“Market analysis intermodal transport northern Italy - Rostock”

Interreg Baltic Sea Region Project #R032 “Sustainable and Multimodal Transport Actions in the Scandinavian-Adriatic Corridor”

Work Package	3. Multimodal Transport				
Activity	3.3 Fostering Modal Shift				
Responsible Partner	ROSTOCK PORT				
Author	amcon management GmbH, Angensteinerstrasse 52, CH-4052 Basel				
Version	3	Date	14.03.2019	Status	final

Document Approval Chronology

Document			Revision / Approval	
Version	Date	Status	Date	Status
1	07.03.2019		07.03.2019	Incomplete Draft
2	10.03.2019		10.03.2019	Final Draft
3	14.03.2019		14.03.2019	Final

Index

1. Executive Summary

This report analyses the market situation of the hinterland connections for the Rostock Port in Northern Italy on the Milan - Verona - Trieste route.

The connection from and to Verona is the strongest route from Rostock to the hinterland and the study pictures the potential if this connection can be strengthened and expanded.

In addition, the potential of a connection to and from Milan shall be demonstrated and in particular the possibilities to and from Trieste, the Mediterranean hub for the ferry traffic to and from Turkey.

Rostock can and would fulfil the function of a hub for all three regions in Italy for transports to and from Scandinavia / Finland. The Rostock Port offers ferry connections to and from Denmark (Zeeland, Copenhagen region), Sweden (with connections to Norway and Lithuania) as well as Finland.

In order to assess the market situation, interviews were conducted with various market participants in the Milan, Verona and Trieste regions. For Trieste, additional interviews were held with the Turkish freight forwarders and shipping companies.

The market part shows the existing offer of the Rostock Port to the ports as well as the hinterland connections.

The study shows that the existing connections to and from Verona can only be expanded by one departure per day with a lot of effort and investment.

For the Milan region, there is currently no possibility of a connection from and to Rostock.

It is shown that there is currently the greatest potential for a connection twice to three times a week to and from Trieste. A train concept for this route will be integrated, including a cost estimate.

2. Market Analysis

2.1 Methodology of the market analysis

In this port, the ROSTOCK PORT GmbH operates the port infrastructure of the Rostock seaport as well as the intermodal transshipment terminals. The ferry and the RoRo traffic are the most important market of the port of Rostock with a share of about 60% of the total operating volume, whereby the focus lays on connections from / to Denmark, Sweden (rail connection to Norway and by ferry) and Finland.

Apart from the ferry connections, the attractiveness of the port depends strongly on efficient railway connections to the continental source and to target regions of intermodal traffic flows. In this respect, the Port of Rostock is in strong competition with other seaports on the southern Baltic coast, in particular the Port of Lübeck and the Port of Kiel.

The following market analysis provides an overview of the current and future market for the combined transport between Northern Italy (incl. ferry capacities Northern Italy - Turkey) and Scandinavia / Finland. As a result of this analysis, concepts for trains and products for additional intermodal train connections between Northern Italy and the seaport Rostock are provided.

The market analysis is based on the extensive desk research as well as interviews with market participants and experts. The information provided by the relevant market participants, statistical authorities, the EU, customs and similar sources was analysed to determine the relevant potential for intermodal transport along the corridor. More than 20 market interviews were conducted with representatives of the market-relevant companies to assess the market interest in an intermodal product, volume potential and market requirements in terms of the quality and pricing.

Ports / ferry lines

- Trelleborg
- Hanko
- Gedser
- Stena Line
- TT Line
- Finnlines
- Scandlines

Rail and intermodal operators

- TX
- Hupac
- Kombiverkehr
- Rail Cargo Austria
- IMS

The results of the market analysis formed the basis for the subsequent development of the train concept.

2.2. The current situation

2.2.1 Baltic ferry connections to Scandinavia / Finland

Several Baltic Sea ports along the Baltic Sea offer ferry connections to Scandinavia and Finland. Rostock is the only port offering connections to Denmark, Sweden and Finland having the advantage in terms of the distance to several Scandinavian destinations.

