Hamburg shipping hub

Strengths, challenges and potential
Schifffahrtsstandort Hamburg: Stärken, Herausforderungen und Zukunftspotentiale
Hamburg shipping hub
Strengths, challenges and potential

Abridged version
for the Free and Hanseatic City of Hamburg
Ministry of Economics, Transport and Innovation
Hamburg, 15 July 2016

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N.B. – The present abridged version of the study is based on the content of the study with the same title published on 2 March 2016.
Introduction

Merchant shipping is an industry that significantly shapes Hamburg and is strongly linked with the city in the public consciousness. The industry includes shipping companies, ship financiers, shipbrokers and shipping agents, maritime service providers and shipping institutions. Historically, the shipping industry developed around the Port of Hamburg, which is ranked no. 3 in Europe and no. 15 worldwide based on handling volume in TEU\(^1\). Port and shipping activities are key elements of the maritime industry in Hamburg, which is complemented by suppliers and shipyards.

1 THB, 2015a
Introduction

Hamburg - No. 1 in Germany...

As a shipping hub, Hamburg is characterized by a diverse range of companies and institutions operating in all sectors of the shipping industry. Hapag-Lloyd and Hamburg Süd, two of the world’s largest liner shipping companies, as well as a number of leading international providers of charter vessels, such as the shipping companies Claus-Peter Offen, Peter Döhle and the Rickmers Group, have their registered offices in Hamburg. Aside from HSH Nordbank, various significant international ship financing banks are represented in the city. In addition, extensive ship classification services are provided in Hamburg by the DNV GL Group, among others. All these activities are complemented by a broad range of maritime service providers, shipping authorities and institutions, such as the International Tribunal for the Law of the Sea.

Triggered by the global economic crisis in 2008, the global shipping industry has been in a severe crisis for around seven years. Companies have come under pressure due to excess capacities of shipping tonnage and a decreasing number of financing opportunities. Excess capacities are likely to remain due to the large number of new orders of energy-efficient ships.

Many German shipping companies are suffering from a structural crisis, whose origin mainly lies in the loss of financing options as a result of the collapse of the so-called KG (limited partnership) model. Despite ongoing market weakness, Hamburg has, however, been able to maintain its position to date as one of the world’s leading shipping hubs thanks to the response by companies and authorities to the crisis and the location’s diverse range of maritime sectors. The required structural adjustments are already being implemented by many shipping companies.
The Free and Hanseatic City of Hamburg’s Ministry of Economics, Transport and Innovation engaged EY in cooperation with Fraunhofer CML to prepare a study on the shipping industry of Hamburg.

The shipping industry is defined narrowly for the purpose of this study. It focuses on five sectors which have a significant influence:

- Shipping companies
- Ship financiers
- Shipbrokers and shipping agents
- Maritime service providers
- Shipping institutions

The study does not cover other sectors of the maritime industry in Hamburg such as shipyards, maritime suppliers or port logistics companies.
2.1 Key sectors

There are complex service relationships between the players operating in the five sectors, which take the form of a value-adding network. The business activities of these players are highly international in scale. As such, interdependencies extend geographically beyond the local interconnected service relationships in Hamburg. In this context, various services are exchanged between the individual sectors and capital is made available, with value added provided by the market participants both within and outside of Hamburg.

Shipping companies

Shipping companies transport goods by sea using their own and chartered vessels. A distinction is made between liner, tramp and non-operative shipowners. They are the key sector of the shipping industry.

Regional distribution of shipping companies

According to the VDR ["Verband Deutscher Reeder": German Shipowners’ Association], 377 shipping companies with 3,244 vessels and a fleet size of 81.9 million gross tonnage (GT) were domiciled in Germany at the end of 2014, of which 121 shipping companies with 1,517 vessels and a fleet size of 56.4 million GT were located in Hamburg. Accordingly, 32% of German shipping companies accounting for 47% of vessels and 69% of shipping capacity are based in the city (see figure 1).

Hamburg is the leading German shipping hub in terms of the distribution of German-flagged vessels. Of a total of 368 vessels operated under the German flag, 27% (100 vessels) belong to Hamburg-based shipping companies. In terms of German-flagged shipping capacity, this is as much as 61% (6.8 million GT of 11.2 million GT).
Liner shipping companies

Hapag-Lloyd and Hamburg Süd are the largest liner shipping companies in Hamburg and each also conduct tramp shipping business. Both shipping companies are mainly engaged in container business.

The headquarters of the largest German liner shipping company, Hapag-Lloyd, is located in Hamburg. 1,167 people are employed on site. The merger with the Chilean shipping company CSAV made Hapag-Lloyd the world’s fifth-largest liner shipping company in 2015 (see table 2). The world’s eighth-largest and Germany’s second-largest shipping company, Hamburg Süd, also has its headquarters in Hamburg with more than 800 employees at this location.

