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The study has around 145 pages.

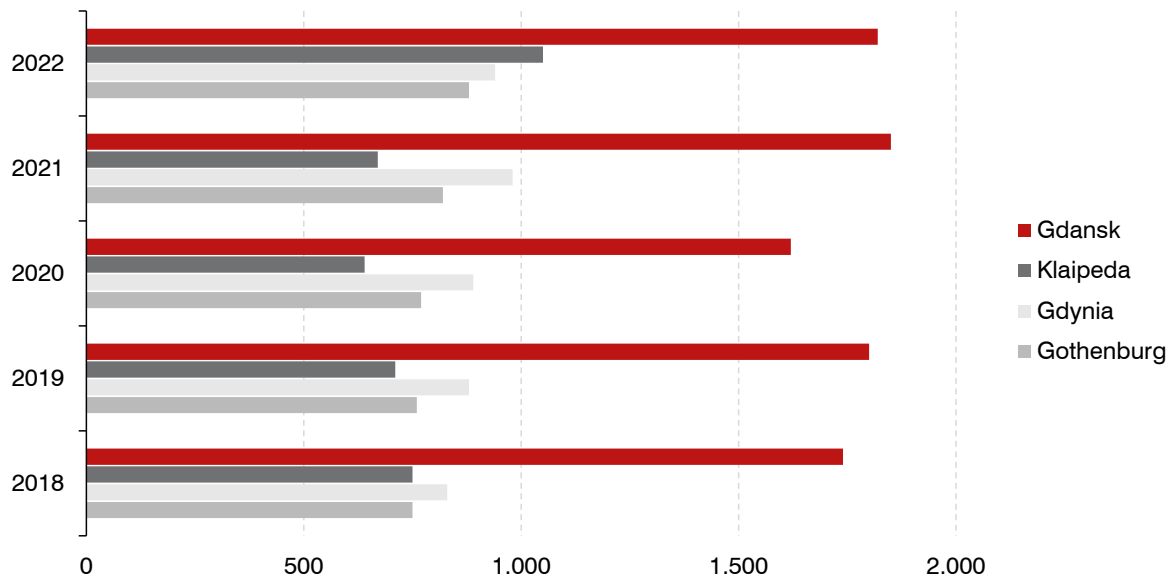
1 Ports and hinterland traffic

1.1 Baltic Sea ports

The Baltic Sea ports recently gained importance. Historically only connected to intercontinental trade routes via feeder lines with North Sea ports, especially Gdansk is becoming more of a regional intercontinental hub. While the port, together with Klaipeda, saw a drop of almost X% of container throughput in 2020, Gdynia and Gothenburg were not affected by the Covid pandemic. In the wake of the war in Ukraine, the Polish ports saw small losses in 2022. Klaipeda on the other hand saw a huge jump of +X% in container throughput in 2022 as a result of the changing transport flows in the region. Gothenburg is also a success story and continued to grow between 2018 and 2022.

Figure 1: Container transshipment of major ports in the Baltic Sea region

Container transshipment of major ports in the Baltic Sea region
(in thousand TEU)



Source: SCI database

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		Gdansk	Klaipeda	Gdynia	Gothenburg
Import	Total (TEU)	XXX	XXX	XXX	XXX
Sea	Origin (%)	1. XXX (XX) 2. XXX (XX) 3. XXX (XX)	1. XXX (XX) 2. XXX (XX) 3. XXX (XX)	1. XXX (XX) 2. XXX (XX) 3. XXX (XX)	1. XXX (XX) 2. XXX (XX) 3. XXX (XX)
Hinterland Rail	Destination	~XX% PL, ~XX% XX, ~XX% XX	~XX% LT	~XX% PL, ~XX% XX, ~XX% XX	~XX% SE
Export	Total (TEU)	XXX	XXX	XXX	XXX
Sea	Destination (%)	1. XXX (XX) 2. XXX (XX) 3. XXX (XX)	1. XXX (XX) 2. XXX (XX) 3. XXX (XX)	1. XXX (XX) 2. XXX (XX) 3. XXX (XX)	1. XXX (XX) 2. XXX (XX) 3. XXX (XX)
Hinterland Rail	Origin	~XX% PL, ~XX% XX	~XX% LT	~XX% PL, ~XX% XX	~XX% SE

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Figure 2: Sea and Hinterland container transshipment and the most important import and export destinations for Baltic Sea ports.