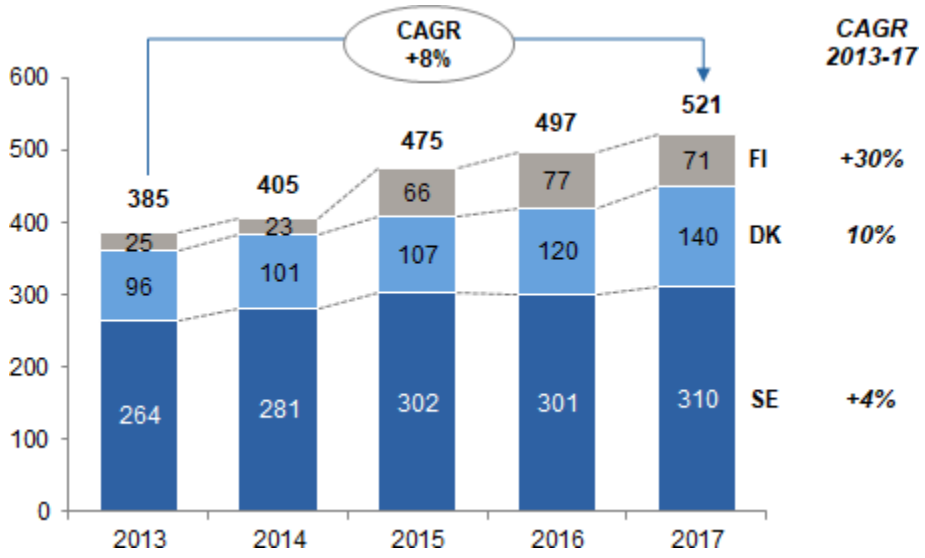
Baltic Sea ferry connections:

Comparison of the sea routes by port:

Distance (km)	Kiel	Lübeck	Rostock	Świnoujście	Gdynia
Gothenburg	236	280	240	262	402
Trelleborg	140	128	83	97	240
Ystad	160	140	104	94	225
Hanko	570	560	515	458	366
Helsinki	631	622	580	525	418
St. Petersburg	778	762	721	663	561

The growth depicted volumes to / from Finland. Unaccompanied trailers accounted for 24% of the total ferry / RoRo traffic in Rostock in 2017, 74% for trucks and 3% for railway wagons.

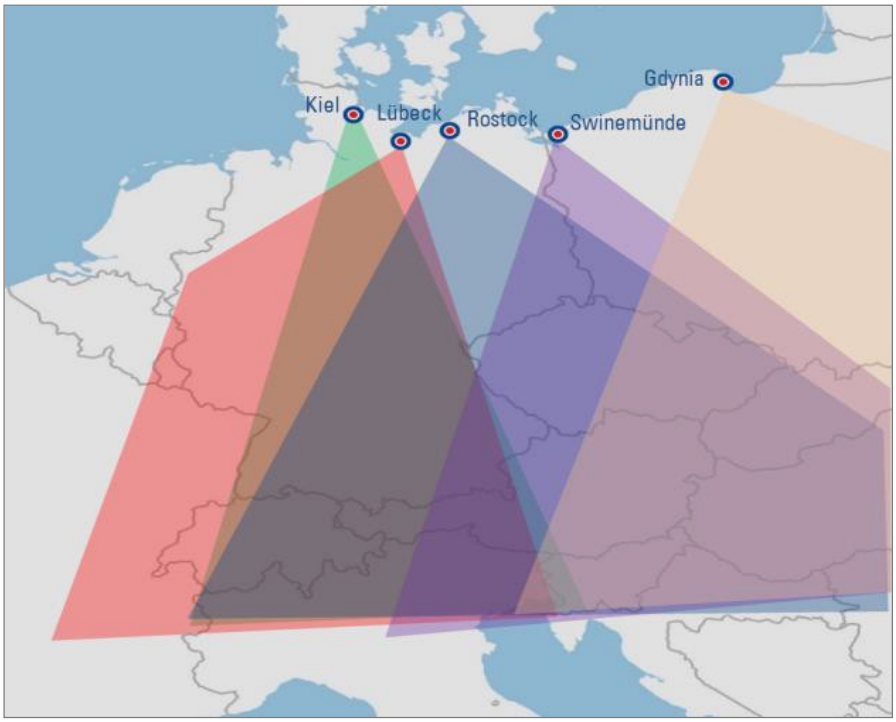
Port of Rostock: The annual ferry / RoRo units



