

Economic Impact Study Belgian Shipping Cluster



Royal Belgian
Shipowners'
Association

Update 2022



The updated Economic Impact Study on the Belgian shipping cluster charts the economic importance of shipping in Belgium. The study offers insight into the economic key figures up to 2020, following a series of updates (2004, 2007, 2010, 2013, 2016) of the initial study carried out in 2001, as commissioned by the Royal Belgian Shipowners' Association. Both the direct and the indirect economic impact are examined. The various sectors included are Merchant Shipping, Towage and Hydraulic Engineering/Dredging.

01 ~ Overview of Belgian Shipping Policy



At the turn of the millennium, there was a real danger that the entire Belgian merchant fleet would migrate to competitive non-EU flags. The Belgian government and subsequently European policy took action to create a level playing field for international maritime transport. This resulted in the European Community Guidelines on State Aid to Maritime Transport, allowing specific aid measures. The Belgian measures include:

1. **Labour-related cost reductions (since 1997), consisting of two windows:**
 - » **Window 1:** a partial exemption of social security contributions for community seafarers.
 - » **Window 2:** an exemption of the withholding of wage tax on wages paid to community seafarers.
2. **Tonnage tax (since 2002),** being a reduction in the tax burden on income earned through maritime transport, based on the net tonnage of employed ships.

The labour-related measures are designed to reduce the wage burden on community shipowners, thus preserving the competitiveness of EU flags. Through the tonnage tax regime, the tax amounts payable by shipping companies become more predictable, which stimulates shipping operations under EU flag. The stabilisation or growth of the number of companies sailing under Belgian flag is important, as it preserves and develops economic activities in Belgium.

02 ~ Evolution of the Belgian Fleet

Since the introduction of shipping policy, the Belgian-controlled merchant fleet has shown significant growth, as well as the tonnage sailing under Belgian flag (see Figure 1).

Figure 1.

This growth continued in recent years, with a 39% growth of DWT in 2016 – 2020. Accounting for more than 30 m DWT in 2020, the Belgian-controlled merchant fleet was never larger. The growth of the Belgian-controlled merchant fleet since 2001 has been remarkable. The Belgian-controlled merchant fleet grew at a rate 2 times higher than the growth of the world fleet¹. In 2001 the DWT of the Belgian-controlled merchant fleet was 0.86% of the world total, increasing to 1.5% of the world total in 2020.

During this growth of DWT of the Belgian-controlled merchant fleet, the percentage of ships under Belgian flag remained at a stable level of over 30%. The share of ships under Belgian flag was 8 times higher in 2020 than it was in 2004 and, since 2005, the share of ships under Belgian flag has been over 30%. In 2018, ships under the Belgian flag reached the milestone of 10 million DWT.

The Belgian shipowners have been investing heavily in fleet renewal. Since 2016, a total of 22 vessels have been decommissioned and deleted from the Belgium Shipping Register, while 36 new vessels were registered in Belgium. Durability is a major theme in fleet renewal. With this in mind, Belgian companies in the shipping cluster invest in the development of vessels running on hydrogen, ammonia and methanol. The Belgian fleet is also a significant player internationally, as only 14 countries have a fleet larger than Belgium's².

¹ From 2001 to 2020, the world fleet grew from 750 m DWT to 2,047 m DWT, i.e., a growth of 173%. During the same period, the Belgian-controlled fleet grew from 6.5 m DWT to 30.7 m DWT, i.e., a growth of 374%.

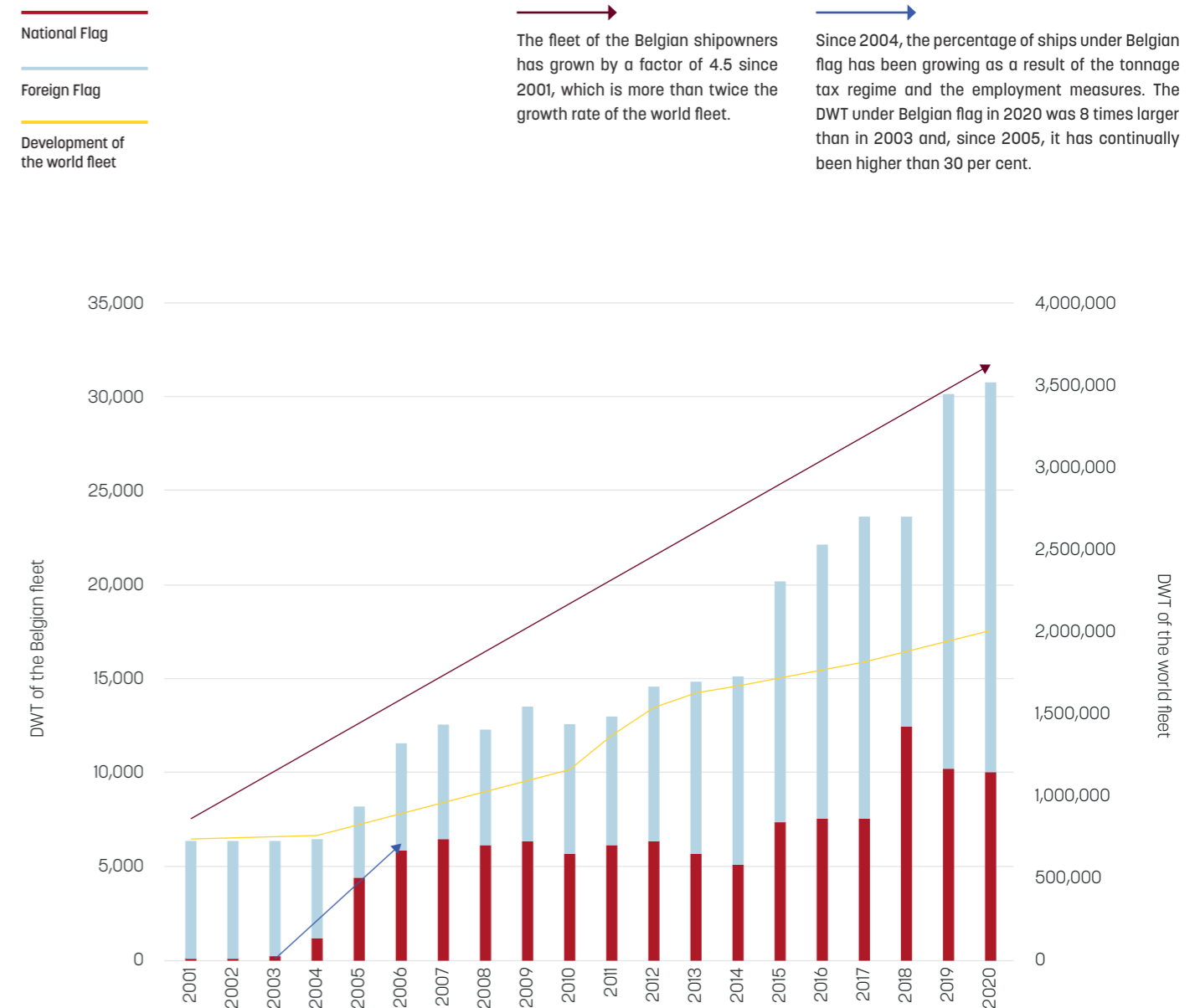
Source: UNCTAD, *Review of Maritime Transport*

² Countries with larger controlled merchant fleets (in DWT) are: Greece, Japan, China, Singapore, Hong Kong, Germany, South Korea, Norway, Bermuda, USA, UK, Taiwan, Monaco, Denmark. The Belgian-controlled merchant fleet therefore has more DWT than The Netherlands or France, for example.

