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Deliverable 9.5

# Implementation of the benchmarking and weighing tools in the ICT system

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DELIVERABLE 9.5

# Implementation of the benchmarking and weighing tools in the ICT system

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DELIVERABLE 9.5

# Implementation of the benchmarking and weighing tools in the ICT system

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| | | |
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# Contents

DELIVERABLE 9.5

# Implementation of the benchmarking and weighing tools in the ICT system

## 1 POSITIONING OF THIS REPORT IN WP9

The aim of WP9 is to develop benchmarking and weighing techniques that allow individual sea and inland ports to compare their activities and operations with the EU average and relevant peer groups, and with ports in other important regions like Asia and the Americas (for seaports). The specific objectives of the work package include:

- Review of existing benchmarking techniques and practices
- Designing methodology to aggregate results of individual ports
- Selection and customisation of benchmarking techniques
- International benchmarking against non-European port systems

Deliverable 9.5 is about the implementation of the benchmarking and weighing tools in the ICT system of the EPO. This document mainly combines the insights and approaches presented in a range of other documents:

- The methodological approaches per category of indicators as presented in WP1 to 5;
- D9.1, D9.2 and D9.3 on benchmarking methods and techniques;
- The user entry requirements for the different modules to be implemented in the PORTOPIA service cloud;
- The documents on the RES system.

We also illustrate some of the implementation issues by using a demo version of the PORTOPIA service cloud.

The report is structured following the three modules that are being implemented in the PORTOPIA service cloud:

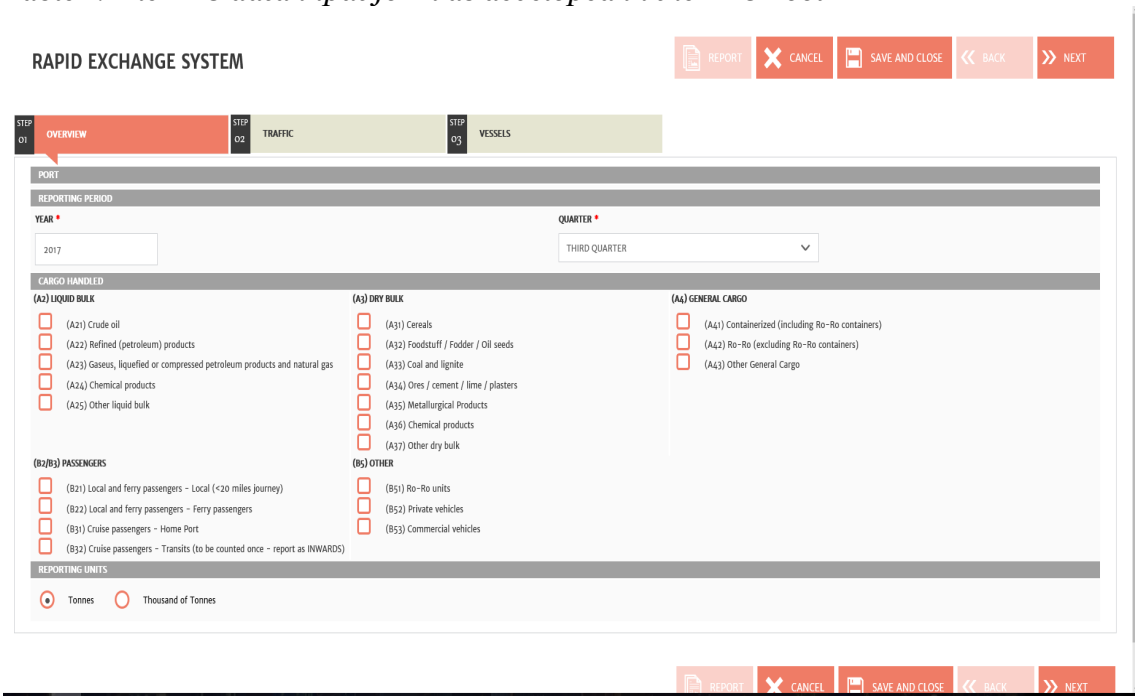
- Market trends (with a specific focus on RES)
- Environment
- Governance

As concluded in D9.3, the benchmarking possibilities for governance and environmental indicators are quite extensive. The PORTOPIA service cloud should fully exploit these possibilities. The discussion on benchmarking at the level of indicators of the category 'market trends and structure' only focused on maritime traffic, vessel traffic and call size. The reason is that the modules on modal split and short-term forecasting will not be integrated in the PORTOPIA service cloud (and the RES+ system) due to reasons extensively documented in this report. No benchmarking techniques were proposed for indicators in the categories 'socio-economic indicators' and 'logistics and supply chain indicators'. Benchmarking exercises based on the indicators of these two categories are not possible due to a lack of a European wide methodology to measure these indicators in a standardized manner and or data availability issues. This implies these two categories are not included in the PORTOPIA service cloud.

# 2 THE RES SYSTEM IN THE PORTOPIA SERVICE CLOUD

The RES or Rapid Exchange System is the tool of Portopia developed to handle the integration of all market related data outlined in WP1 of the project. The goal is to provide the user with a fully functional system maximizing added value and functionality. The majority of the output indicators of the RES is throughput based. Maritime and vessel traffic data is gathered by indicating the country, port, year, quarter, cargo handled (in/out) and the reporting units (tons, thousands of tons, TEU, etc..). Separate tabs are included for 'traffic' and 'vessels (table 1)'.

*Table 1. The RES data input form as developed in the RES Tool*




As discussed in D9.3 we consider several benchmarking exercises.

## 2.1 Individual port: growth

This exercise focuses on the quarterly or annual growth of maritime traffic (total, in, out for all cargo or a specific cargo segment) or call size. The user is presented with a chart that shows the evolution of the growth, per quarter or per year, for the port in context (see example for the port of Antwerp in figures 1 and 2 respectively). Each time, the growth of the individual port is benchmarked against the growth in the relevant range and the entire group of ports in the RES system.

*Figure 1. Quarterly growth of maritime traffic in the port of Antwerp*

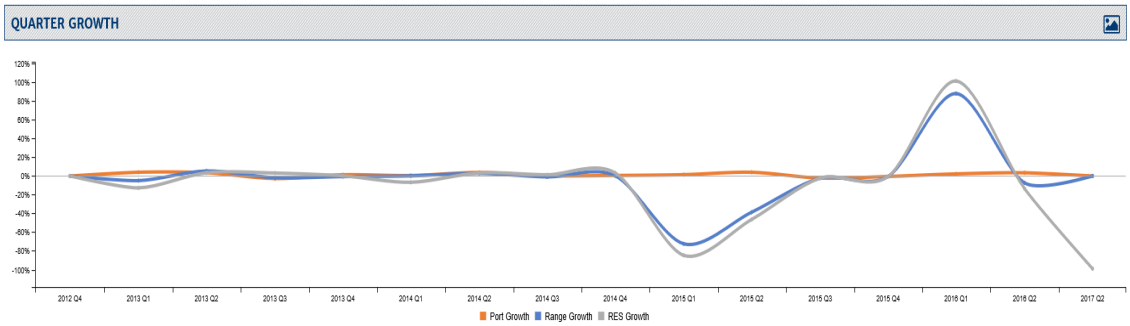
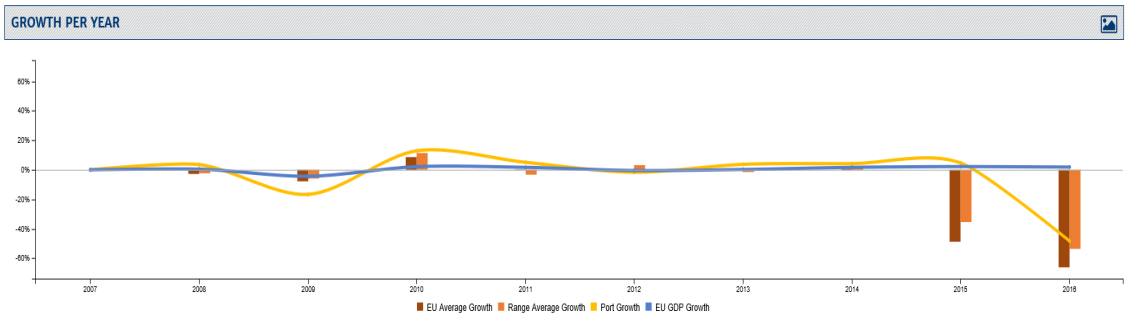


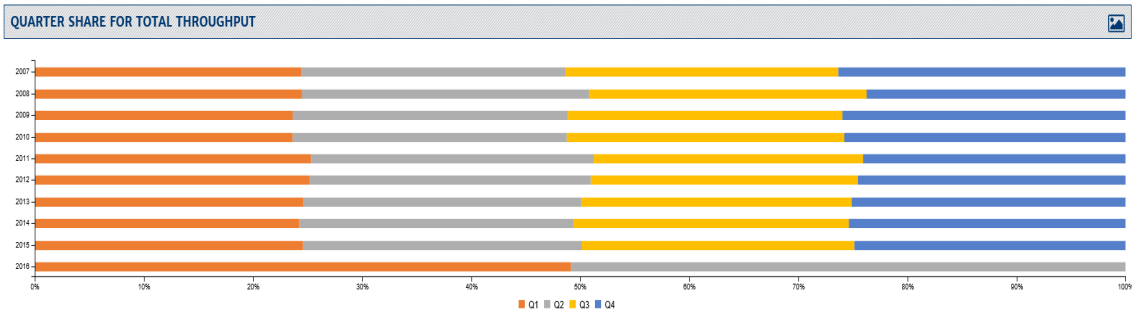

*Figure 2. Annual growth of maritime traffic in the port of Antwerp*




The port can benchmark its performance in a specific quarter or year against the performance in other quarters or years.

Based on the quarterly data, it is also possible to calculate the share of each quarter in explaining the annual growth of a port (see figure 3, example Antwerp). Comparing the quarterly growth distribution over several years allows to detect whether certain quarters are becoming more important over time in explaining the annual growth figures.

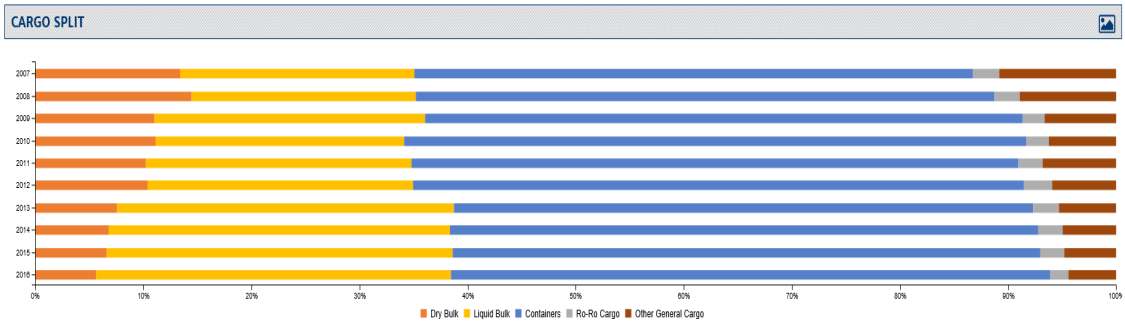
*Figure 3. Share of quarters in explaining annual growth of maritime traffic in the port of Antwerp*



## 2.2 Individual port: cargo distribution

A second benchmarking exercise focuses on the cargo distribution of a port. This results in the breakdown of the total throughput of a port over time based on the cargo groups (dry bulk, liquid bulk, etc.).

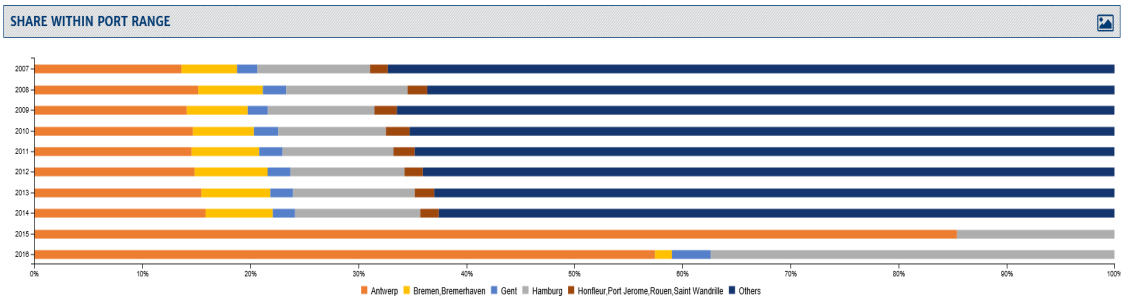
*Figure 4. Evolution of cargo distribution in the port of Antwerp*




## 2.3 Range level: market shares of individual ports

The RES data provides the possibility to benchmark a port's performance against a peer group of ports of the same range (in maritime traffic terms). Figure 5 provides such an exercise. Here the market share of the port of Antwerp in the Le Havre -Hamburg range is being considered. This is just illustrative as it concerns a demo version that does not include all ports of the range.

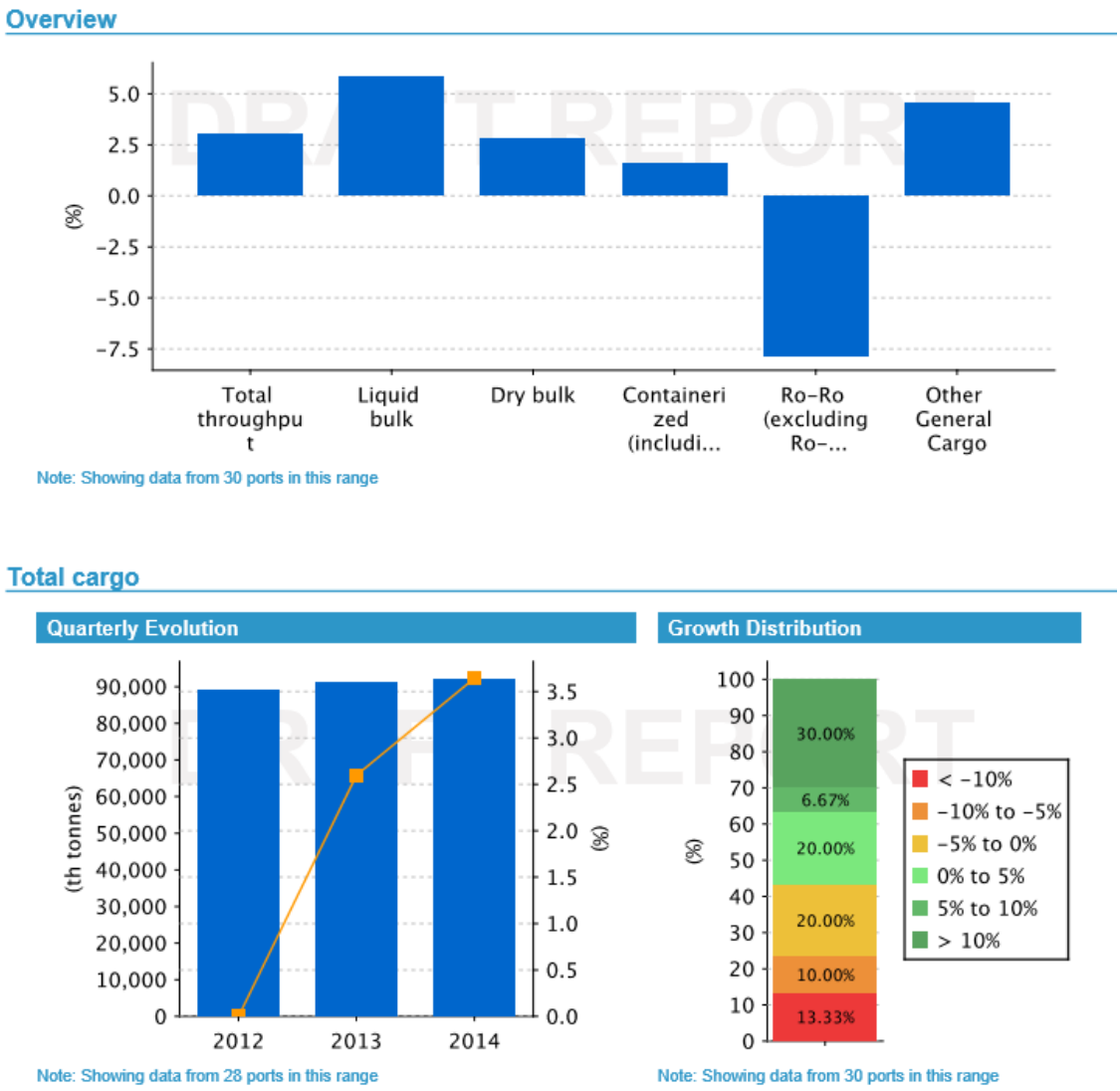
*Figure 5. Market shares in the Le Havre – Hamburg range (demo version)*




## 2.4 Quarterly reports at European level

The RES data provides the possibility to produce output at EU level. Next to average growth figures on a quarterly and annual basis (see figures 1 and 2), the system will also be able to generate quarterly reports for the entire sample of ports in the database. The appendix provides an example of such a quarterly report using data for Q4 of 2014.

*Figure 6. First page of data output for the Atlantic range – Q4-2014 data*




The basic features of these quarterly reports are as follows:

- The results are presented per geographical port range in Europe;
- The ports included in the range (for which data was inputted in RES) are listed in the report;
- The growth per cargo group is presented in a bar chart (see top of figure 6) as well as the quarterly evolution of maritime traffic and the growth distribution in the range (see bottom part of figure 6);
- The quarterly evolution of maritime traffic and the growth distribution in the range is also presented per cargo group, i.e. liquid bulk, dry bulk, roro, containers and other general cargo.

## 2.5 Customized queries in RES

Next to the standard outputs of the RES system (such as the port dashboard or quarterly reports), the system should also provide the possibility to users to perform customized queries. These query facilities are included in RES. A few examples:

- It is possible to generate the evolution over time of the traffic of a specific port per cargo type by dragging specific items to the query screen (see figure 7);
- It is possible to generate the evolution over time of the traffic of a specific range per cargo type (see figure 8);
- It is possible to show the evolution over time of the traffic of a specific range per port within range and cargo type (see figure 9);
- It is possible to calculate the share of traffic per goods type of a specific port for a given period of time (see figure 10);
- It is possible to generate output on the share of traffic per cargo type of a specific range for a given period of time (see figure 11).

*Figure 7. Query on the evolution over time of the traffic of a specific port per cargo type*

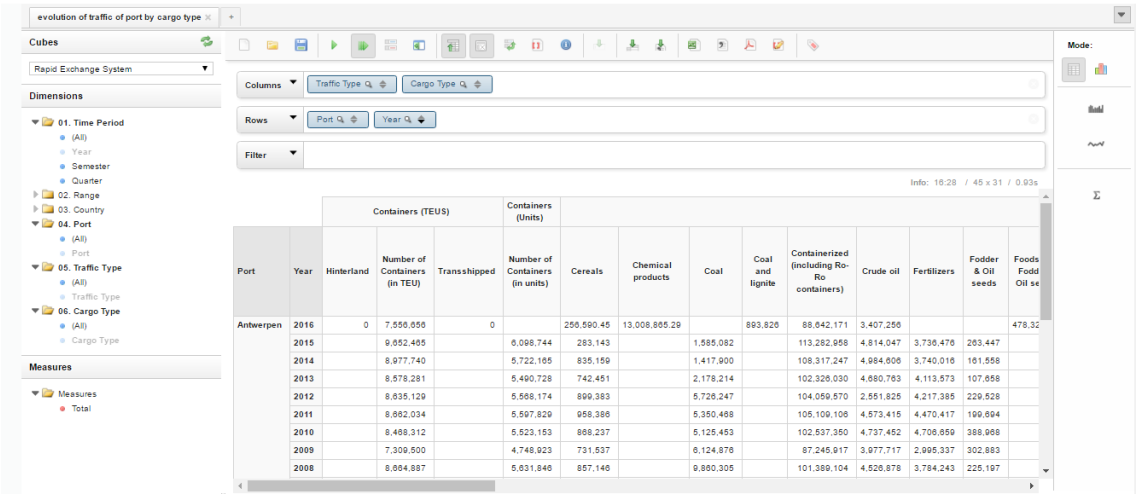
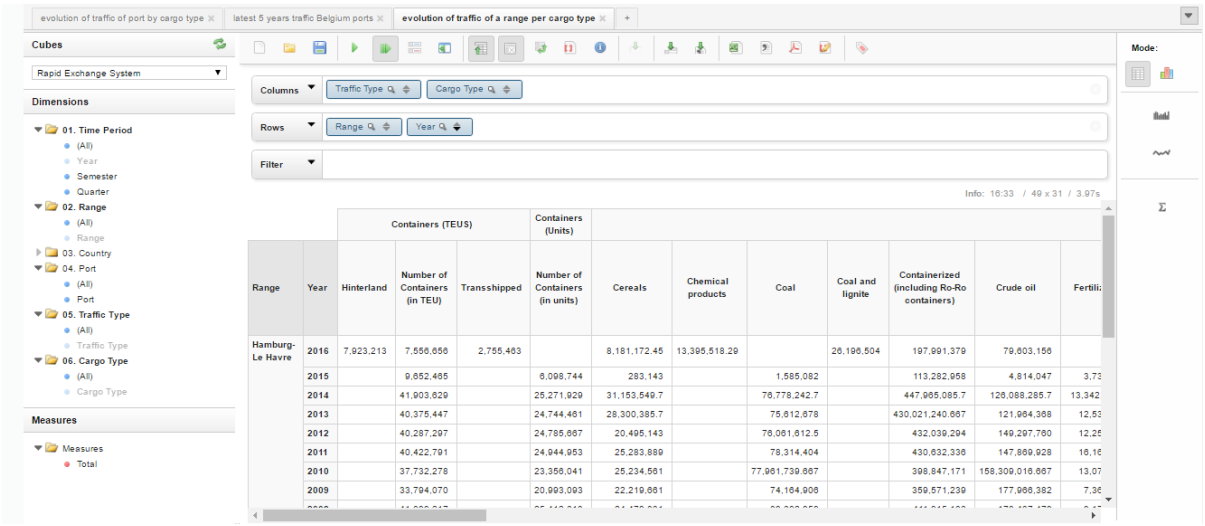
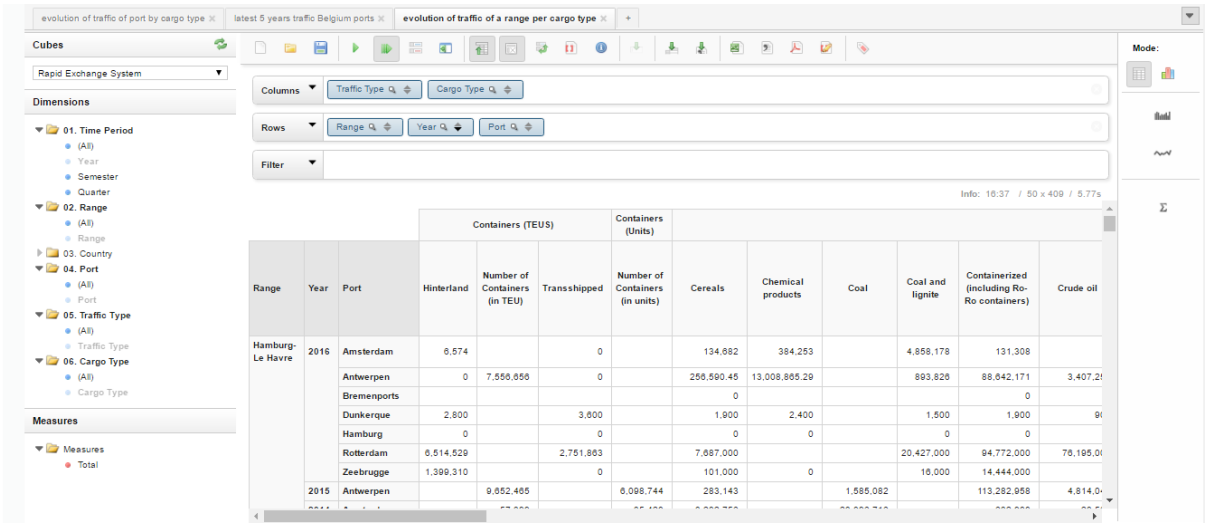


