river-sea transport from France in 1000 t (68%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1389</td>
<td>515</td>
</tr>
<tr>
<td>2011</td>
<td>1220</td>
<td>756</td>
</tr>
<tr>
<td>2012</td>
<td>1200</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>1180</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>1160</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>1140</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>1120</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>1100</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>1080</td>
<td></td>
</tr>
</tbody>
</table>

- **Total imports by river-sea-transport to France in 1000 t (32%)**
  - Ores, metallurgical scrap, agribulk, metal products
- **Total exports by river-sea transport from France in 1000 t (68%)**
  - Metal products, raw minerals & building materials
### France

Source: CCNR based on VNF

#### Rhône (87%)
- **Goods segment:** ores, metallurgical scrap, agribulk, metal products, raw minerals & building materials.
- **Trade with:** Mediterranean basin (Algeria, Turkey, Spain and Italy).
- **21 river-sea ships in 2018** (same as in 2013).
- **Flags:** Antigua and Barbuda, St Vincent and Lithuania, Belize, Malta and the Netherlands.

#### Seine (12%)
- **Goods segment:** metal products, agricultural products, fertilizer.
- **Trade with:** Manche/Mer du Nord basin.
- **45 river-sea ships in 2013 vs 20 river-sea ships in 2018.**
- **Flags:** Antigua and Barbuda, St Vincent and Lithuania, Switzerland and Germany.

Like in Belgium, there are also “upgraded” inland vessels allowed to navigate at sea in some pre-identified areas.
### Brexit
- Limited direct impact expected
- More severe indirect impact if decrease in overall transport volumes (e.g. automotive industry)
- Possible positive impact if road affected by heavier customs procedure

### Investment
- Investment in new fleet considered for most companies who have not recently invested.
  - **WHY?** Renew ageing fleet, cope with a shortage of river-sea vessels in light of increasing demand, invest in new engines.
  - **Positive factor:** facilitating access to funding & financing (can be too constraining currently)
  - **Negative factor: high cost** new river-sea vessels

### Demand and development
#### Positive factors
- **Environmental** considerations (continued political support towards modal shift)
- Evolution of pilot regulations on Rhine and in UK ports
- **Finland:** planned extension of the Saimaa canal locks
- Better aligned **Swedish** IWW regulation (implementing the Directive 2006/87) with other IWW regulations in EU

#### Negative factors
- Lack of predictability (e.g. variation in freight rates) & reliability (delays, variation in water level)
- Possible increase of pilotage costs for river pilots
Inland navigation vessels navigating on maritime waters
4. Outline

a) Estuary traffic in Belgium

b) Inland vessels at sea in France
4.1 Inland vessels navigating at sea - Introduction

**Regulatory and classification aspects** already discussed at the beginning of the day.

Can be observed mainly in **Belgium, France and Italy** and outside the EU in **India, Russia and China**.

We will focus on **France and Belgium** in the report.
4.2 Inland vessels navigating at sea – estuary traffic in Belgium (key figures)

**Port of Zeebrugge in 2018**
- **2.1 Mio. t of goods** via estuary traffic at port of Zeebrugge: 58% liquid bulk, 41% container and 1% ro/ro.
- **1047** estuary vessels called (+ 47 compared to 2017).
- The **estuary fleet** in Belgium = **13** (9 tankers, 1 Ro-Ro, 3 container carriers).
- **160, 000 TEU/year** in these container carriers

**North Sea Port in 2018**
- Total volumes estuary traffic: **22,290 tonnes**
- Main partners: port of **Antwerp** (7850 tonnes) & port of **Zeebrugge** (5570 tonnes)
- 4 estuary vessels - 75 voyages
- Main goods segment: containers and cars
- Estuary traffic = stable trend
4.3 Inland vessels navigating at sea – the case of France

Two main areas where “adapted” IWT vessels can navigate at sea in France:

- **Port du Havre** area in the Seine estuary
- the **Golfe de Fos**.

Interesting solution when connection between IWWs and maritime ports not sufficient.

**BUT** ability for IWT vessels to navigate at sea is always dependent upon meteorological conditions impact on reliability.

Alternative route involving transhipment = useful complementary option.

**Port of Le Havre**

Inland vessels navigating at sea is only direct way (without transhipment) to reach the container terminal Port 2000

8 adapted IWT vessels:

- 6 container inland vessels approx. 10 000 container/year
- 2 bunker vessels.

EU co-funding of 25 million euros in 2018 to create direct inland access to Port 2000 → may impact river-sea traffic in the Port area
Next steps

**Mid-October 2019** - Finalisation of draft report

**Mid-October to beginning November** – opportunity to provide comments

**Until mid-November 2019** – integration of comments and finalisation of the report

**Until end January 2020**
– translation of the report in French, German and Dutch
– Finalisation of print and digital version of the report
ANY QUESTIONS?
THANK YOU VERY MUCH FOR YOUR ATTENTION

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