2.2.2 Intermodal hinterland traffic

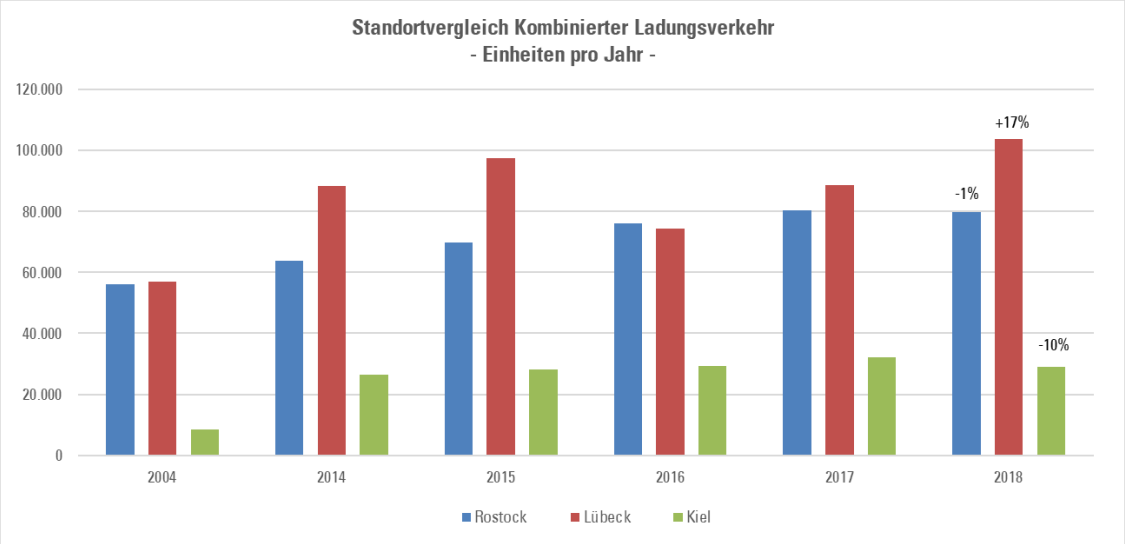
There are strong overlaps within the catchment areas of the relevant German / Polish ports along the corridor.

The catchment area of the Baltic Sea ports (schematic):



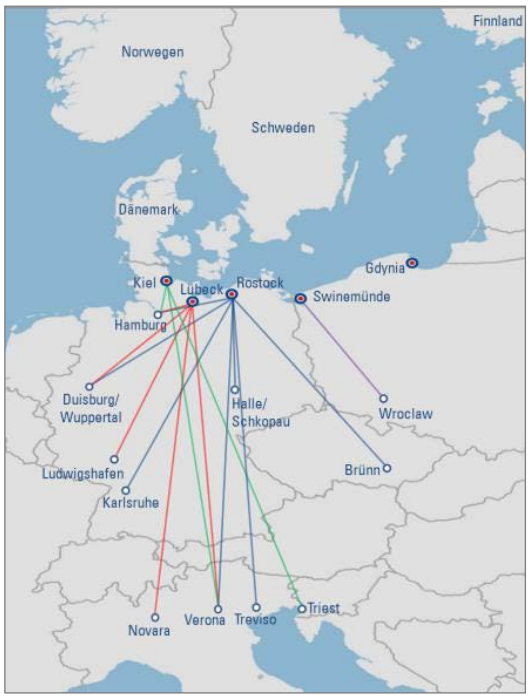
The ports of Rostock, Lübeck and Kiel connect long-distance destinations in the European hinterland with the intermodal train connections. After a similarly high level in 2004, the intermodal volume in the ports of Rostock and Lübeck has developed differently. In 2018, the Port of Lübeck achieved more than 100 000 CT transshipments for the first time, an increase by 20%. Lübeck was unstable with the initiation and suspension of its connections. With the Lübeck-Nuremberg corridor, a new route started in the second half of the year. By comparison, the port of Rostock, with almost 80,000 loading units handled, achieved a similar level as in the year before. At 10 %, the Port of Kiel was unable to achieve the previous year's level, which, among other things, is due to the frequency reductions at Kiel-Verona and the discontinuation of the Kiel-Trieste train service.

Intermodal units by port: Source: Port of Rostock



The Polish ports in Świnoujście and Gdynia do not offer regular intermodal connections yet, but have started to develop intermodal transport facilities. In December 2017, a pilot train with the length of approx. 300 m and 10 trailers was instated from Świnoujście to Wrocław for the Norwegian freight forwarder Bring.