*Figure 8. Query on the evolution over time of the traffic of a specific range per cargo type*




| | | Containers (TEUS) | | | Containers (Units) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Range | Year | Hinterland | Number of Containers (in TEU) | Transshipped | Number of Containers (in units) | Cereals | Chemical products | Coal | Coal and lignite | Containerized (including Ro-Ro containers) | Crude oil | Fertili |
| Hamburg-Le Havre | 2016 | 7,923,213 | 7,556,656 | 2,755,463 | | 8,181,172.45 | 13,395,518.29 | | 26,196,504 | 197,991,379 | 79,603,156 | |
| | 2015 | | 9,652,465 | | 6,098,744 | 283,143 | | 1,585,082 | | 113,282,958 | 4,814,047 | 3,73 |
| | 2014 | | 41,903,629 | | 25,271,929 | 31,153,549.7 | | 76,778,242.7 | | 447,965,085.7 | 126,088,285.7 | 13,342 |
| | 2013 | | 40,375,447 | | 24,744,461 | 28,300,385.7 | | 75,612,678 | | 430,021,240.667 | 121,964,368 | 12,53 |
| | 2012 | | 40,287,297 | | 24,785,667 | 20,495,143 | | 76,061,612.5 | | 432,039,294 | 149,297,760 | 12,25 |
| | 2011 | | 40,422,791 | | 24,944,953 | 25,283,889 | | 78,314,404 | | 430,632,336 | 147,869,928 | 16,16 |
| | 2010 | | 37,732,278 | | 23,356,041 | 25,234,561 | | 77,961,739.667 | | 398,847,171 | 158,309,016.667 | 13,07 |
| | 2009 | | 33,794,070 | | 20,993,093 | 22,219,661 | | 74,164,906 | | 359,571,239 | 177,966,382 | 7,36 |

*Figure 9. Query on the evolution over time of the traffic of a specific range per port within range and cargo type*




| | | | Containers (TEUS) | | | Containers (Units) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Range | Year | Port | Hinterland | Number of Containers (in TEU) | Transshipped | Number of Containers (in units) | Cereals | Chemical products | Coal | Coal and lignite | Containerized (including Ro-Ro containers) | Crude oil |
| Hamburg-Le Havre | 2016 | Amsterdam | 6,574 | | 0 | | 134,682 | 384,253 | | 4,858,178 | 131,308 | |
| | | Antwerpen | 0 | 7,556,656 | 0 | | 256,590.45 | 13,008,865.29 | | 893,826 | 88,642,171 | 3,407,2 |
| | | Bremenports | | | | | 0 | | | | 0 | |
| | | Dunkerque | 2,800 | | 3,600 | | 1,900 | 2,400 | | 1,500 | 1,900 | 9 |
| | | Hamburg | 0 | | 0 | | 0 | 0 | | 0 | 0 | |
| | | Rotterdam | 6,514,529 | | 2,751,863 | | 7,687,000 | | | 20,427,000 | 94,772,000 | 76,195,0 |
| | | Zeebrugge | 1,399,310 | | 0 | | 101,000 | 0 | | 16,000 | 14,444,000 | |
| | 2015 | Antwerpen | | 9,652,465 | | 6,098,744 | 283,143 | | 1,585,082 | | 113,282,958 | 4,814,0 |

*Figure 10. Query on the share of traffic per goods type of a specific port for a given period of time*

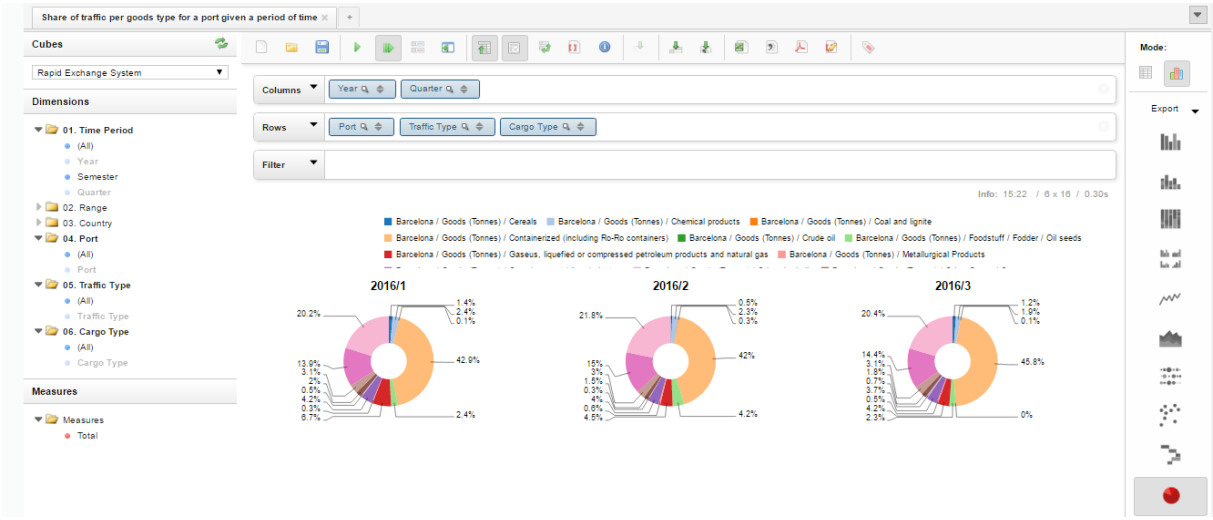
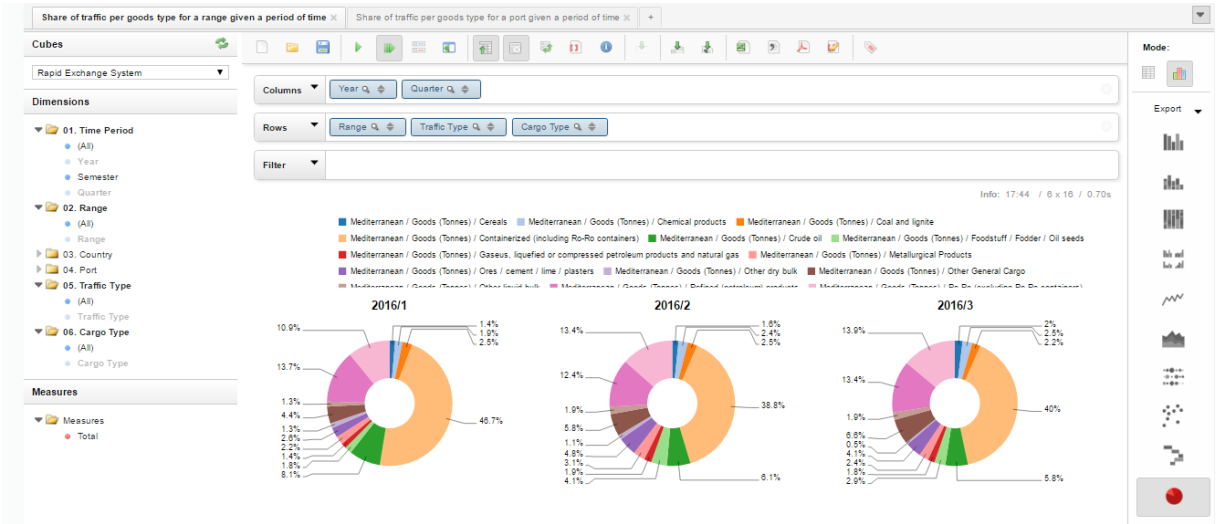



*Figure 11. Query on the share of traffic per cargo type of a specific range for a given period of time*



# 3 THE ENVIRONMENTAL MODULE IN THE PORTOPIA SERVICE CLOUD

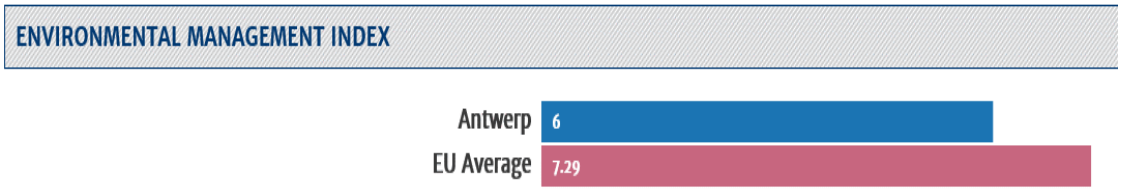
Two environmental modules are part of the PORTOPIA platform: the Port Dashboard and the EU Dashboard. The Port Dashboard provides benchmark figures in key areas of port environmental management. The EU Dashboard highlights variations and trends over time. A basic principle for benchmarking exercises in this category of indicators is that ports benchmark against the European performance indicator values.

The environmental performance indicators (EPIs) that have been selected to be included in the PORTOPIA Service Cloud are classified in four categories: i) Environmental management; ii) Environmental monitoring; iii) Top 10 Environmental priorities; and iv) Services to shipping. We discuss implementation of the benchmarking tools in each of these categories.

## 3.1 Individual port dashboard: environmental management indicators

As discussed in D9.3, a comprehensive index was developed to allow benchmarking based on an overall figure/index. This Environmental Management Index is a single figure that summarizes 10 key Environmental Management Indicators following a specific weighting for each of the 10 indicators/components of the Index, i.e. Certified Environmental Management System (EMS), Existence of an Environmental Policy, Environmental Policy making reference to ESPO's policy documentation, Existence of an Inventory of relevant environmental legislation and regulations, Existence of an Inventory of Significant Environmental Aspects, Definition of objectives and targets for environmental improvement, Existence of an environment training program for port employees, Existence of an environmental monitoring program, Documented environmental responsibilities of key personnel, Publicly available environmental report. The Environmental Management Index is a value, so one can compare the index for a port with the index for the EU average or the average of a relevant port range (see figure 12 for an example for the Antwerp port).

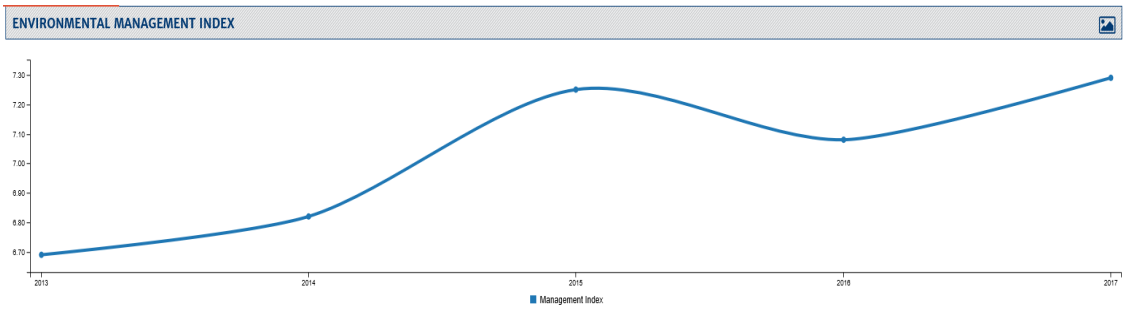
*Figure 12. Environmental Management Index for the port of Antwerp compared to the EU average (demo version)*



## 3.2 EU dashboard: environmental management indicators

The Environmental Management Index can also be analysed over time by showing the evolution over the years for the entire EU port system (figure 13). These values can then be compared to the values for the individual port who is performing the analysis.

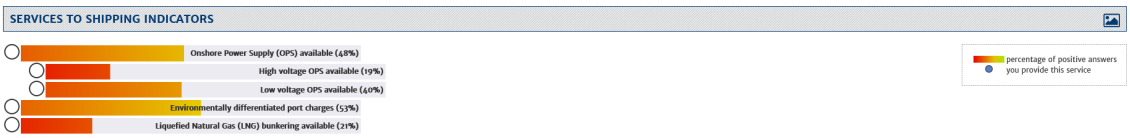
*Figure 13. Evolution of the Environmental Management Index for the EU port system*




## 3.3 Individual port dashboard: services to shipping

The category 'services to shipping' takes into account three green shipping actions: the availability of on-shore power supply, differentiated fees for clean shipping, and Liquefied Natural Gas (LNG) bunkering. Benchmarking opportunities need to be done by comparing the share of 'Yes' cases (referring to the availability) with the total number of cases. In figure 14, the circles/dots show the answers for the port of Antwerp: empty white dots refer to a negative answer, while blue dots to positive answers. The bars show the percentage of positive answers among all EU ports in the PORTOPIA service cloud.

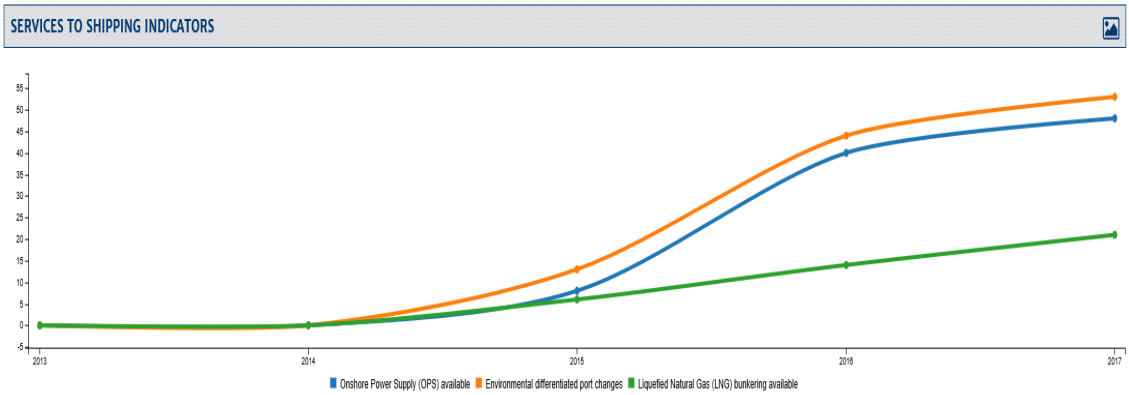
*Figure 14: Results for 'Services to shipping', Antwerp (circles/dots) vs. the EU distribution of answers (bars)*




## 3.4 EU port dashboard: services to shipping

At EU port level, the 'services to shipping' can be analyzed by analyzing and depicting the share of positive answers over a period of time. Figure 15 provides an example for the period 2013-2017. As can be seen, more and more ports are using environmental differentiated port charges and have onshore power facilities available. Growth in the provision of LNG bunkering facilities in port areas is much lower.

*Figure 15. Results for 'Services to shipping', EU answers*

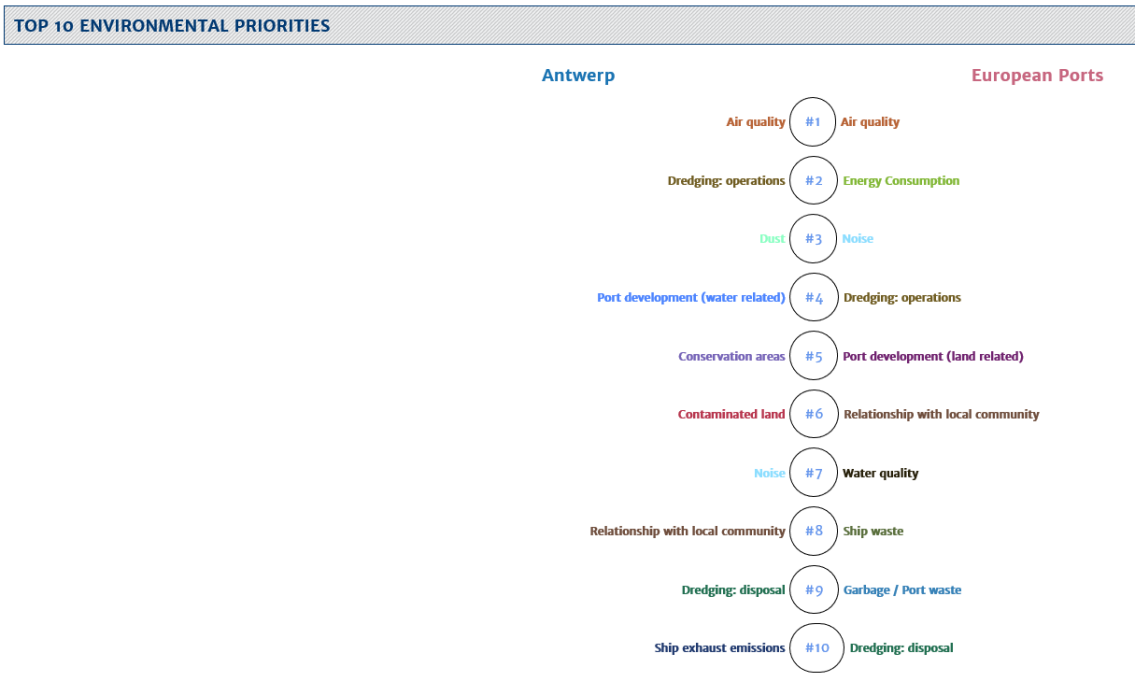



## 3.5 Individual port dashboard: top 10 environmental priorities

The category 'Top 10 environmental priorities' provides the possibility to ports to rank, from an extensive list of 35 port environmental issues, the top 10 environmental issues that the port considers as its main priorities, being 1 the most important.

Figure 16 shows how the benchmarking in the PORTOPIA service cloud takes place. Individual ports compare their top 10 list to the overall top 10 for the entire European port system.

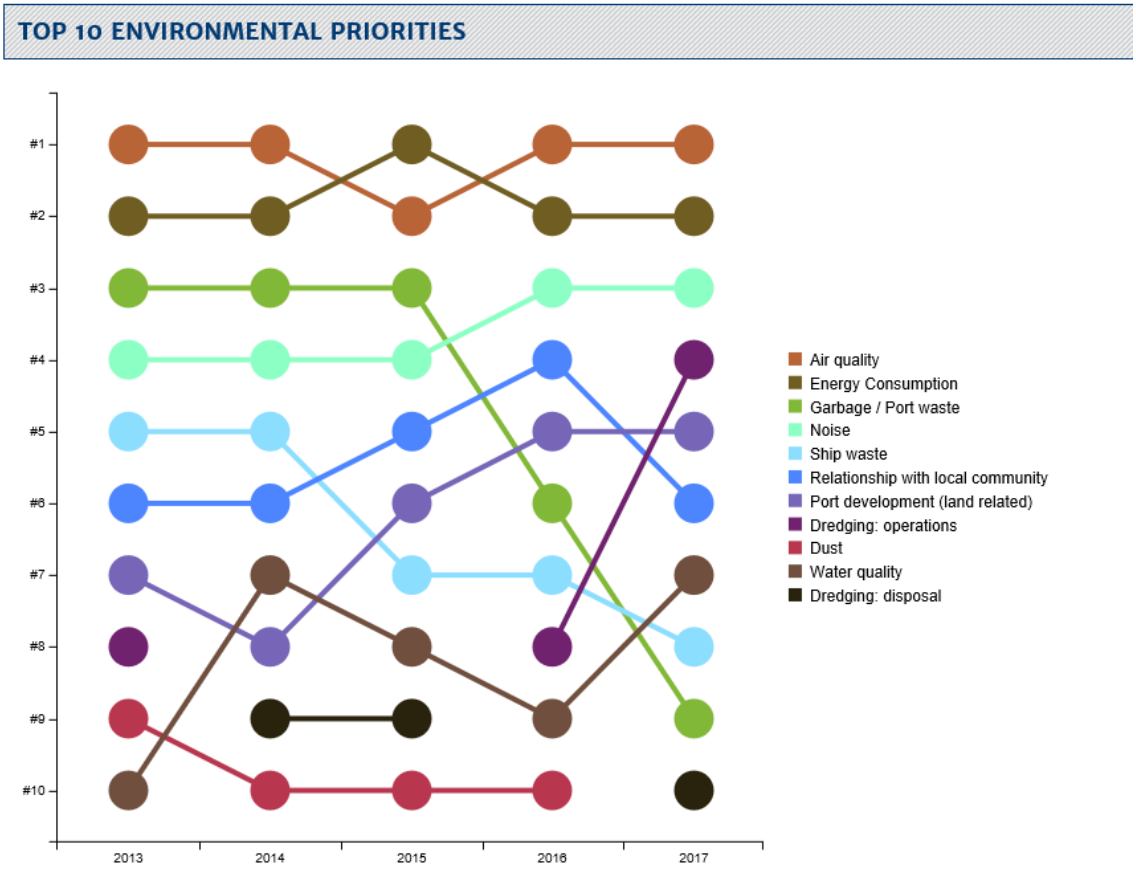
*Figure 16: Benchmarking of the top 10 environmental priorities of the port of Antwerp against the overall results for the EU port system.*



## 3.6 EU dashboard: top 10 environmental priorities

At EU port level, it is interesting to analyse how these priorities have evolved over the years in the entire European port system. Figure 17 shows how this is done in the PORTOPIA service cloud. The rankings can then be compared to the rankings per year of the individual port who is performing the analysis.

