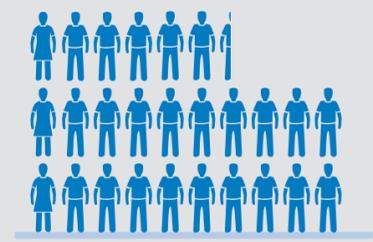


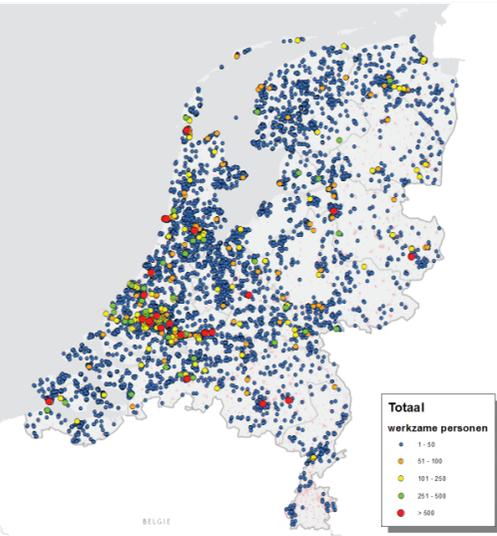
FACTS & FIGURES HUMAN CAPITAL



265.000 employees in the maritime sector

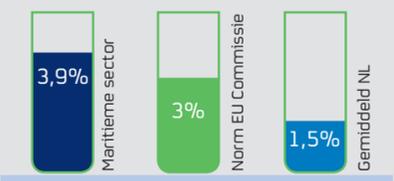


Total employment



Regional spread of establishments of Dutch enterprises

FACTS & FIGURES INNOVATIE



R&D expenses in percentage GDP

Global leader in innovative solutions

The maritime sector has been a significant part of the Dutch business community for centuries

A global leader with an unbeatable combination of expertise and experience

12,000 companies

265,000 people

€ 23,7 billion added value

An eye for social developments and open for business

Thriving on the core principles of cooperation, innovation and entrepreneurship

Sea ports, Offshore, Maritime supply industries, Shipbuilding, Inland shipping, Dredging, Maritime services, Research institutes, Navy, Seagoing shipping, Watersports, Fisheries.

trade, innovation, human capital

High Tech, Hands On

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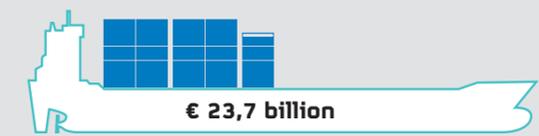
The Dutch Maritime Cluster

High Tech, Hands On

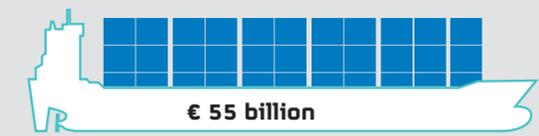
Monitor 2016 summary



FACTS & FIGURES TRADE



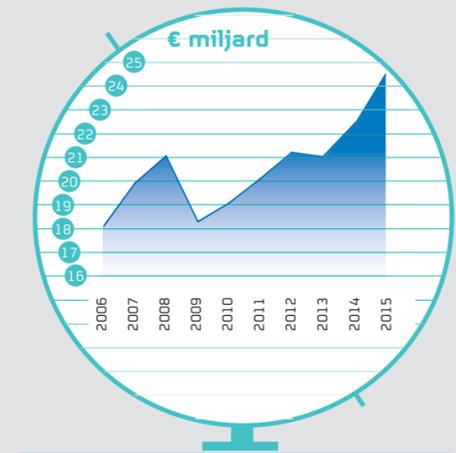
Total value added 2015



Production value 2015



Vessels under Dutch flag



Development export value



The maritime cluster and coherence

Open for business

www.maritimebyholland.com



Maritime sector: High Tech, Hands On

For centuries the maritime sector has been a significant part of the Dutch business community. Thriving on the core principles of cooperation, innovation and entrepreneurship, the sector has become a global leader in delivering innovative solutions to the international markets.

Working in the maritime sector requires a special combination of a “can do” attitude and professionalism. Adventurous, independent, no-nonsense but above all; guts. Any man or woman willing to take on the challenge, awaits a sustainable career. One that is internationally oriented and based on centuries of experience.

The Dutch maritime sector is customer oriented and complete. Empathetic, daring, a global leader and a frontrunner in finding solutions others do not see or dare to see. Customised solutions based on quality, craftsmanship, experience, and innovation. The Dutch maritime sector is reliable. A deal is a deal.