Intermodal destinations and weekly departures by port:



A total of 14 trains (10 company trains, 4 open ones) run along the corridor from Rostock to and from Verona. 3 round trips per week (closed) to Cervignano and 2 trains to and from Treviso.

The Port of Rostock: Intermodal development vs. total RoRo volume

Source: Rostock Port

Relationen pro Woche		Kiel	Lübeck	Rostock
Verona	*(geschlossen)* *(offen)*	 4	 8	10 4
Hamburg	*(offen)*	5	3	3
Karlsruhe	*(offen)*		3	3
Duisburg	*(offen)*		11	
Wuppertal	*(geschlossen)*			3
Halle/Schkopau	*(offen)*			2
Brünn	*(geschlossen)*			6
Ludwigshafen	*(offen)*		6 6	
Novara	*geschlossen)* *(offen)*		3 1	
Cervignano	*(geschlossen)*			3
Curtici	*(geschlossen)*			1
Treviso	*(offen)*			2
Summe	*Gesamt*	9	41	37

In Rostock, the intermodal volume growth reflects the overall development of the ferry / RoRo volume. In 2018, intermodal freight transport in Rostock accounted for 15% of the total truck and trailer volume in the port.

While the intermodal facilities in Lübeck and Rostock are well developed, the Port of Kiel and the Polish ports of Świnoujście and Gdynia are currently building or expanding terminals and railway facilities to improve the hinterland rail transport.

Development of intermodal facilities by port:

	Kiel: Ostuferhafen	Kiel.: Schwedenkai	Lübeck: Skandinavienkai	Lübeck: CTL	Rostock	Swinemünde	Gdynia
Terminalbetreiber	KombiPort Kiel		Baltic Rail Gate	Lehmann GmbH	Rostock Trimodal	Ferry Terminal Swinoujscie	
							

2.3 Potential for an intermodal product along the corridor

2.3.1 The structure of the transport market

Region of Verona

The transport between the northern Italian region of Verona and Scandinavia is traditionally predestined for intermodal transport. The route to Rostock leads through the Brenner Pass, via Munich. Verona is the strongest hinterland connection of the Rostock Port with 14 departures per week in each traffic direction.

Verona (together with Milan) has always been a traffic junction and a hub and has always connected the east-west axis (France towards Eastern Europe) with the north-south axis (southern Italy towards southern Germany/north-eastern Europe and Scandinavia via the Brenner route).

The Milan region

The Milan region is not only the economic metropolis of Italy, but also the most important transport hub. Milan connects Lombardy, Piedmont, Liguria and central and southern Italy with western and northern Germany as well as the Benelux countries and Great Britain via the Gotthard route.
Milan is also the hub for the major seaports in Italy, such as Genoa and La Spezia.

The Trieste region

The Trieste region, as an economic region, does not have the importance of Verona and Milan, but owns a strong platform with its port. Above all, the most important Ro/Ro ferry connections to and from Trieste are with Turkey, with 10 departures and arrivals per week. However, the port of Trieste also plays an important role for some shipping companies in the maritime traffic to Asia.

The customer structure in Northern Italy

The customer structure in Northern Italy for services with Scandinavia/Finland can be broken down as follows:

Complete loads (complete transfer platforms or truck trailers in both traffic directions)

- Very few Italian companies
- Some large Austrian companies
- Eastern European freight forwarders on behalf of the Scandinavian freight forwarders (90% of whom travel by road)

General cargo

- General cargo is usually shipped to a hub in Germany and then forwarded to Scandinavia (in both directions)
- The very large market players form their own transform platforms, which run directly from and to Scandinavia (either through Rostock or Lübeck-Travemünde)

Most small freight forwarding companies have withdrawn from the market with Scandinavia. On behalf of their customers, they load the few cargo they have via third parties as an additional load. Within the field of complete and partial loads, freight forwarders are used.