*Figure 17. Evolution of the top 10 environmental priorities of the EU port system, 2013-2017*



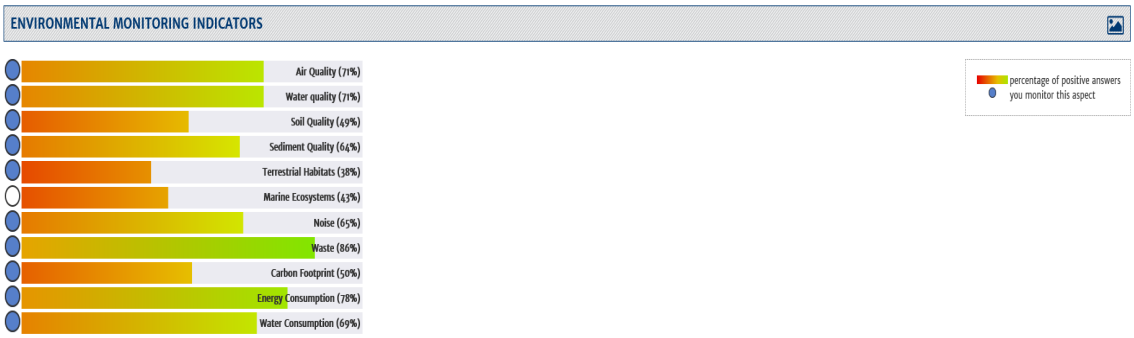

## 3.7 Individual port dashboard: indicators on environmental monitoring

Indicators on environmental monitoring provide information about the current condition of the environment. The indicators on environmental monitoring include air quality, water quality, soil quality, sediment quality, terrestrial habitats, marine ecosystems, noise, waste, carbon footprint, energy consumption, water consumption. A scoring system is used with a score of 1 (positive answer) meaning that the indicator is being monitored/measured in the port.

In the PORTOPIA service cloud, the environmental monitoring indicators of an individual port are compared/benchmarked against the EU percentage of positive answers. Figure 18 compares the answers of the port of Antwerp with these EU percentages. The circles show the answers for the port of Antwerp: empty white dots refer

to a negative answer, while blue dots to positive answers. The bars show the percentage of positive answers among all EU ports in the PORTOPIA service cloud.

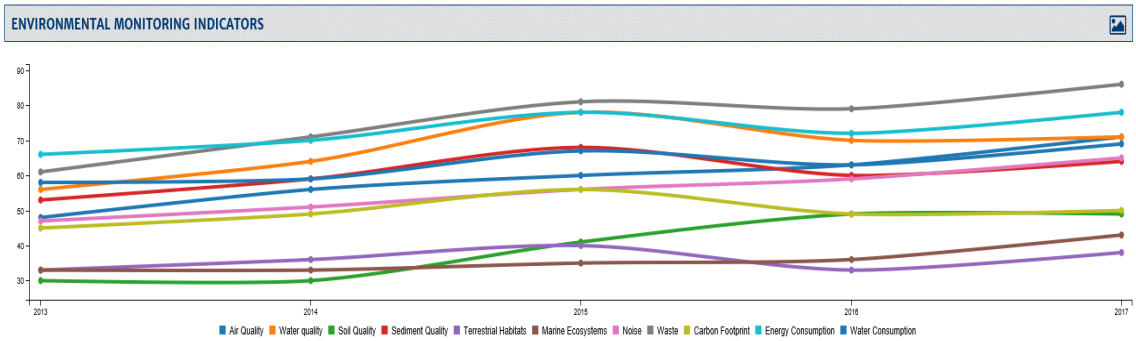
*Figure 18. A comparison of the indicators on environmental monitoring used in Antwerp (dots) with the EU share of positive answers (bars)*




## 3.8 EU dashboard: indicators on environmental monitoring

At EU port level, it is interesting to analyse how the shares of the positive answers for the indicators on environmental monitoring have evolved over the years. Figure 19 shows the results of such an exercise in the PORTOPIA service cloud. A line is drawn for each indicator.

*Figure 19. Evolution of the positive answers for the indicators on environmental monitoring in the EU port system*



# 4 THE GOVERNANCE MODULE IN THE PORTOPIA SERVICE CLOUD

In this section, we discuss how the benchmarking possibilities discussed in D9.3 are to be implemented in the PORTOPIA service cloud. A distinction is made between an individual port dashboard approach and an EU dashboard approach.

## 4.1 Individual port dashboard: port authority ownership and legal framework

The ownership of port authorities is scored as a simple percentage of the actual value (1 point per selection) compared to the target value (unselected, selected and unanswered) using the formula: score =100×(Actual÷Target). The 3 types of ownership distribution for all surveyed EU port authorities are shown in the PORTOPIA platform by using a pie chart. This will allow individual ports to see whether their ownership structure is very common in the EU or not (see figure 20). The color of the circle shows to which group the port of Antwerp belongs.

*Figure 20. Ownership of port authority: EU distribution and position of port of Antwerp*

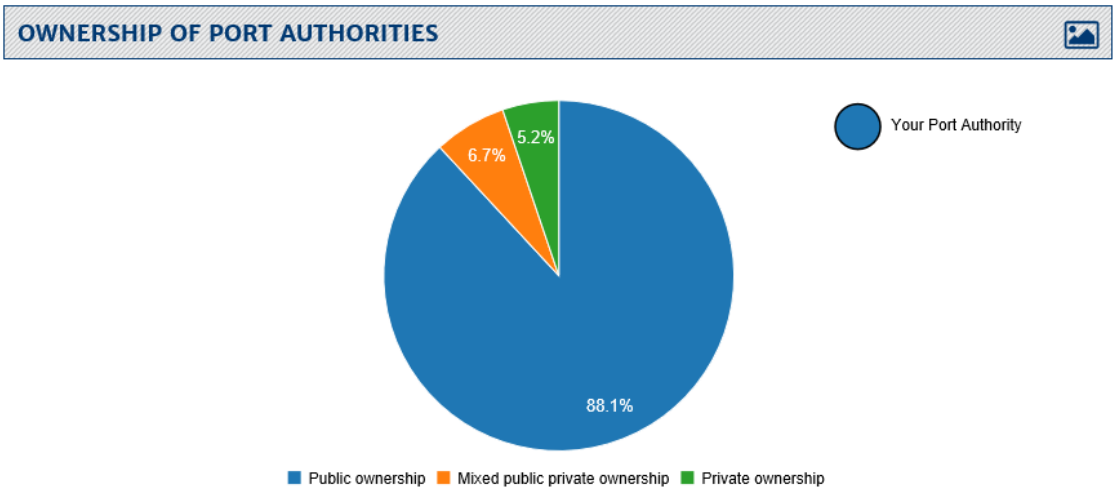
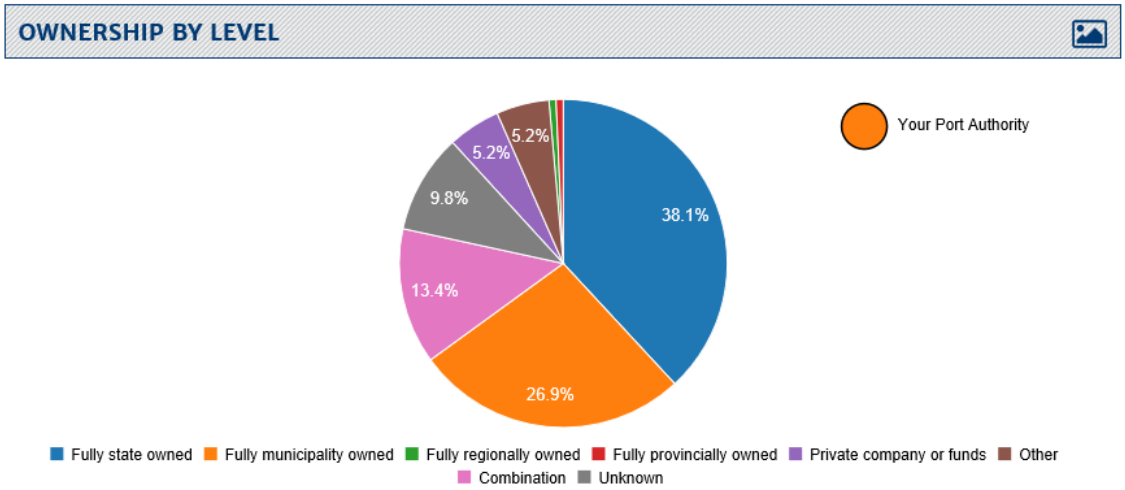


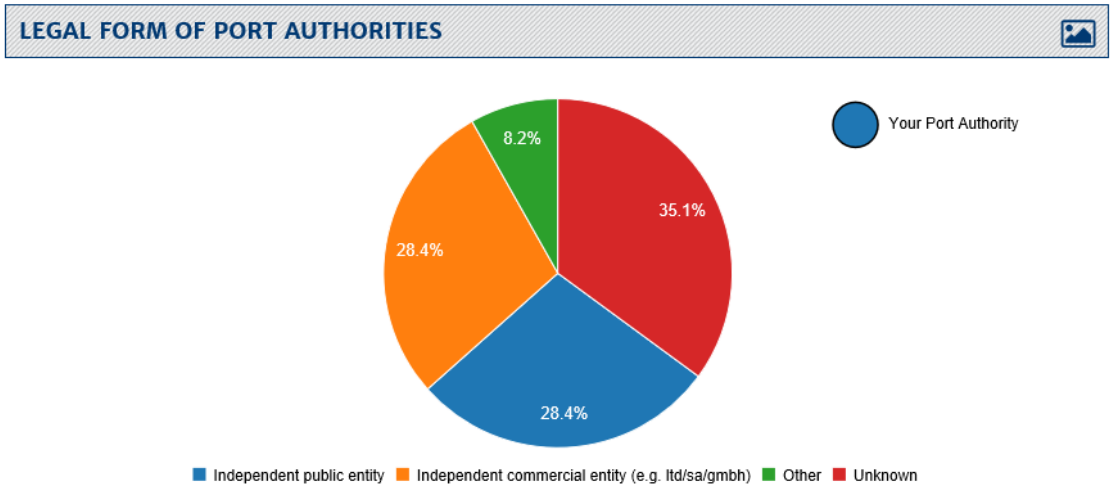

Figure 21 provides further information on public ownership or mixed public-private ownership, by indicating the distribution for the corresponding ownership per government level using percentages. Also here, the color of the circle shows to which group the port of Antwerp belongs.

*Figure 21. Ownership by level: EU distribution and position of port of Antwerp*



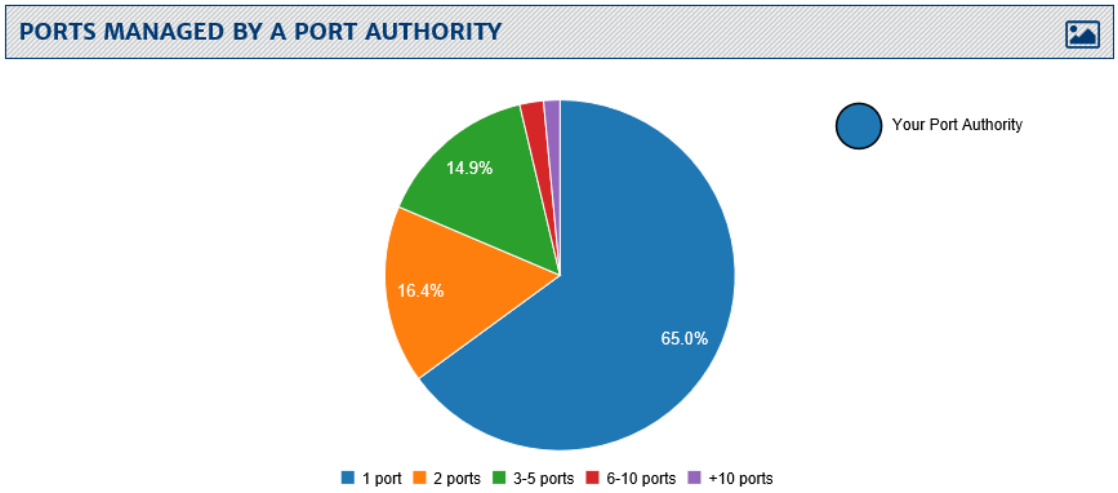

The legal form of port authorities is scored as a simple percentage showing the distribution for all surveyed ports using a pie chart. Figure 22 allows to compare the situation in Antwerp with the EU distribution. The color of the circle shows to which group the port of Antwerp belongs.

*Figure 22. Legal form of port authorities: EU distribution and situation for the port of Antwerp*




For the number of ports managed by a port authority, five categories are used: port authority with 1 port under its responsibility, with 2 ports, 3 to 5 ports, 6 to 10 ports and more than 10 ports. The individual port (in this case Antwerp) can then benchmark its own position against the overall distribution for European ports (figure 23). The color of the circle shows to which group the port of Antwerp belongs.

*Figure 23. Number of ports managed by a port authority: EU distribution and situation for the port of Antwerp*




## 4.2 EU dashboard: port authority ownership and legal framework

The above indicators on ownership, legal form and number of ports managed can also be benchmarked by adding a temporal dimension, i.e. the evolution of the distribution over time, or by grouping ports to ranges. Figures 24 to 27 show the results for the EU port system.

*Figure 24. Evolution of ownership of port authorities (EU distribution)*

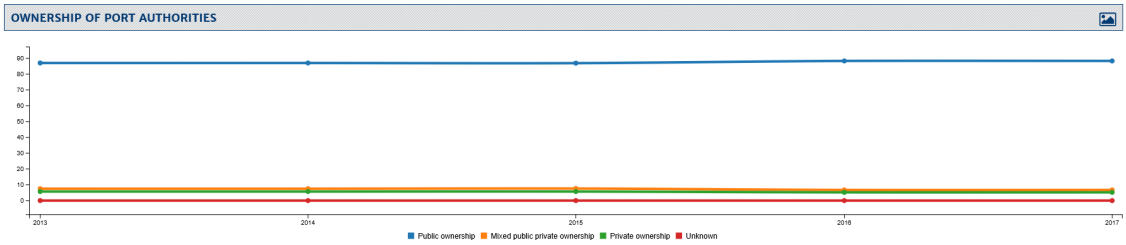



*Figure 25. Distribution of ownership by level, per range*

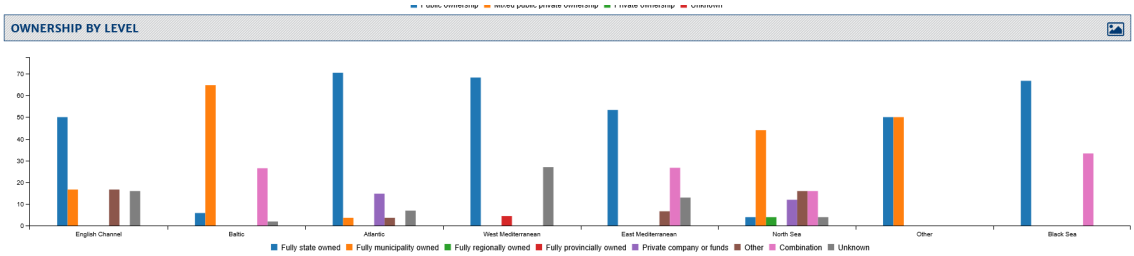


*Figure 26. Distribution of legal form of port authorities, per range*

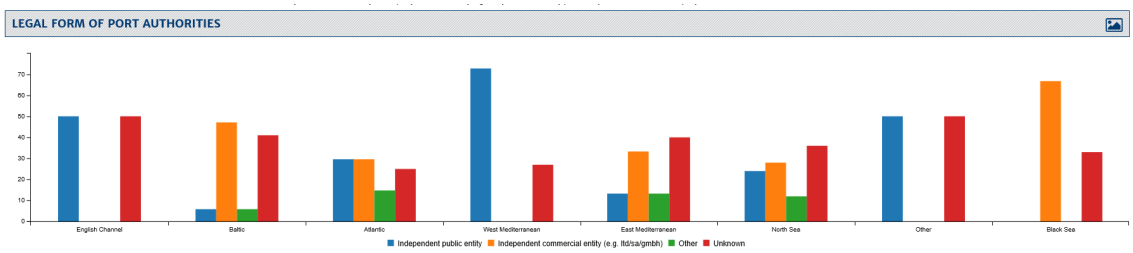
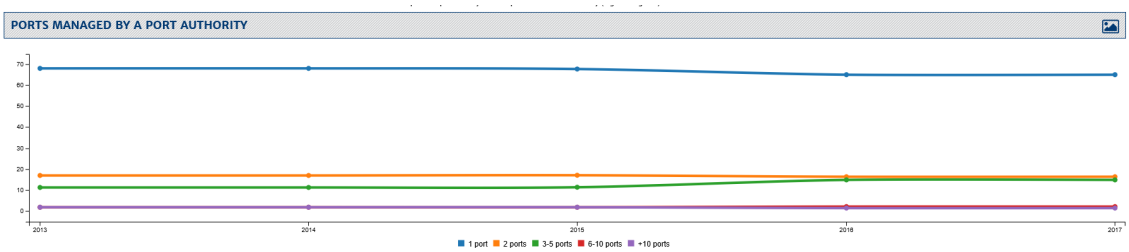



*Figure 27. Evolution of number of ports managed by a port authority (EU distribution)*




## 4.3 Individual port dashboard: port authority functions

We adopt the following approach for the indicators related to port authorities granting the use of port land. We assign a simple percentage of the actual values to obtain insight on the situation for all surveyed ports. Individual ports can benchmark themselves by comparing their positive answers with the percentage of positive answers registered in PORTOPIA platform by EU Port Authorities (figure 28). The same approach is followed for port authorities' operating functions (figure 29).

*Figure 28. Port authorities granting use of port land: comparison between answers port of Antwerp and EU level (demo version)*

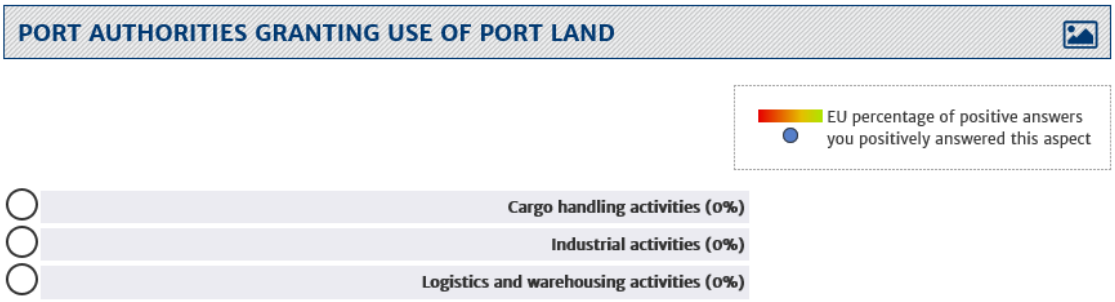


*Figure 29. Port authority operating functions: comparison between answers port of Antwerp and EU level (demo version)*


## 4.4 EU dashboard: port authority functions

The indicators on port authority functions are further benchmarked by adding a temporal dimension, i.e. the evolution of the distribution over time. Figure 30 shows the results for the port authorities granting use of port land, while figure 31 shows the evolution for the operating functions of port authorities. Each time the figures relate to the entire EU port population as captured by the PORTOPIA serviced cloud dataset.

*Figure 30. Evolution of the port authorities granting use of port land (EU level)*

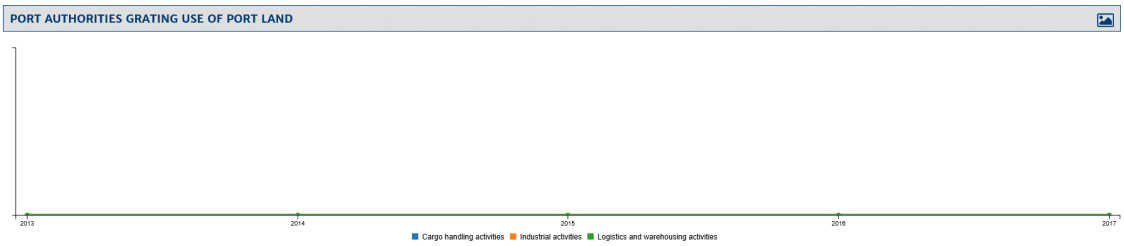
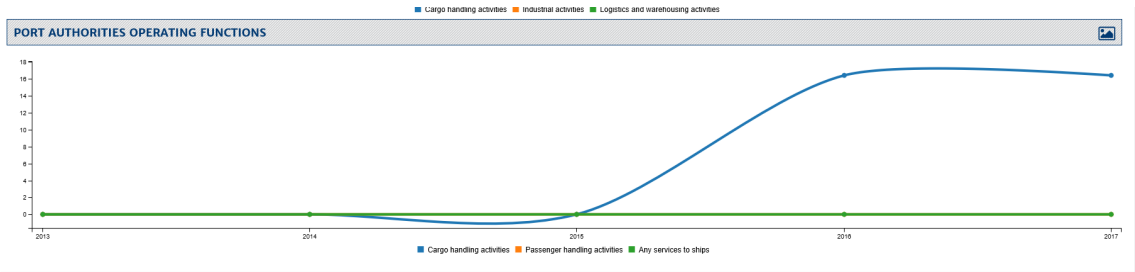



*Figure 31. Evolution of the port authority operating functions (EU level)*



## 4.5 Individual port dashboard: Corporate Social Responsibility (CSR)

The indicators on CSR relate to questions such as: Does the port authority have a formalised Corporate Social Responsibility (CSR) policy?; Is the formal CSR policy integrated in the port's mission and organisation?; In which areas does your CSR policy focus mainly?, etc. Also here, the service cloud is set up to compare the individual port's answers to the distribution for all surveyed EU ports. As such, an individual port can check whether they belong to the majority of ports or not. Figure 32 and figure 33 provide examples on how the CSR dimension of an individual port is benchmarked in the service cloud.