Hapag-Lloyd and Hamburg Süd together account for more than 5% of the global container fleet based on number of

Table 2: Hamburg-based liner shipping companies among the top 100

<table>
<thead>
<tr>
<th>No.</th>
<th>Shipping company</th>
<th>Total Million TEU</th>
<th>Vessels</th>
<th>Order book TEU</th>
<th>%</th>
<th>Head office location</th>
<th>In Hamburg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Maersk</td>
<td>3.01</td>
<td>588</td>
<td>405,910</td>
<td>14</td>
<td>Copenhagen</td>
<td>GH</td>
</tr>
<tr>
<td>2</td>
<td>MSC</td>
<td>2.68</td>
<td>488</td>
<td>572,720</td>
<td>21</td>
<td>Geneva</td>
<td>GH</td>
</tr>
<tr>
<td>3</td>
<td>CMA CGM</td>
<td>1.81</td>
<td>458</td>
<td>261,938</td>
<td>14</td>
<td>Marseille</td>
<td>BR</td>
</tr>
<tr>
<td>4</td>
<td>Evergreen</td>
<td>0.94</td>
<td>194</td>
<td>395,770</td>
<td>42</td>
<td>Taipei</td>
<td>GH</td>
</tr>
<tr>
<td>5</td>
<td>Hapag-Lloyd</td>
<td>0.94</td>
<td>174</td>
<td>52,500</td>
<td>6</td>
<td>Hamburg</td>
<td>HO</td>
</tr>
<tr>
<td>6</td>
<td>COSCO</td>
<td>0.85</td>
<td>166</td>
<td>322,560</td>
<td>38</td>
<td>Beijing</td>
<td>EH</td>
</tr>
<tr>
<td>7</td>
<td>CSCL</td>
<td>0.70</td>
<td>126</td>
<td>233,928</td>
<td>34</td>
<td>Shanghai</td>
<td>EH</td>
</tr>
<tr>
<td>8</td>
<td>Hamburg-Süd</td>
<td>0.65</td>
<td>134</td>
<td>39,430</td>
<td>6</td>
<td>Hamburg</td>
<td>HO</td>
</tr>
<tr>
<td>9</td>
<td>Hanjin</td>
<td>0.63</td>
<td>102</td>
<td>18,060</td>
<td>3</td>
<td>Seoul</td>
<td>EH</td>
</tr>
<tr>
<td>10</td>
<td>OOCL</td>
<td>0.58</td>
<td>106</td>
<td>126,600</td>
<td>22</td>
<td>Hong Kong</td>
<td>BR</td>
</tr>
<tr>
<td>11</td>
<td>MOL</td>
<td>0.56</td>
<td>95</td>
<td>140,920</td>
<td>25</td>
<td>Tokyo</td>
<td>BR</td>
</tr>
<tr>
<td>12</td>
<td>Yang Ming</td>
<td>0.54</td>
<td>102</td>
<td>140,400</td>
<td>26</td>
<td>Keelung</td>
<td>EH</td>
</tr>
<tr>
<td>13</td>
<td>UASC</td>
<td>0.54</td>
<td>58</td>
<td>94,835</td>
<td>18</td>
<td>Dubai</td>
<td>EH</td>
</tr>
<tr>
<td>14</td>
<td>APL</td>
<td>0.54</td>
<td>85</td>
<td>-</td>
<td>-</td>
<td>Singapore</td>
<td>GH</td>
</tr>
<tr>
<td>15</td>
<td>NYK</td>
<td>0.48</td>
<td>98</td>
<td>140,000</td>
<td>29</td>
<td>Tokyo</td>
<td>EH</td>
</tr>
<tr>
<td>16</td>
<td>Hyundai</td>
<td>0.39</td>
<td>56</td>
<td>50,275</td>
<td>13</td>
<td>Seoul</td>
<td>EH</td>
</tr>
<tr>
<td>17</td>
<td>K Line</td>
<td>0.38</td>
<td>66</td>
<td>69,350</td>
<td>18</td>
<td>Tokyo</td>
<td>GH</td>
</tr>
<tr>
<td>18</td>
<td>Zim</td>
<td>0.36</td>
<td>82</td>
<td>-</td>
<td>-</td>
<td>Haifa</td>
<td>EH</td>
</tr>
<tr>
<td>19</td>
<td>PIL</td>
<td>0.36</td>
<td>145</td>
<td>141,600</td>
<td>40</td>
<td>Singapore</td>
<td>GH</td>
</tr>
<tr>
<td>20</td>
<td>Wan Hai</td>
<td>0.22</td>
<td>90</td>
<td>-</td>
<td>-</td>
<td>Taipei</td>
<td>EH</td>
</tr>
<tr>
<td>50</td>
<td>MACS</td>
<td>0.02</td>
<td>13</td>
<td>-</td>
<td>-</td>
<td>Hamburg</td>
<td>HO</td>
</tr>
<tr>
<td>68</td>
<td>DAL</td>
<td>0.01</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>Hamburg</td>
<td>HO</td>
</tr>
</tbody>
</table>

Source: Fraunhofer CML according to Alphaliner, 2016 (January 2016)

4 Hamburger Abendblatt, 2014; excluding CSAV employees
5 Hamburger Abendblatt, 2015b
Six of the world’s ten largest non-operative shipowners in the container segment in Hamburg

vessels operated. In terms of slot capacity deployed (in TEU), this is as much as 8%. At the time this study was being prepared, Hapag-Lloyd and Hamburg Süd were in the process of ordering six new vessels with a combined slot capacity of around 92,000 TEU.

Overall, more than 50 of the top 100 liner shipping companies have their head office, European headquarters, German headquarters or a branch at the shipping hub Hamburg. All top 20 shipping companies are represented, with more than 50% having their head office or European headquarters in Hamburg.

Ship owners

Six of the world’s ten largest non-operative shipowners in the container segment have their registered office in Hamburg. In terms of TEU capacity, the Hamburg-based shipowners control 58.6% (3.0 million TEU) of the total volume of the world’s 20 largest shipowners in the container segment.

Globally, the 20 largest liner shipping companies chartered an average of around 49.6% of their fleet from shipowners.

Market development

Due to the lower income in most shipping segments as a result of a fall in charter rates, the liquidity of many shipping companies deteriorated, putting pressure on costs. The weak liquidity and equity situation of many charter and liner shipping companies in turn resulted in consolidation pressure. As the shipping crisis progressed, the fleet capacity of numerous shipping companies was reduced due to their tight equity situation.