Source: UNCTAD, *Review of Maritime Transport*

Figure 1: Evolution of the Belgian-controlled merchant fleet

IN THOUSANDS OF DWT



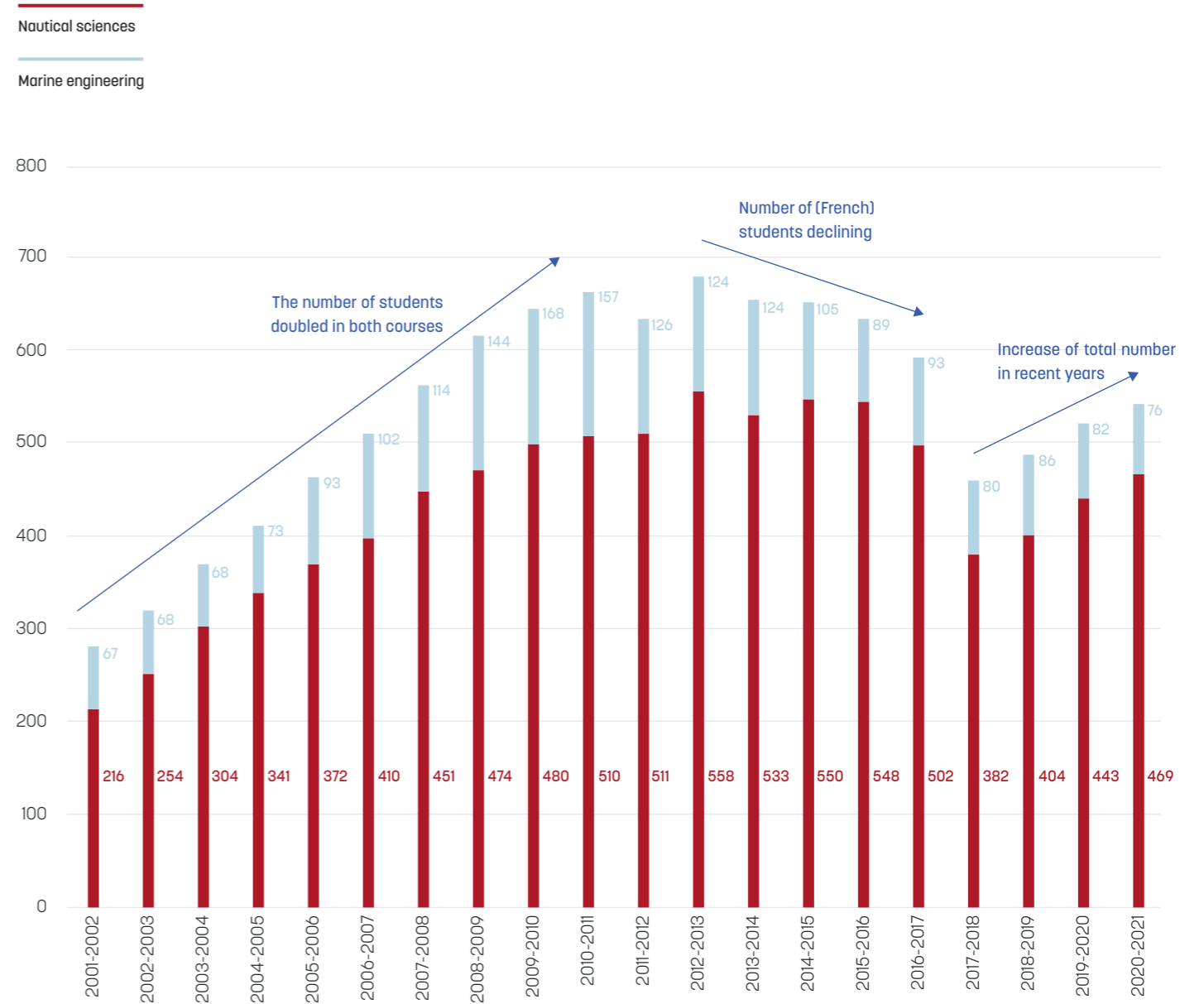
Source: Policy Research Corporation, based on UNCTAD, *Review of Maritime Transport*

03 ~ Evolution of maritime training and education

The Belgian maritime cluster has proved to be a very attractive choice for students, as evidenced by the enrolments at Antwerp's Maritime Academy. Between 2001 and 2013, since the introduction of the shipping policy, the number of students has more than doubled. However, the decrease in the number of French students between 2014 and 2018 (see figure 2) substantially reduced the overall number of students at the academy. The falling number of French enrolments was linked to the merger and renewal of French maritime training and education institutions. In 2018, the number of students started to recover slightly. In Antwerp, an investment program is under way to renew and expand the historic campus of the Maritime Academy, which will make the Maritime Academy even more attractive.



Figure 2: Evolution of the Number of Students Enrolled at Antwerp Maritime Academy



Source: Policy Research Corporation based on Antwerp Maritime Academy

04 Economic Importance of the Belgian Maritime Cluster



In 2020, merchant shipping, towage and hydraulic engineering had a combined direct turnover of € 6.9 billion. The total (direct + indirect) value-added of the shipping sector had increased by 26% since 2016. Although total value-added still stood at 2.5 billion in 2016, this figure rose to 3.1 billion in 2020. Therefore, the shipping cluster generates 0.6% of Belgian GDP. Total employment (direct + indirect) of the Belgian maritime cluster is 14,951 FTE.