*Figure 32. Port authorities CSR policy: comparison between answers port of Antwerp and EU level share of positive answers (demo version)*


*Figure 33. Main areas of port authorities' CSR policy: comparison between answers port of Antwerp and EU level share of positive answers (demo version)*


## 4.6 EU dashboard: Corporate Social Responsibility (CSR)

The indicators on CSR policy can be further benchmarked by adding a temporal dimension, i.e. the evolution of the distribution over time. Figures 34 and 35 provide the results (demo version) of such exercise for the entire EU port system.

*Figure 34. Evolution of port authorities CSR policy: EU level (demo version)*

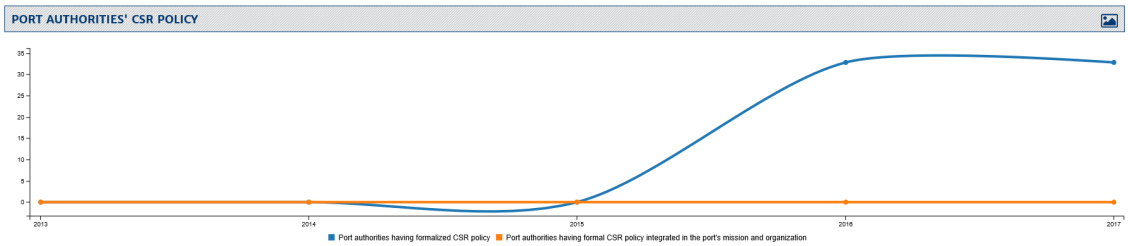
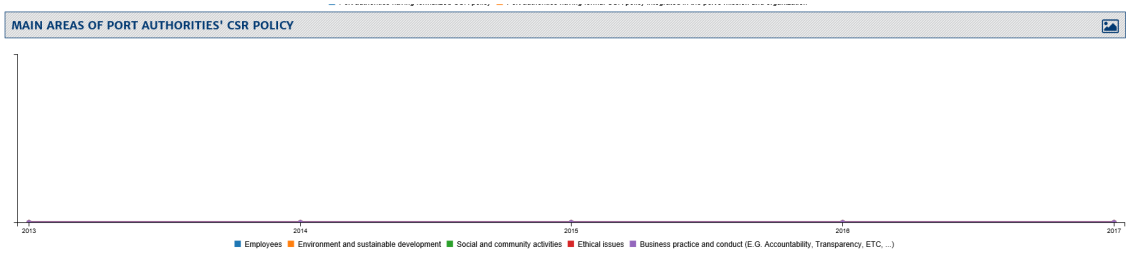


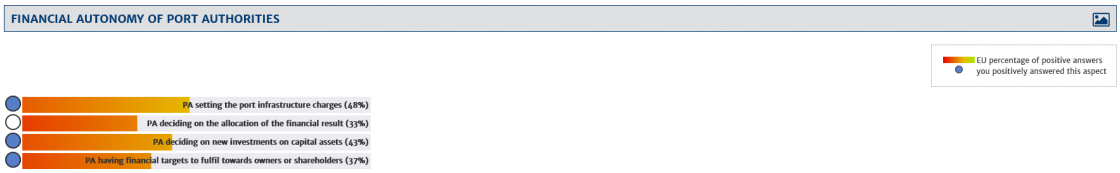

*Figure 35. Evolution of main areas of port authorities' CSR policy: EU level (demo version)*




## 4.7 Individual port dashboard: financial capability

A last governance indicator discussed in this document is the financial capability of port authorities. This indicator relates to a handful of questions (see D9.3 for a detailed discussion) to be answered by yes or no, or by making a selection between a limited number of options. Also in this case, benchmarking in the service cloud is performed by comparing the individual port's answers to the distribution of answers of all surveyed EU ports (see figure 36).

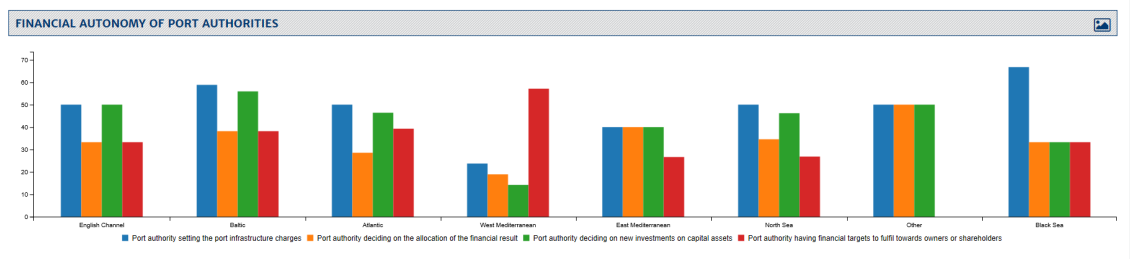
*Figure 36. Financial autonomy of port authorities: comparison between answers port of Antwerp and EU level share of positive answers (demo version)*




## 4.8 EU dashboard: financial capability

Similar to the other indicators, there are benchmarking opportunities by adding a geographical dimension, i.e. the evolution of the distribution for each of the port ranges. Figure 37 gives the results of this exercise.

*Figure 37. Financial autonomy of port authorities: comparison between positive answers of different ranges (demo version)*




# 5 Conclusions

This report presented the practical implementation of the benchmarking in the PORTOPIA service cloud. We took into account the specificities of the indicators considered and the needs of the respective port authorities and other users, as fully detailed in deliverable 9.3. The discussion on the implementation issues focused on three parts: RES, the governance module and the environmental module. Each time we made a distinction between benchmarking at individual port level (i.e. the port dashboard) and at EU level (i.e. the EU dashboard).

# 6 Appendix

## 6.1 Example of a quarterly report based on the RES system: Data for Q4-2014

# RAPID EXCHANGE SYSTEM

Powered by PORTOPIA



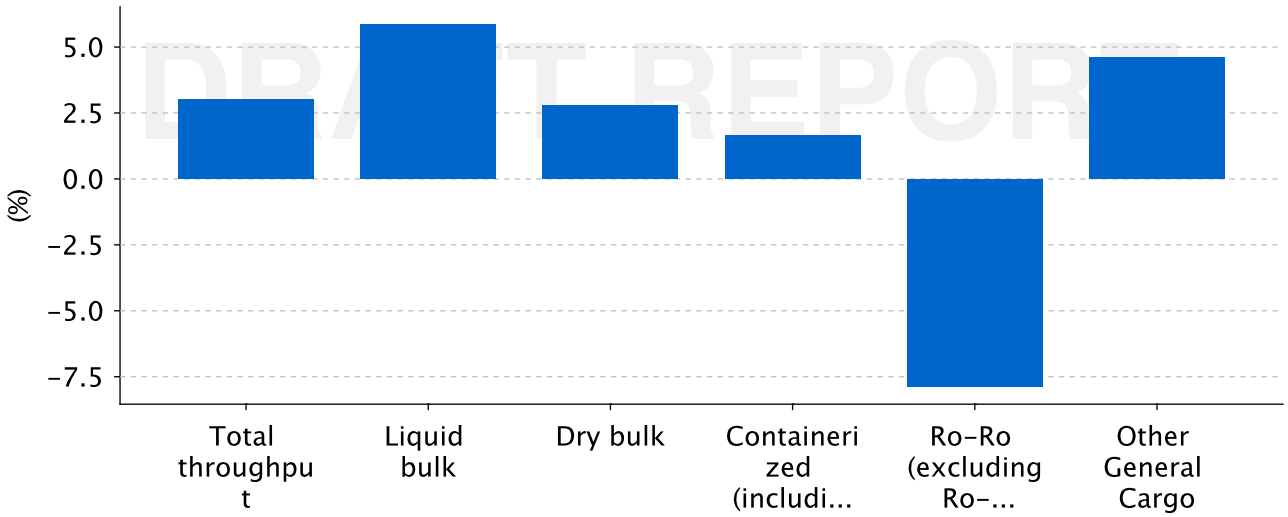
Q4 2014

# Atlantic Range

**Geographical Limits** Norway, Iceland, Le Havre - Gibraltar

**Ports (84)** A Coruña, Akranes, Algeciras, Almeria, Arrecife de Lanzarote, Aveiro, Aviles, Bayonne, Bergen, Bilbao, Bodo, Bordeaux, Borgarnes, Brest, Brevik, Cabezuela, Cadiz, Caen - Ouistreham, Canical, Cherbourg, Concarneau, Douarnenez, Douro, Faro, Ferrol, Figueira da Foz, Funchal, Gibraltar, Gijón, Grundartangi, Horta, Huelva, Kristiansand, La Rochelle- La Pallice (GPM), Lajes das Flores, Langesund, Las Palmas, Le Legue - St Brieuc, Leixões, Les Sables dOlonne, Lisboa, Lorient, Luderitz, Nantes, Narvik, Oslo, Pasajes, Ponta Delgada, Porsgrunn, Portimao, Porto Santo, Praia da Graciosa, Praia da Vitoria, Puerto de Santa Maria, Puerto de la Estaca, Puerto del Rosario, Rebeira, Reykjavik, Rochefort, Roscoff-Bloscon, Saint Malo, Saint Nazaire, Saint-Jean-de-Luz, San Ciprian, Sandefjord, Santa Cruz de la Palma, Santa Sebastian de la Gomera, Santander, Sao Roque do Pico, Sesimbra, Setubal, Sevilla, Sines, Skien, Tarifa, Tenerife (Santa Cruz), Tonnay Charente, Treguier, Velas, Viana do castelo, Vigo, Vila do Porto, Vilagarcia de Arousa, Walvis Bay