Stichting Nederland Maritiem Land (NML) is a foundation that connects twelve maritime sectors: ports, offshore, maritime suppliers, shipbuilding, ship operating, dredging, maritime services and knowledge institutes, inland shipping, Royal Navy, yacht building / watersports industry and fisheries. Together, this 24 billion euro industry comprises 12,000 companies employing more than 265,000 people.

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Vincent Verweij, webmaster

See: www.maritimebyholland.com

The Dutch maritime cluster in numbers

In 2015, the direct and indirect production value was almost € 55 billion. The total value added amounted to around € 24 billion, including € 5 billion indirect value added. This means the maritime cluster generates 3.5% of the total GDP of the Netherlands (2014: 3.5%). The sector provided employment for around 265,000 people, which is 3.0% of total employment in the Netherlands (2014: 3.1%). Of these jobs, 165,000 were through direct employment.

The Labour market in the maritime sector underperformed the Dutch economy in 2015: the number of persons employed increased by 1.0% in the Netherlands while total employment (direct plus indirect) in the maritime cluster fell by 0.5%. However, the total value added (direct plus indirect) of the maritime cluster increased with 3.9% faster than the GDP of the Netherlands (+ 2.0%). It should be kept in mind that this increase of the value added is for 38% due to seagoing shipping. Declining fuel prices are most likely the reason behind this increase in value added in the seagoing shipping sector. This does not mean that the economic situation for the seagoing shipping industry has improved in 2015. The sector is still confronted with overcapacity and low freight rates.

The low prices on oil in 2015 has different effects within different sectors of the maritime cluster. For example: the offshore sector is struggling with falling orders by the loss of investment by offshore oil and gas companies. The shipbuilding and maritime suppliers were also (negatively) affected by this. For seagoing shipping, inland shipping and fishing the falling oil prices actually lead to lower fuel costs and thus to an increase in value added.

The total Dutch exports of the maritime cluster in 2015 amounted to approximately € 24.4 billion. Thus the cluster has a share of 4.4% in the total Dutch exports of goods and services.

Evolution of the Dutch maritime cluster 2015

Total employment (direct plus indirect) employment in the Dutch maritime cluster decreased in 2015 by 0.5% (1,200 persons) compared to 2014 employment figures. The greatest decrease was due to a decrease in indirect employment. Total production value and value added of the maritime cluster increased by 1.0%, respectively 3.9%. In 2015, with regard to employment, the maritime cluster performed not as good compared to the Dutch economy as a whole, where employment increased with 1.0% (compared to a 0.5% decrease in direct plus indirect employment for the maritime cluster).

On the other hand, the increase in Dutch GDP (+2.0%) was smaller compared to the increase in value added (direct plus indirect) of the maritime cluster (+3.9%). Total exports of the maritime cluster amounted to € 24.4 billion in 2015. This means the cluster has a share of 4.4% of total Dutch exports of goods and services.

The graphs below present the index figures of the developments in direct value added and direct employment per maritime sector, for the period 2006-2015 (2006 is the base year and set at 100). Fishing, shipping, the navy and shipbuilding generated a (direct) value added in 2015, which was below the level of 2006. For the shipping sector this is caused by low tariffs resulting from overcapacity in the sector. The fishing sector suffers from lower fish catches. In the shipbuilding industry the lower value added results from a lower employment number. The added value of the navy has declined due to a cutback in expenses.

The number of (direct) employees is more stable in 2015 compared to 2006 than the value added. In the dredging sector, the number of employees increased relatively the most during this period, followed by the sectors offshore, ports, maritime services, shipping and marine equipment supply. Employment in the sectors navy, fishing, shipbuilding and yacht building/watersports industry declined. In inland shipping (direct) employment remained stable.

Exports of the maritime cluster increased by 23% over the period 2006-2014. The largest increase occurred in the offshore engineering sector with an increase of 67% and respectively 60%.

Future developments

In the past year the commercial seagoing shipping industry has had major hits, partly due to continued low prices and overcapacity in the market. This is reflected in the resources available for research and innovation. Still, players keep being involved in innovation projects in this segment, though these are sometimes delayed for lack of funds.

One topic that gets a lot of attention concerns the implications of the on-going IT developments for autonomous sailing vessels. Autonomous ships will come, the question is only when. This requires, in addition to all the hard research and development, also innovation in the field of business management, HRM and changes in laws and regulations.

Learn more about the Dutch maritime cluster: www.maritimebyholland.com

Labour Market

The labour market in the maritime sector in 2015 is less stable compared to 2014. The number of vacancies has risen and while some sectors expect growth in the coming two years, others expect a decline in employment.