Figure 3: Total Employment of the Belgian Maritime Cluster

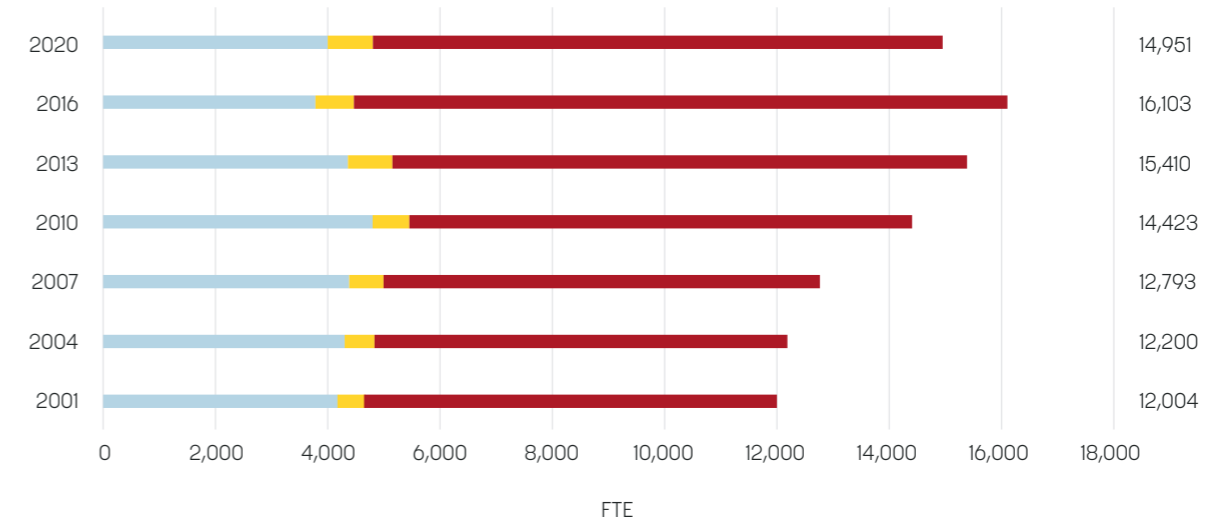
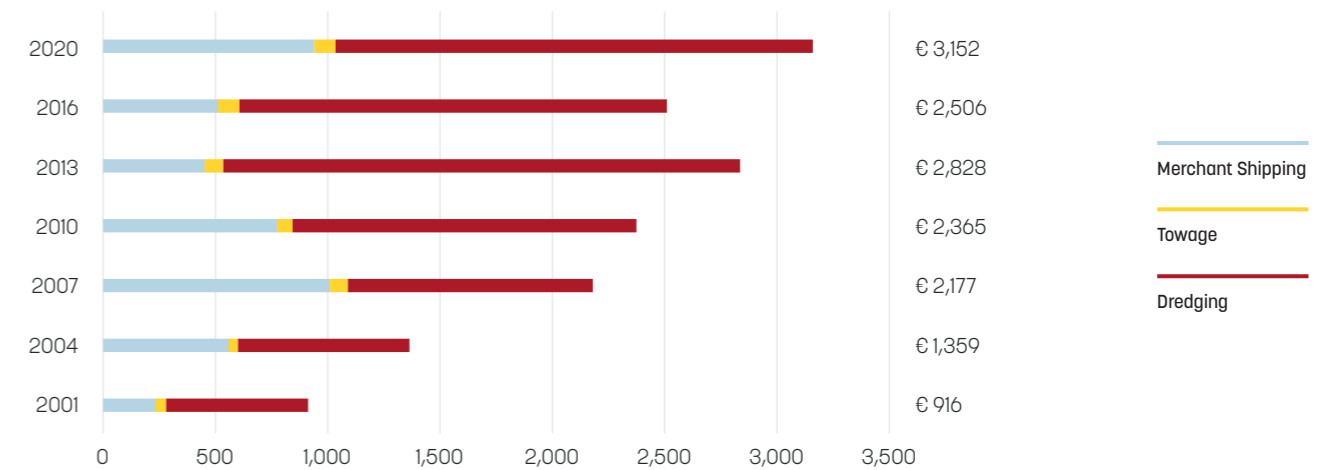


Figure 4: Total Value-Added of the Belgian Maritime Cluster

AMOUNTS x 1,000,000



Source: Policy Research Corporation



Figure 5 shows the contribution of the various subsectors to the direct economic key figures.

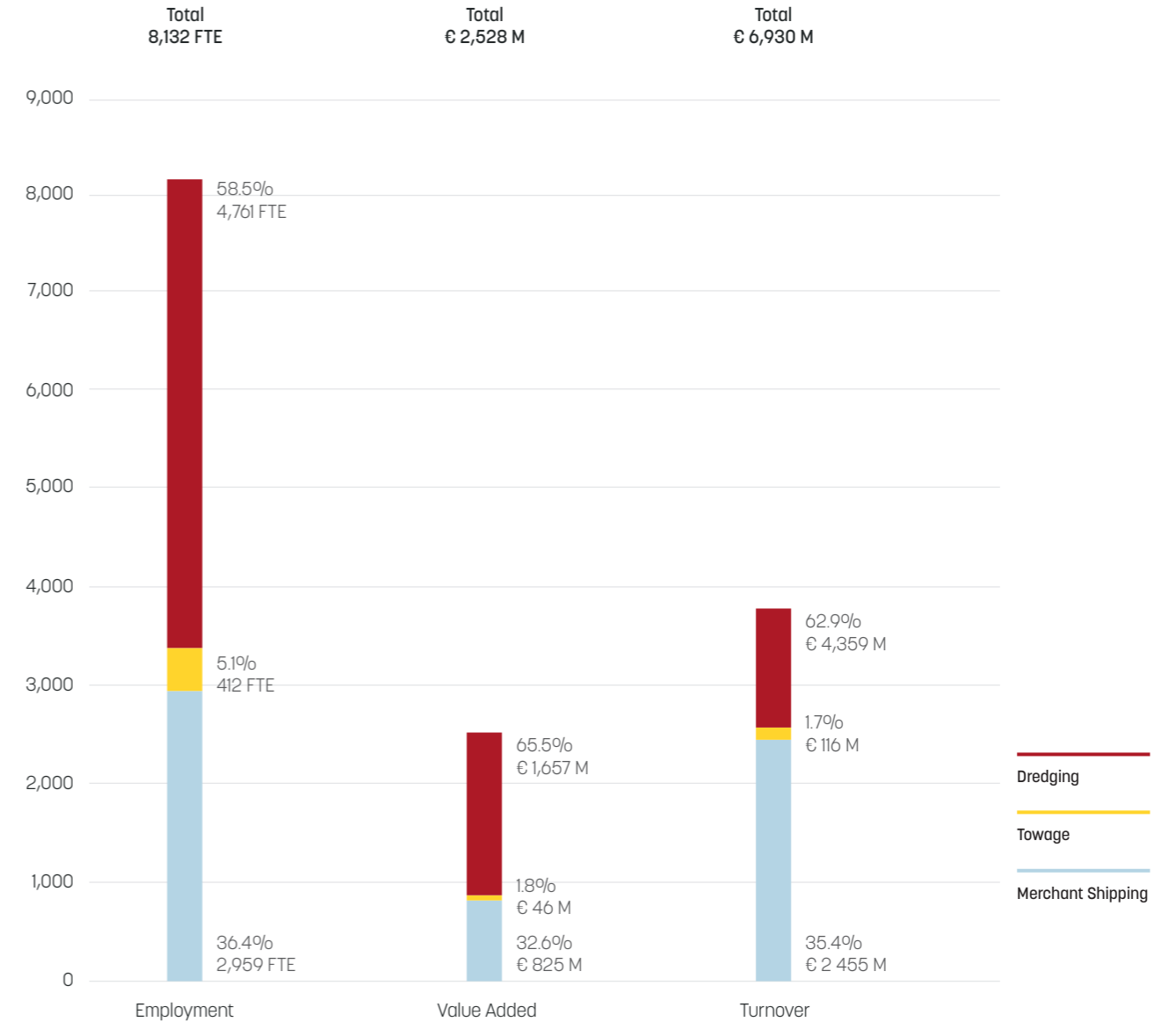
Hydraulic Engineering/Dredging is the largest of the three sectors, contributing 63% of direct turnover, 66% of direct value-added and 59% of direct employment. About half (52%) of this employment is land-based. The sector creates a very high indirect employment and value-added, due to the nature of the activities that include a high degree of subcontracting. After the introduction of shipping policy, the dredging sector has shown growth. However, in 2016 – 2020 this growth stalled. The economic key figures of hydraulic engineering decreased in 2016 – 2020. Employment in the sector decreased, as well as the value-added, over 2013 – 2020¹. This decrease is partly due to COVID-19 implications. Logistic processes in the worldwide sector were disrupted and the (temporary) collapse of the oil market in 2020 was felt in the offshore hydraulic engineering industry.

The **Towage** sector is the smallest of the three, contributing just 2% of direct turnover, 2% of value-added and 5% of employment. More than three quarters of this employment is sea-based. The economic impact of the towage sector diminished in 2013 – 2016, but recovered over 2016 – 2020. Following a takeover in the sector, the Belgian towage companies became part of two major European players.