Gdansk is the most important container port in the region with the highest capacity. [...]

Port	Planned investments
Gdansk	[...]
Klaipeda	[...]
Gdynia	[...]
Gothenburg	[...]

Figure 3: Planned investments in Baltic Sea ports.

2 Intermodal market by corridors

2.1 RFC 1: Rhine-Alpine

Overview: Rail Freight Corridor 1

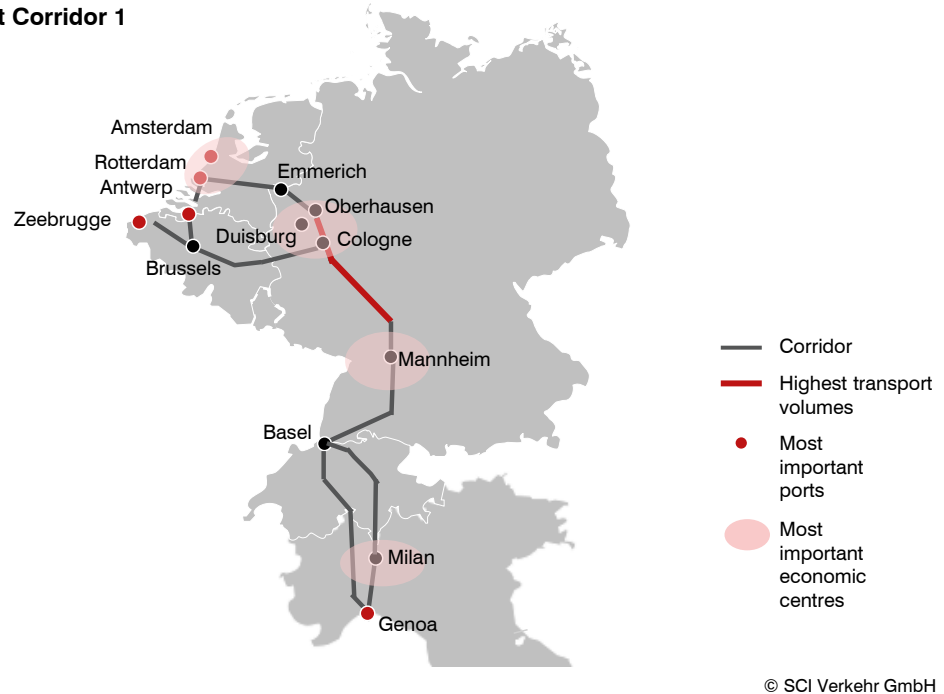
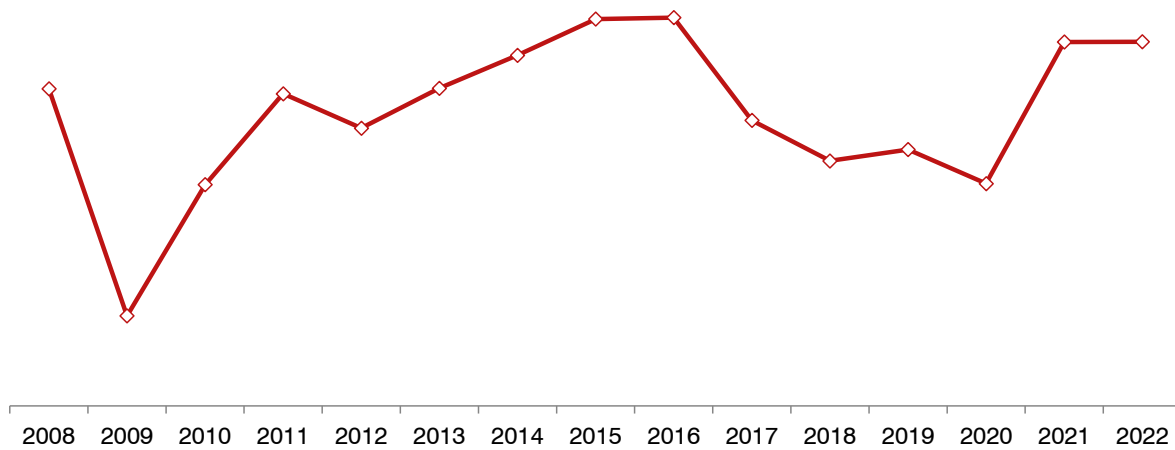


