

**SOUTH BALTIC**  
PROFESSIONALS

# Port industries and labour markets in the South Baltic Regions

**A comparative study for ports of Mecklenburg-Vorpommern,  
Zachodniopomorskie, Pomorskie and Klaipeda regions**



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PROGRAMME



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## Introduction

The South Baltic regions are so called coastal EU regions, which mean that their socio-economic well-being to the large extent depends on port industries development. Ports generate economic effects in terms of employment and value added. The employment and value added per ton increases in case the goods undergo logistics and industrial transformations in the port area. Port labour force are very dependent on the structure cargo flows handled in the port. Port system employ a vast labour force linked to ships loading and unloading operations, ship operations and services (agencies, pilotage, towage and bunkering), land transport, logistics activities, cargo service (e.g. freight forwarding and customs brokering), industrial production and government agencies.

There are two aims of this study. The first is to outline the current developments in the port industries and employment in the South Baltic Region, and the second to identify the emerging activities in the port industry and to reveal the prospects and potential for port labour market development, taking into account the demand for labour, required professions, qualifications of the labour force, and some selected aspects of the port labour market arrangements.

This comparative study refers to four ports, namely Rostock (Mecklenburg-Vorpommern, D), port complex of Szczecin and Świnoujście (Zachodniopomorskie, PL), port complex of Gdańsk and Gdynia (Pomorskie, PL) and Klaipeda (Klaipeda District LT).

Prospects for the economic development and employment potential specified for each port are consequently elaborated. The analysis of the port industries in the South Baltic Region reveals some crucial differences in terms of port developments, impact of port industries for labour markets and employment potential and prospects. The phenomenon of the diverse demand for port labour force and prospects for quantitative and qualitative labour demand in the port industries has been identified. Finally, selected organization and economic aspects of labour markets in the port industries has been outlined.

The port economy is complex and encompasses diverse activities, both in scope and scale, and therefore there are no clearly defined general terms for the phenomenon. In keeping with the above-stated aims of this study, despite its internal diversity, analysis was carried out for the core port activities, including:

- port handling and storage, activities of maritime transport agencies like customs, shipping agencies, ship brokering and forwarding, inspections and supervising, as well as port governance and other activities supporting maritime transport, encompassing port navigation services as pilotage, towage and mooring, dredging works within port basins, and other unspecified port and maritime services.

As port industry itself is complex, a generally accepted definition of port labour or port worker does not exist either. In this study, port labour/workers are considered as labour engaged in the loading and unloading of ships and other modes of transport and in a number of ancillary port-based services such as storage and processing of goods in warehouses and

in port logistics areas/centres. If port labour is by definition carried out within a port area, workers engaged in activities of maritime transport agencies like shipping agencies, ship brokering and forwarding, as well as port governance and other activities supporting maritime transport, encompassing port navigation services such as pilotage, towage and mooring should also be considered. In the latter, information was only available as to Polish ports.

## Methodology of the study

The methodology of the study includes the research based on primary (qualitative) and secondary information resources. The latter consists of desk research, analysis of available reports, studies, press releases and database regarding economic and labour situation in the relevant maritime segments and regions.

In order to achieve consistency of the data, the single port was given some priority over an overall cross-regional comparability due to scarcity and diversity and low accessibility of the statistics, especially in case of Germany and Lithuania. However, through critical analysis and additional estimates, the study provides sufficient and an updated information for defining the current trends in economic and employment developments in port industries of the South Baltic Region which allows for the consistent comparative study.

### 1. Port industries developments in the South Baltic Regions

#### 1.1. Port of Rostock- Mecklenburg-Vorpommern (D)

With an area of 750 hectares, Rostock is the largest German Baltic Sea port. The Federal State of Mecklenburg-Vorpommern and the Hanseatic City of Rostock are the owners of the port of Rostock. Their interests are represented by the company Hafen-Entwicklungsgesellschaft Rostock (Rostock Port Development Company), which focuses its work on improvement of port infrastructure as well as on its maintenance. The company is also the single operator of the ferry and cruise ship terminals. Additionally, it is a co-owner of the company operating of the terminal for combined freight traffic.

In 2014, the port companies in of Rostock handled 24.16 million tons of cargo. The share of wheeled cargo in the total handling of Rostock seaport amounted to 56 per cent of the total throughput. 12.3 million tons of ferry cargo and 1.25 million tons of ro-ro cargo rolled on and off vessels in the port of Rostock.

Combined cargo handling is another significant growth factor for the Rostock seaport. Cargo handling at the roro-terminal is dominated by transshipment of paper from Finland. In connection with port operations, more than 30 intermodal trains operate weekly between the Intermodal Transport Terminal in Rostock and Verona, Hamburg, Karlsruhe, Brno, Novara, Duisburg, Domodossola and Wels.

In 2014 bulk cargo handling recorded 7.1 million tones and comprised grain handling (3.2 million tons), fertilizers, cement, coal/construction materials, general cargo and liquid cargo.

During the last decades the port of Rostock foregone quite transition from the former universal towards ferry/Roll-on/Roll-off and combined cargo centre. At present ferry/ro-ro traffic constitutes more than 56 per cent of the total port throughput.

Freight transshipment in the port of Rostock in terms of volume and traffic structure has been depicted in table 1.

Tab. 1. The port of Rostock cargo handling according to type of traffic in 2010-2014 (mln t.)

Type of traffic	2010	2011	2012	2013	2014
Liquid Cargo	4.6	2.9	3.0	2.5	3.0
Bulk	6.0	5.8	5.3	6.0	7.1
General Cargo	0.4	0,5	0,5	0.5	0.45
Ferry/RoRo	12.7	13.0	12.4	12.3	13.6
<b>Total</b>	<b>23.7</b>	<b>22.2</b>	<b>21.2</b>	<b>21.3</b>	<b>24.16</b>

Source: <http://www.rostock-port.de/>

The strengths and the most developed port activity relates to roll-on/roll-off and ferry freight transported to/from Denmark, Sweden and Finland. Any fluctuation in this segment of trade and shipping has direct influence on Rostock port throughput and economics, as seen in the

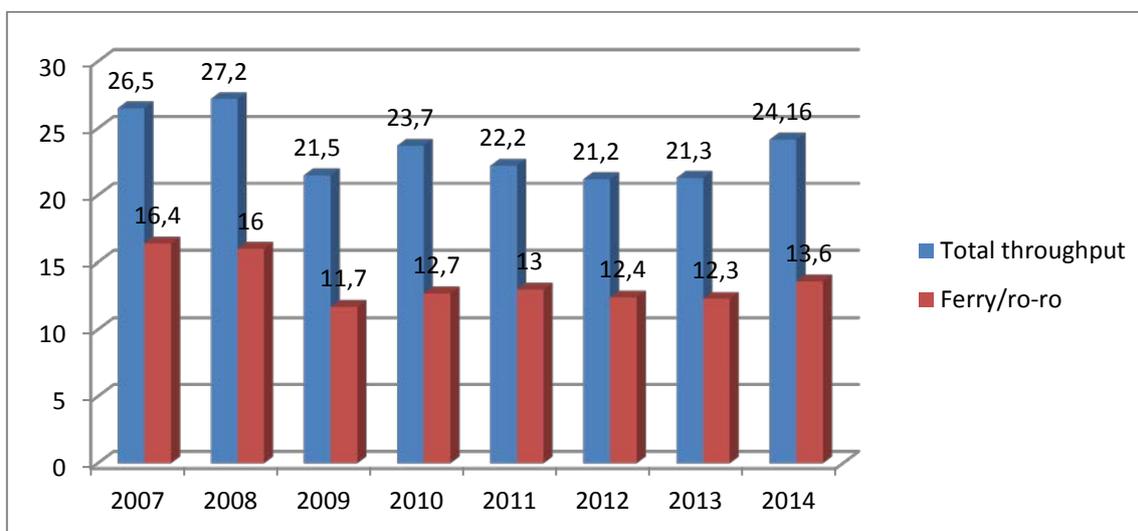


Fig. 1. Port of Rostock cargo handling dependence on ro-ro throughput in 2007-2014 (mln t.).

Source: own elaboration basen on <http://www.rostock-port.de/>

## 1.2. Port of Szczecin and Świnoujście- Zachodniopomorskie (PL)

In the region there are two main seaports, namely; Szczecin and Świnoujście, under common governance of one port authority. The port of Swinoujscie located at seacoast can accommodate vessels of draught of up to 13.2 m and length up to 270 m. The port consists of two main parts, dry bulk centre and ferry terminal. Dry bulk terminals handle mostly coal

(exports and imports), iron ore and other bulk cargo. There is also a new terminal for handling of agro-food products with an annual capacity of 50,000 tons.

Ferry terminal in Świnoujście handles passenger and freight transported with high frequency by, at present, ten sea-going ferries commuting on lines to and from Sweden (Trelleborg and Ystad).

The port of Szczecin is located about 67 km south of the seacoast and it is connected with Baltic by the waterway of 10.5 m depth. The single ship trip to port takes about 4 hours. Port in Szczecin is available for smaller vessels with draught of up to 9.15 m and lengths of up to 215 m. This is a universal port and it handles dry bulk cargo (coal, grain, fertilizers) also general and containerized cargo. Freight transshipment in the port complex of Szczecin and Świnoujście has been outlined in table 2.

Tab. 2. The port complex of Szczecin and Świnoujście cargo handling according to type of traffic in 2010-2014 (mln t.)