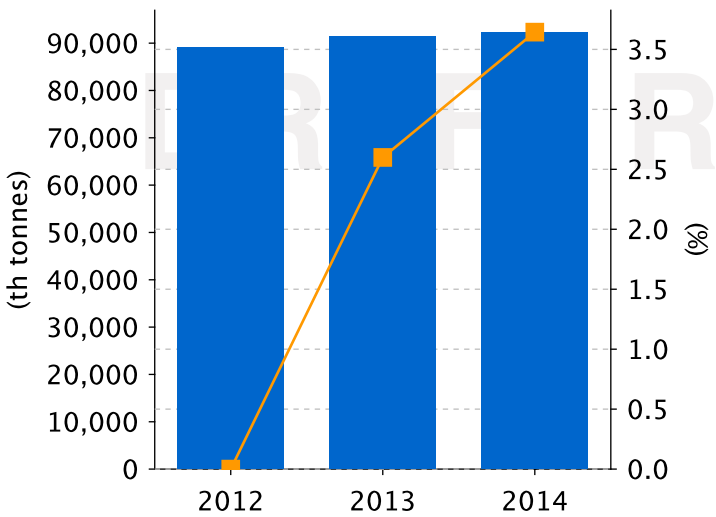
## Overview




Note: Showing data from 30 ports in this range

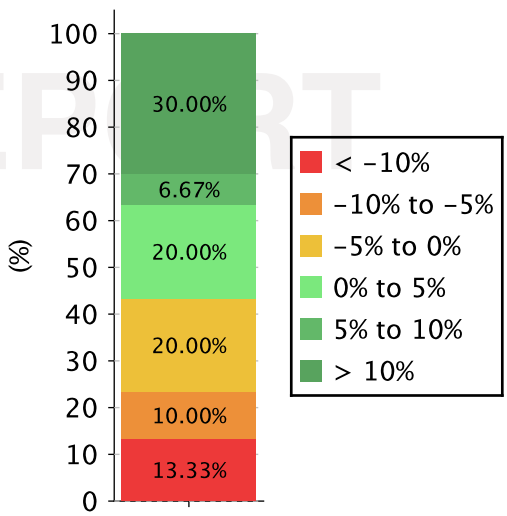
## Total cargo

### Quarterly Evolution




Note: Showing data from 28 ports in this range

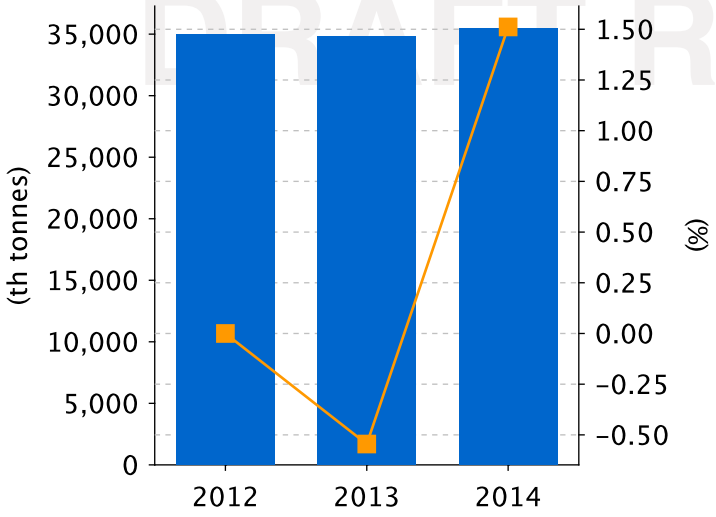
### Growth Distribution




Note: Showing data from 30 ports in this range

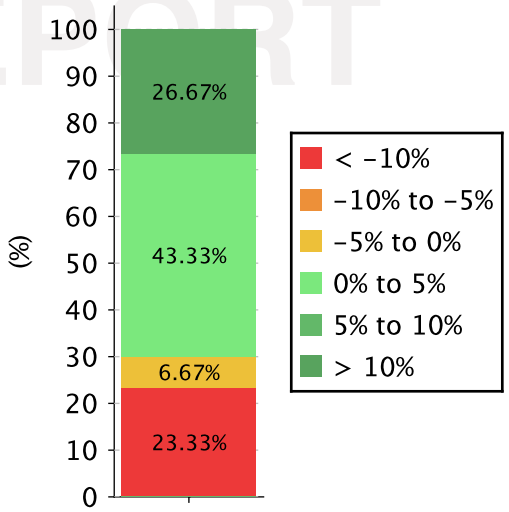
## Liquid bulk

### Quarterly Evolution




Note: Showing data from 28 ports in this range

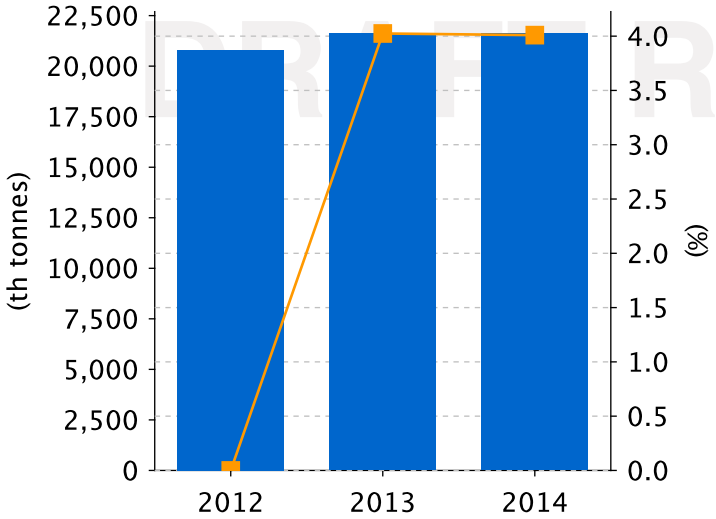
### Growth Distribution




Note: Showing data from 30 ports in this range

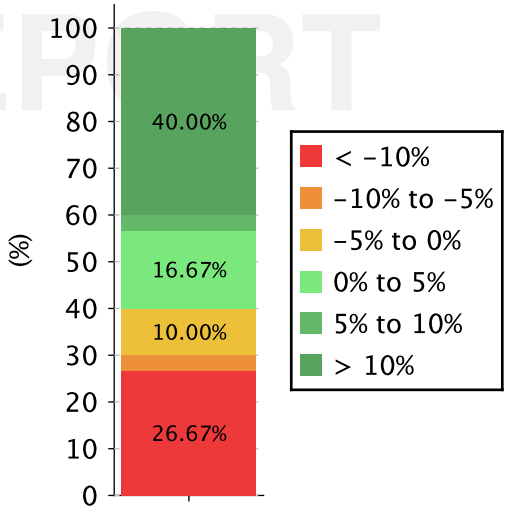
## Dry bulk

### Quarterly Evolution




Note: Showing data from 28 ports in this range

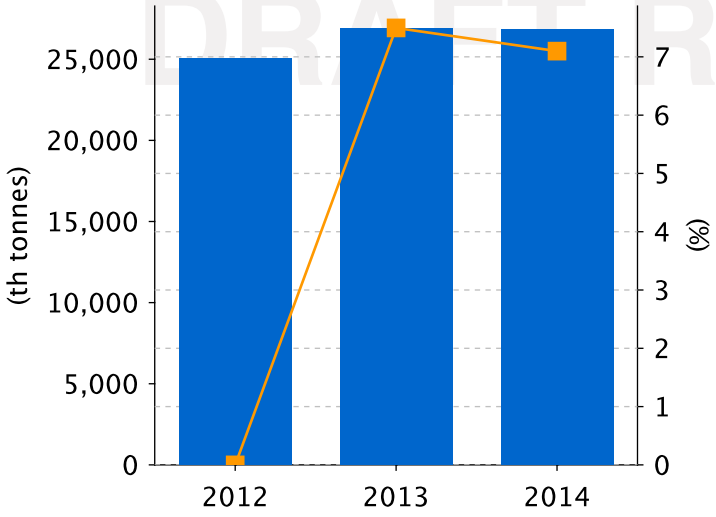
### Growth Distribution




Note: Showing data from 30 ports in this range

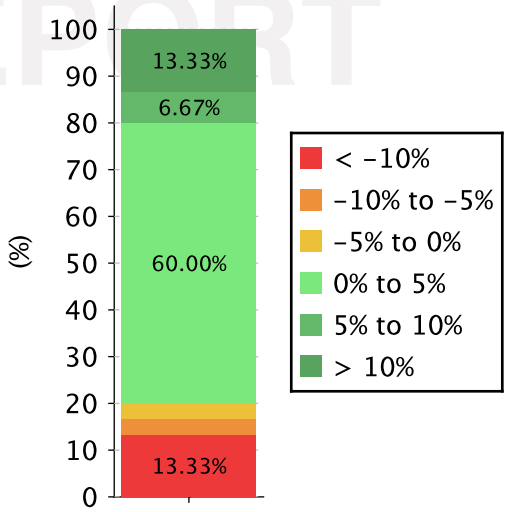
## Containers

### Quarterly Evolution




Note: Showing data from 28 ports in this range

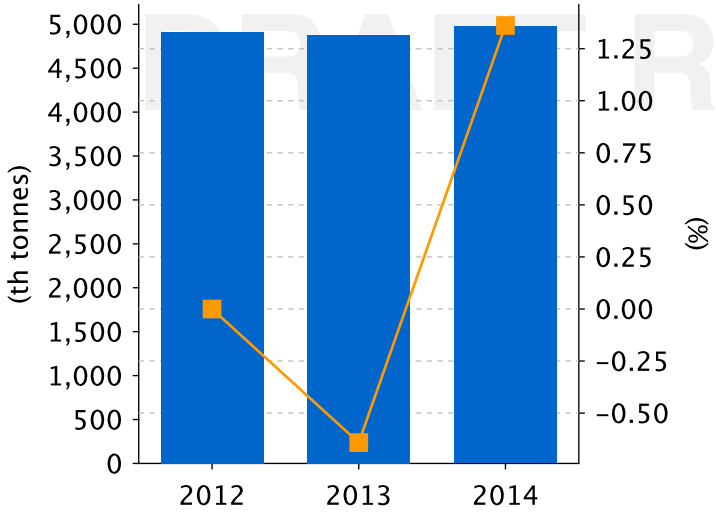
### Growth Distribution




Note: Showing data from 30 ports in this range

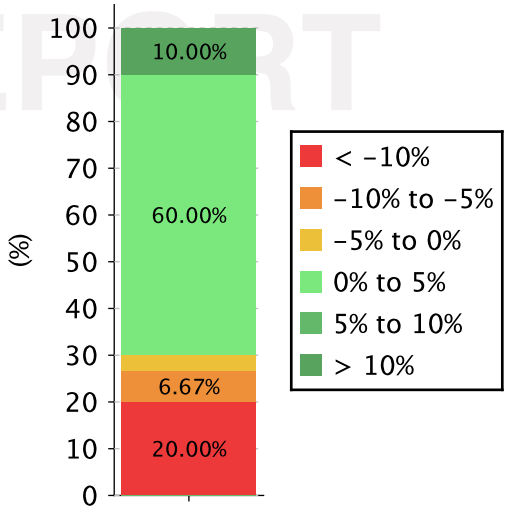
## RoRo cargo

### Quarterly Evolution




Note: Showing data from 28 ports in this range

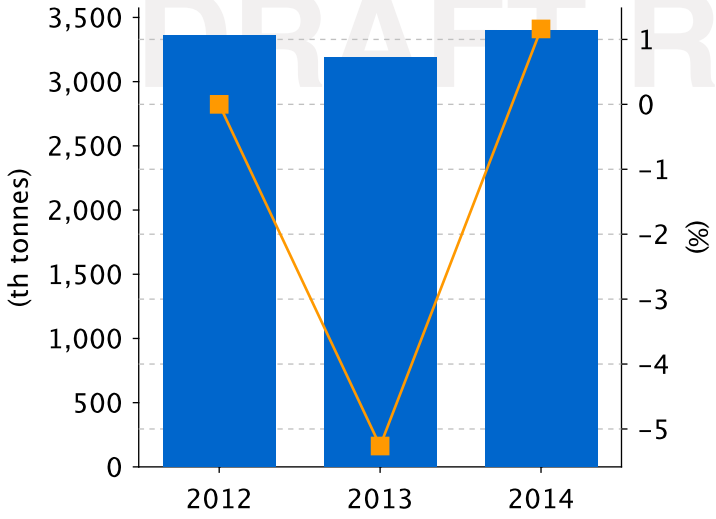
### Growth Distribution




Note: Showing data from 30 ports in this range

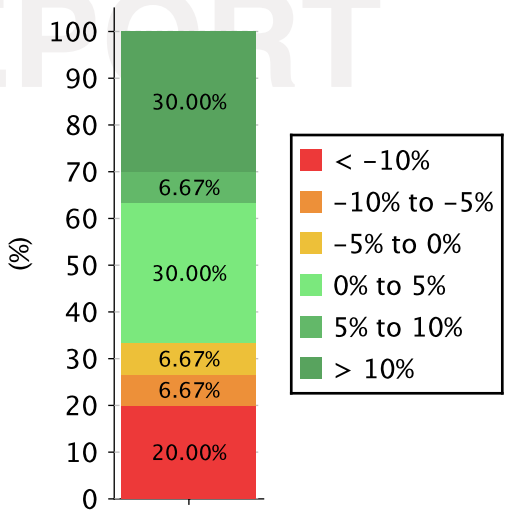
## Other general cargo

### Quarterly Evolution



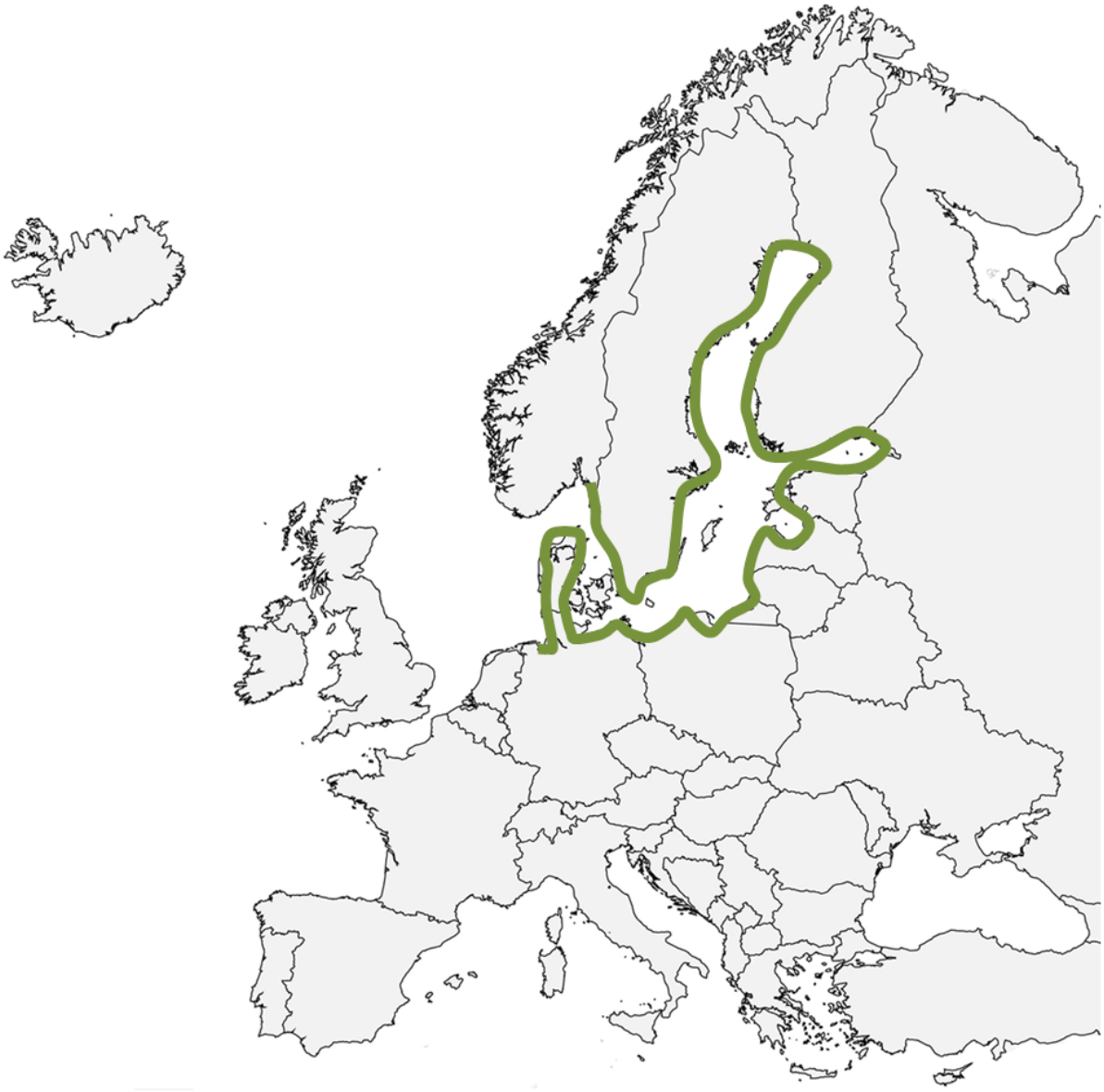

Note: Showing data from 28 ports in this range

### Growth Distribution




Note: Showing data from 30 ports in this range

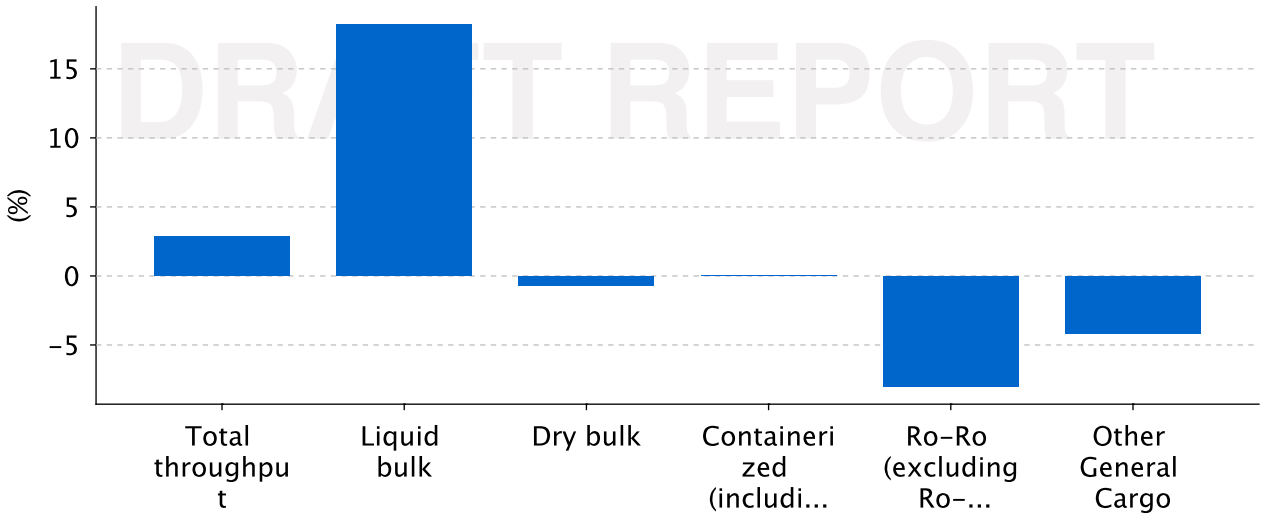
# Baltic Range



**Geographical Limits** East of Hamburg to border of Norway

**Ports (99)** Aalborg, Aarhus, Branden, Ebeltoft, Eckero, Esbjerg, Fredericia, Frederikshavn, Fur, Gavle, Gdynia, Gdánsk, Gedser, Gothenburg, Grisslehamn, Halmstad, Hamina, Hanko, Haraholmen, Hargshamn, Helsingborg, Helsingor, Helsinki, Heltermaa, Hirtshals, Kalmar, Kalundborg, Kapellskar, Karlshamn, Karlskrona, Kaskinen, Kemi, Kiel, Klaipda, Koge, Kokkola, Koping, Kotka, Kuivastu, København, Liepaja, Luleå, Lübeck, Malmö, Mariehamn, Middelfart, Munksund, Muuga, Naantali, Nordby (Fano), Norrkoping, Nyborg, Nynashamn, Odense, Oskarshamn, Oulu, Oxelosund, Paldiski Lounasadam, Paljassaare, Parnu, Pietarsaari, Police, Pori, Puttgarden, Rauma, Rautaruukki, Rodby (Faergehavn), Rohukula, Ronne, Rostock, Rga, Saaremaa, Sassnitz, Sillamae, Sjællands Odde, Skoldvik, Spodsbjerg, Stenungsund, Stockholm, Stromstad, Sundsvall, Szczecin, Tallinn, Tars, Thyboron, Trelleborg, Tunadal, Turku, Umea, Varberg, Vasteras, Vejle, Ventspils, Virtsu, Visby, Vordingborg, Wismar, Ystad, winoujcie

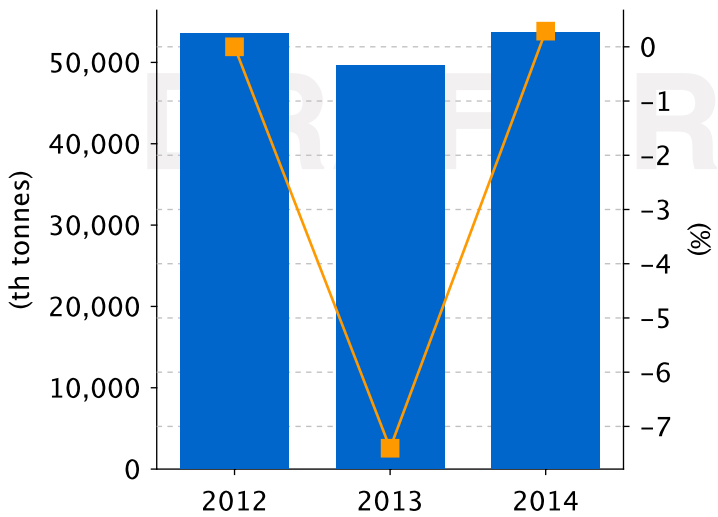
## Overview




Note: Showing data from 10 ports in this range

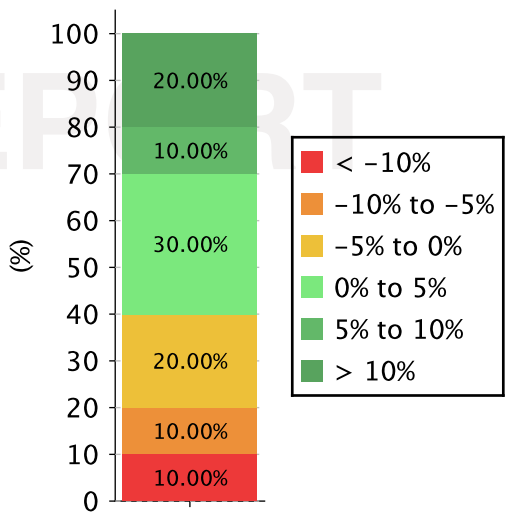
## Total cargo

### Quarterly Evolution




Note: Showing data from 9 ports in this range

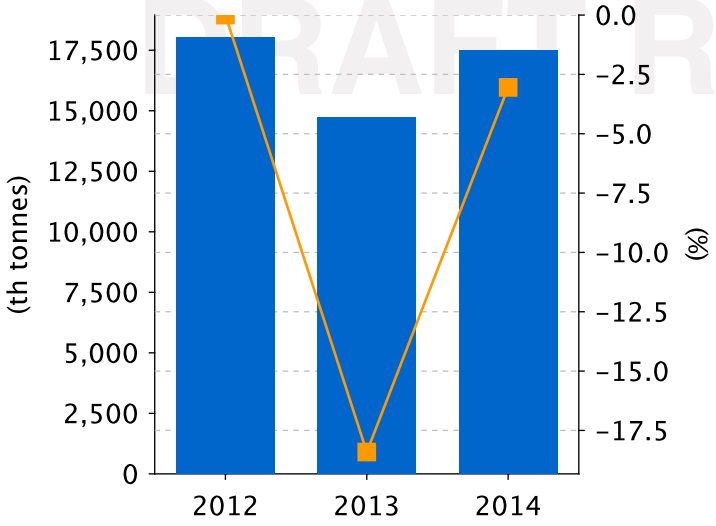
### Growth Distribution




Note: Showing data from 10 ports in this range

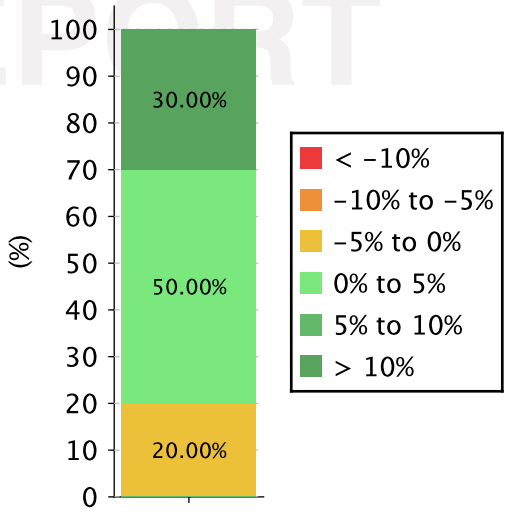
## Liquid bulk

### Quarterly Evolution




Note: Showing data from 9 ports in this range

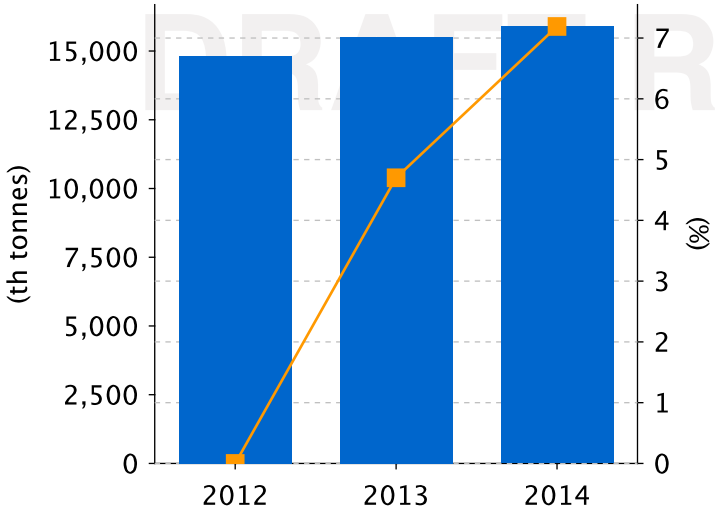
### Growth Distribution




Note: Showing data from 10 ports in this range

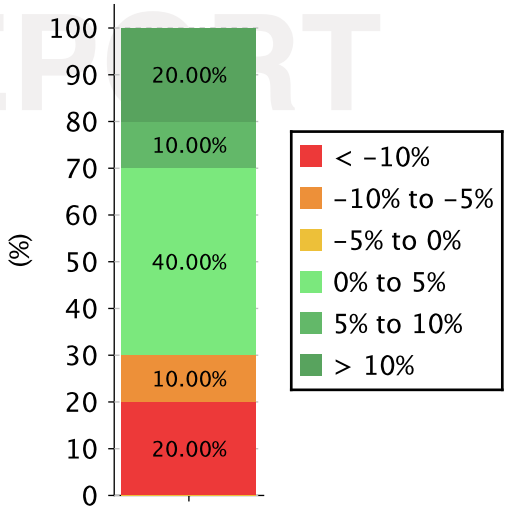
## Dry bulk

### Quarterly Evolution




Note: Showing data from 9 ports in this range

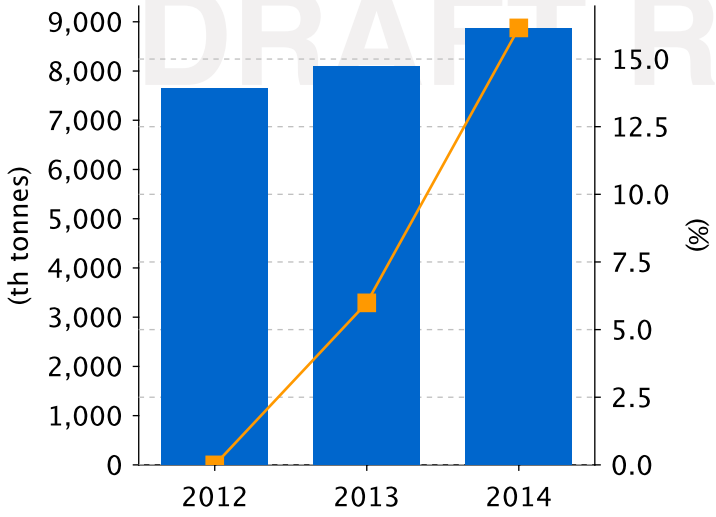
### Growth Distribution




Note: Showing data from 10 ports in this range

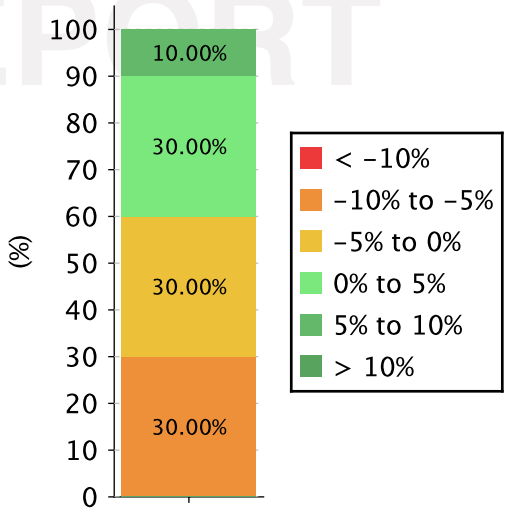
## Containers

### Quarterly Evolution




Note: Showing data from 9 ports in this range

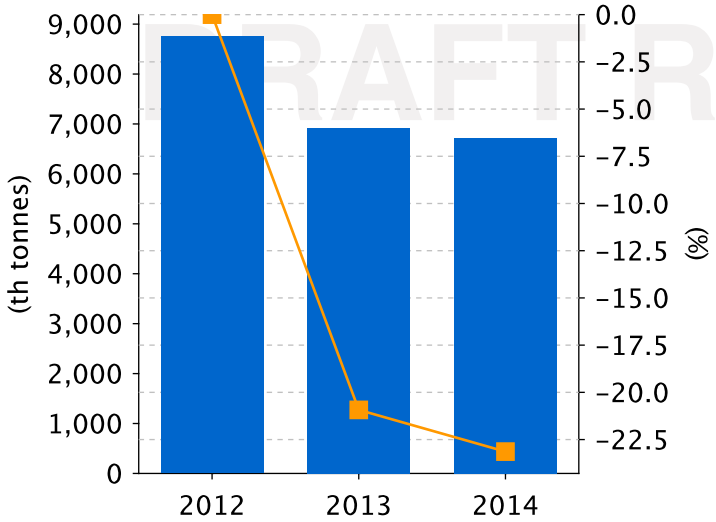
### Growth Distribution




Note: Showing data from 10 ports in this range

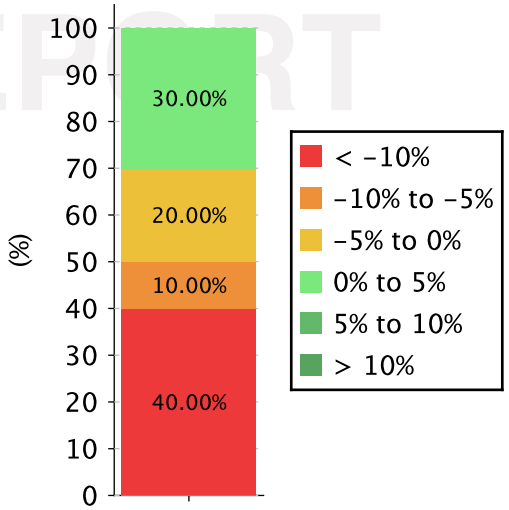
## RoRo cargo

### Quarterly Evolution




Note: Showing data from 9 ports in this range

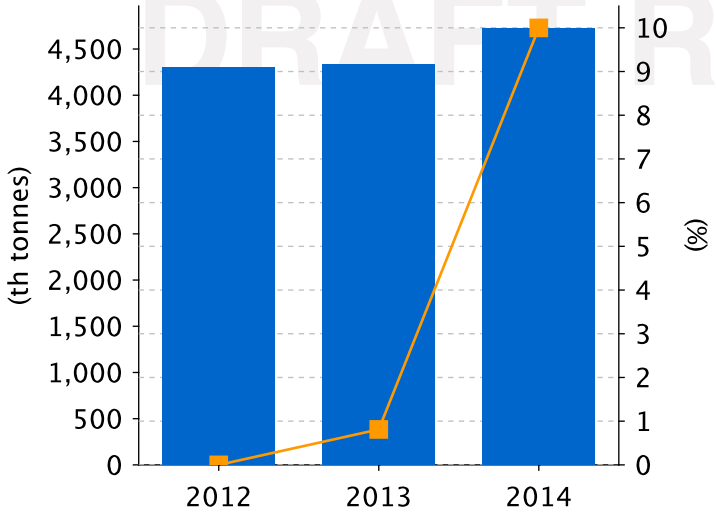
### Growth Distribution




Note: Showing data from 10 ports in this range

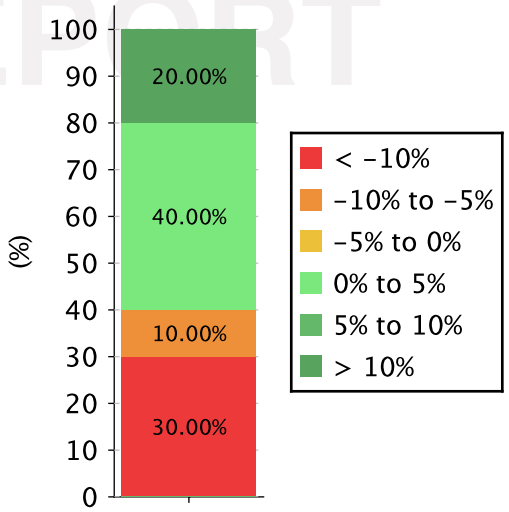
## Other general cargo

### Quarterly Evolution




Note: Showing data from 9 ports in this range

### Growth Distribution

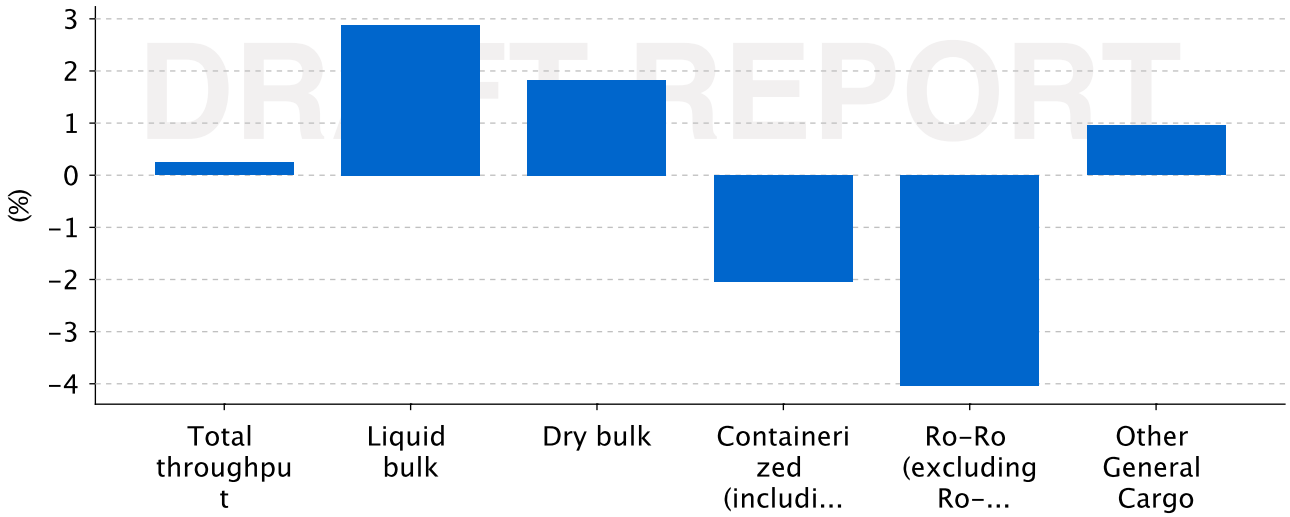



Note: Showing data from 10 ports in this range

# Hamburg-Le Havre Range

| | |
|---|---|
| **Geographical Limits** | Hamburg - Le Havre |
| **Ports (54)** | Amsterdam, Antifer, Antwerp, Baltrum, Bensersiel, Beverwijk, Boulogne-sur-Mer, Brake, Bremen, Bremerhaven, Brunsbuttel, Butzfleth, Calais, Cuxhaven, Delfzijl, Den Helder, Dieppe, Dordrecht, Dunkerque, Eemshaven, Emden, Fecamp, Gent, Grossensiel, Hamburg, Harlingen, Helgoland, Honfleur, Ijmuiden, JadeWeserPort, Langeoog, Lauwersoog, Le Havre, Le Treport, Moerdijk, Norddeich, Nordenham, Norderney, Oostend, Ostermoor, Port Jerome, Rotterdam, Rouen, Saint Wandrille, Spiekeroog, Stade, Terneuzen, Velsen, Vlaardingen, Vlissingen, Wangerooge, Wieringen/Den Oever, Wilhelmshaven, Zeebrugge |