Aside from concentration among existing shipowners, new market participants also entered the market. For instance, Auerbach was established as a shipping company in Hamburg in 2010. Furthermore, the Chinese company Guyo Shipping set up its business in Hamburg and the shipping company Oldendorff based in Lübeck opened an office for brokerage services in Hamburg.

Figure 2: Top 10 non-operative shipowners in the container segment in TEU (January 2016)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Shipowner</th>
<th>Fleet (TEU)</th>
<th>Orderbook (TEU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Seaspan Marine Corporation</td>
<td>734,815</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Peter Döhle Group</td>
<td>501,622</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Reederei Claus-Peter Offen</td>
<td>423,377</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>E.R. Schiffahrt (Blue Star Holding)</td>
<td>383,719</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Rickmers Group</td>
<td>357,447</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Danaos Shipping</td>
<td>332,755</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Costamare Shipping</td>
<td>329,641</td>
<td>134,420</td>
</tr>
<tr>
<td>8</td>
<td>NVA Norddeutsche Vermögen</td>
<td>290,416</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Zodiac Maritime Agency</td>
<td>290,379</td>
<td>71,475</td>
</tr>
<tr>
<td>10</td>
<td>Reederei NSB Niedereibe</td>
<td>263,266</td>
<td></td>
</tr>
</tbody>
</table>

Source: EY according to Clarkson Research, 2016

6 Alphaliner, 2016; 6,088 vessels and 20.45 million TEU slot capacity
7 Alphaliner, 2016
8 Head office (HO), European headquarters (EH), German headquarters (GH) or branch (BR)
Ship finance

Within the ship financing sector, this study mainly focuses on the ship financing banks in Hamburg. Issuing houses and insurers are covered in the section entitled Maritime service providers.

Ship financing banks

In an international comparison, Hamburg is one of the world’s leading ship finance locations, with its geographical proximity to players in the maritime industry and a high availability of qualified staff being the most significant competitive advantages.

The majority of the large German ship financing banks therefore conduct their ship financing business from Hamburg. Aside from HSH Nordbank, the world’s second-largest ship financing bank as of November 2015 (before taking into account the planned disposal of a part of the shipping portfolio), other important ship financing banks are represented in Hamburg.

Commerzbank, DVB, Nord/LB, Deutsche Bank and Unicredit, a subsidiary of the Italian bank Unicredit S.p.A, manage substantial parts of their ship financing business from Hamburg. Hamburg-based private banks such as Berenberg Bank and M.M. Warburg Bank also operate in the maritime sector.

Aside from the strong presence of German ship financing banks, reputable foreign ship financing banks such as DNB, the world’s largest ship financing bank, ICBC, Credit Suisse as well as Crédit Agricole have branches in Hamburg. In contrast to their German competitors, the function of the branches is often limited to customer service and sales.

As of November 2015, the ship financing volume arranged by German ship financing banks accounted for a total of 24.9% (USD 101.3 bn) of the ship financing volume arranged by the 40 largest ship financing banks.

Overall, the financing volume arranged by the world’s 40 leading international ship financing banks decreased by USD 54.8 bn to USD 406.4 bn in the period from 2011 to 2015 (CAGR –3.1%).

Source: EY according to Petrofin Research, 2011 to 2015
Market development

Until the beginning of the shipping crisis at the end of 2008, the shipping industry was shaped globally by exceptionally high growth rates and profitability. In Hamburg in particular, the cooperation of ship financing banks, issuing houses and shipowners under the KG (limited partnership) model resulted in ship financing becoming extremely widespread. Until the end of 2008, the KG model was so successful that the vast majority of vessels financed in Germany were financed using this model, which was mainly centered in Hamburg.

The collapse of the KG model as a result of the global shipping crisis was one reason for the relatively severe effects of the shipping crisis in Germany, in particular for non-operative shipowners and issuing houses (some of which had been established by shipowners). The portfolios of the ship financing banks were, in turn, negatively impacted. Since then, the ship finance market has been largely shaped by the ongoing difficult market environment in the shipping industry and especially by the fall in ship values.

The market development of ship financing banks in Hamburg in an international comparison can be measured in particular by the development of ship finance volume\(^\text{10}\).

Europe’s leading ship financing banks from Germany, the UK and France have been reducing their volume of ship financing over the last five years (see figure 4). Hamburg is especially relevant for the development in Germany in an international comparison. Almost two thirds of the ship financing volume of German ship financing banks are managed partially or entirely from Hamburg.

Like the major ship financing banks, Hamburg-based private banks also benefit from their local network with maritime players. Overall, despite the fall in their financing volume, the majority of ship financing banks based in Hamburg continue to be involved in shipping, albeit to a far lesser extent. In this context, they are focusing their new business on quality and portfolio diversification.

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**Figure 4: Development of ship financing volume by country in USD bn for the period from 2011 to 2015**

![Graph showing development of ship financing volume by country](image)

Source: EY according to Petrofin Research, 2011 to 2015

\(^{10}\) Below, the USD values from Petrofin Research as of November 2015 are translated into EUR at the exchange rate as of 30 November 2015.
Shipbrokers and shipping agents

Shipbrokers and shipping agents include sale and purchase brokers, liner agents, freight /chartering brokers and port-clearance agents.

Hamburg is the largest shipbroker hub at national level based on number of companies. With 197 shipbrokers and shipping agents, almost 50% of the around 450 shipbrokers and shipping agents based in Germany operate in Hamburg\(^1\). Most agencies are not limited to a specific type of service. The service portfolio of 110 Hamburg-based shipbrokers and shipping agents were analyzed in the course of this study. Around 35% of the companies examined offer more than just one of the brokerage services mentioned. Overall, some 40% operate as freight/chartering brokers. Port clearance as well as sale and purchase brokerage activities are organized by around 25% of the companies. Approximately 25% of shipbrokers and shipping agents also offer liner agent services.