Figure 4: Schematic overview RFC 1

The Rhine-Alpine Corridor is one of the top rail freight corridors in terms of transport volume. It connects the ZARA ports (Zeebrugge, Antwerp, Rotterdam, Amsterdam) with the port of Genoa in Italy. The corridor runs through the Netherlands, Belgium, Germany, Switzerland and Italy and stretches over a distance of 3,900 km. Over 100 terminals, six sea ports and more than ten inland ports can be found along the corridor. As the Rhine-Alpine Corridor runs through a heavily industrialised part of Europe, the route serves as a connection between important economic centres. Intermodal transport is of high importance on all corridors, but the railway line between Belgium and Italy via Switzerland is the busiest corridor for intermodal transport in Europe.

[...]

Rail freight traffic at RFC 1 (bn tkm)



Source: SCI Verkehr estimation based on Eurostat

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Figure 5: Development of transport performance on RFC 1

[...]

3 Country markets

3.1 Benelux

The three Benelux countries of Belgium, the Netherlands and Luxembourg are very well integrated, but rather small markets. Together they provide around XX% of the overall rail freight market in Europe in 2023. The share of the intermodal rail freight market is slightly higher at XX%. Due to the ports in Rotterdam and Antwerp-Brugge, the three countries are important origins and destinations for intermodal trains in Europe: In the Netherlands, more than XX% of rail freight transport is cross-border.

Transport performance in the intermodal sector decreased by -XX% p.a. between 2018 and 2023. Therefore, the record volumes of 2018 are not expected to be surpassed before 20XX. Most important intermodal rail freight carriers in the region are German incumbent DB Cargo (which took over the former Dutch incumbent in 2003), former Belgian incumbent Lineas and Captrain, a daughter of French incumbent Fret SNCF. All three companies are among the top 5 intermodal operators in both Belgium and the Netherlands. Luxembourg's incumbent CFL Cargo is also among the top 5 intermodal operators in Belgium.

The most important drivers for the intermodal market in the region are container throughput at the ports and their subsequent development. Despite the current substantial decrease in container volumes at both Rotterdam and Antwerp-Brugge, stakeholders are investing in more capacity, betting on future growth. In Rotterdam alone, over 5,000,000 TEU of additional capacity are planned until 2027.

Rail policy and infrastructure investments

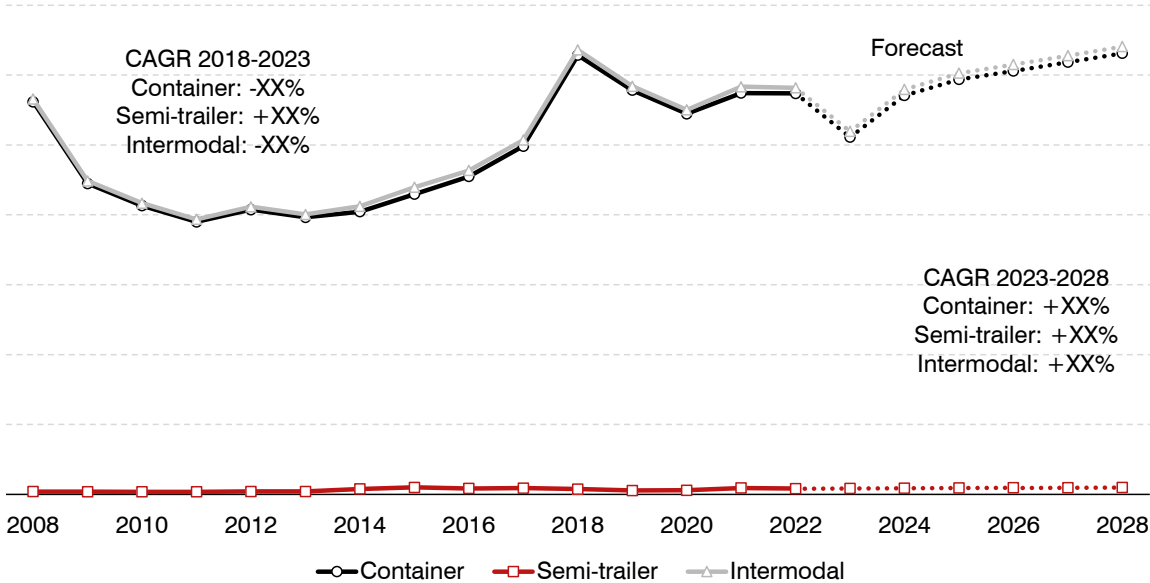
[...]