In the 2015 maritime labour market monitor, seven sectors were asked to reflect on the expected employment developments in their sector in the coming two years. The sectors maritime equipment supply, shipbuilding and offshore expect a rise in employment between 2016 and 2018. The dredging, maritime services, inland shipping and yachtbuilding / watersports industries all expect employment levels to fall between 2016 and 2018.

In shipping, yachtbuilding / watersports industries and inland shipping the number of vacancies has risen in 2015, compared to last year. In dredging, offshore, maritime services and shipbuilding the amount of vacancies has declined in 2015. Overall, the number of vacancies has risen, from approximately 38 per 1,000 jobs in 2014 to 42 per 1,000 jobs in 2015.



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A large part of the vacancies is difficult to fulfil. In shipping and shipbuilding this is the case for over 80% of all vacancies. In other sectors the percentage is lower, but still concerns a substantial part of all vacancies.

Innovation

It is widely recognized that the strong position in the world of the Dutch maritime cluster is partly due to the strong entrepreneurial and innovative capacity of the companies in this cluster.

The Research & Developments (eerste keer uitschrijven daarna niet meer) efforts of the cluster in 2014 were with 3.9% of the added value lower than in 2013 when it was 4.5%. Nevertheless, still the R&D share is considerably higher than the average of 1.5% of GDP.

The national ambition is that the R&D expenditure in 2020 amounts up to 2.5% of gross domestic product. The European Commission endeavours within the framework of the



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Further innovations continue to focus on reducing fuel consumption and reducing emissions, especially those to the sky. The lowering of the resistance of the ship in the water by adjusting the shape of the hull, resistance-reducing coatings, screws, ray tubes etc. continue to be major innovations. In addition, optimisation of the engine power is relative to the capacity of the ship.

Last year the offshore sector, i.e. the part of oil and gas extraction, found themselves in dire straits as a result of the sharp decline in oil prices (in 2014 still half above \$ 100, in 2015 and in recent months even lower). This has shrunk the budgets for exploration and innovation and has various plans being put on-hold. This does not mean that nothing is happening. An important milestone for the Dutch maritime cluster was the coming into service of the Pioneering Spirit, a unique ship of its kind, which the company expects to play a major role in, among other things, cleaning (decommissioning) of disused oil platforms. There are already plans for an even larger version, which again will require innovation in the maritime cluster.

Inland shipping intends to accelerate innovation by connecting markets and knowledge developers and especially to get those innovations included in the market. One of the ways this is the Innovation Lab, where twenty companies together work on concrete projects that helps greening existing inland ships. The facilities of the RDM Campus will form an important “test bed”.

Since March 2015 the Port of Rotterdam has the Port Innovation Lab, a collaboration between the Port Authority and YES! Delft, an incubator affiliated with the Delft Technical University. After more than a year of experience, it can be concluded that a series of start-up ideas has initiated. CEOs of companies from the port contribute to these ideas through sounding board sessions and competitions. Amsterdam has launched a similar initiative, ProDock, which acts as an incubator or accelerator. In addition, they founded the Mainport Innovation Fund II together with RLM, Schiphol, TU Delft, NS and Port of Amsterdam. This fund focuses on innovative start-tech companies that develop products and services among other digitisation, the internet of things, security & safety, seamless travel and big data.

The yachtbuilding / watersports industry is a segment in which innovations are often the first to find their way, especially in the market for larger yachts (over 24 meters). Operating costs and investments are not the main drivers and customers are often open to implement the latest possibilities (early adopters). Developments in materials such as composites also quickly find their way into the yachting industry.

Europe 2020 strategy to an R&D value of 3% of GDP. (CBS, 2014). Both of these standards are still met at large by the maritime cluster.

Export

Total exports of the maritime cluster was approximately € 24.4 billion in 2015, an increase of € 1.8 billion compared to 2014. Therefore the cluster has a share of 4.4% in the total Dutch exports of goods and services. The largest share in the export sector are ports (30%), followed by seagoing shipping (22%) and shipbuilding (14%). Shipbuilding shows more than a doubling of exports compared to 2014. This strong increase is related to the completion of a number of vessels for the offshore sector. Exports of the maritime cluster increased by 32.7% over the period 2006-2015. The biggest increase took place in the shipbuilding and offshore industries with an increase of 131% and 72% respectively.

The sector focuses on Maritime Hotspots Indonesia, Istanbul and Rio / Santos. In 2015 the regions of South East Asia, Gulf of Mexico and Arabian Gulf have been elected as new maritime hotspots.



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