The strong presence of shipowners in the container segment is one reason why Hamburg-based shipbrokers focus on business related to the container segment. Internationally, they control some 55% of the total container charter tonnage available on the free market. This makes Hamburg the world's largest container time charter market. Hamburg-based shipbrokers and shipping agents also maintain internationally recognized indices of time charter rates for container ships.

The New ConTex is based on current data for six container ship types for charter periods of 12 and 24 months and is published by the VHSS (“Vereinigung Hamburger Schiffsmakler und Schiffsgagenten”: Hamburg Shipbrokers’ Association). The HAX is based on data from 20 to 30 Hamburg freight/chartering brokers and is also published on a monthly basis by the VHSS. The HARPEX (Harper Petersen Charter Rate Index) is published by the broker Harper Petersen and depicts the global price development on the charter market for container ships on a monthly basis. With the LTAV (long-term asset value) procedure, the VHSS provides an alternative cash flow-based ship valuation method.

The annual “Eisbeinwoche” is known for bringing together shipbrokers from all over the world. More than 5,000 representatives from the shipping industry meet every year on the first Friday in November in Hamburg for this traditional pork knuckle dinner.

Maritime service providers

In Hamburg, more than 100 maritime service providers support the main sectors of the shipping industry.

Maritime service providers create valuable synergies by connecting players in the Hamburg shipping industry through upstream and downstream services along the value chain. Together with shipbrokers and shipping agents and the shipping institutions, the diverse range of services they offer holds a great attraction for other market participants\(^1\). Maritime service providers therefore have a key function.

Generally, these maritime service providers also offer their expertise to other companies such as issuing houses, insurance agents, law, tax and audit firms, business consultants, IT service providers as well as PR and advertising agencies. Only the ship classification societies operate almost exclusively in the maritime sector.

Overall, the narrow definition of the shipping industry and its players chosen for the study is the reason for the relatively small number of maritime service providers included in the study. The pilotage and harbor towage companies as part of the broader port logistics are not included in this study as their focus is not on international shipping. The same applies to engineering offices which mainly have shipyards and suppliers as customers. They have likewise not been included in the narrow definition of international shipping.

Ship classification societies and technical experts

As independent experts, ship classification societies assess the condition of a vessel and classify it according to its certificate. The DNV GL Group with 1,450 employees in the maritime sector at the location of Hamburg is one of the world’s leading classification societies\(^1\).
The major ship classification societies typically maintain offices at all relevant shipping locations worldwide. Other global ship classification societies have therefore selected Hamburg as the location for their German office.

Aside from the ship classification societies, technical experts are represented in Hamburg.

Issuing houses

Despite the severe crisis following the collapse of the KG model, major issuing houses continue to operate in Hamburg and are currently realigning their business model, for example, by becoming shipping companies or tapping into new customer groups, e.g., institutional investors.

Other maritime service providers

Other maritime service providers include in particular:

- Marine insurance providers – mainly smaller local contact offices and several insurance brokerage firms are domiciled in Hamburg.
- Attorneys, tax advisors, auditors and business consultants – a small number of specialist providers operate in the shipping industry alone. Competence centers have been formed for the most part, which focus mainly on the maritime industry.
- IT companies – they are meeting the rising demand among shipping companies for efficient IT solutions.

Shipping institutions

Hamburg is home to a large number of shipping institutions, ranging from authorities and associations to education and research institutes.

Authorities and administrative bodies

The International Tribunal for the Law of the Sea, established in Hamburg in 1996, is of exceptional international importance. It is a body established by the United Nations to adjudicate disputes between the signatory states arising out of the interpretation and application of the United Nations Convention on the Law of the Sea.

At a national level, Hamburg is the location of important maritime shipping institutions:

- German Federal Maritime and Hydrographic Agency [“Bundesamt für Seeschifffahrt und Hydrographie”]
- Federal Bureau of Maritime Casualty Investigation [“Bundesstelle für Seeunfalluntersuchung”]
- Central Nautical Placement Agency, Hamburg [“Zentrale Heuerstelle Hamburg”]
- Occupational Accident Insurance Fund for Transport and Traffic [“Berufsgenossenschaft für Transport und Verkehrswirtschaft”]

Associations and foundations

The most important associations for shipping companies, shipbrokers and shipping agents are located in Hamburg. The VDR [“Verband Deutscher Reeder”: German Shipowners’ Association] represents the national and international interests of around 250 German shipping companies. The VHSS [“Vereinigung Hamburger Schiffsmakler und Schiffsagenten”: Hamburg Shipbrokers’ Association] as well as the umbrella organization for all 10 German shipbrokers’ associations, the ZVDS [“Zentralverband Deutscher Schiffsmakler e.V.”: German Shipbrokers’ Association], advise and represent their around 150 and 310 members, respectively, in dealings with authorities, institutions and associations.

Hamburg is home to a large number of foundations with a wide variety of focal areas. The Foundation for Germany as a Shipping Location [“Stiftung Schifffahrtsstandort Deutschland”], established in 2012, is of particular significance.

Vocational schools, institutes of technology, universities, further education and training establishments and research institutes

Hamburg offers extensive dual vocational training as well as university education, further education and training opportunities for jobs in the shipping industry.
Vocational training

In Hamburg, the focus is on vocational education and training. Dual vocational training to become a ship mechanic is an important opportunity for those wishing to begin a career on board sea going ships.