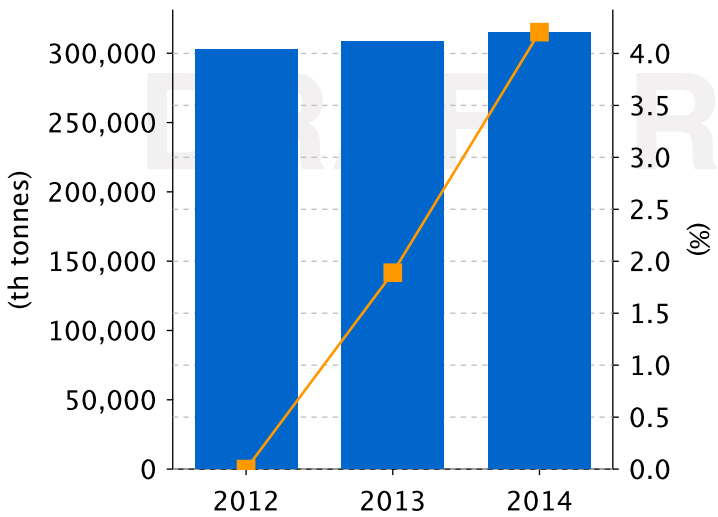
## Overview




Note: Showing data from 17 ports in this range

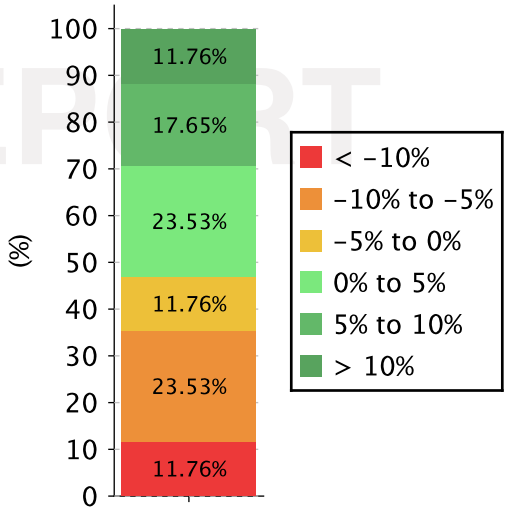
## Total cargo

### Quarterly Evolution




Note: Showing data from 15 ports in this range

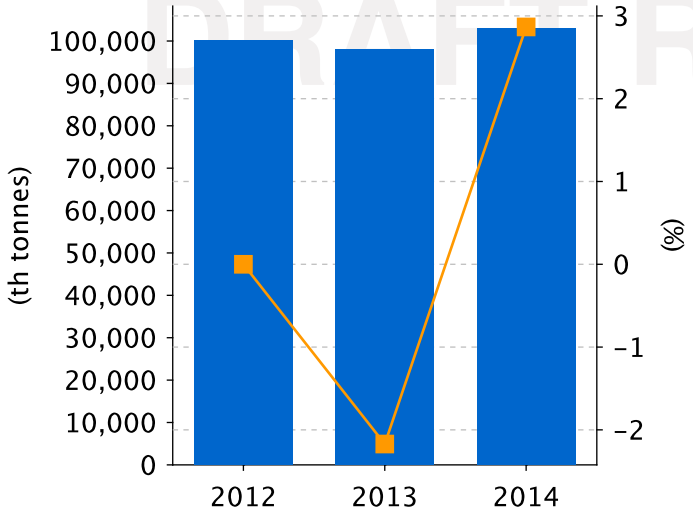
### Growth Distribution




Note: Showing data from 17 ports in this range

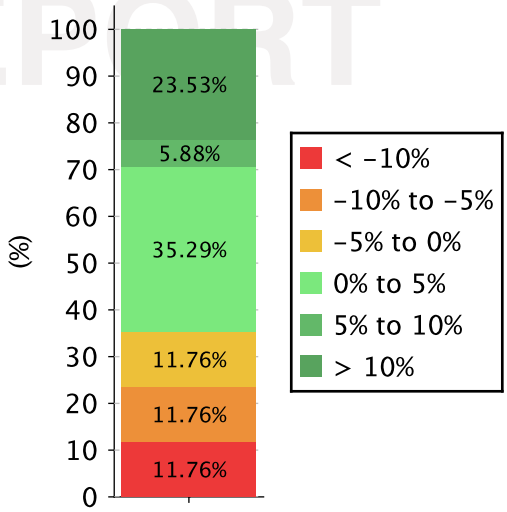
## Liquid bulk

### Quarterly Evolution




Note: Showing data from 15 ports in this range

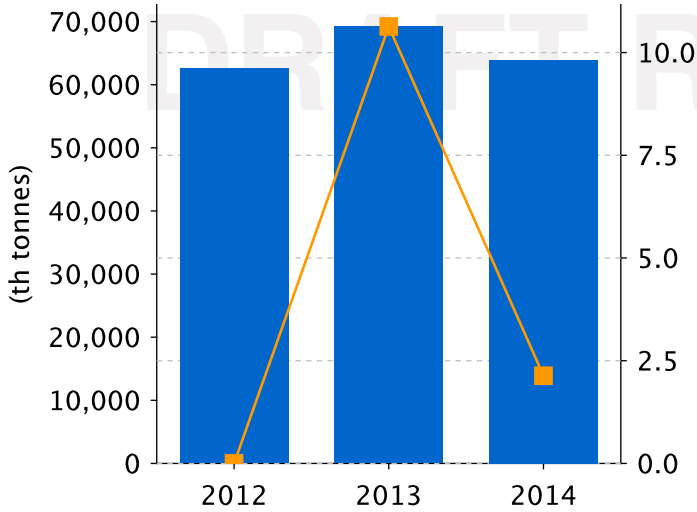
### Growth Distribution




Note: Showing data from 17 ports in this range

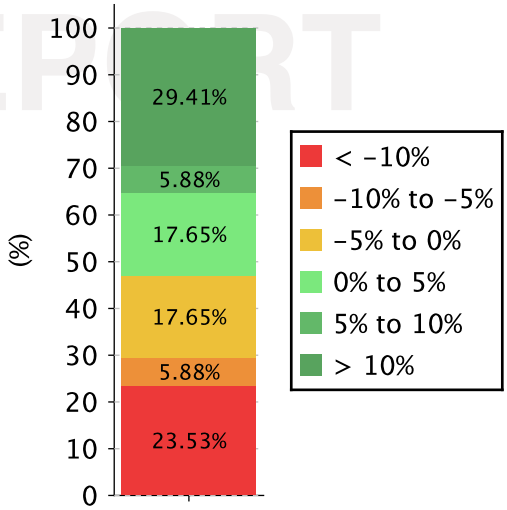
## Dry bulk

### Quarterly Evolution




Note: Showing data from 15 ports in this range

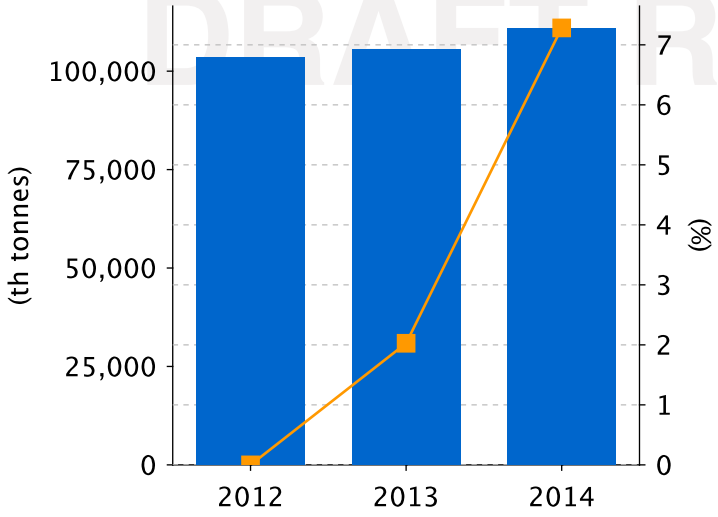
### Growth Distribution




Note: Showing data from 17 ports in this range

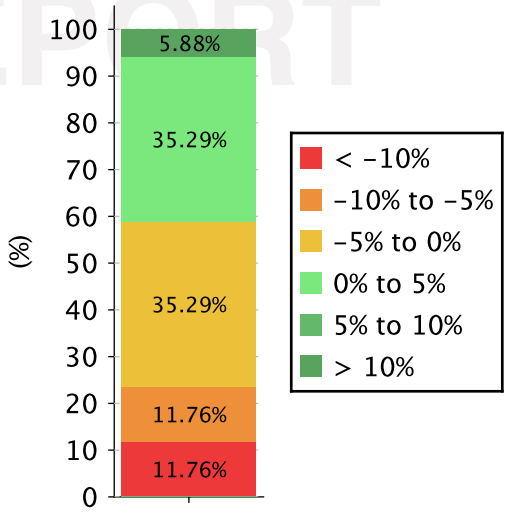
## Containers

### Quarterly Evolution




Note: Showing data from 15 ports in this range

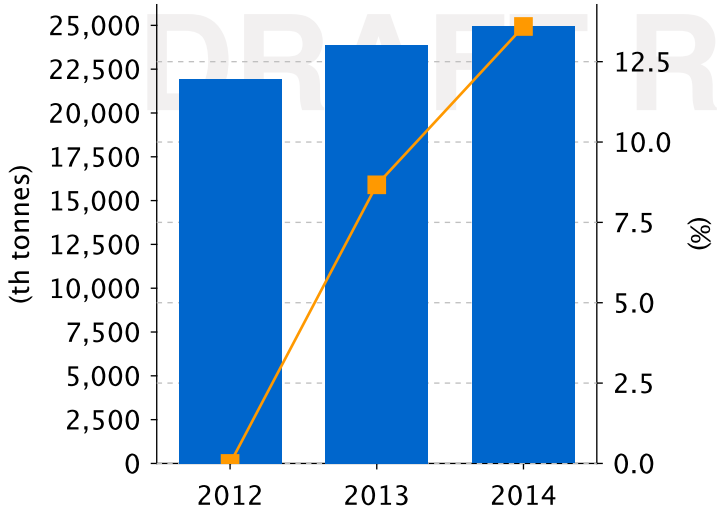
### Growth Distribution




Note: Showing data from 17 ports in this range

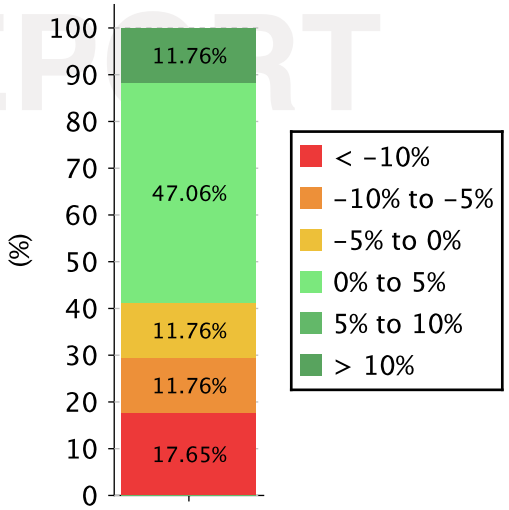
## RoRo cargo

### Quarterly Evolution




Note: Showing data from 15 ports in this range

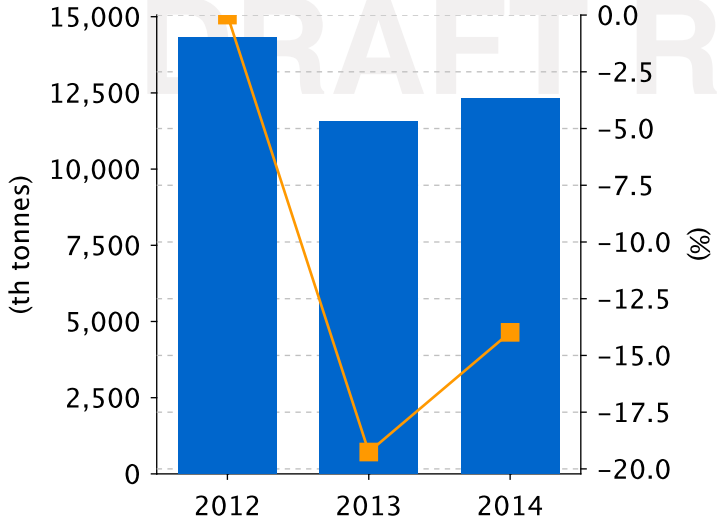
### Growth Distribution




Note: Showing data from 17 ports in this range

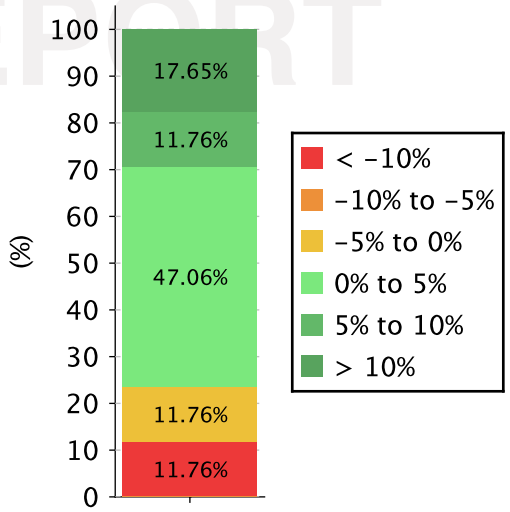
## Other general cargo

### Quarterly Evolution




Note: Showing data from 15 ports in this range

### Growth Distribution

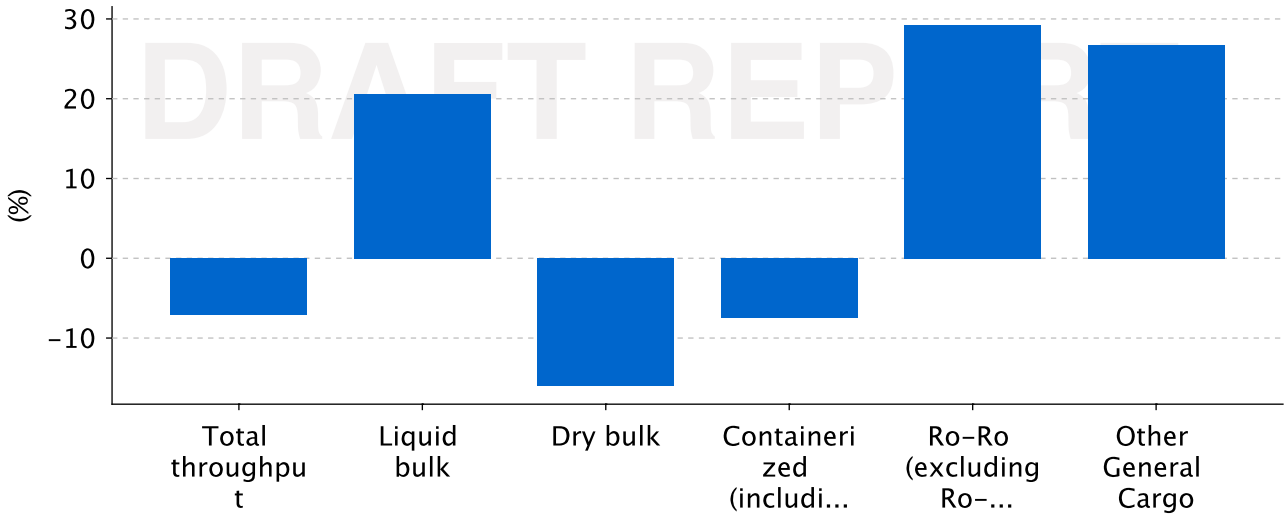



Note: Showing data from 17 ports in this range

# Black Sea Range

| | |
|---|---|
| **Geographical Limits** | Black Sea |
| **Ports (16)** | Basarabi, Braila, Burgas, Chilia Veche, Constana, Galai, Harsova, Illichivs'k, Isaccea, Macin, Mahmudia, Mangalia, Midia, Sulina, Tulcea, Varna |