Structure and drivers of the intermodal market

Both the Netherlands and Belgium function as European distribution hubs. Railway infrastructure is concentrated on the connections from/to the ports of Amsterdam, Rotterdam and Antwerp-Bruges and on the lines to Germany and France. Therefore, the intermodal segment makes up around XX% of the total rail freight market in the region.

Intermodal transport decreased by -XX% p.a. between 2018 and 2023. This is mainly due to a drop in container transport as part of port hinterland traffic of -XX% p.a. in the same period. Semi-trailer transport grew by +XX% p.a. during this time, but its share in intermodal transport is too small to counteract the offsets in maritime containers. Until 2028, SCI Verkehr forecasts a growth of +XX% p.a. (+XX% for containers, +XX% for semi-trailers).

Development of rail freight transport performance – intermodal segment in Benelux (billion tkm)



Source: Eurostat, SCI Forecast

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Figure 6: Development of intermodal rail transport performance in Benelux

The performance of the intermodal segment is directly linked to the throughput at the North Sea ports, especially of Rotterdam. Transport performance in the intermodal segment increased by XX% p.a. between 2011 and 2018. Due to cost structures and improved hinterland links, Benelux ports could partly capture volumes from the traditional hinterland of German ports, increasing market shares. During the Covid-19 crisis in 2020, the transport performance decreased by -XX% y-o-y in 2020, in line with a decrease in TEUs handled at Rotterdam (Antwerp was the only large container port to report growth in 2020). The recovery at the port of Rotterdam in 2021 also led to a resurgence of intermodal rail transport and a y-o-y growth of XX%. However, the current decrease in TEUs handled at the ports will result in a -XX% y-o-y drop of intermodal rail freight transport performance in 2023, down to levels last seen in 2017.

Besides the direct impact of port throughput, the ports bolster intermodal transport through subsidies and initiatives promoting an increase in rail modal share in hinterland traffic and feeder routes: In 2019, the Port of Antwerp, Railport Antwerp and Infrabel contractually agreed to double the share of rail freight in the hinterland transport to 15% until 2030. The Rotterdam port authority has the ambition to increase the market share of rail at the port from currently around 11% to 20% by 2030.

Intermodal network

Most intermodal connections in the Benelux regions are focussed on the ports of Rotterdam and Antwerp-Bruges and heavily interconnected with inland waterway services. While this would seem to favour maritime hinterland transport, Metrans claims that XX% of containers on its Prague-Rotterdam route are destined for the United Kingdom or the Benelux area and trucked onwards from the Rotterdam terminal.

Maritime transport nevertheless is the most important source of intermodal rail freight. The sea ports of Rotterdam and Antwerp-Bruges are the two biggest container hubs in Europe. They offer several terminals with capacities of more than 1,000,000 TEU. Most big shipping companies and terminal operators are present at the two ports.

Country	City	Terminal	Operator	Total Capacity (TEU)

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Figure 7: Important port terminals in Benelux.

While the Netherlands have some bigger road-rail inland terminals in border towns with Belgium and Germany like Venlo or Born, secondary terminals in Belgium are mostly clustered around important inland ports. In Luxembourg, intermodal transport is concentrated on the Bettembourg terminal in Dudelange. Most important connection here [...]

Country	City	Terminal	Operator	Total Capacity (TEU)

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Figure 8: Important hinterland terminals in Benelux.

Noteworthy terminal projects currently underway:

- [...]