The **Merchant Shipping** sector contributes 35% of direct turnover, 33% of direct value-added and 36% of direct employment. Most of the employment in this sector is created at sea; 84% of employment is seafaring. Since 2019, several merchant shipping subsectors, including bulk and container, have seen overcapacity turn into undercapacity, which has caused freight rates to rise considerably. Thus, the value-added of merchant shipping rose by 84% between 2016 and 2020.

¹ For an analysis of hydraulic engineering's value-added, the period of 2013-2020 is more suitable than 2016-2020. Jan de Nul, one of the major players within the sector, completed a large project in 2016. Due to a considerable change in their financial statement line 'work in progress', the value-added is exceptionally low for that year. If the analysis is confined to 2016 – 2020, the value-added of hydraulic engineering seems to have increased, notwithstanding the fact that the trend over 2013 – 2020 showed a slight decrease. Therefore, comparing the value-added in 2020 with 2016 may lead to inaccurate conclusions.

Figure 5: Direct Economic Impact per subsector



Source: Policy Research Corporation, based on annual reports

00	~~~~ Preface	21
01	~~~~ Purpose of the study	22
02	~~~~ Policy framework and sector structure	26
03	~~~~ Use of employment measures	28
04	~~~~ Evolution of the Belgian-controlled merchantfleet	30
05	~~~~ Evolution of maritime training and education	34
06	~~~~ Economic importance of the Belgian shipping cluster	40
07	~~~~ Economic importance per subsector	52
08	~~~~ Conclusions	64



00 ~ Preface

In merchant shipping, hydraulic engineering and towage, Belgium has a number of competitive top players in Europe and worldwide. Although a mere 2 percent of the Belgian-controlled fleet sailed under Belgian flag in 2001, this percentage had reached 33 percent by 2020. The European and Belgian shipping policy has therefore met with a resounding success. In some merchant shipping sectors, including bulk and containers, freight rates have shot up since 2019, triggering a growth of 26 percent in the value added of Belgian merchant shipping in 2016 - 2020. The Belgian-controlled fleet expanded again, adding 39 percent to its DWT between 2016 and 2020. Sustainability is a major theme in the maritime cluster, characterized by a rapid succession of developments.

01 ~ Purpose of study



This study provides insights into the **economic importance of the shipping cluster in Belgium**, in relation to the aid measures within the sector (the **Shipping policy**) in the framework of the European Community Guidelines on State Aid to Maritime Transport 3 subsectors of the shipping cluster are monitored:

- » Merchant shipping
- » Towage
- » Hydraulic engineering

This study is an **update** for the year 2020, the latest in a series of tri annual updates since the base study in 2001 (2004/2007/2010/2013/2017).

Major Parties from the Belgian Shipping Sector

Merchant shipping sector: shipowners and operators

- » a group of major players in tanker and dry bulk markets, including Euronav, Exmar and CMB
- » smaller players in short-sea (container) shipping, like Delphis, Boeckmans and Fast-Lines

Towage sector:

international towage, rescue and salvage works

- » After a takeover, the sector numbers three Belgian towage companies, part of two major European players: Boskalis and Boluda Towage

Hydraulic engineering:

worldwide dredging and maritime infrastructure works

- » DEME (Zwijndrecht) and Jan de Nul (Aalst) are top players on the worldwide market



*URS NV, URS Belgium and URS Ocean Towage

Other sectors

Other sectors also play an important part in the maritime cluster (suppliers, ports, education institutions, government and sector organisations), but they are not separately highlighted in this update (however, their role is partly taken into account through their indirect effects)



Strong impact of the Belgian Shipping Policy

Preserving decision-making power in Belgium

- » Mitigates the risk of major players leaving Belgium
- » Facilitates the keeping/establishment of new players in Belgium
- » Illustrates a good maritime climate in Belgium

The fleet under Belgian flag has grown

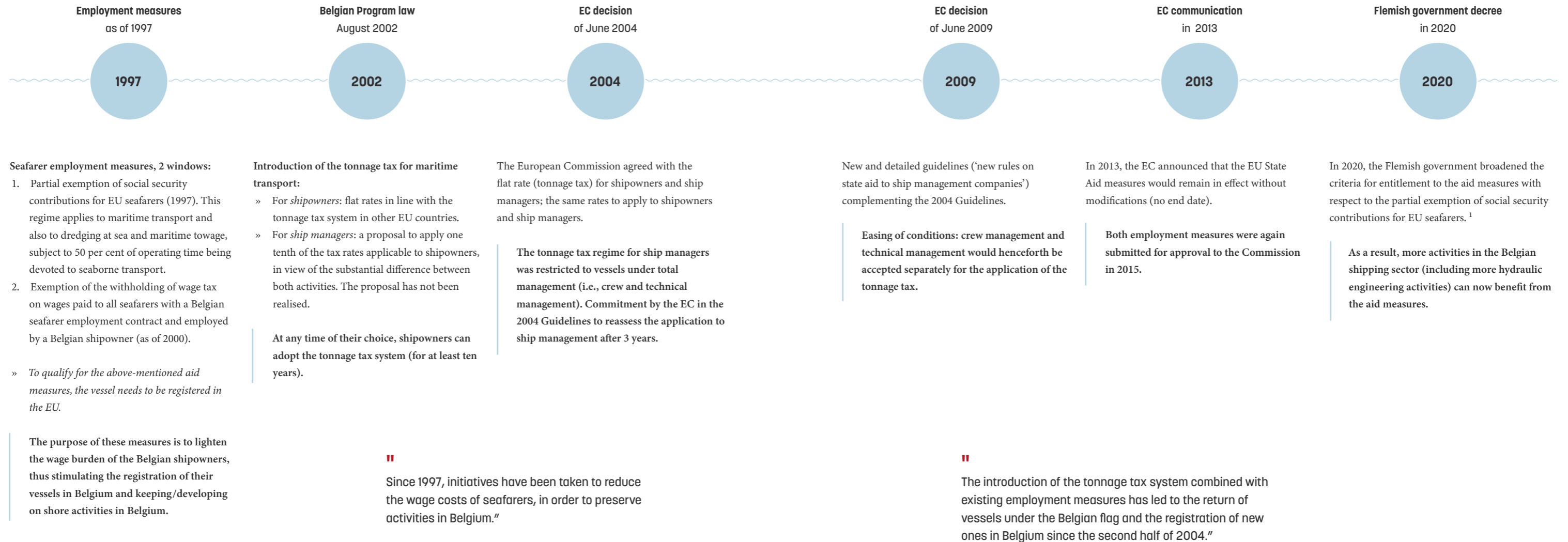
- » The part of the fleet sailing under Belgian flag has stabilised at around 33 percent
- » In Europe as well, the Belgian flag remains competitive

Positive economic impact

- » About 15,000 FTE and approximately € 3.15 billion of value added in 2020 (combination of direct impact within sectors and indirect impact through subcontracting)
- » There is a stable number of students graduating from the Maritime Academy in Antwerp



02 Policy framework and sector structure



03 Use of employment measures

Employment measures for seafarers

The employment measures include two windows:

Window 1:

Partial exemption of social security contributions for EU seafarers

- » Subject to the activities being seaborne transport operations.
- » The liability to pay social security contributions arises when people become entitled to social security benefits in Belgium, usually when embarking on a Belgian-flagged vessel.

Window 2:

Exemption from the payroll withholding tax on the wages paid to EU seafarers

- » Subject to the activities being seaborne transport operations.
- » Tax liability arises when one receives Belgian income, i.e., when one has a Belgian employment contract.