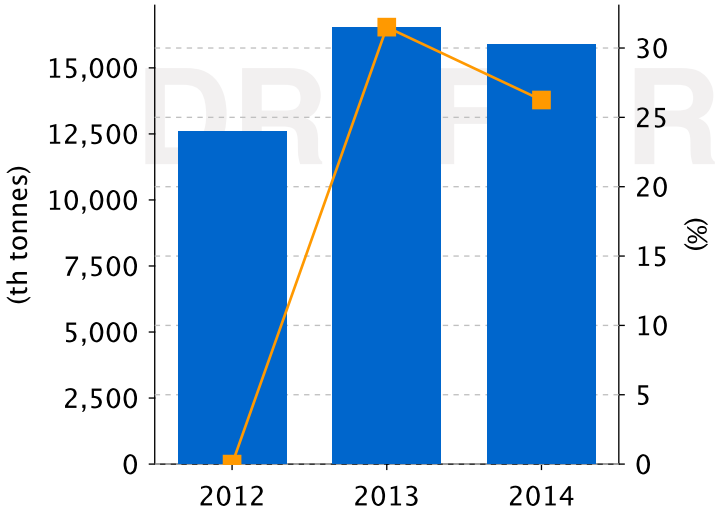
## Overview




Note: Showing data from 1 ports in this range

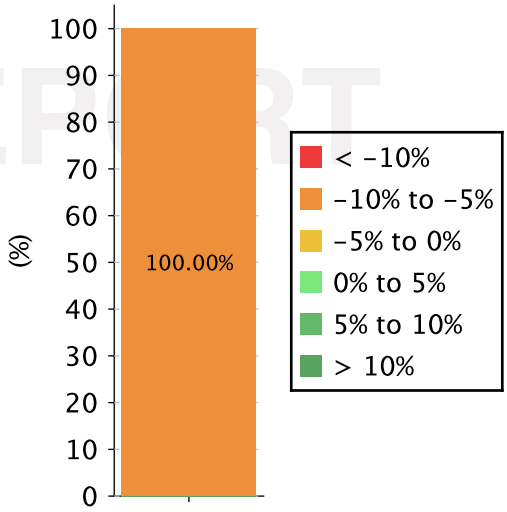
## Total cargo

### Quarterly Evolution




Note: Showing data from 1 ports in this range

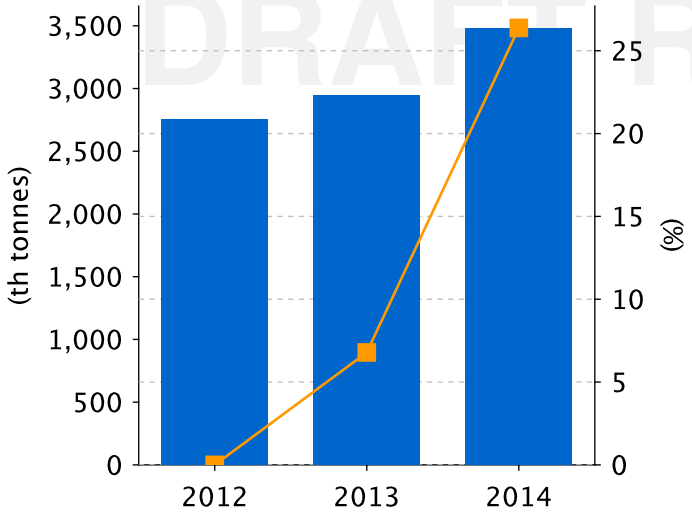
### Growth Distribution




Note: Showing data from 1 ports in this range

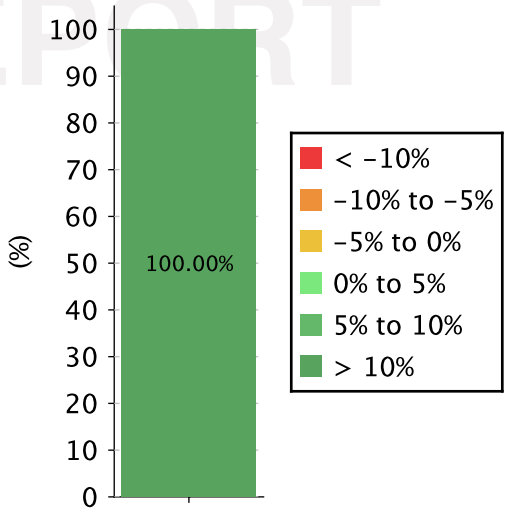
## Liquid bulk

### Quarterly Evolution




Note: Showing data from 1 ports in this range

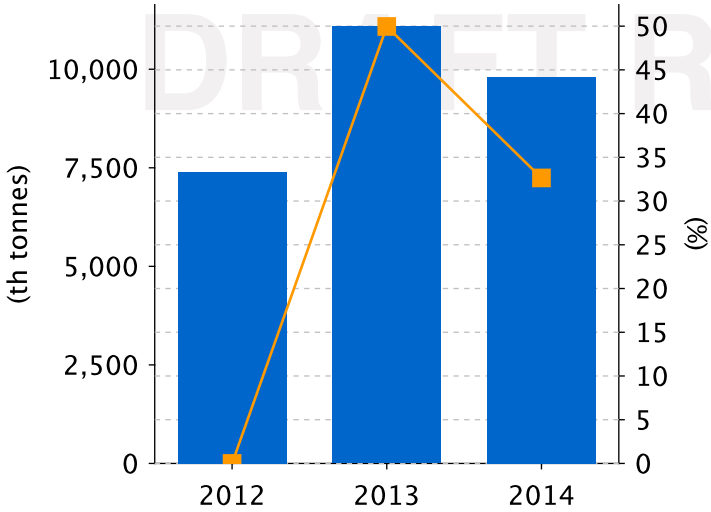
### Growth Distribution




Note: Showing data from 1 ports in this range

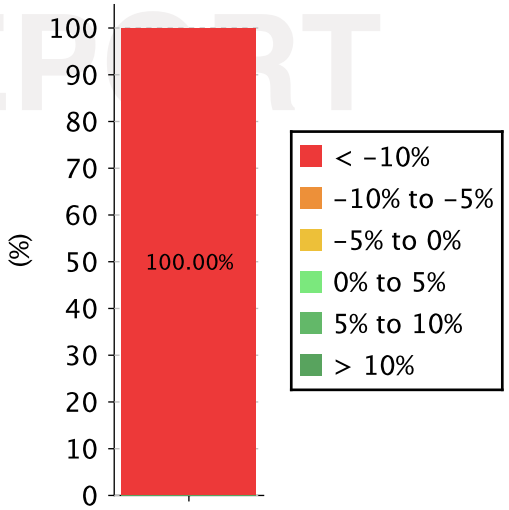
## Dry bulk

### Quarterly Evolution




Note: Showing data from 1 ports in this range

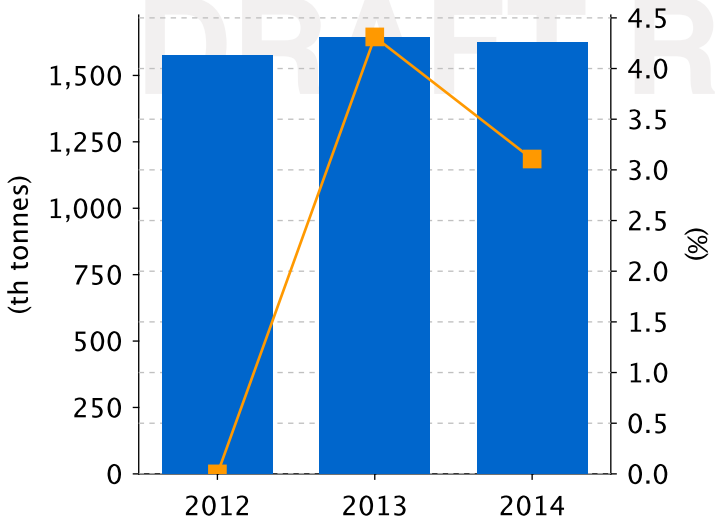
### Growth Distribution




Note: Showing data from 1 ports in this range

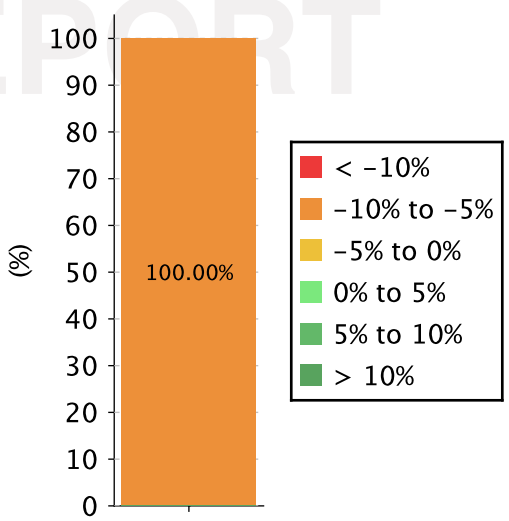
## Containers

### Quarterly Evolution




Note: Showing data from 1 ports in this range

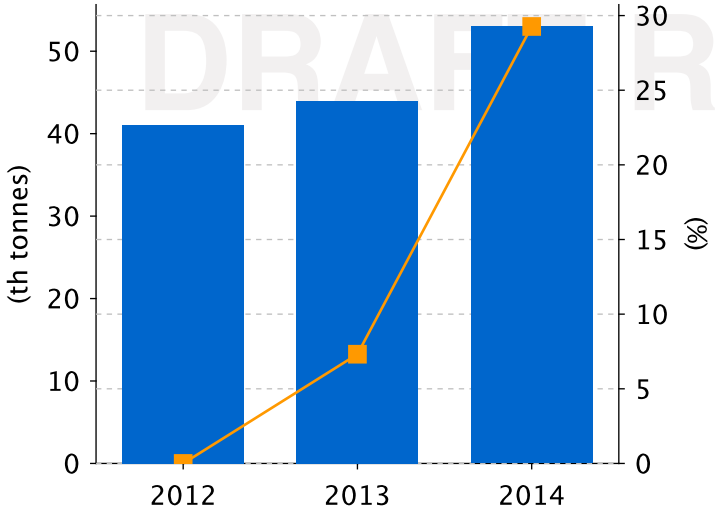
### Growth Distribution




Note: Showing data from 1 ports in this range

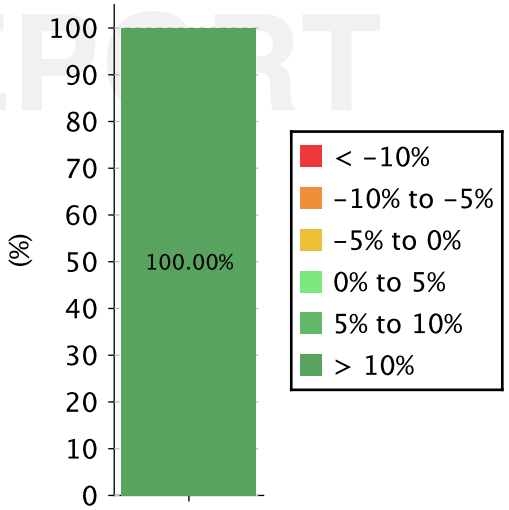
## RoRo cargo

### Quarterly Evolution




Note: Showing data from 1 ports in this range

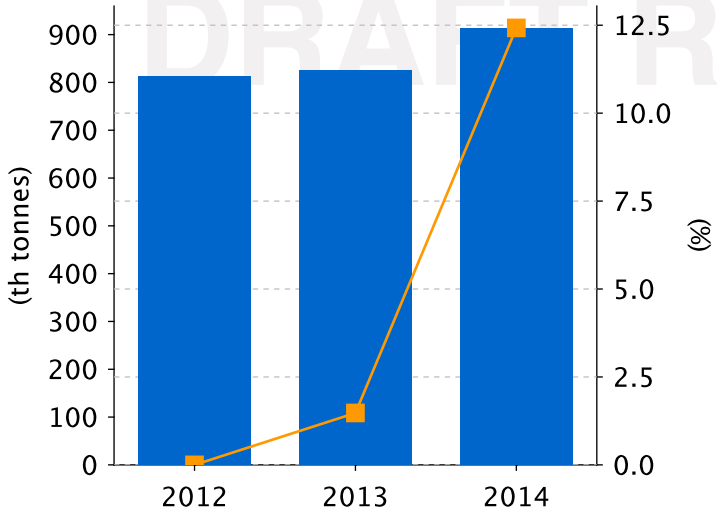
### Growth Distribution




Note: Showing data from 1 ports in this range

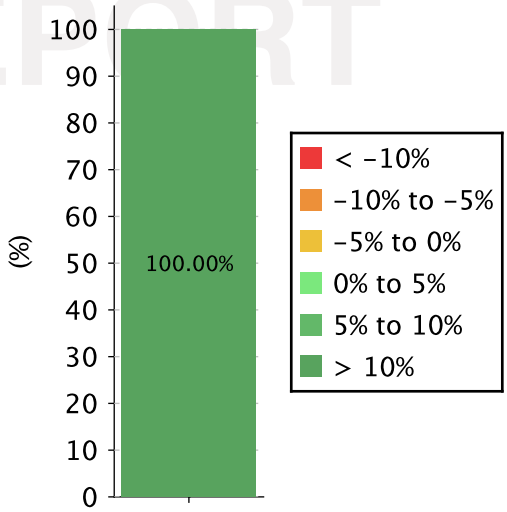
## Other general cargo

### Quarterly Evolution




Note: Showing data from 1 ports in this range

### Growth Distribution

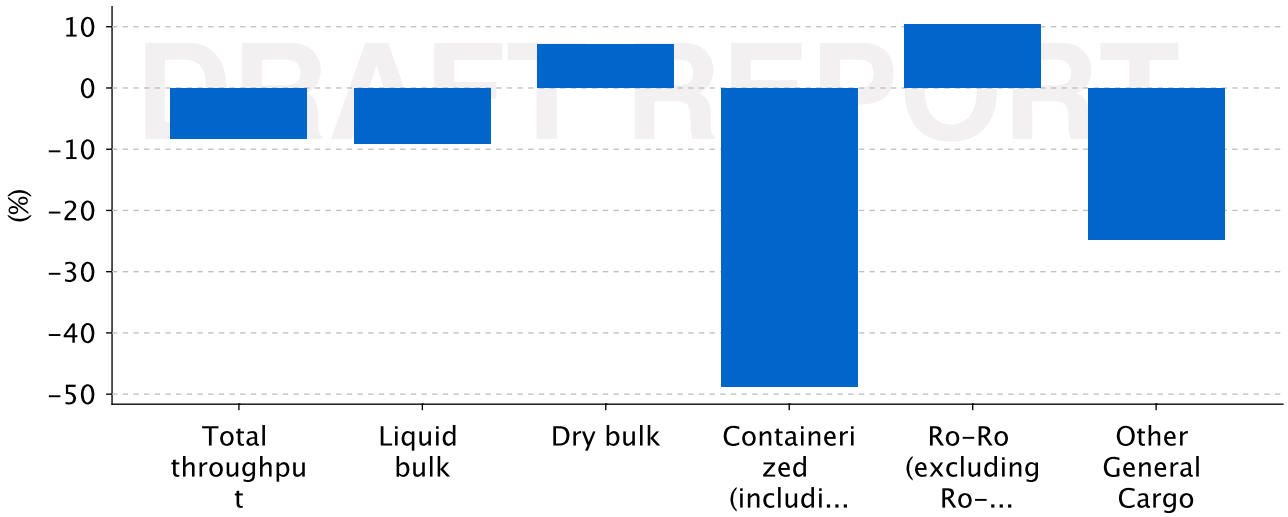



Note: Showing data from 1 ports in this range

# UK and Ireland Range

| | |
|---|---|
| **Geographical Limits** | UK and Ireland |
| **Ports (75)** | Aberdeen, Aughinish, Ayr, Barrow in Furness, Barry Dock, Belfast, Bristol, Cardiff, Cork, Cromarty, Dover, Drogheda, Dublin, Edinburgh/Forth, Felixstowe, Fishguard, Fleetwood, Foynes, Garston, Glasgow/Clydeport, Glensanda, Goole, Greenore, Grimsby, Hartlepool, Harwich, Heysham, Holyhead, Hull, Immingham, Inverness, Ipswich, Kings Lynn, Larne, Limerick, Liverpool, Loch Ryan Pt, London, London Gateway Port, London Thamesport, Londonderry, Lowestoft, Manchester, Manchester Ship Canal, Milford Haven, Mistley, Moneypoint, Newport, Orkney, Peterhead, Plymouth, Poole, Port Talbot, Portsmouth, Ramsgate, Rosslare, Rye, Salcombe, Scrabster, Shannon, Sheerness, Shoreham, Silloth, Southampton, Stornoway, Sullom Voe, Swansea, Tarbert, Teesport, Teignmouth, Troon, Tyne, Ullapool, Warrenpoint, Waterford |