Type of traffic	2010	2011	2012	2013	2014
Coal	7.3	5.4	4.3	4.5	4.6
Iron ore	0.5	0.5	0.7	2.7	1.9
Other bulk	2.2	3.7	4.0	2.9	3.3
Grain	1.3	1.1	1.4	1.6	1.6
General cargo wherein:	8.5	9.3	9.4	9.4	10.3
Ferry cargo	5.8	6.2	6.5	6.6	7.4
Oil and products	1.0	1.4	1.4	1.6	1.7
Total	20.8	21.4	21.3	22.8	23.4
Containers (TEU,thou.)	56.5	55.1	52.2	62.3	78.4

Source:www.portofszczecin.pl

A noticeable growth of ports cargo throughput was recorded in recent years to 23.4 million tons, mostly because of the developments of ferry cargo traffic, which share in total throughput raised in 2014 to nearly 32 per cent of the total transshipment (Figure 2.)

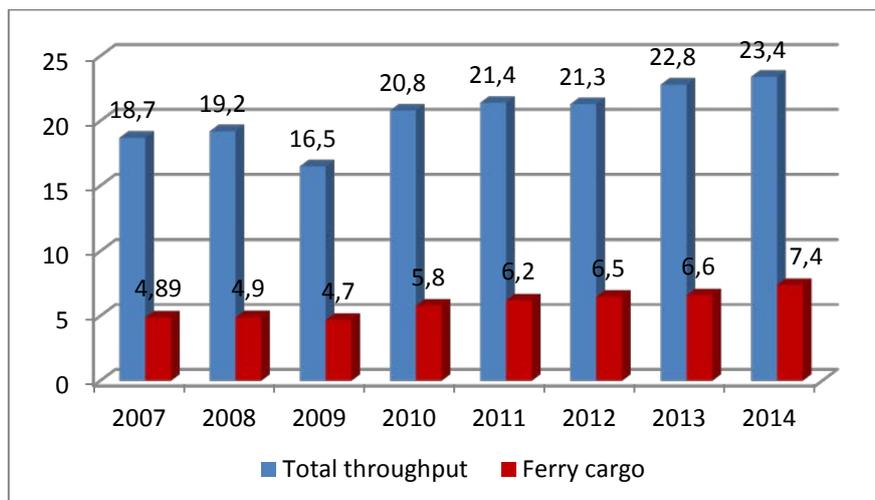


Fig. 2. Ports of Szczecin and Swinoujscie cargo handling throughput in 2007-2014 (mln t.)

Source:www.port.szczecin.pl

### 1.3. Ports of Gdańsk and Gdynia-Pomorskie (PL)

In Pomorskie region there are two main Polish seaports located, namely; Gdynia and Gdańsk.

The Port of Gdynia is a universal port specializing in handling general cargo, mainly unitized cargo transported in containers and in a ro-ro system. Handling of the containerized cargo at the port of Gdynia is the domain of two modern container terminals. Another two terminals are dedicated to handling ro-ro cargo and conventional general cargo. There are also terminals handling grain, coal and other bulk cargo. Port of Gdynia throughput developments in recent years has been presented in table 3.

Tab. 3. The port of Gdynia cargo handling according to type of traffic in 2010-2014 (mln t.)

Type of traffic	2010	2011	2012	2013	2014
Coal& coke	1.7	1.4	2.0	2.6	2.1
Other bulk	2.2	2.7	1.8	1.6	1.5
Grain	1.7	1.6	1.8	2.2	2.9
General cargo	8.2	9.6	9.9	11.1	12.7
Oil products	0.9	0.6	0.2	-	0.2
Total	14.7	15.9	15.8	17.7	19.4
Containers (TEU,thou.)	485.3	616.4	676.3	729.6	849.1

Source: www.port.gdynia.pl

The Port of Gdansk is comprised of two principal sections with naturally diverse operational parameters: the inner port and the outer port affording direct access to the Gulf of Gdansk. The **inner port** can accommodate vessels of up to 10.2 m draft and 225 m in length while the **outer port** can accommodate the largest vessels navigating the Baltic Sea. This part of the port is suited for servicing vessels along the piers ranging from 220 m to 765 m in length and up to 15 m draft.

The inner port offers a comprehensive range of terminals and facilities designed to handling containerised cargo, passenger ferries and ro-ro vessels and citrus fruit, sulphur, phosphates and other bulk. The other quays are universal in use and enable the handling of conventional general as well as bulk cargo such as rolled steel products, oversize and heavy lifts, grain, fertilizers, ore and coal.

The outer port performs its operations on piers, quays situated immediately on the waters of the Gulf of Gdansk. This section of the port offers facilities suited to handling energy raw materials such as liquid fuels, coal and liquefied gas. The outer port also accommodates modern Deepwater Container Terminal.

Container handling at the Port of Gdansk is concentrated at the Deepwater Container Terminal and in the inner port. The Deepwater Container Terminal is designed to accommodate the largest vessels that can enter the Baltic Sea i.e. post-panamax vessels. Freight transshipment in the port of Gdańsk in terms of volume and traffic structure has been depicted in table 4.

Tab. 4. The port of Gdansk cargo handling according to type of traffic in 2010-2014 (mln t.)

Type of cargo	2010	2011	2012	2013	2014
Coal& coke	3.2	1.8	1.9	4.6	3.3
Other bulk	2.7	5.0	4.3	2.7	3.6
Grain	0.78	0.8	1.0	1.5	1.6
General cargo	6.1	7.3	8.9	10.5	11.2
Oil and oil products	14.4	10.4	10.7	11.0	12.5
Total	27.2	25.3	26.9	30.3	32.3
Containers (TEU,thou.)	511.9	685.6	928.9	1,177.6	1,212.1

Source:www.portofgdansk.pl

Ports of Gdańsk and Gdynia has witnessed in the recent years a profound development both in terms of total throughput (Figure 3) and in container handling (Figure 4).

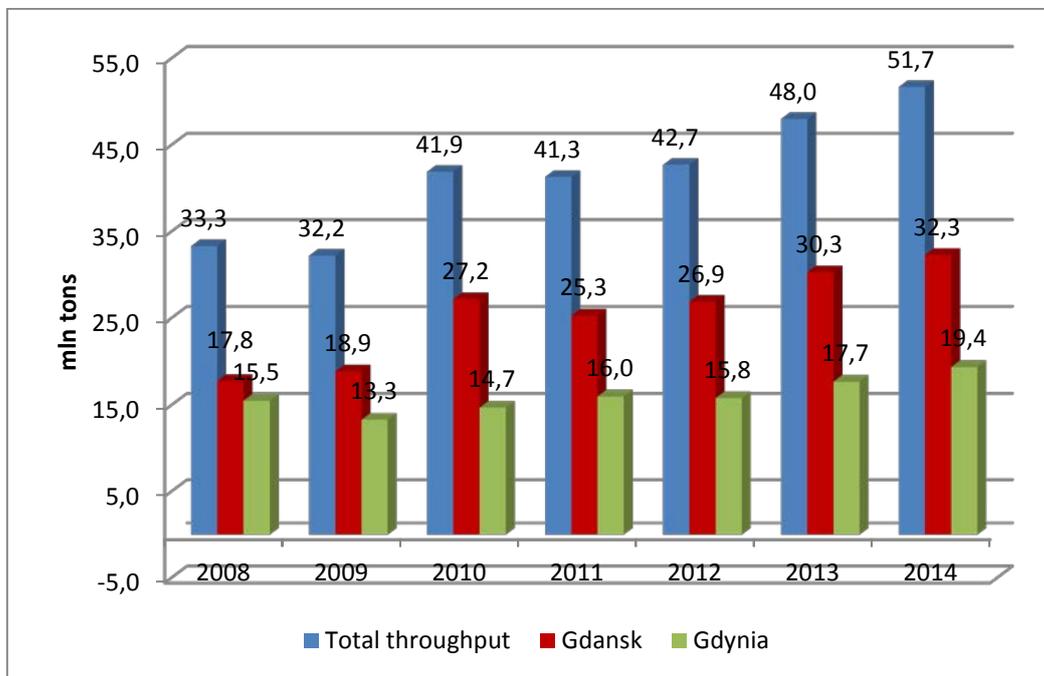


Fig. 3. Ports of Gdańsk and Gdynia handling throughput in 2008-2014 (mln t.)

Source: own elaboration based on www.port.gdynia.pl and www.portofgdansk.pl

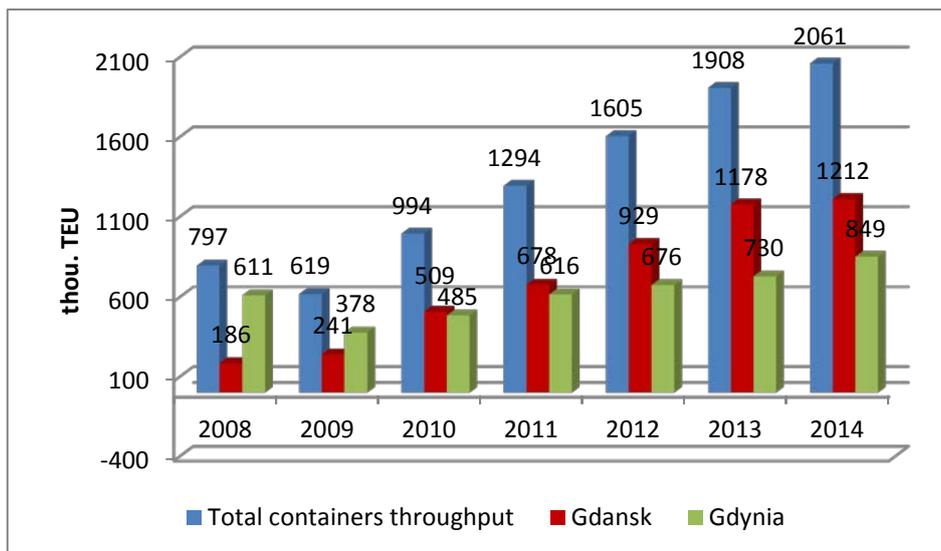


Fig. 4. Ports of Gdansk and Gdynia container transshipment in 2008-2014 (TEU, thou.)