Dual vocational training as a shipping clerk ("Schifffahrts-kaufmann") is an important opportunity for those wishing to begin a career onshore. Several vocational schools are located in Hamburg, with Handelsschule Berliner Tor (HBT) specializing in commercial training in the fields of liner and tramp shipping. In 2014, 211 of the 340 shipping clerk graduates in Germany completed their training in Hamburg (see figure 5).

Nautical vocational schools/sailor training schools and specialist technical schools and universities that train ship officers are located in neighboring northern German states. Another vocational school for career changers wishing to begin a career in the shipping industry is the Berufliche Schule für Spedition, Logistik & Verkehr.

University education

Potential students can choose from a diverse and specialized range of courses in shipping. Aside from shipbuilding and ship finance, there is the option of studying ship operations and ship management. Complementary fields include supply chain management, logistics, infrastructure and mobility or marine technology and hydrography.

Hamburg is a very strong university center and has four public universities: the University of Hamburg (UHH), the Hamburg University of Technology (TUHH), the HafenCity University (HCU) and the Helmut Schmidt University – University of the Federal Armed Forces (HSU).

The largest public technical university in northern Germany is the Hamburg University of Applied Sciences (HAW). Private technical universities offering courses related to shipping are the Hamburg School of Business Administration (HSBA), the Kühne Logistics University (KLU) and the Bucerius Law School.

Further education and training

Further education and training opportunities mainly entail additional qualifications in the form of post-graduate studies or other offerings following the successful completion of dual vocational training or undergraduate (bachelor) studies.

Research

Independent institutions strengthen the non-university research landscape relating to the shipping industry. Many Hamburg-based companies, research establishments and institutions in the maritime sector participate in a number of larger (in some cases publicly subsidized) research and innovation initiatives in research partnerships with other companies or institutions or develop independent innovative products.
2.2 The economic impact of the shipping industry

After presenting the key shipping sectors in Hamburg, the value added provided by the companies and institutions operating in these sectors was determined in order to illustrate the economic importance of shipping in Hamburg.\(^{15}\)

The analysis of value added led to the following key figures:

Table 3: Key figures for the Hamburg shipping hub

<table>
<thead>
<tr>
<th>Overview</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fleet: 1,517 merchant vessels</td>
<td>47% of the German merchant fleet</td>
</tr>
<tr>
<td>Fleet size: 56 million GT</td>
<td>69% of German shipping capacity in GT</td>
</tr>
<tr>
<td>Ship finance: USD 60.5 bn</td>
<td>Approx. 15% of the ship financing volume arranged by the world’s 40 leading ship financing banks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping companies</td>
<td>121</td>
</tr>
<tr>
<td>Ship financing banks</td>
<td>8</td>
</tr>
<tr>
<td>Shipbrokers and shipping agents</td>
<td>197</td>
</tr>
<tr>
<td>Maritime service providers</td>
<td>100</td>
</tr>
<tr>
<td>Shipping institutions</td>
<td>40</td>
</tr>
</tbody>
</table>

| Total number of companies                | 466    |

<table>
<thead>
<tr>
<th>Persons employed</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping companies</td>
<td>10,792</td>
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<tr>
<td>Ship financing banks</td>
<td>750</td>
</tr>
<tr>
<td>Shipbrokers and shipping agents</td>
<td>5,664</td>
</tr>
<tr>
<td>Maritime service providers</td>
<td>4,563</td>
</tr>
<tr>
<td>Shipping institutions</td>
<td>1,825</td>
</tr>
</tbody>
</table>

| Total number of employed persons         | 23,594 |

<table>
<thead>
<tr>
<th>Gross value added</th>
<th>EUR bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping companies</td>
<td>2.3</td>
</tr>
<tr>
<td>Ship financing banks</td>
<td>0.1</td>
</tr>
<tr>
<td>Shipbrokers and shipping agents</td>
<td>1.1</td>
</tr>
<tr>
<td>Maritime service providers</td>
<td>0.5</td>
</tr>
<tr>
<td>Shipping institutions</td>
<td>0.1</td>
</tr>
</tbody>
</table>

| Total gross valued added                 | 4.1    |

Source: EY/Fraunhofer CML

\(^{15}\) Given that the statistical data was not always complete, the method for calculating (gross) value added followed a top-down or bottom-up approach. It was not possible to adopt a uniform approach for all sectors due to several data gaps. In addition, only direct employment in the respective sectors is examined. Indirect and induced employment effects and their contribution to value added are not part of this study.
2.3 Innovation strength

Hamburg has an international reputation as one of the leading centers of innovation in the shipping industry. The companies operating in the maritime sector are able to employ technical innovations and innovative business activities in order to strengthen and expand their market position. According to many players, innovations in the shipping sector are not achieved through more stringent rules and regulations alone, but can also be actively encouraged. Research and development can also be potential drivers of innovation strength.

Innovations aimed at increasing efficiency as well as new business models and sources of finance are required to underpin the successful performance of shipping companies at the location. In the recent past, certain shipping companies have been able to tap into new sources of finance (e.g., bond financing). Others have been able to improve their capital market readiness by adjusting their financial reporting.

2.4 Local and international attractiveness

Aside from the enhancement of business models, Hamburg’s national and international image in the shipping industry is of particular importance when it comes to strengthening the location.

Local attractiveness

Overall, Hamburg has a positive image among local market participants, both in terms of the location’s attractiveness in itself as well as for the specific company or organization. The majority of respondents plan to expand their business activities in Hamburg. A minority of respondents have a negative perception of the location as they expect their business activities to stagnate or contract or they even expect to withdraw entirely from the shipping sector.