2.4. Intermodal potential along the corridor

2.4.1 Terminals in the region

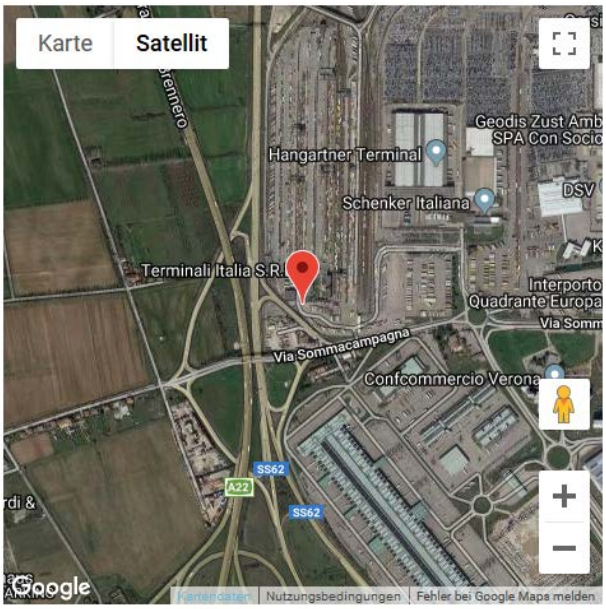
Verona

With the "Interporto Quadrante Europa" Verona commands one of the most modern and largest intermodal terminals in Europe. With the Rostock Port alone, there are fourteen connections in each direction. There are ten company trains and four open connections.

Verona Quadrante Europa < back to overview

Basic Information | Infrastructure | Services

Modes Served	**Road, Rail**
Terminal Operator	**Terminali Italia S.r.l. (Verona Quadrante Europa)**
Address	Via Sommacampagna 32 37137 Verona Italy
Contact Person	**Federica Ceccato**, Area Manager
Phone	+39 (045) 862 - 4411
FAX	+39 (045) 808 - 2173
E-Mail	fe.ceccato@terminaliitalia.it
Web	http://www.terminaliitalia.it
Opening Hours	Mo - Fr: 00:15 - 23:59 Sa: 00:00 - 11:30