Source: own elaboration based on [www.port.gdynia.pl](http://www.port.gdynia.pl) and [www.portofgdansk.pl](http://www.portofgdansk.pl)

Both Polish ports of Gdynia and Gdansk in 2014 handled 51,7 million tons and 2.1 million TEU. Through the successful development of five modern port container terminals, two of them located in port of Gdansk and remaining three terminals in port of Gdynia, an annual rate growth of container traffic has reached recently a profound growth. Only Deepwater Container Terminal container throughput alone expanded in 2014 to 1,188.4 thou. TEU. Direct calls of the large deep-sea going container ships to Gdańsk enable the port to act as Baltic transshipment hub

The most striking change is that seaports of Pomorskie Region record a fast developing container traffic, which raised for both ports as from 4.3 million tons in 2006 (12.5 per cent of combined turnover), to 15 million tons in 2014 (29 per cent of total throughput).

This radical and still progressing changes are clearly visible as depicted in Figure 5.

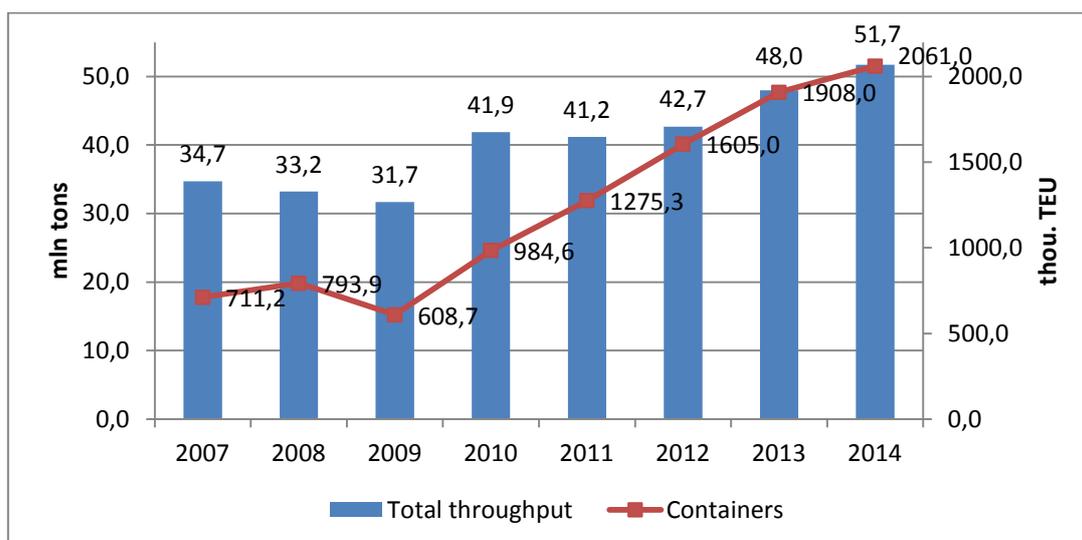


Fig. 5. Ports of Gdansk and Gdynia total cargo and container handling throughput in 2007-2014.

Source: own elaboration based on [www.port.gdynia.pl](http://www.port.gdynia.pl) and [www.portofgdansk.pl](http://www.portofgdansk.pl)

#### 1.4. Port of Klaipeda- Klaipeda District (LT)

Klaipeda is a multipurpose, universal, deep-water port. There are three bulk fertilizer terminals, two liquid fertilizer terminals, two oil product terminals, two container terminals (Klaipeda Container Terminal and KlaipedosSmelte Container Terminal), three Ro-Ro terminals, one timber terminal, and a cement terminal operating in the port.

The capacities of the Klaipeda port to handle cargo have substantially increased over the last decade and since 2010 the port has been recording more than 30 million tons of annual throughput. In 2014 Klaipeda seaport cargo handling turnover increased to 36.4 million tons. Port throughput in 2014 comprised fertilizers of 11.9 million tons and this is the most abundant cargo of Klaipeda seaport accounting for 33 per cent of the overall cargo handling throughput. Another important dry bulk cargo groups handled comprise agriculture products amounted in 2014 to 3.6 million tons, including 2.89 million of grain.

Containerised cargo recorded 5.6 mln tons and in terms of standard units it amounts 450 thou. TEU, followed by ferry freight of 4.3 million tons respectively 252 thou. freight units, stemming from the ro-pax lines operated by DFDS.

Port of Klaipeda throughput developments in the recent years has been presented in table 5.

Tab. 5. The port of Klaipeda cargo handling according to type of traffic in 2010-2014 (mln t.)

Type of traffic	2010	2011	2012	2013	2014
<b>Total throughput</b>	<b>31.28</b>	<b>36.59</b>	<b>35.24</b>	<b>33.42</b>	<b>36.41</b>
Liquid bulk wherein:	-	-	10.2	8.9	7.9
Oil products	-	-	10.2	7.0	6.2
Dry bulk wherein:	-	-	14.1	14.0	17.0
Fertilizers	-	-	7.7	6.9	11.9
Agriproducts	-	-	2.7	3.2	3.6
General cargo wherein:	-	-	11.0	10.6	11.5
Containerised cargo	-	-	4.4	4.6	5.6
Containers (TEU,thou.)	295	382	381	403	450
Ro-ro cargo	-	-	4.8	4.6	4.3
Ro-ro units (thou.)	229	261	264	261	252

Source: statistics compiled from [www.portofklaipeda.lt](http://www.portofklaipeda.lt)

What is important in terms of sustainable port industry development, the share of Lithuanian cargo in total port turnover has raised recently to nearly 60 per cent, while transit traffic share has been reduced to 40 per cent. In the latter issue, it is Belarusian cargo which dominates, supplemented by Russian transit traffic. Only in 2000, the traffic structure was quite opposite, 64 per cent used to be transit and 36 per cent of Lithuanian trade. The port of Klaipeda is less dependent on transit traffic than other ports of the Baltic States. It means Klaipeda port has made efforts to stabilize grounds for port sustainable development and,

what important, raised annual cargo throughput thereof. These trends in Klaipeda port industry has been outlined in the Figures 6 and 7.

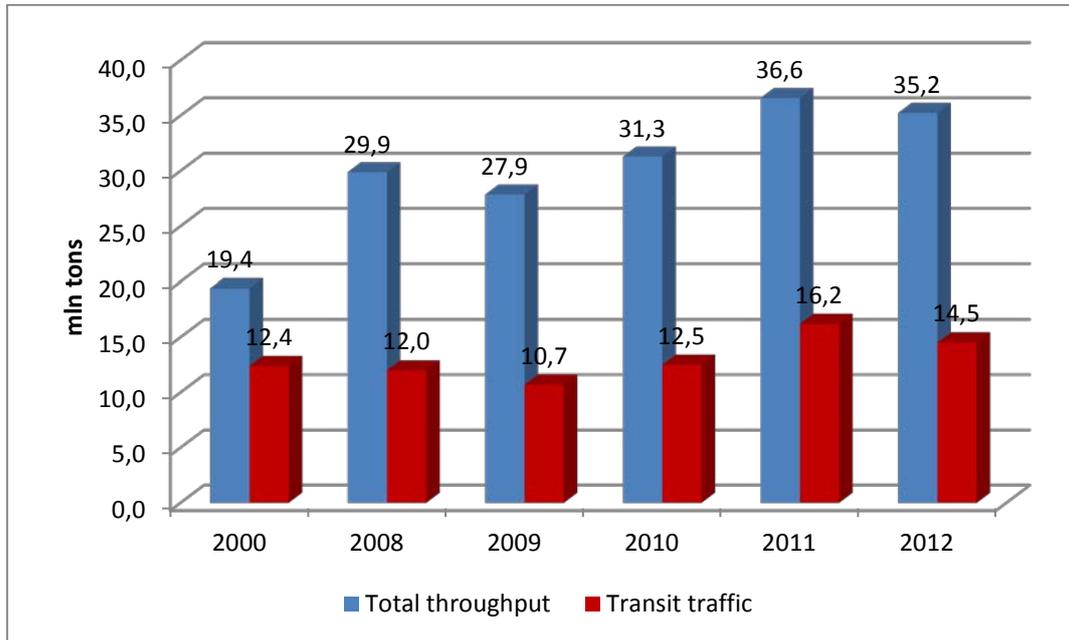


Fig. 6. Total and transit cargo throughput in port of Klaipeda (mln t.)