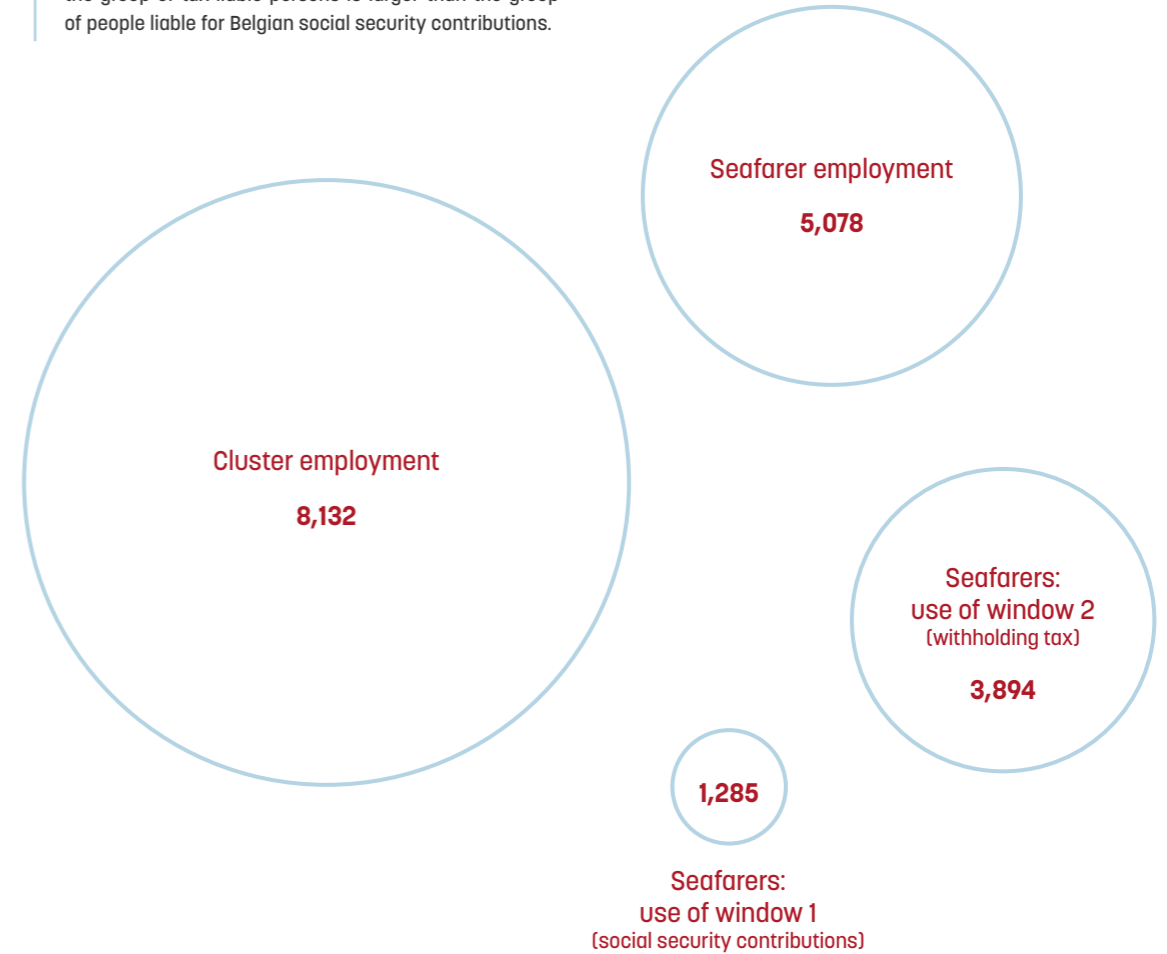
N.B., “EU seafarers” are understood to be seafarers with a tax and/or social security liability (Not linked to nationality, though also determined by double taxation treaties), unless regular passenger services between Member States are involved, in which case the “EU seafarers” shall be EU / EEA nationals.



Use of the employment measures

The overview below shows cluster employment and the use of employment measures in 2020.

The number of people in window 2 is higher, because the group of tax-liable persons is larger than the group of people liable for Belgian social security contributions.



The number of seafarers to whom the exemption of social security contributions is applied (window 1) varies from 20 to 25 per cent of seafarer employment.

04 ~ Evolution of the Belgian-controlled merchant fleet



Terminology

The **Belgian-controlled merchant fleet** includes the vessels owned by a Belgian owner. The vessels concerned thus have a Belgian owner or a Belgian *beneficial owner*.

The **Belgian merchant fleet** is the “merchant fleet” as registered with the **Belgian shipping registry**, this notion covers Belgian-owned and foreign-owned vessels.

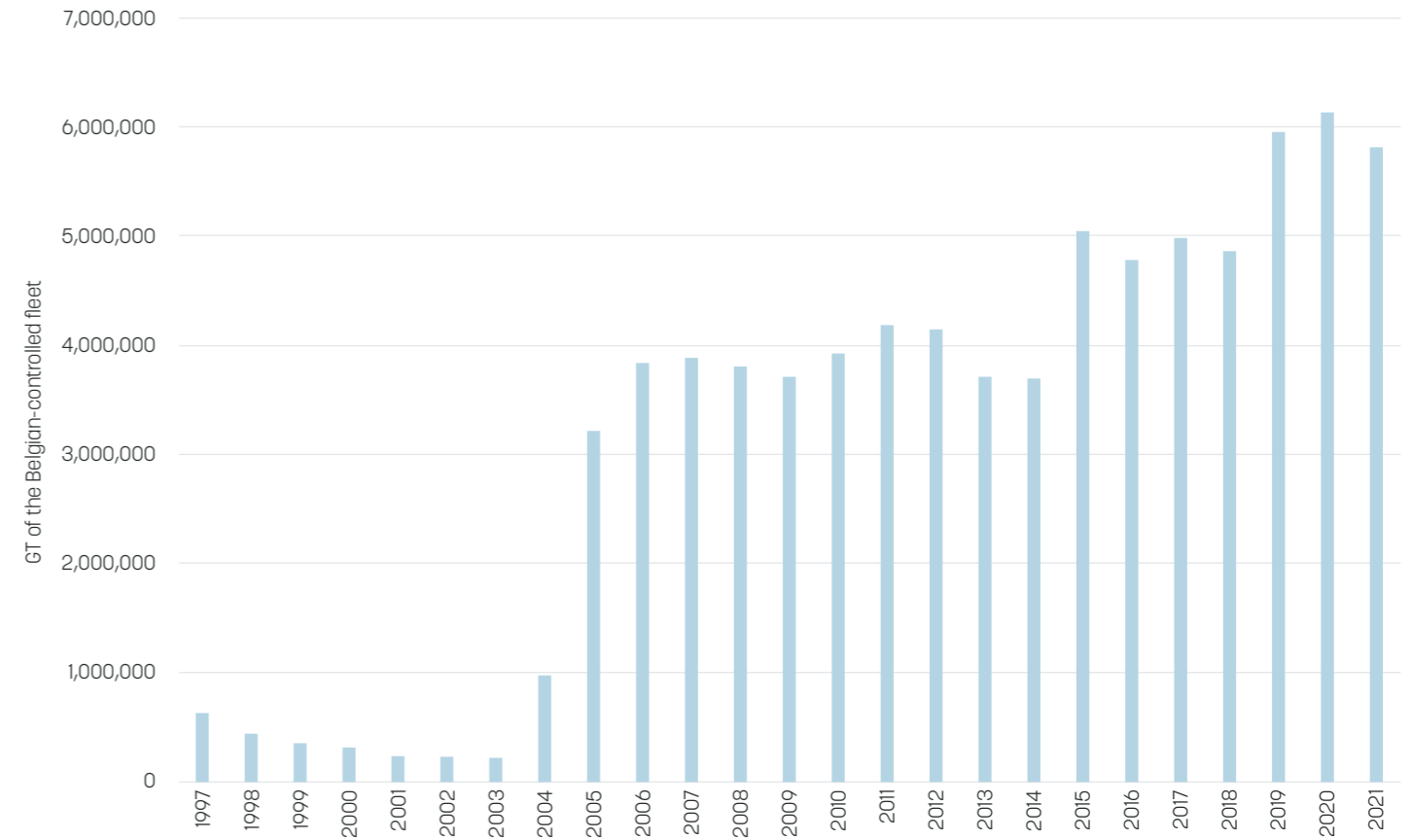
The list may also include vessels registered with a foreign bareboat charter registry, as well as foreign vessels in the Belgian bareboat charter register.