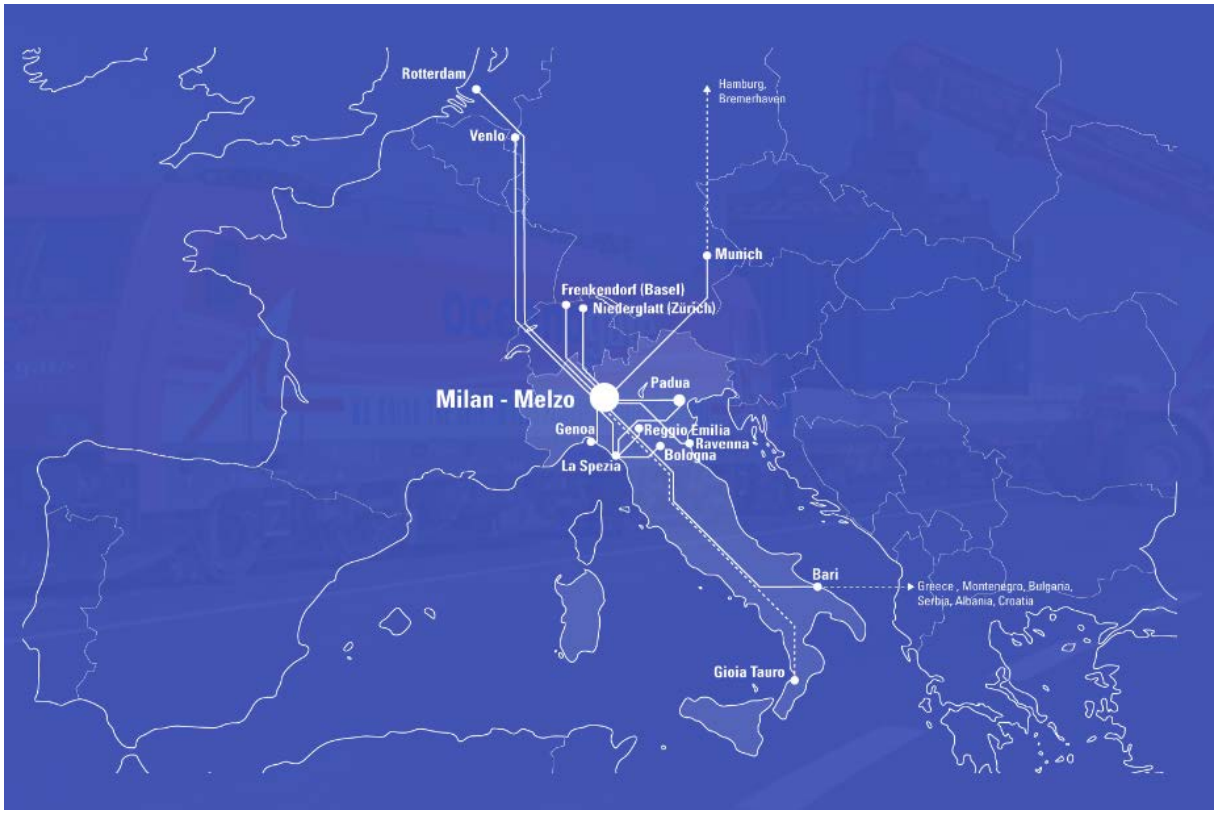

Quadrante Europa Terminal Gate
INTERPORTO
Quadrante Europa

Milan-Melzo

Melzo < back to overview

Basic Information | Infrastructure | Services

Modes Served	**Road, Rail**
Terminal Operator	**Sogemar S.p.A. (Melzo)**
Address	Via I Maggio, 1 20066 Melzo Italy
Phone	+ 39.02.9335360
FAX	+ 39.02.9335361
E-Mail	info@contshipitalia-sogemar.it
Web	http://www.contshipitalia.com
Opening Hours	Mo - Fr: 05:00 - 22:00 Sa: 05:00 - 12:00
Terminal Info	2015: extention ongoing



Source: Contship

Melzo's primary focus is on the maritime transport. The transports from the Italian ports are bundled and forwarded to Central Europe. The terminal is served by Hannibal belonging to the Contship Group, which is part of the German Eurogate Group.

Milan Busto Arsizio-Gallarate

Busto Arsizio-Gallarate

< back to overview

Basic Information | Infrastructure | Services

Modes Served	**Road, Rail**
Terminal Operator	**Termi SpA**
Address	Via Dogana 8/10 21052 Busto Arsizio Italy
Phone	+39 0331 373300
FAX	+39 0331 381146
E-Mail	info@hupac.com
Web	http://www.hupac.com
Opening Hours	Mo - Fr: 05:00 - 23:59 Sa: 00:00 - 11:45
Terminal Info	2012 extension finished

The expansion of the Gotthard route with the new railway tunnel has increased the frequencies (route intervals) to and from Central Europe, making Milan an even more important logistics location and rail hub, especially Busto Arsizio-Gallarate. This will increase even more beginning from 2020, as Switzerland will then be accessible throughout with the corner height of 4 m in combined transport.

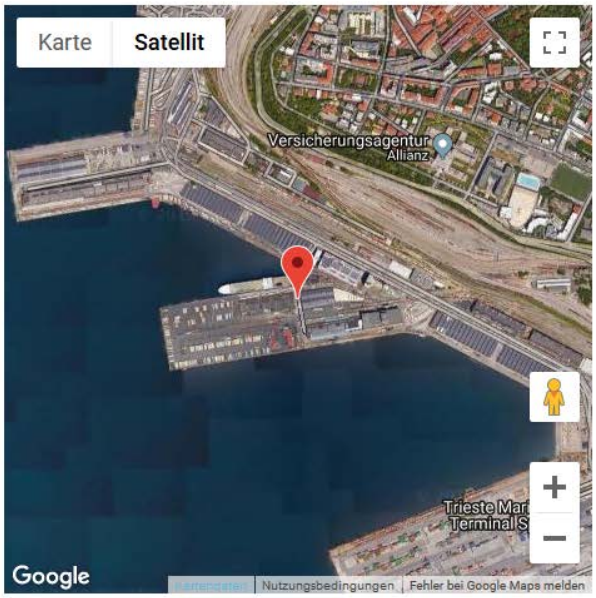
Trieste

Trieste - Europa Multipurpose Terminals

< back to overview

Basic Information | Infrastructure | Services

Modes Served	**Road, Rail, Ferry**
Terminal Operator	**Europa Multipurpose Terminals - EMT S.p.A.**
Address	Molo VI Punto Franco Nuovo 34123 Trieste Italy
Contact Person	**Michele Sinigoi**, Superintendent
Phone	+39 040 3220333
FAX	+39 040 3224484
E-Mail	info@emterminals.com
Web	http://www.emterminals.com



Trieste has developed to the largest hub for the ferry traffic between Turkey and mainland Europe.

Currently, there are the following ferry connections to and from Turkey:

- Trieste - Yalova (4 x weekly)
- Yalova - Trieste (4 x weekly)
- Trieste - Pendik/Istanbul (4 x weekly)
- Pendik/Istanbul - Trieste (4 x weekly)
- Trieste - Mersin (2 x weekly)
- Mersin - Trieste (2 x weekly)

Mostly there are unaccompanied trailers on the ferries. This results in a potential of around 1,000 incoming and outgoing trailers per week. These are primarily forwarded by rail from and to various stations in Central and Eastern Europe. Most of them to Germany and Austria. The ferry market is currently dominated by a large Scandinavian shipping company.