Source: own elaboration based on [www.portofkalipeda.lt](http://www.portofkalipeda.lt)

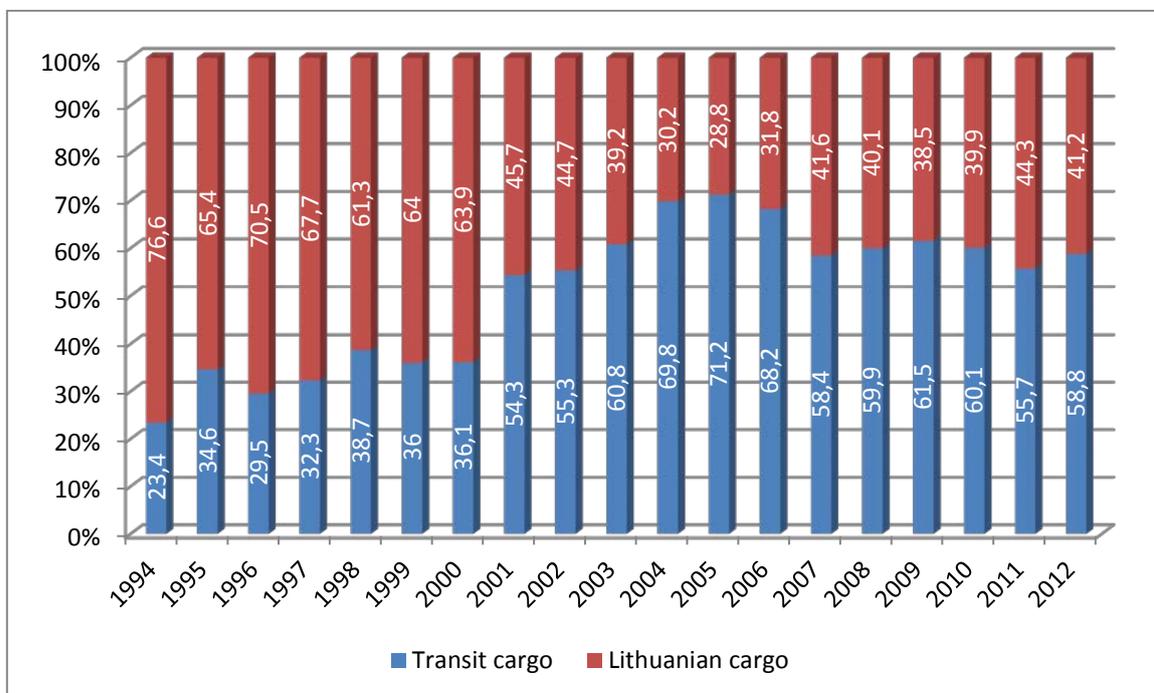


Fig. 7. Lithuanian and transit traffic structure in port of Klaipeda (%).

Source: [www.portofklaipeda.lt](http://www.portofklaipeda.lt)

## 2. Impact of port industries for labour markets in the South Baltic Regions

### 2.1. Employment and demand for labour induced by the port of Rostock

Approximately 5.500 people are working at the seaport overview of companies and authorities in the port of Rostock. There are presently about 150 companies located at the port that are involved in production, storage and cargo handling, or provide services for the shipping, transport, cargo and goods handling industries. Some 3,800 people are professionally engaged in port services like cargo handling and storage provide services for shipping, transport and logistics, forwarding and other port related services. Additionally, there are about 200 employees working in the port of Wismar. In the port of Rostock, the number of port companies, organizations and authorities rendering port services is about 80, of which 18 companies are engaged in cargo handling and storage operations, about 20 companies dealing with transport and logistics, 13 involved in ship brokering, some 20 companies of other port related services, supplemented by authorities, organizations and institutions<sup>1</sup>. The structure of the companies in the seaport has changed from the smaller number of large enterprises, to the bigger number of smaller companies in recent years.

Employing over 170 employees, Hafen-Entwicklungsgesellschaft Rostock, is among the largest employers in the port services sector. The second large employer of port workers is EUROPORTS Germany with its subsidiary companies.

There are also about 20 companies of maritime industry located within port area, with the largest employers in the port area as EEW Special Pipe Construction, Liebherr-MCCtec Rostock, BIOPETROL INDUSTRIES AG and Grosstanklager-Ölhafen Rostock.

Liebherr-MCCtec Rostock is the centre for manufacturing of marine cranes and had its effect on employment figures at the Rostock location. The production created 800 new jobs. Increasing activity in the technical and sales areas at Rostock location led to a considerable increase in staff during 2013, and this trend, as reported by the company, will persist in coming years.

EEW Special Pipe Construction produces large diameter, thin and heavy wall thickness pipes in carbon and stainless steels. Products range from the offshore wind power oil and gas process plant to steel construction industry. There have been recently new 300 jobs created through EEW and EUR 60 million have been so far invested. Further expansion of the production and employment is projected.

Current economic and employment developments in the port industry in the Mecklenburg-Vorpommern region, as specified in Table 6 below, may be characterized as follows:

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<sup>1</sup>Internal information gathered from different sources

Tab. 6. Economy and employment in the port of Rostock in 2011.

Sectors of port economy	No of companies	Employment	Sales revenue
			(Mio EUR)
Total port services and port maritime industry where in:	150	5,500	900
cargo handling and storage, services for shipping, transport and logistics, forwarding and other port related services	80	3,800	691

Source: own elaborations based on C. Peron, Mecklenburg-Vorpommern: a regional profile, CoesioNet, European Cohesion and Territories Research Network, November 2011.

- Port industry distinguishes both in economic and employment terms while the port market structure remains concentrated
- Port labour is mostly engaged in ferry, ro-ro and intermodal solutions, supplemented by transport and logistics services

## 2.2. Employment and demand for labour induced by ports of Szczecin and Świnoujście

Cargo handling and storage in the seaports of Szczecin and Swinoujscie is performed by 91 companies, which give jobs for 1,965 dockers. The total sales of this subsector of port industry amounted in 2011 to EUR 155 million. After employment reduction in port handling in the last decade, at present it stabilizes also because of the substantial developments in number of small and medium size enterprises. In the biggest stevedoring company there find employment of about 500 port workers. Other activities supporting maritime transport comprises port navigation services like pilotage, towage and mooring, some dredging works within port basins, other port and maritime services. There are totally 130 port entities involved in that kind of business with total employment of 512 persons and with sales of EUR 46 million. Activities of maritime transport agencies consist of shipping agencies, ship brokering and forwarding, inspections and supervising also port governance. In this port subsector, 1,165 people are employed in 103 companies and recorded sales in 2011 resulted in EUR 212 million.

At present the port industry in the Zachodniopomorskie region, as outlined in Table 7 below, is characterized in terms of economics and employment by the following:

Tab. 7. Economy and employment in the ports of Szczecin and Świnoujście in 2011

Sectors of port economy	No of companies	Employment	Sales revenue
			(Mio EUR)
<b>Total port industry</b>	<b>324</b>	<b>3,642</b>	<b>413</b>
where in:			
Cargo handling and storage	91	1,965	155
Pilotage, towage and mooring, dredging works within port basins, other port and maritime services	130	512	46
Shipping agencies, ship brokering and forwarding, inspections and supervising also port governance	103	1,165	212

Source: own elaborations based on Statistical Yearbook of Maritime Economy, Central Statistical Office and Statistical Office in Szczecin, Warsaw-Szczecin 2012.

- Activities of numerous agencies like forwarding, shipping and brokering also other port related services dominate in the port industry in terms of sales revenue and employment
- Cargo handling sector is supported by many small and medium size companies what creates grounds for employment in the port industry
- The most labour-intensive sectors refer to activities of transport intermediaries like shipping agencies and forwarding followed by handling and storage services

### 2.3. Employment and demand for labour induced by the ports of Gdańsk and Gdynia

In 2011 in two ports of Gdynia and Gdansk there were 199 stevedoring companies recorded with total employment of 2,646 people and with total sales of EUR 209 million. Other activities supporting maritime transport consist of 113 entities with employment of 1,335 people and with total sales of EUR 120 million. There are 246 companies involved in the sector of maritime agencies. They give jobs for 2,180 people and recorded sale revenues of EUR 504 million<sup>2</sup>.

The port industry of Pomorskie region, exemplified in Table 8 below, is presently distinguished by the following:

Tab. 8. Economy and employment in the ports of Gdynia and Gdańsk in 2011

Sectors of port economy	No of companies	Employment	Sales revenue
			(Mio EUR)
<b>Total port industry</b>	<b>558</b>	<b>6,161</b>	<b>833</b>
where in:			
Cargo handling and storage	199	2,646	209

<sup>2</sup>Maritime Economy in Pomorskie Voivodship in the years 2009-2011, Statistical Office in Gdansk, 2012

Pilotage, towage and mooring, dredging works within port basins, other port and maritime services	113	1,335	120
Shipping agencies, ship brokering and forwarding, inspections and supervising also port governance	246	2,180	504

Source: own elaborations based on Statistical Yearbook of Maritime Economy, Central Statistical Office and Statistical Office in Szczecin, Warsaw-Szczecin 2012.

- in economic and labour terms port industry is dominated by port logistics, forwarding and maritime agencies and this segment supports handling and storage activities,
- port industry features sound results as regards sales revenue and number of employees, and the structure of the sector is much diversified in number and size of companies
- the most labour-intensive segment refers to cargo handling and storage followed by shipping agencies, ship brokering and forwarding

#### 2.4. Employment and demand for labour induced by the port of Klaipeda

The total employment in the various port related activities in Klaipeda is estimated on 2,730 people. The number of stevedoring companies comprises over 30 entities, of which 7 biggest stevedoring companies employ totally 2,159 port workers while the rest ten port operators employ 481 persons. The five biggest stevedoring companies are respectively Klasco (967 employees), Klaipedos Nafta (316), Bega Klaipeda Stevedoring (300), Klaipedos Smelte (285) and Klaipedos Terminalas (250). In the rest of companies employment ranges between 20-100 stevedores. There are also some 99 shipping agencies active in the port and numerous forwarding companies. Klaipeda Free Economic Zone has been operational since 2002, and there are 17 companies employing 1,285 persons. Total number of employees in the port authority of Klaipeda port, as of mid-2013, amounts 259 persons.