Figure 6: Features of the shipping hub Hamburg

Source: EY

16 In order to gain an impression from market participants on how Hamburg’s attractiveness as a shipping hub is perceived, 25 representatives from the relevant sectors were invited to a workshop. The international perception of the shipping hub Hamburg was measured on the basis of a survey within EY’s global network in Hamburg’s competing locations.
The port as one driver of shipping in Hamburg

**Strong local maritime business community**

Proximity to the players in the maritime industry is considered one of Hamburg’s key advantages. Another factor cited is that a considerable number of key players are represented in the city, setting Hamburg apart from other competing locations. Only certain sub-sectors of the maritime industry, e.g., ship insurers, are present in small numbers in Hamburg. The short decision paths and the rapid response times of market participants at the location are appreciated.

**Service Quality**

The high quality of maritime services is another locational advantage. Business relationships with local market participants are therefore prioritized.

**Qualified labor**

The high availability of qualified labor is also assessed positively. The nautically and technically well trained personnel are considered to be a cornerstone of the location. The very highly qualified commercial personnel are seen as an especially significant advantage.

**Focus on container shipping**

Hamburg is shaped by container shipping, in particular by the container liner shipping companies Hapag-Lloyd and Hamburg Süd as well as the relatively large number of leading international non-operative shipowners in the container segment.

**Tonnage tax**

Many shipping companies are benefiting from the favorable tonnage tax regulations based on the EU guidelines on state aid to maritime transport. Tonnage tax, which was introduced in 1999, is considered to be an essential basis for German shipping companies to remain competitive in the global shipping market.

**The port as one driver of shipping in Hamburg**

The location also benefits from the Port of Hamburg which is strong in an international comparison. The Port of Hamburg is the largest seaport in Germany and the third largest port in Europe. Thanks to its location, it serves as a dynamic logistics hub in northern Europe. It possesses excellent hinterland connections and is a transshipment hub for the Baltic Sea area. As the largest railway port in Europe, it is also the foreign trade port for numerous central and eastern European countries. Aside from being a universal port, the Port of Hamburg stands out due to its reliability, its customer centricity as well as its service and safety record. Innovative IT systems help optimize transport processes and are used to implement environmental and climate targets at the heart of a major city, making the Port of Hamburg one of the world’s most modern ports.

Container shipping is of particular importance for the Port of Hamburg, with container handling accounting for 69.1% of the total volume handled\(^7\). Given the positive forecasts for the long-term growth of container handling volumes\(^8\), the development of the Port of Hamburg will remain one of the drivers of the Hamburg shipping hub in an international comparison.

The port is of particular importance for Hamburg-based shipbrokers and shipping agents, for whom the affreightment and clearance of vessels is a significant area of business.

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17 Hafen Hamburg Marketing e.V., 2015
18 Sea traffic forecast 2030, 2014
Best practices

Tense financing situation

The currently difficult access to equity and debt capital is considered to be a locational disadvantage. The collapse of the KG model, the withdrawal of former ship financiers and the low level of involvement of institutional investors are considered weak points.

Administrative burden

Specific laws and supervisory regulations (e.g., the GwG ["Geldwäschegesetz": German Anti-Money Laundering Act]) pose a further challenge. The amount of administrative work required for the fulfillment of certain legal obligations is described as being difficult to manage in an international comparison.

Singapore as the main competitor

Singapore, which is especially attractive for shipping companies and maritime service providers, is considered to be the largest competitor. There is consensus that only certain parts of operations could, if at all, be transferred to other locations. A complete relocation of business activities to another location is likely to be an exception.

International attractiveness

Hamburg is appreciated internationally for its high level of diversification as well as its political stability and legal certainty.

Internationally, Hamburg is largely considered to be a logistics location. By contrast, there is limited international awareness of the maritime industry and, by extension, the shipping industry in Hamburg. Asian shipping hubs in particular do not consider Hamburg to be a significant competitor to their own maritime industry.

Germany’s most important shipping location

In summary, Hamburg can be described as Germany’s most important shipping location.

The shipping companies based in Hamburg are both the backbone of the shipping hub as well as drivers and magnets for various other businesses with ties to the shipping industry in Hamburg, including but not limited to the numerous brokerage offices. They are not necessarily affiliated with the shipping companies, but benefit from the latter’s business activities in that they receive orders from them in all areas of brokerage.
Due to the shipping companies’ strong presence and their need for financing advice close to home, financiers have been able to achieve a leading global position. Despite declining ship finance business, they continue to have a strong presence in Hamburg.

Maritime service providers create valuable synergies by supporting players in the shipping industry in Hamburg through upstream and downstream services along the value chain. The ship classification society DNV GL, which provides its services for the shipping industry from Hamburg, has global importance in this field.

Finally, Hamburg is complemented by existing shipping institutions such as associations and authorities as well as an extensive offering of further education and training. Hamburg therefore covers almost the entire shipping spectrum, an attribute which is considered to be positive by market participants across the board. Overall, more than 23,500 people are employed in the shipping industry in Hamburg. They generate total value added of EUR 4.1 b, which corresponds to around 4.4% of the total gross value added of the Free and Hanseatic City of Hamburg (2014: EUR 92.8 bn)19.

19 National Accounts Working Group (“Arbeitskreis Volkswirtschaftliche Gesamtrechnung der Länder”) (2015b)
Benchmarking

The benchmarking performed for the purposes of this study includes the six major competing and peer locations Singapore, London, Oslo, Cyprus, Shanghai and Rotterdam, supplemented by other locations based on their best practices.