A company train of a large Turkish forwarding company to and from Kiel was discontinued due to the lack of traffic. Scandinavia is currently served via the HUB in Cologne. The economic crisis in Turkey has also contributed to this situation.

The freight forwarders in Turkey have moved together as a result of the crisis and are also sharing the ferries. This trend could also continue with freight forwarding via rail.

2.4.2 Intermodal development potential

Verona

The increase in the frequency of open trains was investigated. Due to the surveys with the parties concerned, it is currently difficult to establish an additional departure.

The current political and economic situation in Italy, as well as the currently strong Swedish currency increase the competition along the North/South corridor.

Nevertheless, due to the pressure on the road, freight transport by rail will grow and inevitably increase, especially in the intermodal combined transport.

In Austria, especially in the province of Tyrol, there are more and more measures aimed at the constant increase of the freight traffic by road, especially within the bottleneck of Tyrol.

It is therefore important to keep a close eye on the developments on the axis between Northern Italy - Scandinavia/Finland.

Milan

The logistics region and the railway location of Milan are traditionally oriented towards Central Europe through the Gotthard route, which is, so to say, on the doorstep. The expansion of this route will further strengthen the trend, so that services along other routes will experience a hard time.

As a relief for the south-eastern side of Milan, it could make sense to consider a train along the Brenner route to Rostock. Melzo lies on this side of Milan, which is convenient for traffic in the direction of Bergamo, Brescia and Verona. However, Melzo has been focused on the maritime traffic so far. Melzo has no experience with combined transport. Also, the operators do not like to see third parties operating a train within their terminal.

A large operator would extend the potential of the northern Italian region, especially Milan. The largest terminal in the Milan region, Busto Arsizio-Gallarate, is located north-west of the metropolis. Due to the large volume of traffic in the region, it is very difficult to reach the respective deadline from the south-east. For this reason, efforts have been activated to build and expand new terminals in the south-east (Brescia, Piacenza). However, these are medium-term prospects and it remains to be seen whether the route via the Brenner or Gotthard route should be chosen from these terminals.

Trieste

Due to the many Turkish freight forwarding companies that load their trailers onto the ferry via Trieste, the possibility of launching a service from Trieste to Rostock and on to Scandinavia v.v. is looming.
At the moment, the big freight forwarders have not come up with enough funds to form their own train. Reloading and a new forming in Germany leads to a time and money loss.
So there is the possibility to offer a neutral train offer. First freight forwarders have expressed their interest during the interviews.
The leading ferry shipping company on this route has also recently launched its own services in the intermodal sector, so that a cooperation has now become an option.

In point 3. a calculation of a train Trieste - Rostock and Rostock Trieste is depicted.

3. Train concept

3.1 Selecting an intermodal terminal

As the market analysis has shown, the quantities to / from Turkey via Trieste represent the most promising possibility and a basis for the development of a new intermodal connection from the Rostock Port to and from Northern Italy. The intermodal containers of the Turkish freight forwarders are currently loaded from Trieste mainly to Austria and Germany. Scandinavia is served via Germany. This entails additional costs and at least one day's time loss.

Due to the currency crisis, Turkish freight forwarders have been forced to cooperate on the ferry crossings instead of each individual freight forwarder organising their own crossing on their own account. This should also happen on train journeys now, so that the chances for an intermodal service Trieste - Scandinavia - Trieste have been increased. The Rostock Port is the closest port to Trieste, with the most connections to the Scandinavian countries.

Trieste Europa Multipurpose Terminal has been chosen as the southern terminal.

3.2 Train driving and frequency

The timetables must be coordinated with the ferry connections to and from Sweden and Finland and depend on the prevailing flows of goods to be carried out along the corridor. A train service between Rostock and Trieste could be operated on the following route:

Rostock - Halle - Nuremberg - Munich - Salzburg - Villach - Tarviso (from Villach possibly alternatively via Slovenia) - Trieste v.v.

Contrary to the Brenner and Gotthard routes, the above route is still reasonably suitable for new products.