Maritime works and other maritime services are scattered along the main maritime branches, located in and outside of the port area. There were seven companies distinguished involved in marine projects, with the largest as Hidrostatyba with 460 employees and Klaipedos hidrotechnika, which gives jobs for about 250 people. There are several companies, institutions and authorities related to the maritime economy. It is a labour intensive branch comprises classifications and inspections institutions (250 officers), Klaipeda Customs Office (employing about 525 persons), Maritime Safety Administration (125 people) and auxiliary service like bunkering and crewing (500 persons).<sup>3</sup>

<sup>3</sup>An exhaustive analysis of employment trends in all sectors related to sea or using sea resources. Country report-Lithuania. Ecotec Research and Consulting together with Dagne Eitutyte , August 2006

The developments in the Klaipeda port, in terms of economics and employment, elaborated in Table 9 below, present the following features:

Tab. 9. Economy and employment in the port of Klaipeda in 2010

Sectors of port economy	No of companies	Employment	Sales revenue
			(Mio EUR)
Total Shipping and port activities where in:	309	2,730	727
Handling and storage	<b>30</b>	<b>2,159</b>	<b>575</b>

Source: Foresight study (Lithuania) GenerationBalt, May 2012, R. Viederyte, Maritime sector impact on the economy of Lithuania, Economics and management 2012, nr 17 (1).

- Port industry distinguishes in economic terms while the number of employees is quite limited
- Port market structure is much concentrated in cargo handling and storage while the segment of other port supporting activities record many small companies which are quite sensitive on changes in level of transshipment and market size
- the most labour-intensive segment refers to cargo handling and storage but the number of employees, in general, remains on the same level regardless transshipment developments

Current developments of the port industries in the South Baltic Region has been depicted in table 10 and is presently distinguished by the following:

Tab. 10. Economy and employment in the port industries of the South Baltic Region in 2011

Seaports	No of companies	%	Employment	%	Sales revenue	%
					(Mio EUR)	
<b>Total</b> where in:	<b>992</b>	<b>100</b>	<b>15,762</b>	<b>100</b>	<b>2,512</b>	<b>100</b>
Port of Rostock	80	8,1	3,800	24,1	691	27,5
Ports of Szczecin and Świnoujście	324	32,6	3,642	23,1	413	16,4
Ports of Gdańsk and Gdynia	558	56,3	6,161	39,1	833	33,2
Port of Klaipeda (2010)	30	3	2,159	13,7	575	22,9

Source: own estimated figures

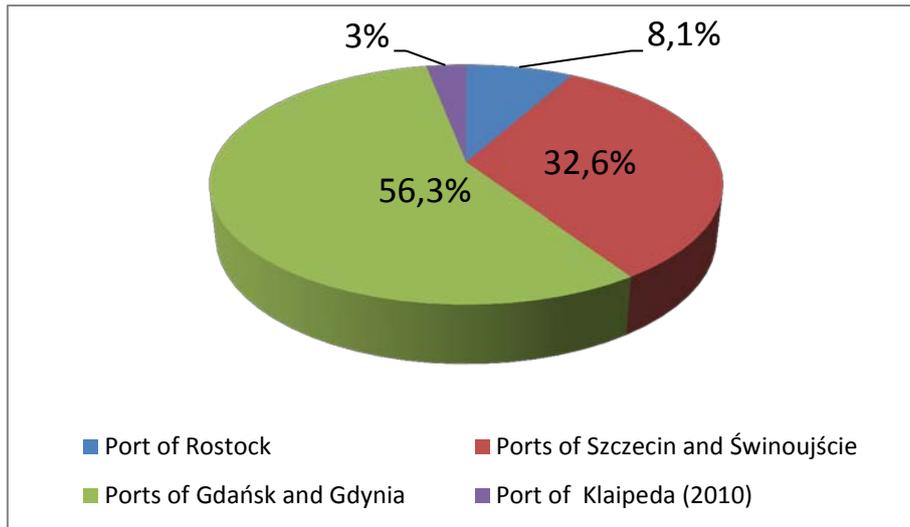


Fig. 8. Number of companies in the port industries of the South Baltic Region in 2011 (in %)

Source: own elaboration

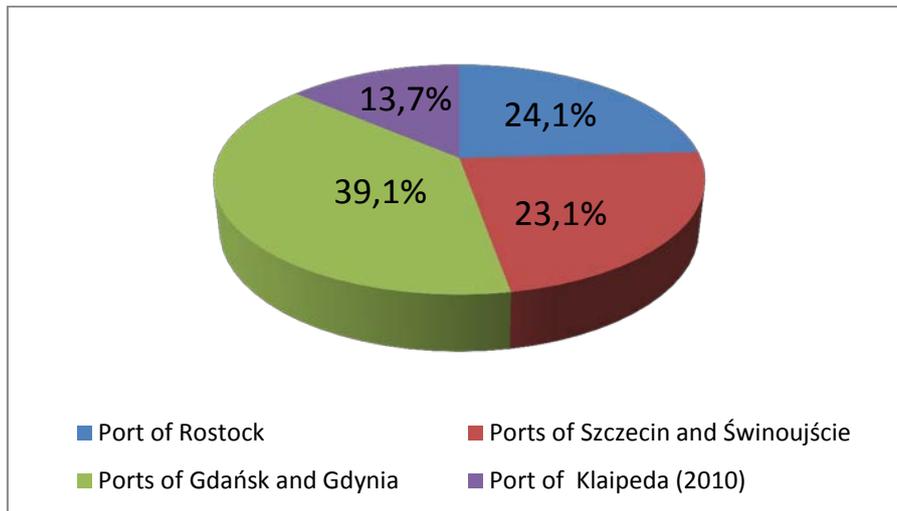


Fig. 9. Employment in the port industries of the South Baltic Region in 2011 (in %)

Source: own elaboration

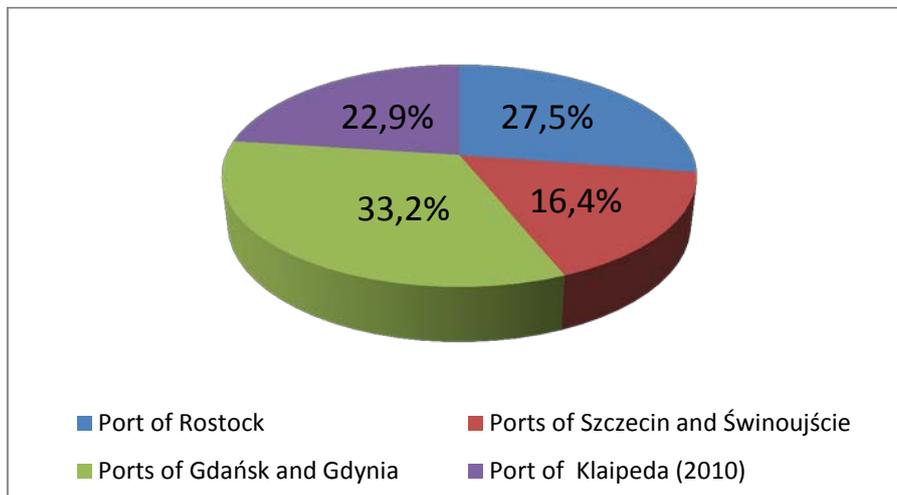


Fig. 10. Sales revenue in the port industries of the South Baltic Region in 2011 (in %)

Source: own elaboration

- Port industries of Klaipeda and Rostock if measured by the number of companies are much concentrated while industry structure of ports of Szczecin and Świnoujście and ports of Gdańsk and Gdynia is much de-concentrated and diversified
- In economic terms, measured by weighted sales revenue, ports of Gdańsk and Gdynia are followed by ports of Rostock and Klaipeda, and ports of Szczecin and Świnoujście
- In terms of number of employees, leading ports of Gdańsk and Gdynia and port of Rostock are supplemented by ports of Szczecin and Świnoujście and port of Klaipeda.
- Ports of Gdańsk and Gdynia and port of Rostock are on path of sustainable development while port of Szczecin and Świnoujście needs improvement in market share and port of Klaipeda needs reinforcement of in-place port industry (number of companies and employment)
- The most labour-intensive segments refer to activities of transport intermediaries like shipping agencies and forwarding, followed by handling and storage services; advanced mechanisation and automation in transshipment lead to labour saving solutions while logistics and forwarding also maritime agencies are labour intensive

Port labour costs typically represents between 40% and 75% of total terminal operating costs of general cargo terminals. Even in the capital-intensive container handling industry, the share of port labour in the total operating costs can be as high as 50%. The handling of dry bulk (i.e. major bulk as iron ore and coal) requires less port labour due to the existence of conveyor belt system throughout the bulk terminals. The share of labour costs in total operating costs at dry bulk terminals therefore typically ranges between 15-20%<sup>4</sup>.

### 3. Comparative analysis of port industries and labour markets developments in the South Baltic Regions

#### 3.1. Prospects for sustainable ports developments

**Port of Rostock** consequently develops towards ferry/ro-ro and combined traffic transshipment centre. The ferry terminal has an area of over 200,000 m<sup>2</sup> with five landing stages, two of which are equipped to handle railroad cars. After the rebuilding and the

<sup>4</sup>T. Notteboom, Dock labour and port-related employment in the European seaport system, ESPO/ITMMA, Brussels/Antwerp 2010.

reorganization measures at the ferry terminal, Rostock will continue developing its solid position as a ferry hub for the Baltic Sea.