Tonnages used:

- » *Gross Tonnage (GT)* measures all defined spaces in a vessel.
- » *Deadweight Ton (DWT)* refers to the carrying capacity of a vessel, the weight to be carried by the vessel (ballast or freight, but also supplies and bunker oil) to ensure optimal (and safe) water displacement.

Evolution of Belgian merchant fleet tonnage

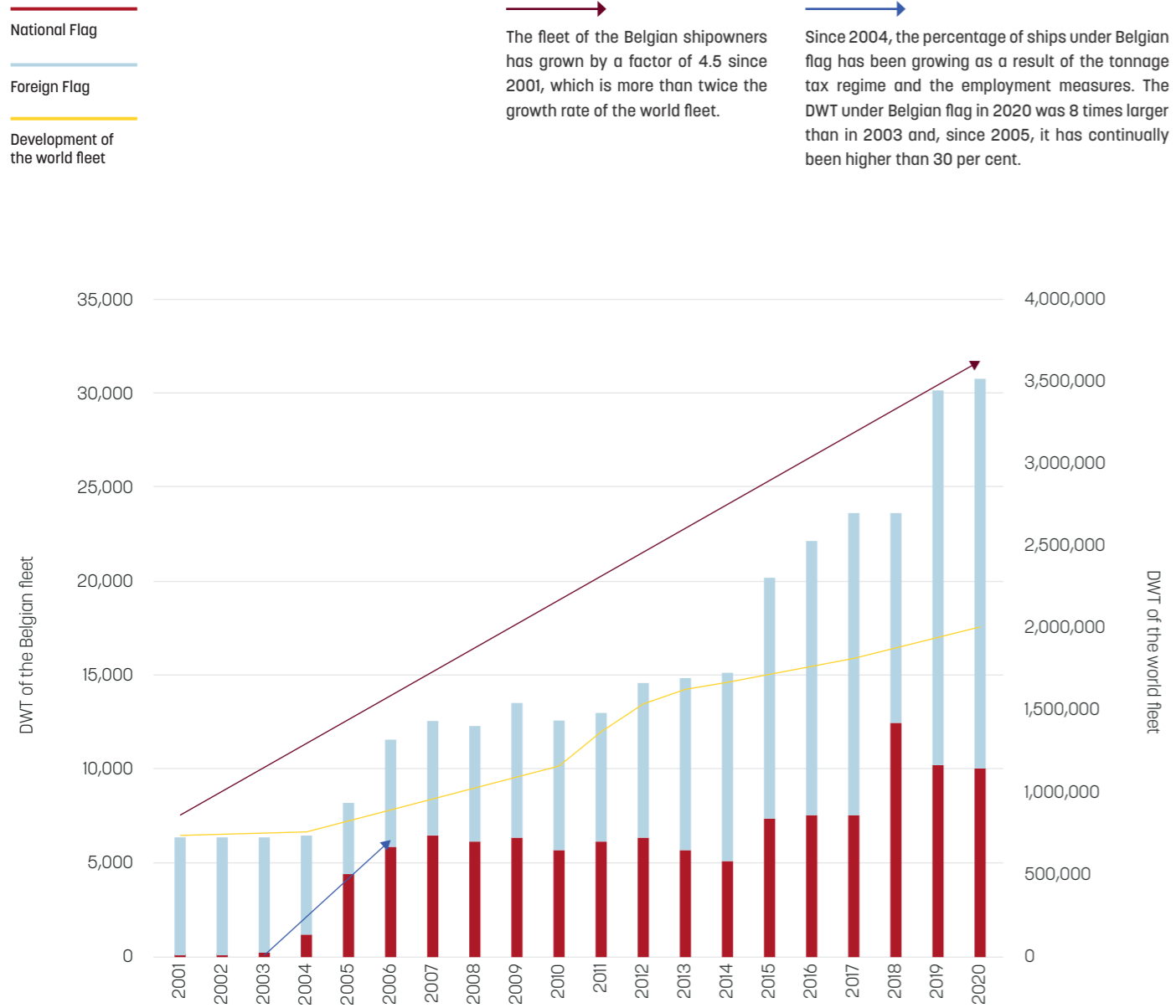
The success of the shipping policy is shown by the increased registered tonnage under Belgian flag since 2004, new milestones were reached in 2015 (>5 million GT) and in 2020 (>6 million GT).



Source: Policy Research Corporation, based on FPS Mobility, Official list of Belgian maritime vessels