3.3 Intermodal wagons

As the expected intermodal traffic along the corridor mainly uses trailers due to the roll-on / roll-off of the Baltic Sea ferries, the intermodal wagons selected for the planned Rostock-Austria connection must be optimised for this type of the intermodal units.

The latest wagon types, especially developed for the trailer traffic, are the standardised T2000 and T3000 models. The T3000 wagon type used for the cost modelling along the corridor disposes of the following main parameters:

Length over buffers (m): 34.2

Tare weight (t): 34.8 t

Payload (t): 80.0 t

Each six-axle articulated vehicle can transport two intermodal trailers.

With a maximum train length of 580 m in the corridor, 17 T3000 wagons with a capacity of 34 intermodal trailers can be converted into a multiple unit.

3.4 Cost estimate

Based on the assumptions above, a simplified estimate of the rail and operating costs for an intermodal product on the Rostock-Trieste route was prepared.

Distance Rostock - Nuremberg - Trieste (km): approx. 1,300 km

Average train speed in the network (km / h): 55

Minimum duration of a train set (days): 2

Type of the wagon: T3000

Wagons per multiple unit: 17

Average train utilisation (fill rate): 80% - 90%

Traction: Locomotive Electric AC 15kV, 16 2/3 Hz

The cost estimate for this report was based on the assumption that the service between Rostock and Trieste for the product is operated with selected resources (locomotives, wagons). Due to the volume and the distance, 2 to 3 rounds per week seem realistic.

The possibilities to add other products are limited. The possibility of a combination with maritime containers connecting Scandinavia with Trieste needs to be taken into account and clarified. For some shipping companies, Trieste is a port of call for the overseas traffic to and from Asia. These are only assumptions and this is certainly not possible to be implemented.

The cost estimate of an intermodal train connection on the corridor (one-way € / trailer) with an assumed train fill rate of 80%.

Frequency (roundtrips/week)	**2**	**3**
Total Cost (€/trailer, oneway)	950	900

The cost estimate of an intermodal train connection on the corridor (one-way € / trailer) with an assumed train fill rate of 90%.

Frequency (roundtrips/week)	**2**	**3**
Total Cost (€/trailer, oneway)	870	820

Estimated break even: € 26'000.00 per one-way trip

4. Market penetration

4.1 Market requirements for the intermodal product along the corridor

As shown in the Section 2.4.2, the intermodal market is highly concentrated along the corridor. In order to establish a new intermodal connection along the corridor, it is necessary to attract at least one of its large operators for the new train ("foothold") and then fill the remaining capacity with other, smaller customers. Some of the existing key customers along the corridor are more willing to accept an open train due to the economic situation.

The road traffic is only a limited competition on the route Trieste - Scandinavia. Instead, loading via a HUB in Germany is chosen in order to serve Scandinavia from there. This solution does satisfy the freight forwarders only to a limited extent and they use it for lack of alternatives.

A frequency of more than three rounds per week does not seem realistic. However, a higher frequency is not necessary on the route to Scandinavia for these transit times. A higher frequency would only make sense if the volumes were to increase massively again.

4.2 Marketing of an intermodal product

Launching and marketing of a new intermodal product on the Trieste - Rostock v.v. route could look as follows:

- Personal contacts with the Turkish freight forwarders
- Participation in trade fairs in Turkey, e.g.
    - Logitrans Turkey (next edition 13 - 15 November 2019)
    - or the associated trade fair Rail Cargo Turkey (13 - 15 November 2019)
- Negotiations with the ferry companies serving the route Trieste - Turkey

Contact with the Turkish exhibitors at the Transport Logistic trade fair in Munich between 4 - 7 June 2019

4.3 Chances and risks from the market perspective

There are good chances for the development of an additional service Northern Italy - Rostock based on the arguments presented in the report. The acquisition of one or more footholds has the absolute priority.

The price situation of this service is competitive with the comparable road transports, but only with a capacity utilisation of at least 80%.

Thus, regular capacity utilisation remains the greatest challenge and also the greatest risk for an intermodal product on this route. The economic development of Turkey is currently difficult to assess and is based not only on the economic factors but also on the political ones. Therefore, the utilisation risk is high.

There are also risks on the infrastructure side. Although the eastern axis is less utilised than the western one (Gotthard) or the Brenner route, the demand for intermodal products there is rising steadily as well. Passenger transport also places demands on the routes. A shortage of engine drivers is also a constant topic for the further development of intermodal products.