The new and efficient handling terminal for rail, road and seaborne cargo was upgraded in 2014 on an area of around 30,000 square meters. The whole intermodal terminal covers approximately 70,000 m<sup>2</sup>.

The port of Rostock is prepared for further increases in the amounts of wheeled cargo. Also Rostock's logistics companies expect growth in activity as to the planned turnover related to paper imports from Finland. The ferry port with the adjacent terminals for ro-ro and intermodal transport will further dominate port industry in Rostock.

**Port of Szczecin and Świnoujście** development priorities include investments in the port of Świnoujście through commencing construction of the external port with berthing and development of ferry posts for servicing large ferries also aimed at adapting the existing infrastructure of the ferry terminal for intermodal transport.

Key projects contributing to further development of the port of Szczecin include dredging the Świnoujście – Szczecin fairway to 12.5 m on its entire length. Deepening of the Swinoujscie-Szczecin fairway to the depth of 12.5 m is one of the key investments linked not only with the development of the port of Szczecin, but also an important impetus for the development of the region. The condition for the maintenance of the competitive position of the port of Szczecin built over the years is the realization of the deepening of the fairway. Not without significance are the investments for adapting port infrastructure to handle larger vessels. The newly built or modernized construction quays allow handling vessels with greater than before immersion.

**In the Port of Gdańsk**, instead of the projects improving the port's accessibility from the water (modernization and expansion of fairways, development of quays and improvement of navigational conditions) also road and rail access to the outer and inner port, the most important projects increasing the port capacity encompasses:

- construction of a new deepwater container terminal with a throughput capacity suited to handle the largest container ships. The objective of the project is to boost the annual throughput of the deepwater terminal capacity by 2.1 million TEU with a total rate of 3.6 million TEU. The expanded capacity will facilitate the number of calls from large-size ocean-going container ships.

- modernization and development of the inner port container terminal, from the current rate of 80 thou. TEU to 120 thou. TEU

- increasing capacity of the deep water bulk terminal in the outer port. The facility will be suited to accommodate the largest bulk carriers that can navigate the Baltic Sea. The capacity will be mainly utilized for handling coal and metal ores.

Main investments in Gdansk with relevance to the development of logistics services include:

- construction of the Pomerania Logistics Center in the vicinity of Deepwater Container Terminal (DCT). The mentioned investment, The Pomeranian Logistics Centre, is the largest

investment of its kind in the Northern Poland. A large, multifunctional logistics centre will be developed in the vicinity of DCT Gdansk terminal. The concept envisages construction up to 500.000 m<sup>2</sup> of warehouse space and up to 40.000 m<sup>2</sup> of office space. The area of 10 hectares will be developed at the first stage. Total development area of logistics centre will be 110 ha. DCT Gdansk and Goodman Logistics Centre will form the largest container logistics cluster in this part of Europe.

Port of Gdańsk aims at strengthening its position as Baltic container hubs. Container transshipment in the Deepwater Container Terminal in Gdańsk average 40 per cent of total container handling. This is also because feeder shipping connections from Gdansk to St. Petersburg and Finnish ports of Helsinki, Kotka are cheaper than alternative shipments via Rotterdam or Hamburg. It is forecasted high annual growth of container traffic for ports of Gdansk/Gdynia within next 5 years, specifically 3 mln TEU in 2017.

**Port of Gdynia** concentrates on maintaining its position as the universal port and will continue the sustainable development process in three main cargo market segments, i.e. containers, bulk and ro-ro (including ferry). Diversification of the cargo categories being handled will increase the attractiveness of services provided by the port and help mitigate against the volatile conditions in the various market segments.

Complete and total transport access to the port is a pre-condition for enhancing capacity and ability for intermodal transport developments towards south of Europe and development of a logistics and multimodal transport platform.

Main investments in port of Gdynia encompasses deepening of Gdynia port water access canal to 15,5 m depth, construction of the port logistics-distribution centre in the vicinity of Gdynia container terminals, modernization of rail access to port also large scale modernization of port rail tracks and reconstruction of the rail intermodal terminal, development of port infrastructure to provide ro-ro services,

**Port of Klaipeda** has completed in 2013 a major dredging and widening project for the navigation channel. Bega, one of the major stevedoring company has opened a new universal terminal for agribulk export-import. Klaipedos Nafta is managing the implementation of a liquefied natural gas terminal in the port's territory, operational since 2015. The terminal allows Lithuania to have an alternative source of gas as currently its sole supplier is Gazprom. A new passenger and ferry terminal is being constructed and completed. It is planned to handle 6 million tonnes of ro-ro freight and serve 500 thousand passengers. Klaipedos Smelte and MSC preparing for the construction of a container distribution hub, which has planned capacity of 1,000,000 TEU<sup>5</sup>.

Baltic Logistics Centre located next to the container terminal and port railway provides value added services like: warehousing, sorting, packaging and other cargo related services. It offers 450 ha of green field area for investors.

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<sup>5</sup>Competitive position of the Baltic States Ports, KPMG Baltics SIA, November 2013

Leading in the volumes of fertilizer transshipment, the port of Klaipeda benefits from its advantageous location for significant potassium salt cargo flows from the producers in Belarus. Large fertilizer handling terminals are located in the port of Klaipeda, namely KLASCO Fertilizer Terminal and BEGA Fertilizer Terminal. Leveraging from the proximity to the fertilizer production plants in Belarus, the port of Klaipeda is expected to attract even more cargo from its neighbouring country. As Belaruskali is going to build a new mining plant and launch a new complex for combined fertilizer production, one of the port handling company will build two warehouses, each with storage capacity of 40 thousand tones.<sup>6</sup>

Because of significant growth in the volumes of agricultural products transshipment in the port of Klaipeda, a new agribulk terminal was launched in 2013, which increased the port's overall storage and handling capacity. Klaipeda has been indicated to have also a potential in transshipment of ro-ro cargo.

### 3.2. Prospects for quantitative and qualitative labour demand in the port industries

Port of Rostock represents apparently a kind of matured port industry, already developed at the relatively high level in terms of output and employment. Rostock port is highly dependent on ro-ro traffic which is characterized by high productive but labour saving technology. Therefore significant increase in the port handling workforce is not expected while for the first to maintain the number of jobs already acquired. Logistics solutions, which would might have been a source of employment raise, has less favourable conditions for development because ro-ro traffic used to create weak incentives for such trends. In the port industry it is forecasted a moderate growth in employment and only in the segment of logistics services linked to combined ro-ro traffic. However, high demand for labour is expected in the maritime industry located in the port and in its vicinity.

Seaports in the Zachodniopomorskie Region (Świnoujście and Szczecin) needs investments for further development, otherwise both throughput and thereafter employment in the port sector will remain unchanged. Construction of an LNG Terminal in the external port in Świnoujście is scheduled for operation in mid of 2015. The investment with annual throughput in the first stage of development at 5 billion m<sup>3</sup> of LNG. As to the feasibility study, terminal will be manned by 81 persons, of which 42 employees in operation and 29 persons in maintenance, both groups of terminal staff are required to have high engineering qualifications<sup>7</sup>.

The second investment relates to deepening of the 67 km long Świnoujście-Szczecin fairway to 12.5 m depth. As to the feasibility study<sup>8</sup>, deepening of the access fairway to port of Szczecin will induce additional 6.74 million tons of throughput, whereas port accumulated

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<sup>6</sup> ibidem

<sup>7</sup> Projekt Terminalu LNG in Świnoujście, Polska. Streszczenie techniczne (NTS), listopad 2010

<sup>8</sup> D.Bernacki, The effectiveness of investment and socio-economic effects of the deepening of the Szczecin-Świnoujście fairway to 12.5 m, Szczecin 2012

employment will increase in long-term by 1,547 persons. There are no promising perspectives for employment increase unless investment multiplier will come into play in the ports of Szczecin and Świnoujście.

Seaports of Pomorskie Region (Gdańsk and Gdynia) are in a dynamic development trend, mostly because of high growth rate recorded in container throughput in both ports of Gdansk and Gdynia. However, due to the raising in volume container handling, it is unlikely that the workforce employment in the stevedoring and other port services will follow at the same rate this positive trend. The simple reason is labour saving solutions applied in the container handling. Employment elasticity of transshipment of containers is rather low. Therefore, it is envisaged only moderate raise in the number of employees in the stevedoring and related companies. However, the long lasting trend of the employment reduction in the cargo handling and storage also in other port direct activities seem to be over in Polish ports. It is likely that the port related logistic services will continue to develop and this is embedded in a dynamic increase in the container throughput and emerging logistics and distribution centres in ports of Gdynia and Gdansk and in the vicinity. Port logistics value added services are of labour intensive type and it will create large demand for workforce. Several small and medium size logistics companies are already on rise in the port areas and it is expected these positive developments will induce high demand for the labour force in port logistics.

Klaipeda port has successfully stabilized grounds for the sustainable development due to increased share of cargo traded for domestic use and in addition the throughput is clearly on rise. The diversified structure of the handling commodities suggests that there are incentives for port labour increase, however the growth rate is to be moderate because of the heritage of the past situation where over-employment concentrated in few stevedoring companies was a widely accepted rule in all ports of once communist countries. Therefore, rationalisation of employment also cross-sector and internal shifts of labour force have predominated port labour markets and only in the recent years the port throughput developments has created grounds for some demand raise of dock labour force. It is assumed a slight but steady increase in demand for stevedores and workforce involved in other port related services. This trend may also relate to personnel of port logistics services, however in this case it needs further and out of port area developments of logistics markets in Lithuania.

Comparison of the port industries in terms of forecasted demand for labour in the South Baltic Region has been depicted in table 11.