Evolution of the Belgian-controlled merchant fleet

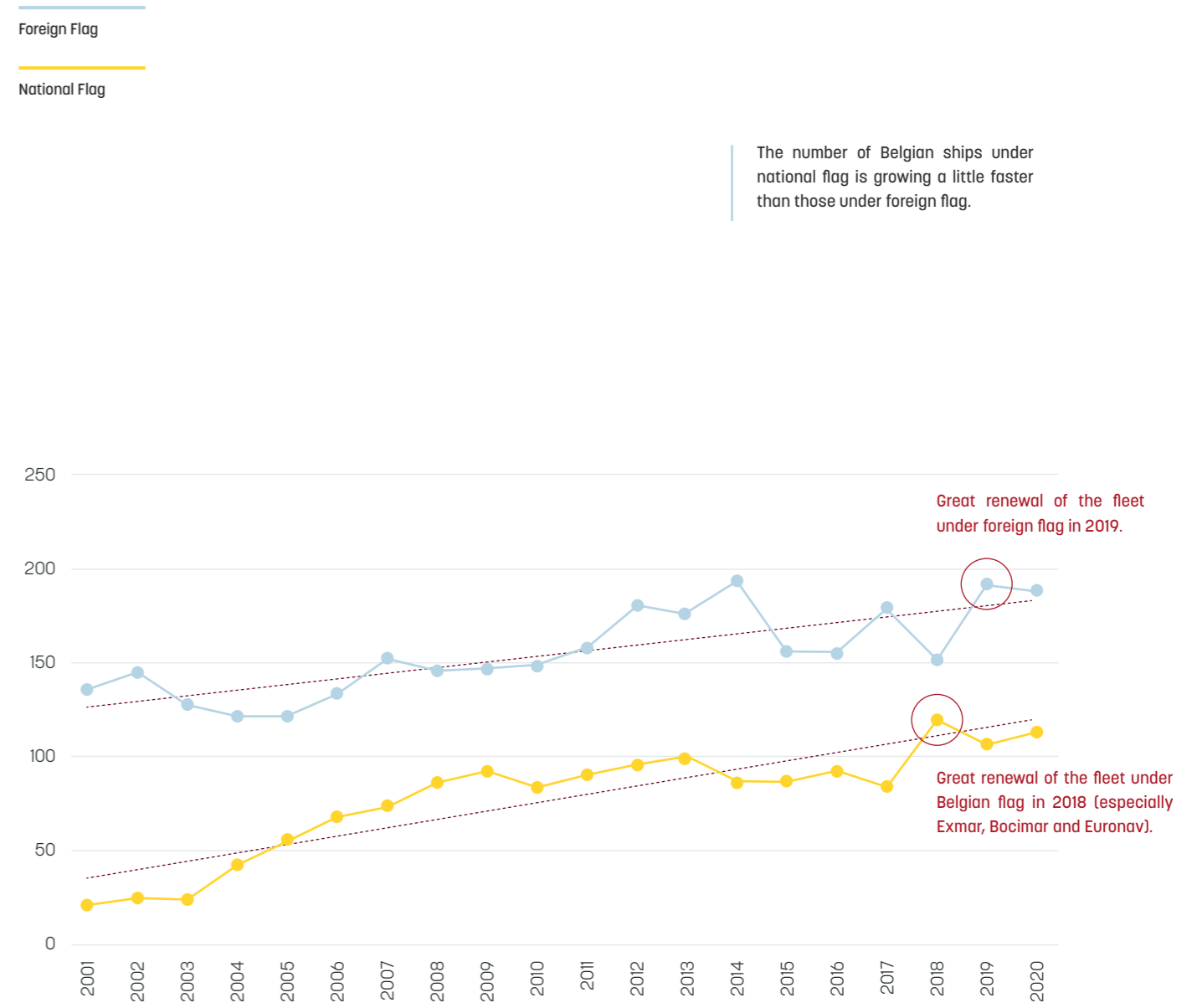
IN THOUSANDS OF DWT



Source: Policy Research Corporation, based on UNCTAD, *Review of Maritime Transport*

Evolution of the Belgian-Controlled merchant fleet

IN NUMBERS

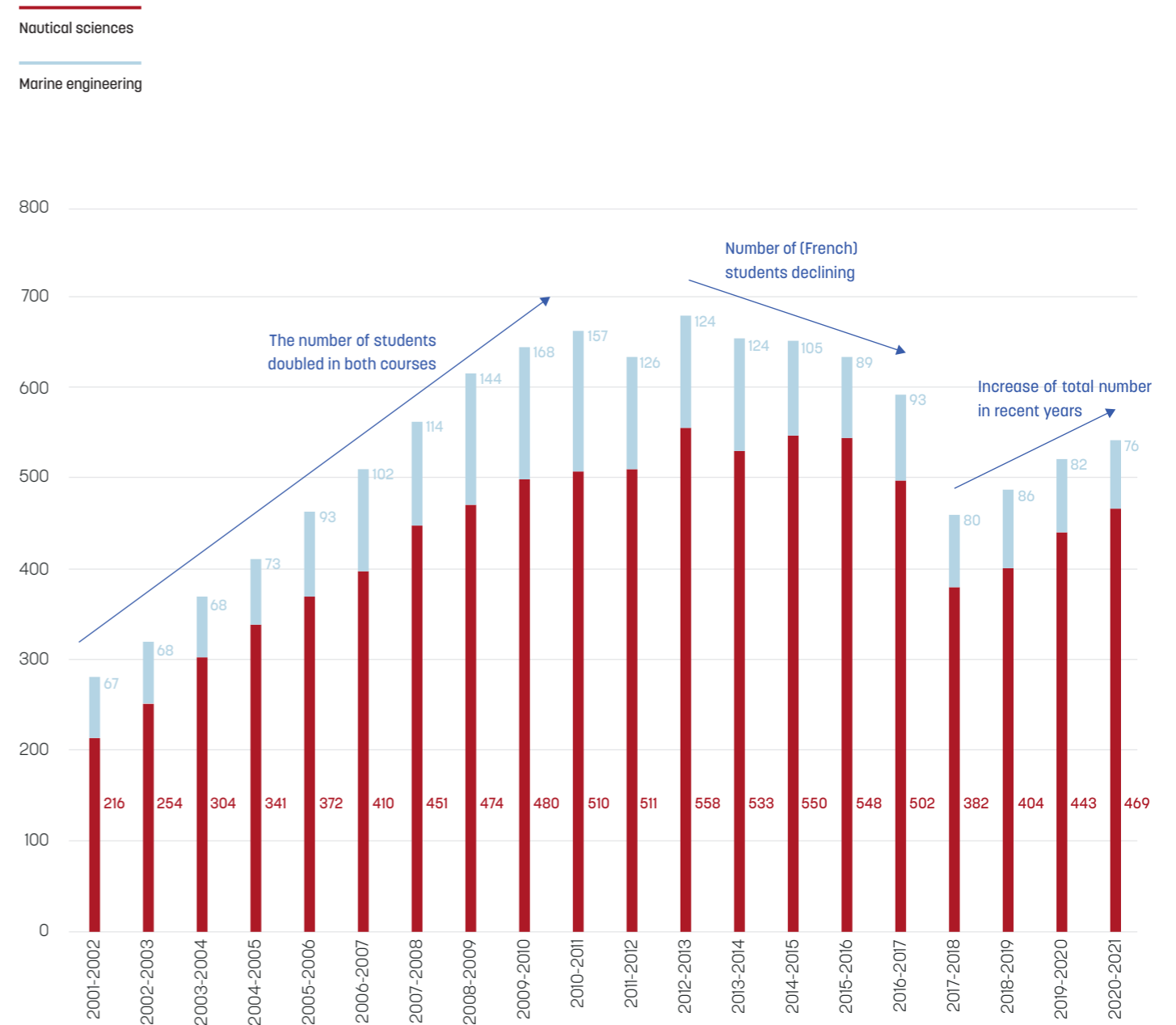


Source: Policy Research Corporation, based on UNCTAD, *Review of Maritime Transport*