Country	City	Terminal	Operator	Total Capacity (TEU)	Planned opening
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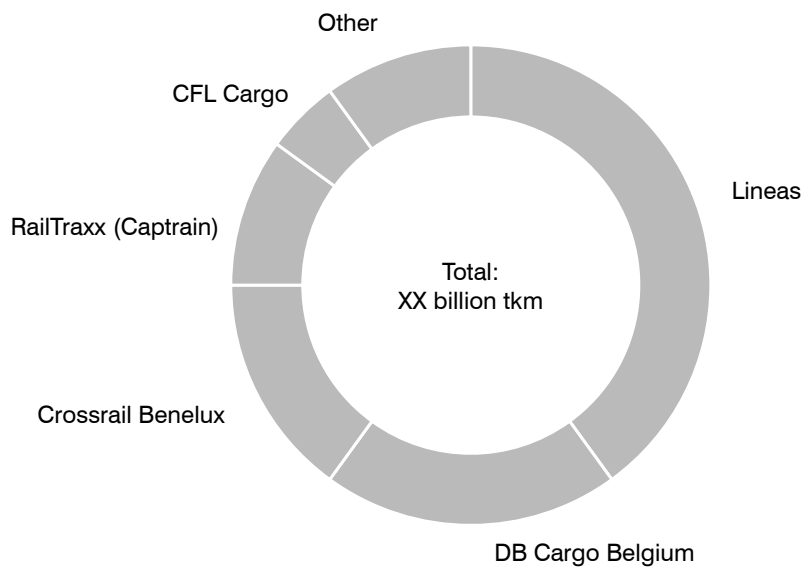
Figure 9: Planned terminals in Benelux.

[...]

Main players in the Belgian and Dutch intermodal market

In both Belgium and the Netherlands, the companies that took over operations from the former incumbents still have the highest market share in the intermodal segment: Lineas has about XX% market share in Belgium, DB Cargo Nederland about XX% in the Netherlands. However, both companies are also present on the other markets. Other important operators in the region are Rotterdam Rail Feeding, Crossrail Benelux and Captrain. Despite the currently difficult market environment, a new branch of Medway started rail freight operations in Belgium in July 2022. It launched a joint service with Swiss intermodal transport and terminal operator Hupac in January 2023, connecting Genk in Belgium and Busto Arsizio in Italy.

Estimated market share of rail carriers in the Belgian intermodal transport market (2022, in percent)



Source: SCI estimation based on company information

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Figure 10: Estimated market share of rail carriers in the Belgian intermodal transport market (%)

[...]

5 Intermodal freight wagon fleet

5.1 Installed base

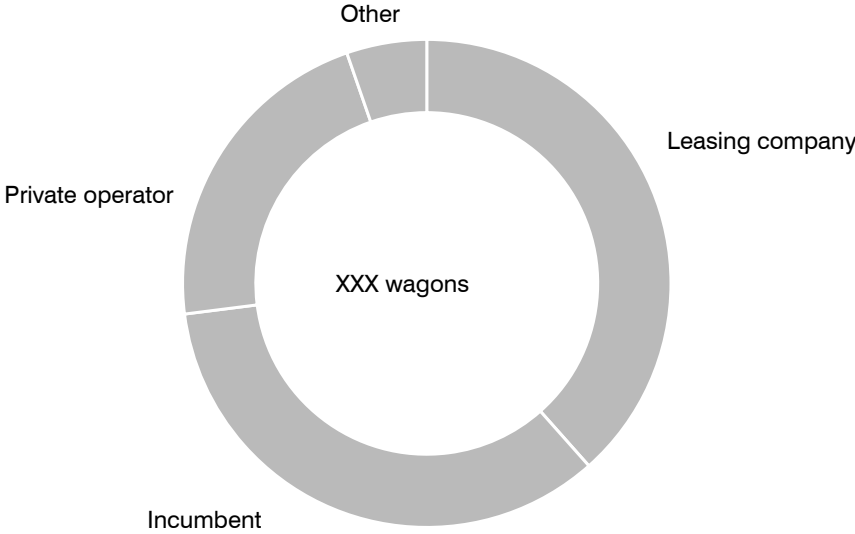
In line with the strong growth of intermodal transport in recent years, the intermodal wagon fleet developed accordingly and recorded considerable growth. The fleet of intermodal wagons in Europe has grown to approx. XXX units. This represents a share of XX% of the total freight wagon fleet. In contrast to that, intermodal transport accounts for almost XXX of total rail freight transport performance in Europe. Despite the outstanding growth of semi-trailer transport, pocket wagons still only have a small share of the intermodal wagon fleet. The XXX pocket wagons represent XX% of the total fleet of intermodal wagons, but the positive transport development has led to a gradual expansion of the fleet. [...]

5.2 Recent market development

[...]

The ownership structure of the fleet reflects the high interest of leasing companies in intermodal transport. With a share of XX%, the majority of wagons is owned by leasing companies. Incumbents are a close second, accounting with a share of XX%. The gap between the two is expected to grow further in the coming years.