Norway) are areas in which to further develop the location’s existing strengths. Key legislative changes to improve legal conditions are currently being implemented or have recently been introduced into German law (including withholding of wage tax). Furthermore, not all advantages of other locations, e.g., the well-developed bond market for ship finance in Oslo, can be transferred directly to Hamburg. In this context, special consideration will need to be given to structural, legal and tax conditions when identifying measures for Hamburg.

It should also be noted that countries with a lower level of economic diversification, e.g., Cyprus, can switch their focus more easily to the political and economic support of certain sectors. In view of the structural differences, it may be assumed that there is already very strong political and administrative support for shipping in Hamburg.

The comparison with other top shipping hubs clearly shows that all sectors of the maritime industry are represented in Hamburg. None of the significant maritime sectors are represented either on a small scale or not at all. This full coverage is also reflected in the positive image among market participants located in Hamburg. A similar coverage can only be observed in Singapore. All other locations have significant deficits in certain sectors. The full range of services promotes synergies and thus attracts other companies from all sectors of the entire maritime industry. A relatively small but still average number of crewing agencies are present at the location.

However, the comparison with other shipping hubs also shows development potential for Hamburg. More favorable legal conditions when it comes to individual aspects of shipping taxation (Rotterdam, Netherlands), stronger location marketing (Singapore) or specialization in the field of financing (Oslo, Norway) are areas in which to further develop the location’s existing strengths. Key legislative changes to improve legal conditions are currently being implemented or have recently been introduced into German law (including withholding of wage tax). Furthermore, not all advantages of other locations, e.g., the well-developed bond market for ship finance in Oslo, can be transferred directly to Hamburg. In this context, special consideration will need to be given to structural, legal and tax conditions when identifying measures for Hamburg.

The evaluation of the individual results, applying the respective weighting of the players relevant for this study, led to the following outcome of the location comparison: It was possible to achieve a maximum score of 160 points in the various sections - Hamburg occupies second place just behind the world’s leading location Singapore. This excellent outcome is attributable to the many top scores achieved for the success factors investigated. It is a reflection of the full range of shipping-related offerings, which promotes synergies and has attracted other companies operating in the maritime sector in the past few years, despite the ongoing crisis. This position requires in particular a sufficient number of high-performing shipping companies and at least one significant ship financier located in Hamburg.

Table 4: Ranking of the shipping hubs

<table>
<thead>
<tr>
<th>Rank</th>
<th>Shipping hub</th>
<th>Points (max.160)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Singapore</td>
<td>128.5</td>
</tr>
<tr>
<td>2</td>
<td>Hamburg</td>
<td>125.0</td>
</tr>
<tr>
<td>3</td>
<td>Rotterdam</td>
<td>124.5</td>
</tr>
<tr>
<td>4</td>
<td>Oslo</td>
<td>123.0</td>
</tr>
<tr>
<td>5</td>
<td>Shanghai</td>
<td>110.5</td>
</tr>
<tr>
<td>6</td>
<td>London</td>
<td>108.5</td>
</tr>
<tr>
<td>7</td>
<td>Cyprus</td>
<td>92.0</td>
</tr>
</tbody>
</table>

Source: EY
The factors of relevance in the future were determined as a basis for identifying measures for Hamburg. Aside from the global mega trends, future developments in the market, research and development, ship finance, legal and structural conditions and personnel were taken into account:

- **Mega trends**: The shift in economic and political focus to Asia, the changing nature of the working world and digitization benefit Hamburg.

- **Market development**: The shipping industry continues to be exposed to strong pressure from excess tonnage, which cannot be compensated for by growth in demand for sea transport services. Therefore, neither significant recovery in the shipping market is expected in the medium term, nor a significant deterioration of the current market situation.

- **Ship finance**: Given the challenging market conditions in the German shipping industry coupled with the effects of Basel 3, German ship financing banks will be increasingly active abroad. Furthermore, developing alternative sources on a large scale to obtain the equity required for ship finance will be a particular challenge in the years ahead.

- **Research and development**: Current technological trends – and therefore drivers of maritime research – include green shipping (comprising the core topics energy consumption and alternative vessel propulsion systems) and e-shipping (comprising the core topics digital ships and electronic navigation, digital ship development and construction, crew welfare and cybersecurity). The use of research and innovations by the shipping industry in Hamburg could stagnate without further action being taken and fall behind in an international comparison.

- **Framework conditions**: Framework conditions in international shipping will be shaped in the next few years by more stringent environmental and safety requirements. Legal and structural conditions in Germany will largely remain constant. Hamburg benefits from the stable legal and political situation.

- **Personnel**: Maritime personnel could become even more international in the medium term. Despite the implementation of tax measures having already begun, shipping companies could turn increasingly to personnel from Eastern Europe and Asia in the future, especially personnel aboard a vessel, in order to lower costs. For the purposes of this study, it is assumed that the number of people employed in the shipping industry whose activities are mainly concentrated in Hamburg will remain stable by reference to the current level.
Measures to strengthen Hamburg’s position as major shipping hub

Based on the current state analysis of the location, benchmarking with peer locations and the aforementioned development scenario, the final step was to identify measures.

5.1 Overview of measures

Measures were developed, selected and assessed based on the premise that they make a significant contribution to safeguarding and strengthening the future viability of Hamburg, while considering the room for action for the players in the shipping industry and the Free and Hanseatic City of Hamburg. Measures already being discussed or in some cases implemented were not considered any further in this study.