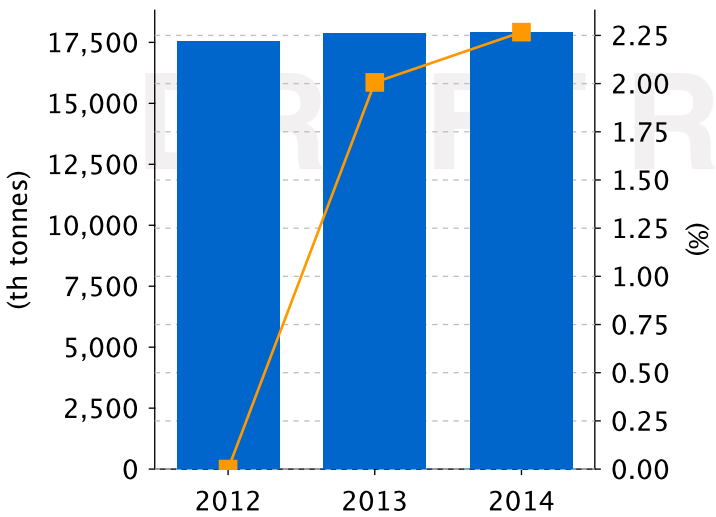
## Overview




Note: Showing data from 2 ports in this range

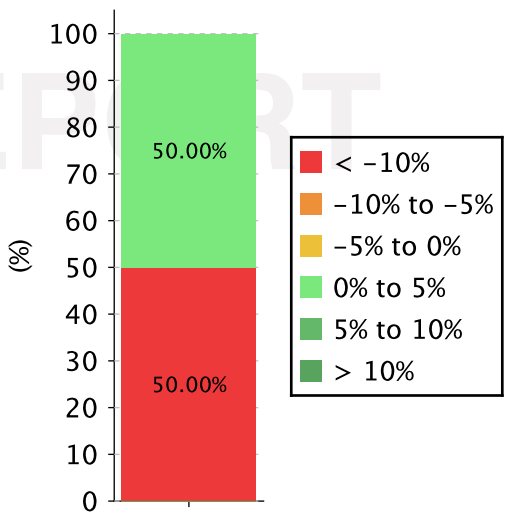
## Total cargo

### Quarterly Evolution




Note: Showing data from 2 ports in this range

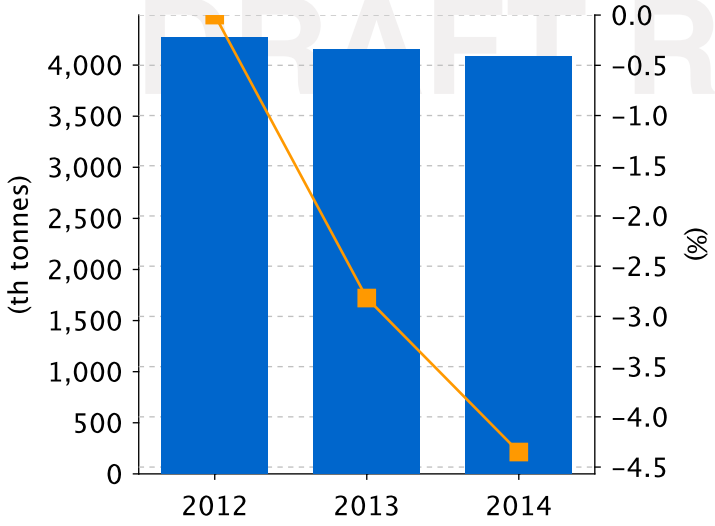
### Growth Distribution




Note: Showing data from 2 ports in this range

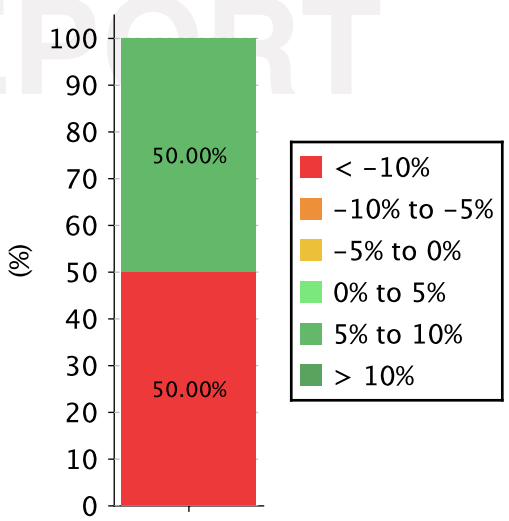
## Liquid bulk

### Quarterly Evolution




Note: Showing data from 2 ports in this range

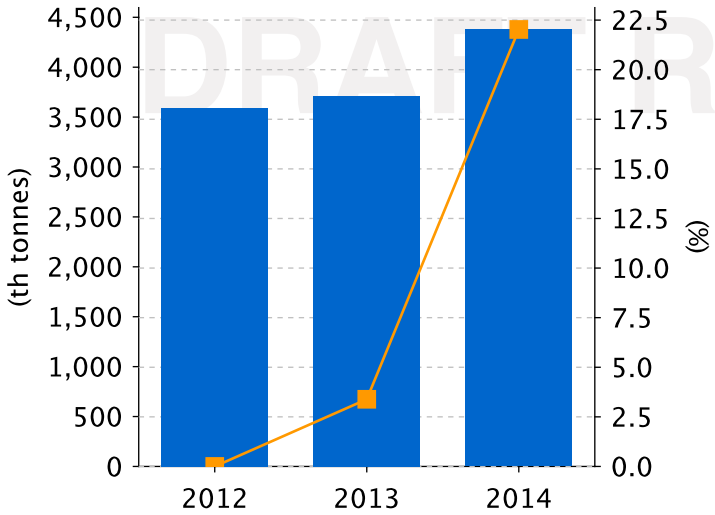
### Growth Distribution




Note: Showing data from 2 ports in this range

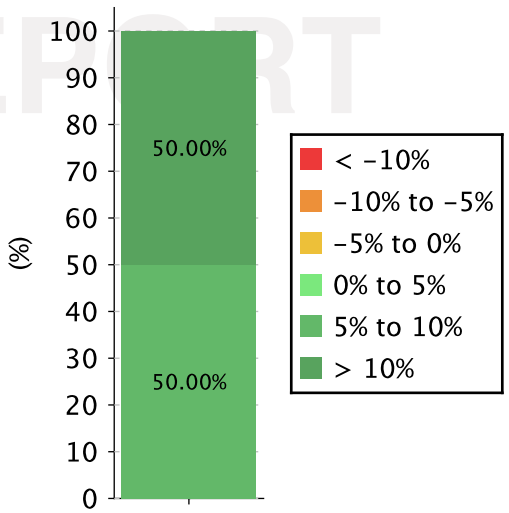
## Dry bulk

### Quarterly Evolution




Note: Showing data from 2 ports in this range

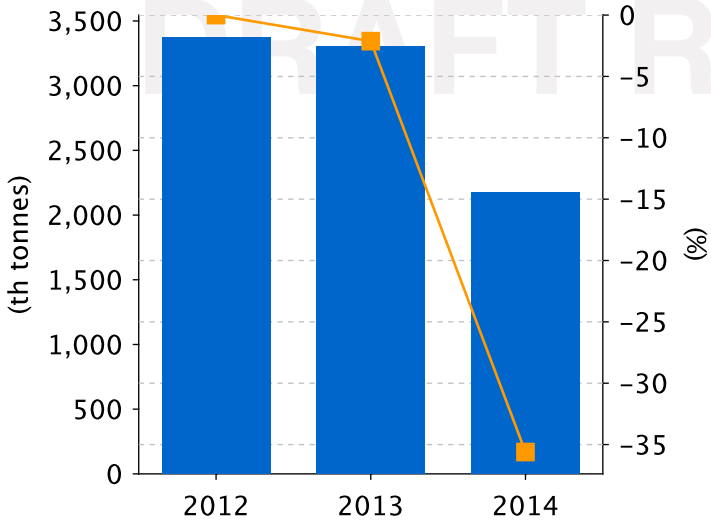
### Growth Distribution




Note: Showing data from 2 ports in this range

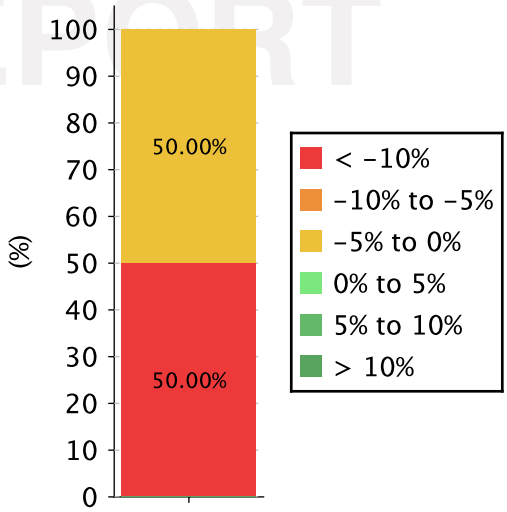
## Containers

### Quarterly Evolution




Note: Showing data from 2 ports in this range

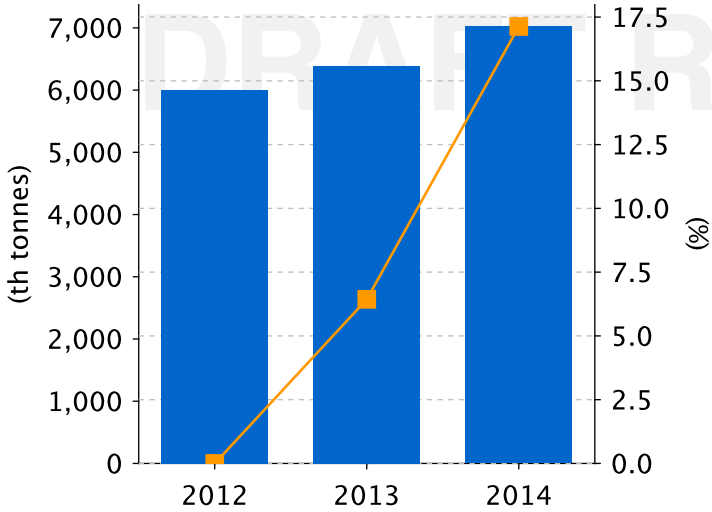
### Growth Distribution




Note: Showing data from 2 ports in this range

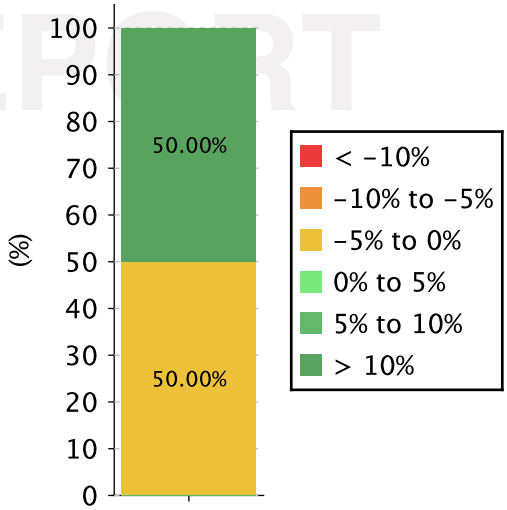
## RoRo cargo

### Quarterly Evolution




Note: Showing data from 2 ports in this range

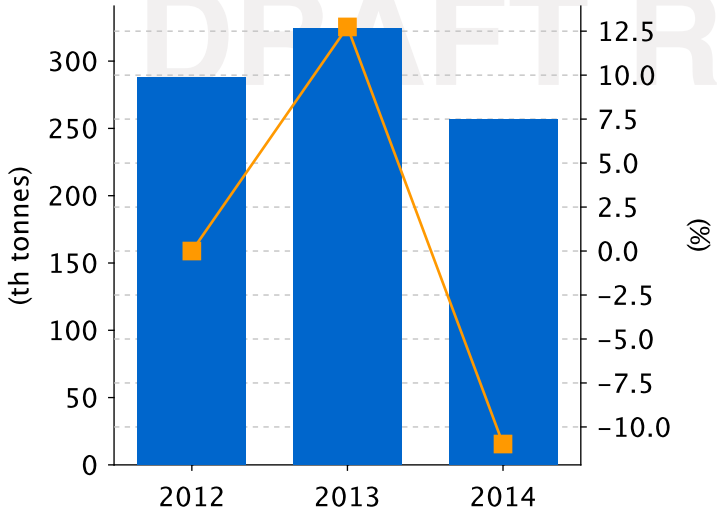
### Growth Distribution




Note: Showing data from 2 ports in this range

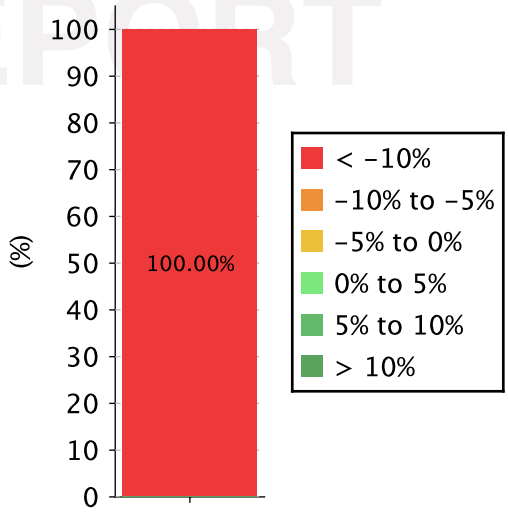
## Other general cargo

### Quarterly Evolution




Note: Showing data from 2 ports in this range

### Growth Distribution



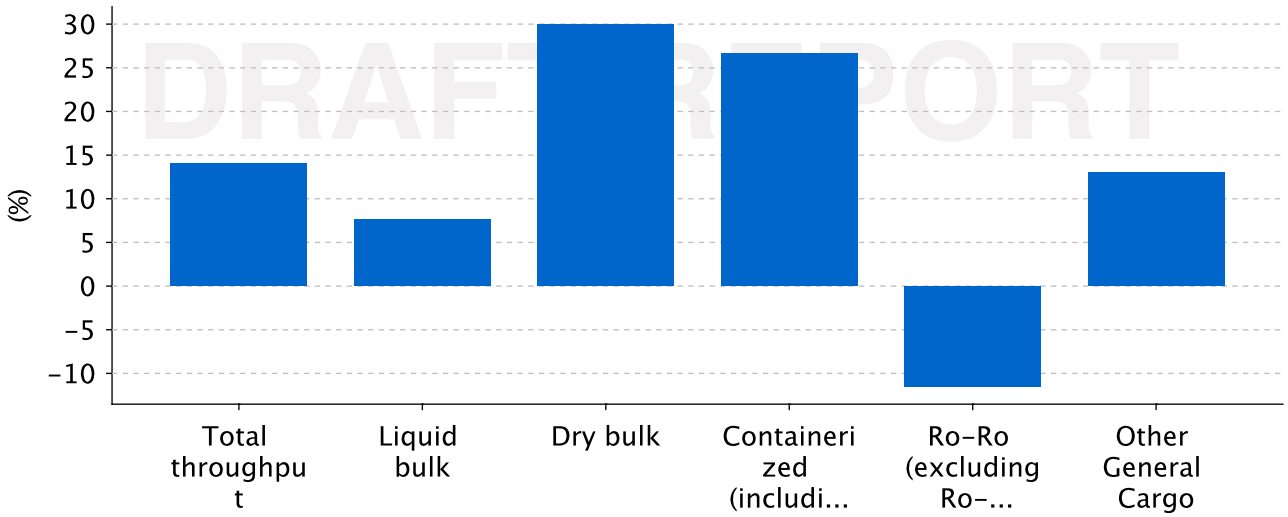

Note: Showing data from 2 ports in this range

# Mediterranean Range

**Geographical Limits** Mediterranean, east of Gibraltar

**Ports (141)** Ajaccio, Alcudia, Alicante, Ancona, Ashdod, Athinios Thira Santorini, Augusta, Bakar, Barcelona, Bari, Barletta, Bastia, Bonifacio, Brindisi, Cagliari, Cala Sabina, Calvi, Cannes, Carboneras, Carloforte, Cartagena, Castellammare di stabia, Castellon de la Plana, Catania, Ceuta, Chalkida, Chanea, Chioggia, Chios, Cirkewwa, Civitavecchia, Corigliano calabro, Crotone, Dubrovnik, Durres, Elat (Eilath), Elefsina, Famagusta, Fiumicino, Fos-sur-Mer, Gaeta, Gandia, Gela, Genova, Gioia Tauro, Golfe-Juan, Golfo aranci, Haifa, Ibiza, Igoumenitsa, Iraklion, Kalamata, Katakolon, Kavala, Kerkyra (Corfu), Killini, Koper, Kyrenia, LIle-Rousse, La Maddalena, La Spezia, Larnaca, Latchi, Lavrion (Laurium), Lemesos, Livorno, Mahon, Malaga, Manfredonia, Marina di carrara, Marport, Marsamxett, Marsaxlokk, Marseille, Mellila, Messina, Mgarr, Milazzo, Monfalcone, Monopoli, Motril, Mykonos, Mytilene, Napoli, Naxos, Nice, Olbia, Omisalj, Palau, Palermo, Palma de Mallorca, Palmi, Paphos, Paros, Patras, Piombino, Piraeus, Ploce, Port-Vendres, Port-la-Nouvelle, Porto Lagos, Porto Levante, Porto Nogaro, Porto Torres, Porto Vecchio, Portoferraio, Portoscuso (Porto Vesme), Propriano, Pula, Rafina, Rasa, Ravenna, Reggio calabria, Rhodes, Rijeka, Rio, Rio Marina, Sagunto, Saint Paul's Bay (San Pawl il-Bahar), Salerno, Savona, Sete, Sibenik, Siracusa, Skiathos, Split, Syros (Syra), Taranto, Tarragona, Thessaloniki, Toulon, Trapani, Trieste, Vado Ligure, Valencia, Valletta, Vasiliko, Venezia, Villefranche-sur-Mer, Volos, Zadar

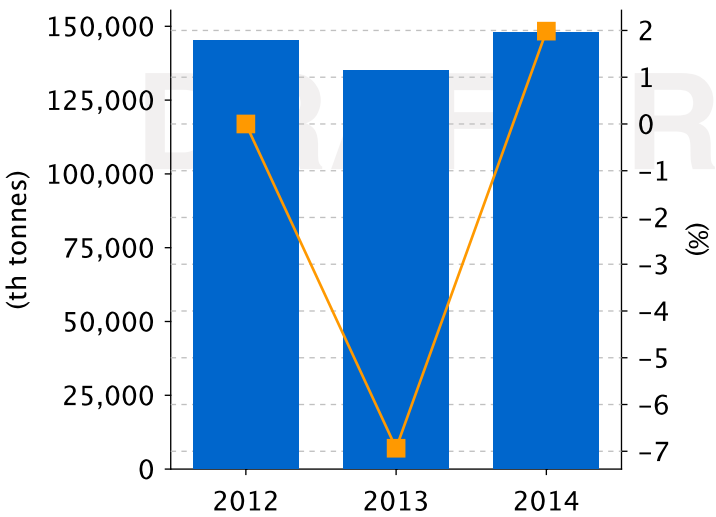
## Overview




Note: Showing data from 27 ports in this range

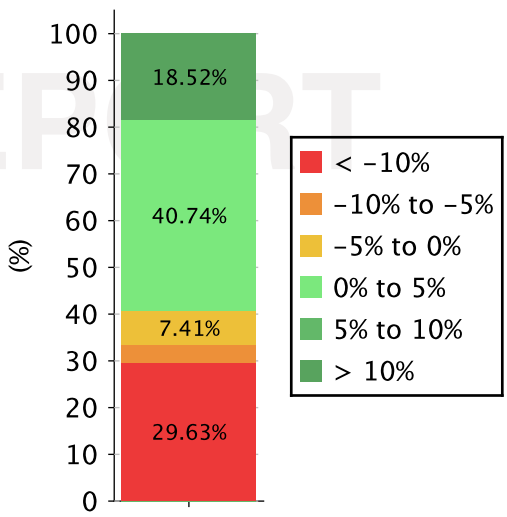
## Total cargo

### Quarterly Evolution




Note: Showing data from 24 ports in this range

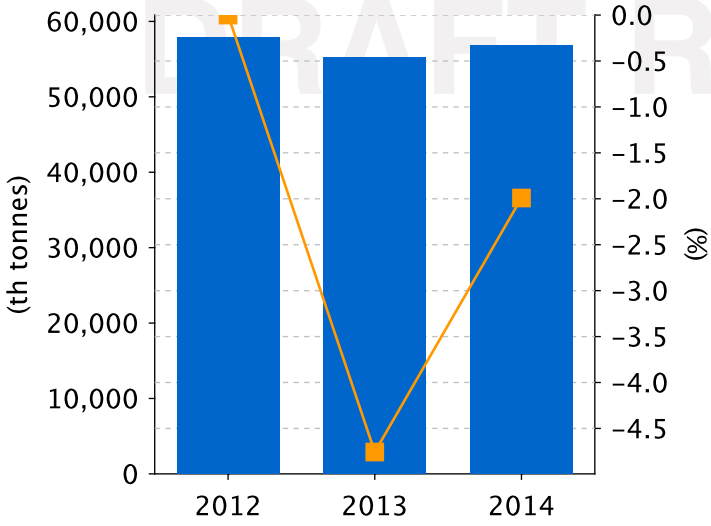
### Growth Distribution




Note: Showing data from 27 ports in this range

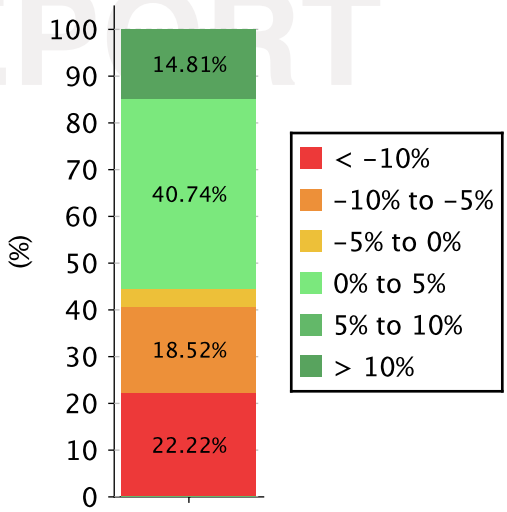
## Liquid bulk

### Quarterly Evolution




Note: Showing data from 24 ports in this range

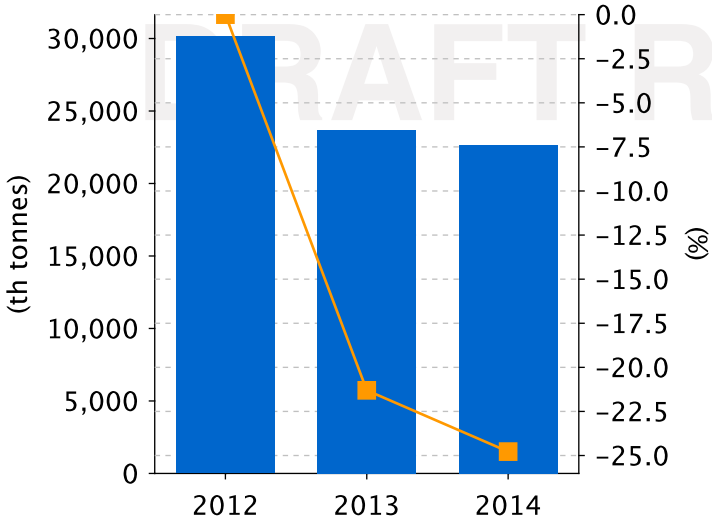
### Growth Distribution




Note: Showing data from 27 ports in this range

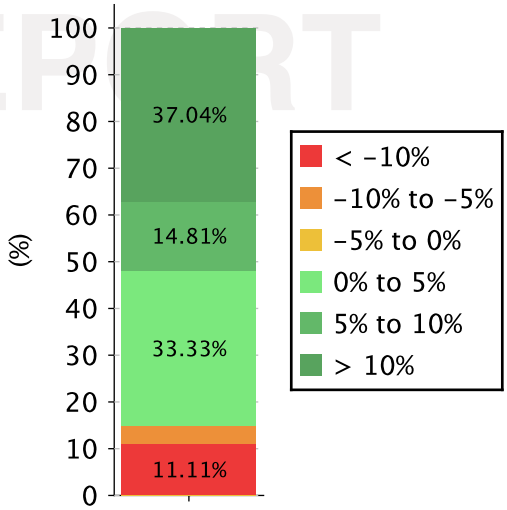
## Dry bulk

### Quarterly Evolution




Note: Showing data from 24 ports in this range

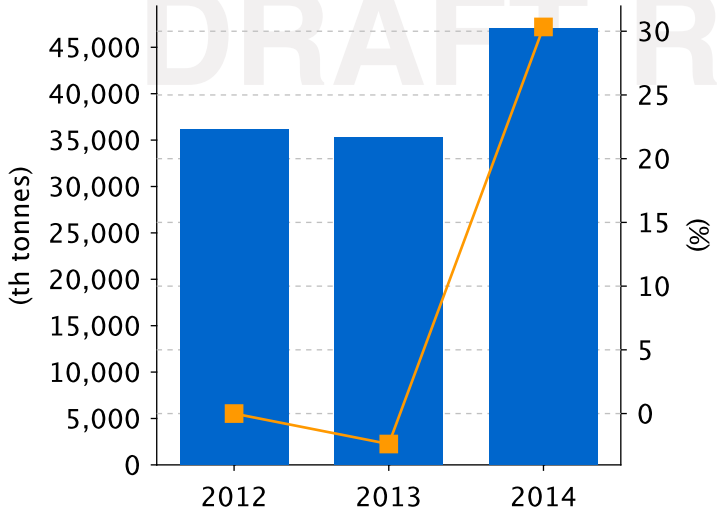
### Growth Distribution




Note: Showing data from 27 ports in this range

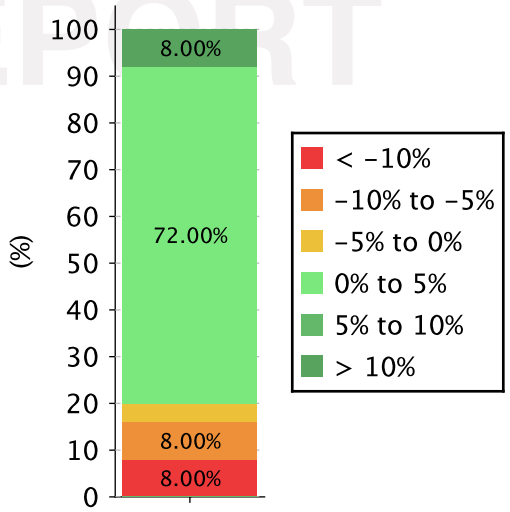
## Containers

### Quarterly Evolution




Note: Showing data from 23 ports in this range

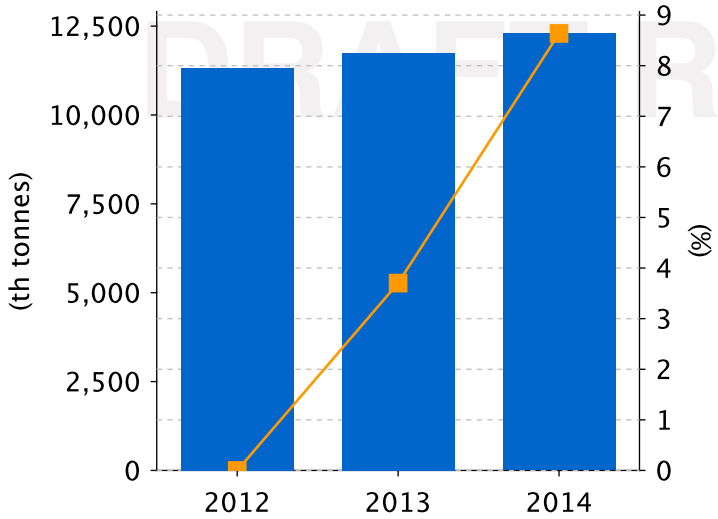
### Growth Distribution




Note: Showing data from 25 ports in this range

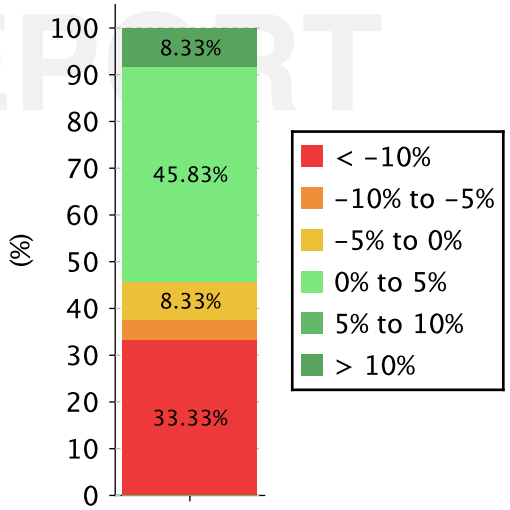
## RoRo cargo

### Quarterly Evolution




Note: Showing data from 22 ports in this range

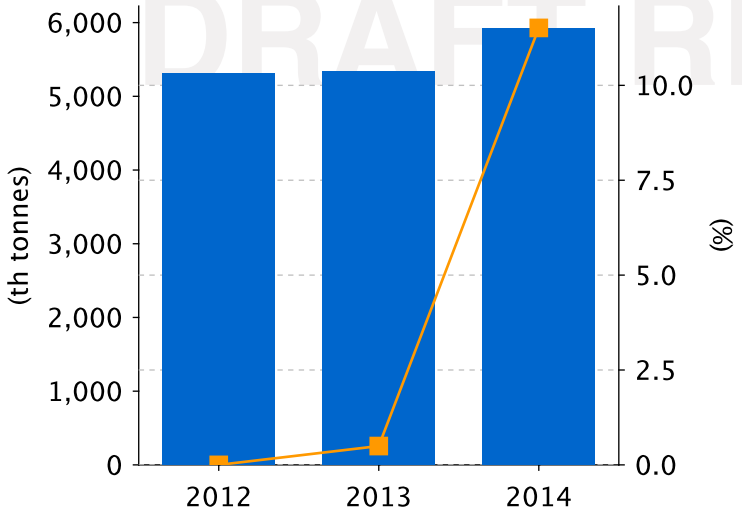
### Growth Distribution




Note: Showing data from 24 ports in this range

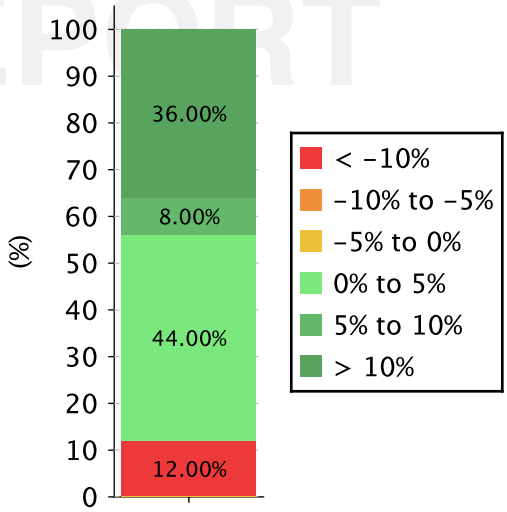
## Other general cargo

### Quarterly Evolution




Note: Showing data from 23 ports in this range

### Growth Distribution




Note: Showing data from 25 ports in this range