Tab. 11. Forecasted demand for labour force and by segments in the ports of the South Baltic Region.

Segments of port industry	Projected demand for labour force in the port industry of the South Baltic Region			
	High (H)		Moderate (M)	Low (L)
	(annual growth rate > 5%)		(annual growth rate 3%-5%)	(annual growth rate < 3%)
	Rostock	Szczecin and Świnoujście	Gdańsk and Gdynia	Klaipeda
Handling and storage	L	M Conditional only	M	L/M
Maritime transport agencies, brokering and forwarding,	L	M	M	M
Logistics Value Added Services	M	L/M	H	M
Maritime industry	H	L	M/H	M

Source: own elaboration

When analysing some segments of port economy, one should distinguish economic developments from the employment effect it induces. Handling services due to their technological improvements, is obviously the segment of the lowest effect generating demand for labour. Both containers and ro-ro traffic are labour saving characterized by raising efficiency that in turn makes the labour elasticity low and does not induce noticeable number of jobs. The same regards to transshipment of bulk cargo, however with exception for chemicals, which are labour demanding. There is, however, an exception like in the case of Pomorskie Region, when the port throughput allows and creates incentives for development of port related logistics services. Logistics, especially value added services, is a labour intensive sector if developed in the environment of the dynamic progress in container throughput. It is supposed to induce high demand for labour force.

An upward trend for professions obviously will relate to engineering and technicians specialized in transshipment operations supplemented by maritime logistics engineering. Demand for these kinds of professions will especially be desired in ports of Gdańsk and Gdynia and Port of Rostock. Labour force with maritime logistics (economists, managers, lawyers) and logistics engineering is to be the most required in the ports of Gdańsk and Gdynia, followed by port of Klaipeda and, to the lesser extent, by port of Rostock. If induced by investments in improvement of maritime transport access to the port, this upward trend may also relate to ports of Szczecin and Świnoujście. In all relevant ports high and/or moderate growth is expected in demand for environmental engineers. An upward trend for qualified and multi-skilled port workers is expected in all relevant ports.

### 3.3. Selected organization and economic aspects of labour markets and mobility in the port industries

Port labour regime is overviewed in the aspects of labour market organization, qualifications and training of port workers and occupational health and safety.

Port labour in Germany is carried out by *lex specialis*<sup>9</sup>, “The Act on the Establishment of a Special Employer of Port Workers” (hereinafter referred as the Port Labour Act), the local agreements under which labour pools were established (Gesamthafenbetrieb), and the status of these pools. As regards port of Rostock, the local instrument is “The Agreement on the Establishment of a Special Employer of Port Workers in Rostock”. National collective agreements for all German ports are negotiated between the Central Association of German Seaport Companies and the trade unions ver.di. These national agreements lay down rates pay, working times and various social benefits. At a large number of firms, company agreements are concluded<sup>10</sup>.

In Rostock exists port workers pool. The pool is jointly managed by the port employers and the trade unions. Registration is a prerequisite to work in port of Rostock. The port workers are divided into 4 categories: permanent workers employed by individual companies, pool workers who are employed by the pool and allocated to individual companies, auxiliary workers whom the pool may request from the official employment office or hire out to an individual company, apprentice workers. At present, most workers are permanently employed, either by a single company or by a pool, and have a stable income.

Individual port companies may only employ permanent workers holding a valid card and workers allocated to them by the pool. If port workers are temporarily unemployed, they receive a guaranteed wage, which amounts to 75 per cent of a uniform basic wage rate. In Rostock, port labour is used by 38 registered companies, 14 companies use pool workers on regular basis and a further 3 only occasionally. In port of Rostock (2012), 624 port workers were registered, including 531 permanent workers and 93 pool workers<sup>11</sup>. The pool in Rostock reports that about 80 per cent of all port workers have followed a three-year professional training course. Most workers possess additional qualifications to handle port machinery and untrained workers play no role at all in the port. As regards health and safety, port labour is subject to the general legislation on occupational regulations. These rules are laid down in the Labour Protection Act. Health and safety in ports is further governed by specific regulations on safety of dock work issued by local authorities.

There are, however, issues that arise as to that kind of labour market organization.

Pools enjoy an exclusive right to supply temporary port labour. Only workers possessing a port worker’s card may be employed legally, and a possible barriers of access to the port

<sup>9</sup>Lex specialis refers to specific laws and regulations on port labour.

<sup>10</sup>E. Van Hooydonk, Port labour in the EU. Labour market, Qualifications and Training, Health and Safety. Volume II-The Member State Perspective, Annexes. Study commissioned by the European Commission, Brussels, Final Report, January 2013.

<sup>11</sup>ibidem

labour market arises. Self-handling by ship's crews is not permitted. Cargo handling companies are, as a rule, not allowed to directly exchange workers between themselves. Status of port labour is not defined and delimited. Logistics and physical distribution activities that take place in the port are not necessarily considered port work.

Under the current port labour system, all port workers in Poland are directly employed by stevedoring companies. These companies are not obliged to join an employer's organisation or a pool. Port workers do not have to be registered in a central or port-wide register. There is no pool system for port workers. As a rule, all port workers are permanently employed however there is no prohibition on the employment of temporary workers via employment agencies in peak periods, provided all regular workers are effectively employed. No distinction is made between port workers working on shore and workers working on board and between workers employed at the ship/shore interface and warehouse or logistics workers in the port<sup>12</sup>. In general there are no specific nation-wide regulations as regards port labour market regulations (no *lex specialis*). Also occupational health and safety are regulated in general regulations of Labour Code. Specific aspects of port labour are governed by local port regulations. Only company-specific collective labour agreements apply. However, such agreements are not in place at every individual company. Especially in the recent set up or privatised firms, no collective agreements may be available, but employment conditions are laid down by the employer in work regulations. Qualifications of port workers are determined by the employer. Through additional test or exams, employees can develop a career within the company. Training regarding operation of port equipment is required by law and they are mandatory. Relevant certificates are issued only after a state exam organised by the governmental agency responsible for the authorisation of all technical equipment devices in Poland. Enforcement of health and safety rules may be ensured through the intervention of the port authority, the harbour master, the terminal operator and the Labour Inspectorate. Self-handling by ship's crews is not specifically regulated. Port authorities leave this matter to contractual arrangements between the vessel and the operator.

There is no *lex specialis* on port labour in Lithuania. Port workers in Klaipeda are employed by cargo handling companies on a permanent or temporary basis. Employers may also use occasional workers. There is no pool system for port workers and port workers do not have to be registered. Employment of temporary workers via job recruitment or employment agencies is allowed, and this regularly happens in practice. No distinction is made between workers on board and workers on shore or logistics workers employed within the port.<sup>13</sup>. Port workers must be 18 years old, and in some cases training and language skills (English) is required. Locally, medical fitness is also assessed. Temporarily unemployed port workers receive an income. Dockers professional status is not defined in Lithuania. There are

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<sup>12</sup> E. Van Hooydonk, Port labour in the EU. Labour market, Qualifications and Training, Health and Safety. Volume II-The Member State Perspective, Annexes. Study commissioned by the European Commission, Brussels, Final Report, January 2013.

<sup>13</sup> *ibidem*

standard salaries for certain norms. Salaries depend on a company, amount of handled cargo and collective agreements.

The issues regarding port labour in Lithuania are as follows<sup>14</sup>:

- Lithuanian port dockers have to carry out a wide range of activities, which may lead to a loss of qualifications
- Most companies measure their payments to dockers according to the amount of handled cargo. Also the system is such that salaries of senior dockers are dependent on the amount of work done by junior dockers. The salary of dockers are low and differ in three to four times compared to Western ports standards<sup>15</sup>
- Low social status of dockers as they are compared to unskilled and low remunerated workers and young people do not want to work in the port industry
- The low salaries of port workers have become problem for Scandinavian ports. Their unions are afraid of influx of migrant workers.

Selected organization and economic aspects of labour markets in the port industries has been elaborated in table 12.

Tab. 12. Comparative analysis of labour markets in the ports of the South Baltic Region

Aspects of labour aspects	Port labour markets			
	Port of Rostock	Ports of Szczecin and Świnoujście	Ports of Gdańsk and Gdynia	Port of Klaipeda
Regime	Lex specialis (Port Labour Act, Joint Agreements and Status of Pools), National and local collective agreements, 3 categories of port workers; (1) permanent workers of operators (2) pool workers supplied by pools (3) auxiliary workers supplied by pool. In addition, logistics workers (permanent and pool)	No lex specialis, company collective agreements but not at privatised terminals. All dockers employed by terminals, no pool and register systems of workers, workers permanently employed, not defined status of port worker, no ban on temporary agency work		No lex specialis, All permanent and fixed-term workers, no pool system, not defined port work status, no ban on temporary agency work
Qualification and	Jointly managed	Company in-house trainings,		Company based

<sup>14</sup> V. Matutis, The cheapest ports in the Eastern Baltics, 29 February 2012, <http://www.jura24lt/en/news/port>

<sup>15</sup> Crane operator earns 30 LTL per hour, second class docker receive payment of 16 LTL per hour, third class docker-14 LTL. Per month average salary of Lithuanian ( as well as Latvian and Russian) docker amounts EUR 900-1,000 while in Finland 2,700-3,500, in Germany about 3,500, in Sweden about 3,000,

V. Matutis, The cheapest ports in the Eastern Baltics, 29 February 2012, <http://www.jura24lt/en/news/port>

Training	training centres	compulsory certification of equipment operators	training
Health and Safety	Specific safety regulations issued by accident insurers, local rules on dangerous goods	No specific regulations, national health and safety regulations apply to port industry, port local regulations	Safety rules in local port regulations
Issues	Ban on temporary agency work and self-handling, delimitation issues of port workers, exclusive rights of pool to supply temporary labour, limited access to labour market	Over manning occurs in publicly owned companies, some problems of recent transition from state controlled to a private port labour market structure	Risk of insufficient specialisation of port workers, low salaries, poor social status of docker

Source: elaborated on : E. Van Hooydonk, Port labour in the EU. Labour market, Qualifications and Training, Health and Safety. Volume II. The Member State Perspective, Annexes. Study commissioned by the European Commission Final Report, Brussels, January 2013.