The following measures (M) were developed in the course of this study:

Ship finance

- M1 – Ship project finance: Establishment of a non-listed investment platform to raise equity for investment in modern vessels (not in shipping companies).
- M3 – Schifffahrts-AG Hamburg: Establishment of a listed investment platform to raise capital for investment in shipping companies (not directly in vessels).
- M4 – Bank as arranger of new investments: Establishment of a non-listed investment platform via a (private) bank for investment in shipping companies or parts thereof (not directly in vessels).
- M5 – Funds with public-sector investors: Establishment of a listed investment platform with one or more public initiator(s) for investment in shipping companies (not directly in vessels).
- M6 – Strengthening of shipping companies’ capital market readiness: Enhancement of the transparency and performance of shipping companies for access to the public (stock exchange, bond market) and private capital market (private equity, institutional investors).
- M7 – Ship Finance Index: Creation of an index depicting the vitality of ship finance in Hamburg.

Innovation

- M8 – Networked research funding: Greater/more widespread support of companies using or wanting to make use of research funds.
- M9 – Research partnerships: Increased/more widespread development of technological trends for the shipping industry through research partnerships among shipping companies, service providers and shipping institutions.
- M10 – Usage of innovations: Greater use of innovations already available with regard to strategic fleet renewal/expansion.

General framework and administration

- M11 – Reduction of ship registration costs: Option to reduce registration costs for the entry of vessels or mortgages in the register of ships.
- M12 – Legal certainty for ship managers: Option to establish criteria specifying what services can be provided by ship managers for foreign shipping companies in Germany without the latter becoming liable to tax in Germany.
- M13 – Service and customer orientation of public authorities: Option of a central contact person (“authority scout”) and further customer service enhancement.

Personnel and marketing

- M14 – “Hamburg Maritime Schools”: Clarification of the extensive range of maritime courses in Hamburg.
- M15 – Strengthening of international competencies: Further enhancement of the intercultural skills of Germans employed in the shipping industry.
- M16 – Shipping forum: Enhancement of the international perception of Hamburg as a shipping hub through appropriate events.
- M17 – Seeschifffahrt Hamburg Marketing e.V.: Establishment of a marketing organization for the shipping industry similar to Hafen Hamburg Marketing e.V. or possibly in the form of an affiliation with Hafen Hamburg Marketing e.V.22

The following table presents the measures developed for the shipping hub Hamburg.

22 In the unabridged version of the study, the individual measures – ship finance, innovation, legal conditions and administrative efficiency as well as location marketing – are presented in detail and assessed in terms of their contribution to the future viability of the location and their feasibility.
Roadmap

5.2 Roadmap

Innovation

- Contribution to future viability: ★★★★★
- Feasibility: ★★★★★

Personnel

- "Schiffahrts-AG Hamburg"
- "Hamburg Maritime Schools"
- Funds with public-sector investors
- Banks as arrangers of new investments
- Strengthening capital market readiness
- Service and customer orientation of public authorities
- Legal certainty for ship managers
- Usage of innovations
- Strengthening of international competencies
- Networked research funding

Ship finance

- Ship Finance Index Hamburg
- Revitalisation of the fund market with stock exchange sales
- "Seeschifffahrt Hamburg Marketing e.V.
- Reduction of ship registration costs
- Revitalisation of the fund market with stock exchange sales

Source: EY / CML
5.3 Final remarks

Hamburg is the most important shipping hub in Germany and occupies a leading position among international shipping hubs. Hamburg is characterized by a large number and variety of companies with exceptional expertise. Their presence in all relevant segments of the shipping industry is already, in itself, of particular value.

The shipping crisis which has now been ongoing for the past seven years is also affecting Hamburg, although it is impacting the various players in the industry to different extents. Action needs to be taken to bring about a more positive development in the shipping industry in Hamburg.

The measures presented are generally suited to further improve the general framework for the shipping hub Hamburg that can be influenced on a regional level. The suggested measures have varying implementation timelines and starting points and require various players to take action, with the Free and Hanseatic City of Hamburg partly assuming the role of mediator.

The new directions taken in ship finance play a key role. In this context, the business models of many shipping companies will have to be modified to make them attractive for potential investors. The measures aim at achieving capital market access, whether or not already initiated, being decisive for the success of all actions to develop new sources of equity and debt capital.

The implementation of measures focused on revitalizing Hamburg as a ship finance hub thus depends on the competitiveness and capital market readiness of Hamburg based shipping companies. Therefore, significant success requires a sufficient number of high-performing shipping companies which are suitable for new investment and debt capital models.

Shipping companies which do not actively participate in shaping the changes required run the risk of being forced out of the market. Others are merging to form larger and more efficient entities in order to gain access to international equity and debt capital markets. The proposed ship finance measures are aimed at raising the required funds, also in Hamburg. Any consolidations that take place will strengthen the competitiveness of the remaining shipping companies and, in addition, the shipping hub Hamburg. Therefore, all players should actively pursue necessary consolidation measures.

A positive development of the Hamburg shipping hub can be expected if ...

The speed and degree of implementation of the measures in the area of ship finance coupled with the requisite structural adjustments at the shipping companies are therefore of central importance for the future development of the Hamburg shipping hub.

Provided the measures in the area of ship finance (M1 to M7) as well as those relating to the shipping companies are implemented successfully and the market starts to recover at the same time, it will be possible to strengthen the Hamburg shipping hub sustainably. In this case, the other measures (M8 to M17) will help Hamburg to maintain and expand its position as a high-quality shipping hub with a very broad range of services. Therefore, these measures have a supportive character and will only be entirely effective if the capital market readiness and competitiveness of the shipping companies is strengthened further.

... all participants continue to make a concerted effort.

By taking action, all participants can make a significant contribution to mastering the current challenges faced by the Hamburg shipping hub, thereby safeguarding and enhancing its attractiveness.
Hamburg shipping hub  
Strengths, challenges and potential

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GSA Agency
SKN 1607-090
ED None

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