Intermodal fleet in Europe by type of owner 2022 (based on number of wagons)



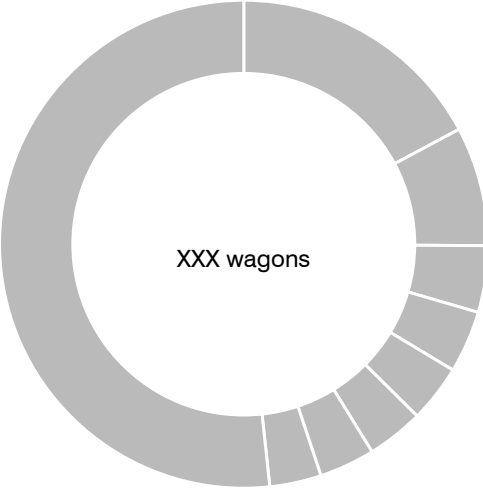
Source: SCI database

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Figure 14: Intermodal fleet in Europe by type of owner

[...]

Intermodal fleet in Europe by fleet manager 2022 (based on number of wagons)



Source: SCI database

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Figure 15: Intermodal fleet in Europe by fleet manager

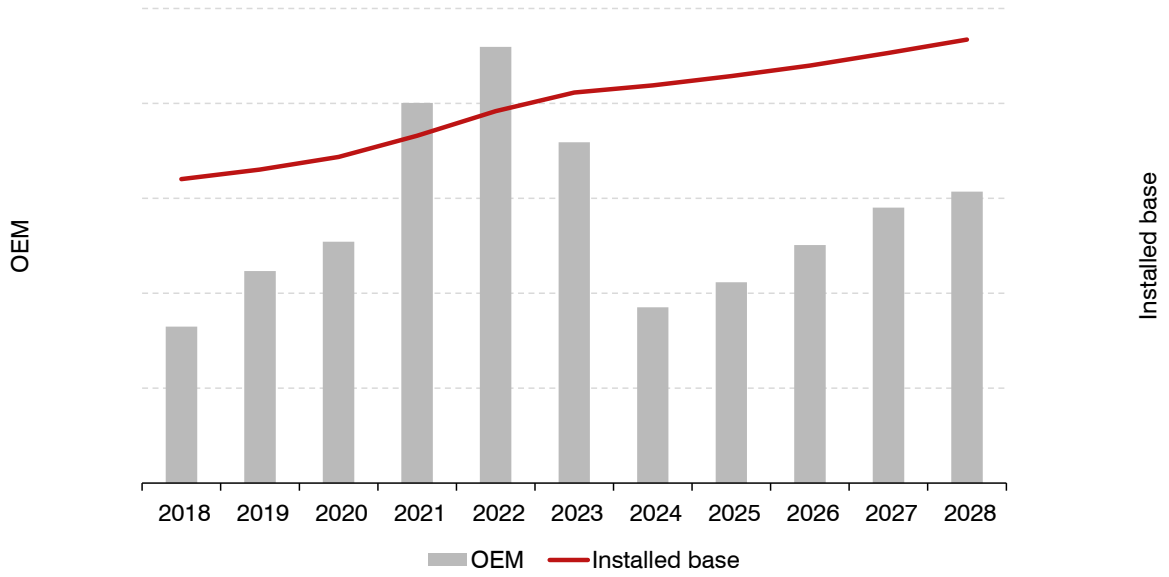
[...]

5.3 Outlook

[...]

As intermodal transport remains an important driver for growth of the rail freight market in the medium-term, deliveries will gradually increase again. Fleet growth will also still be considerable, with approx. XXX intermodal wagons expected to be in the market by 2028.

Intermodal wagon deliveries and fleet development in Europe (number of wagons)



Source: SCI database

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Figure 16: Intermodal wagon deliveries and installed base in Europe

5.4 Innovative solutions for continental transport and modular wagons

[...]

6 Overview: Players in the European intermodal market

The following table provides an overview of the most important players within the European intermodal market. The selection is based on the appearance in this study and is not differentiating between field of activities (shipping, rail operations, terminal operations) of the respective companies. The order of companies is based on group revenues (with only relevant companies to the intermodal transportation displayed) in descending order.

Group	Relevant subsidiaries for intermodal transport	Share	Activity	Group Revenue 2022 (EUR million)	Group EBITDA 2022 (EUR million)
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Figure 17: Important players in the European intermodal market.

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