In port of Rostock labour market is the subject of specific laws, regulations and collective agreements. The arrangements are based on reservation of temporary labour for a steadily available complement (pool) of registered workers who enjoy unemployment benefit or similar pay when there is no work. Access to the port labour market is restricted under rules provided by the pool labour scheme. The system requires that only registered dock labour workers can perform dock work in the port. This obligation is imposed by national and regional legislation and also is the outcome of the collective bargaining between port employers and trade unions. Pool system continues to be widely supported by both employers and unions because it ensures a high level of efficiency and productivity, high wages and a long-standing industrial peace.

In Poland and Lithuania port labour regime is subject to the rules of general labour law. In this sense, labour markets in Poland and Lithuania are restriction-free and open. Decasualization of dock labour systems is a standard arrangement in all ports. In port of Rostock this is based on the dock pool system while in Polish ports and in Klaipeda is based on the permanent employment arrangements offered by port companies.

Qualification and training arrangements are very diverse across analysed ports. A growing importance of training systems in places organised by port companies is a common practise in Polish and Lithuanian ports. In port of Rostock training are mostly organized by special training centres at ports level.

In port of Rostock, dock labour is confined to the loading and unloading of ships within the port area. In Polish ports and in Klaipeda a broad term of dock labour includes all forms of cargo handling, agencies and forwarding also logistics activities.

One of the most important aspect of the port labour arrangements is labour flexibility<sup>16</sup>.

<sup>16</sup>T. Notteboom, Dock labour and port-related employment in the European seaport system, ESPO/ITMMA, Brussels/Antwerp 2010.

First there is flexibility in working hours. A port labour system with a large number of casual works generates a high degree of flexibility. In this aspect, port labour schemes in Polish ports and in Klaipeda seem to be more flexible than in port of Rostock. However, this flexibility in the former mentioned ports is at the cost of social benefits of employed port labour.

Secondly, there is flexibility in terms of the total labour quantity. This refers to the possibility to adapt size of the workforce to the amount of work that needs to be done. One of the main incentives behind the establishment of dock labour pools is exactly to guarantee this kind of flexibility. Port of Rostock pool employment system of dockers guarantees this kind of flexibility while the solutions based on direct and permanent employment by companies in other relevant ports appears to be less flexible. The latter issue is of lesser importance because of the possibility of recruiting workers via temporary labour offices when there are shortages in labour.

A third type of flexibility refers to the operational development of dock workers or the extent to which dock workers can be used for different types of tasks (multi-skilling or multi-tasking). When dock workers strictly adhere to their specific professional category then the multi-skilled nature over the categories is typically low. This can lead to discrepancies whereby shortages in one category cannot be compensated by surplus dockers in other categories. Such flexibility is only guaranteed when a system of trainings and certification allows dock workers for mobility between categories. Scheme of trainings and certifications for port labour in port of Rostock is historically matured and well established while in the other analysed ports is at the initial but progressing stage.

## Conclusions

1. Port industry of Rostock distinguishes both in economic and employment terms but the port market structure, measured by the number of companies, remains concentrated. Port labour is mostly engaged in ferry, ro-ro and intermodal solutions, supplemented by transport and logistics services.
2. Activities of numerous agencies like forwarding, shipping and brokering also other port related services dominate in the port industry of Szczecin and Świnoujście both in terms of sales revenue and employment. Cargo handling sector is supported by many small and medium size supporting companies what creates grounds for employment in the port industry. The most labour-intensive sectors refer to activities of transport intermediaries like shipping agencies and forwarding followed by handling and storage services
3. In economic and labour terms, port industry of Gdańsk and Gdynia is dominated by port logistics, forwarding and maritime agencies and this segment supports handling and storage activities. Port industry features sound results as regards sales revenue and number of employees, and the structure of the sector is much diversified in number and size of companies. The most labour-intensive segments refer to cargo handling and storage followed by shipping agencies, ship brokering and forwarding
4. Port industry of Klaipeda distinguishes in economic terms while the number of employees is quite limited. Port market structure is much concentrated in cargo handling and storage while the segment of other port supporting activities record many small companies which are quite sensitive on changes in level of transshipment and market size. The most labour-intensive segment refers to cargo handling and storage but the number of employees, in general, remains on the same level regardless transshipment developments.
5. Port industries of Klaipeda and Rostock if measured by the number of companies are concentrated while industry structure of ports of Szczecin and Świnoujście and ports of Gdańsk and Gdynia is much de-concentrated and diversified. In economic terms, measured by weighted sales revenue, ports of Gdańsk and Gdynia are followed by ports of Rostock and Klaipeda, and ports of Szczecin and Świnoujście. In terms of number of employees, leading ports of Gdańsk and Gdynia and port of Rostock are supplemented by ports of Szczecin and Świnoujście and port of Klaipeda.
6. Ports of Gdańsk and Gdynia and port of Rostock are on path of sustainable development while port of Szczecin and Świnoujście needs improvement in market share and port of Klaipeda needs reinforcement of in-place port industry (number of companies and employment). The most labour-intensive segments refer to activities of transport intermediaries like shipping agencies and forwarding, followed by handling and storage services. Advanced mechanisation and automation in

transshipment lead to labour saving solutions while logistics and forwarding also maritime agencies are labour intensive

7. Port of Rostock represents apparently a kind of matured port industry, already developed at the relatively high level in terms of output and employment. Rostock port is highly dependent on ro-ro traffic which is characterized by high productive but labour saving technology. Therefore increase in the port handling workforce is not expected while for the first to maintain the number of jobs already acquired.
8. Seaports of Świnoujście and Szczecin need investments for further development, otherwise both throughput and thereafter employment in the port sector will remain unchanged. Seaports of Gdańsk and Gdynia are in a dynamic development trend, mostly because of high growth rate recorded in container throughput. However, due to the raising in volume container handling, it is unlikely that the workforce employment in the stevedoring and other port services will follow the same high growth rate because of labour saving solutions applied in the container handling.
9. Klaipeda port has successfully stabilized grounds for the sustainable development due to increased share of cargo traded for domestic use and in addition the throughput is clearly on rise. The diversified structure of the handling commodities suggests that there are incentives for port labour increase, however the growth rate is to be moderate.
10. When analysing some segments of port economy, one should distinguish economic developments from the employment effect it induces. Cargo handling due to its technological improvement, is obviously the segment of the lowest effect generating demand for labour. Both containers and ro-ro traffic are labour saving characterized by raising efficiency that in turn makes the labour elasticity low and does not induce noticeable number of jobs. The same regards to transshipment of bulk cargo, with exception for chemicals, which are labour demanding. There is, however, an exception like in the case of Gdańsk and Gdynia, when the port throughput allows and creates incentives for development of port related logistics services. Logistics, especially value added services, is a labour intensive sector if developed in the environment of the dynamic progress in container throughput.
11. An upward trend for professions in port industries obviously will relate to engineering and technicians specialized in transshipment operations supplemented by maritime logistics engineering. Demand for these kinds of professions will especially be desired in ports of Gdańsk and Gdynia and Port of Rostock. Labour force with maritime logistics (economists, managers, lawyers) and logistics engineering is to be the most required in the ports of Gdańsk and Gdynia, followed by port of Klaipeda and, to the lesser extent, by port of Rostock. If induced by investments, this upward trend may also relate to ports of Szczecin and Świnoujście. In all relevant ports high and/or moderate growth is expected in demand for environmental engineers. An

upward trend for qualified and multi-task port workers is also expected in all relevant ports.

12. In port of Rostock labour market is the subject of specific laws, regulations and collective agreements. The arrangements are based on reservation of temporary labour for a steadily available complement (pool) of registered workers who enjoy unemployment benefit or similar pay when there is no work. Access to the port labour market is restricted under rules provided by the pool labour scheme. The system requires that only registered dock labour workers can perform dock work in the port. This obligation is imposed by national and regional legislation and also is the outcome of the collective bargaining between port employers and trade unions. Pool system continues to be widely supported by both employers and unions because it ensures a high level of efficiency and productivity, high wages and a long-standing industrial peace.
13. In Polish and Lithuanian ports dock labour regime is subject to the rules of general labour law. In this sense, labour markets are restriction-free and open. Decasualization of dock labour systems is a standard arrangement in all ports. In port of Rostock this is based on the dock workers pool system while in Polish and in Klaipeda ports is based on the permanent employment arrangements offered by port companies. In port of Rostock, dock labour is confined to the loading and unloading of ships within the port area. In Polish ports and in Klaipeda a broad term of dock labour includes all forms of cargo handling, agencies and forwarding also logistics activities. Qualification and training arrangements are very diverse across analysed ports. A growing importance of training systems in places organised by port companies is a common practise in Polish and Lithuanian ports. In port of Rostock trainings are mostly organized by special training centres at the port level. Scheme of trainings and certifications for port labour in port of Rostock is historically matured and well established while in the other analysed ports is at the initial but progressing stage.

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