05 ~ Evolution of maritime training and education

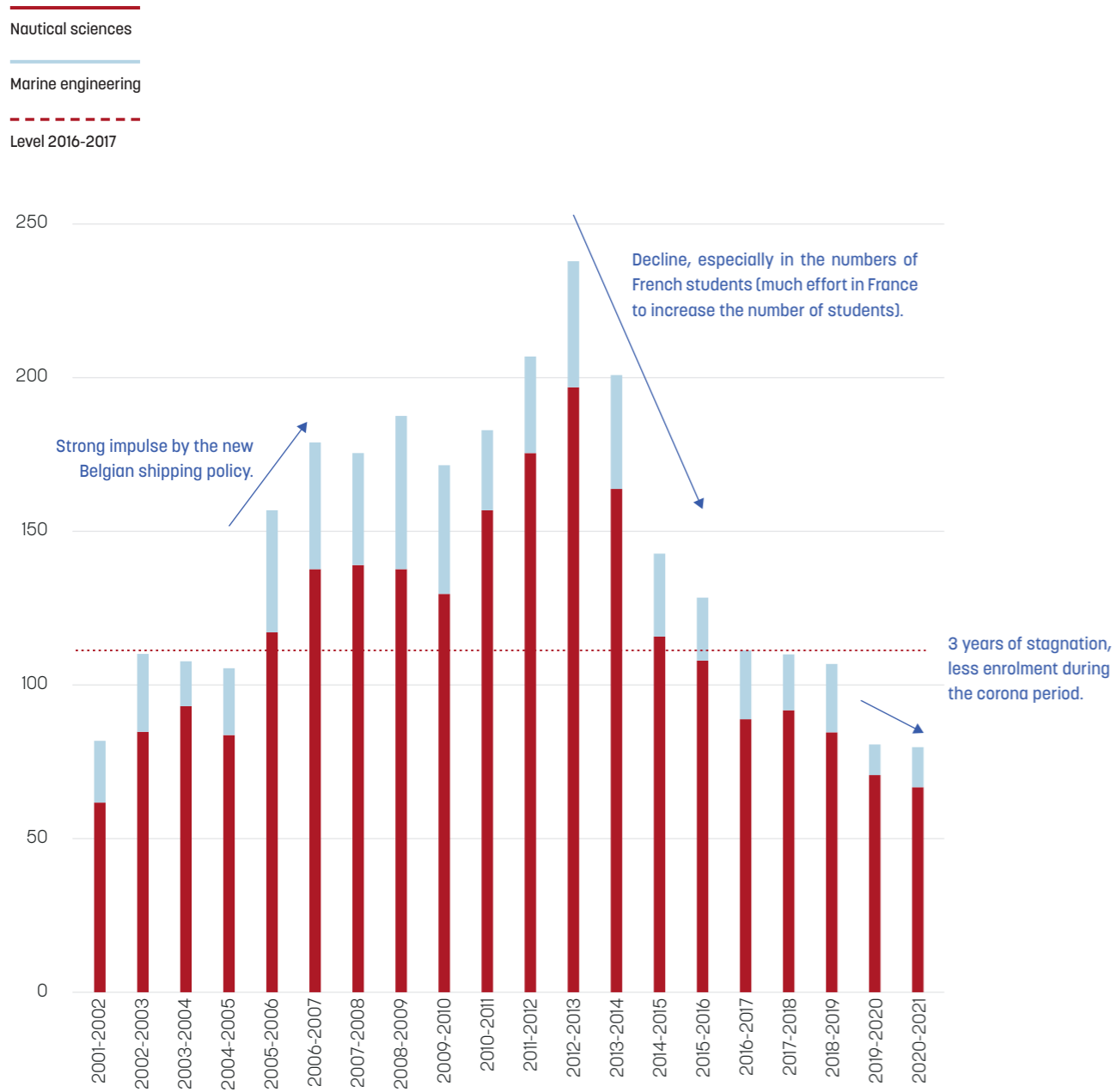


Evolution of the number of students at the Maritime Academy



Source: Policy Research Corporation, based on Antwerp Maritime Academy

Evolution of enrolment (inflow) at the Maritime Academy



Source: Policy Research Corporation, based on Antwerp Maritime Academy

Evolution of the number of students at the Maritime Academy



Source: Policy Research Corporation, based on Antwerp Maritime Academy

Outflow and career path of students in maritime education



In 2007, a survey was held among Maritime Academy alumni who graduated after 1985 (68 respondents):

- » Upon graduating, 94% of respondents embarked on seafaring and on average they remained 7.5 years in seafaring jobs.
- » 37% of respondents were still seafarers in 2007.
- » 80% of the alumni still worked in the maritime cluster.

The picture was confirmed by a 2021 survey.

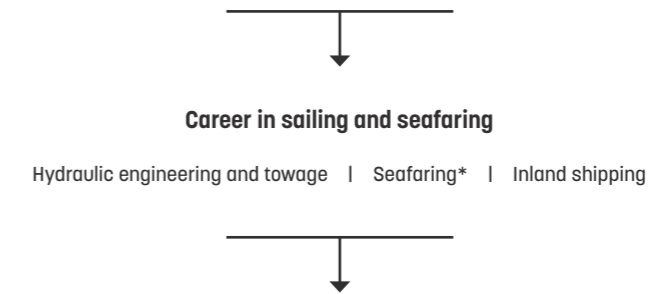
Findings from the Dutch maritime sector:

- » On leaving the sector, most continue to work in the maritime cluster.
- » Employees leaving maritime shipping first and foremost take port sector jobs.
- » 65% of seafarers who take a job onshore do so in a technical capacity.

Source: Maritime labour market monitor, Pilot report 2020

Expected career path of the students at the Antwerp Maritime Academy

Outflow of the Antwerp Maritime Academy



Possible outflow to other maritime cluster sectors after a seafaring career

Port and port services | Pilotage services | Maritime subcontractors
 Maritime education and training | Ownership and management of ships | Onshore and offshore energy



“A large part of maritime academy alumni continue to work within the maritime cluster.”

Source: ECSA Maritime Career Path Mapping 2013 Update

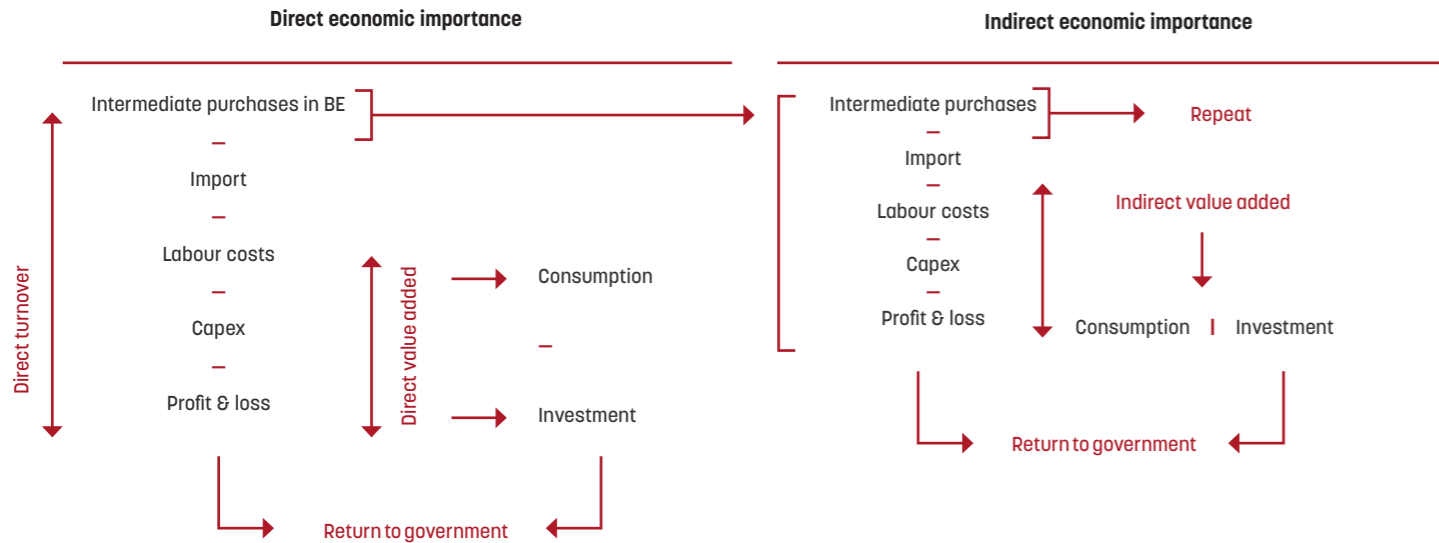
06 ~ Economic importance of the Belgian Shipping Cluster

Approach and methodology

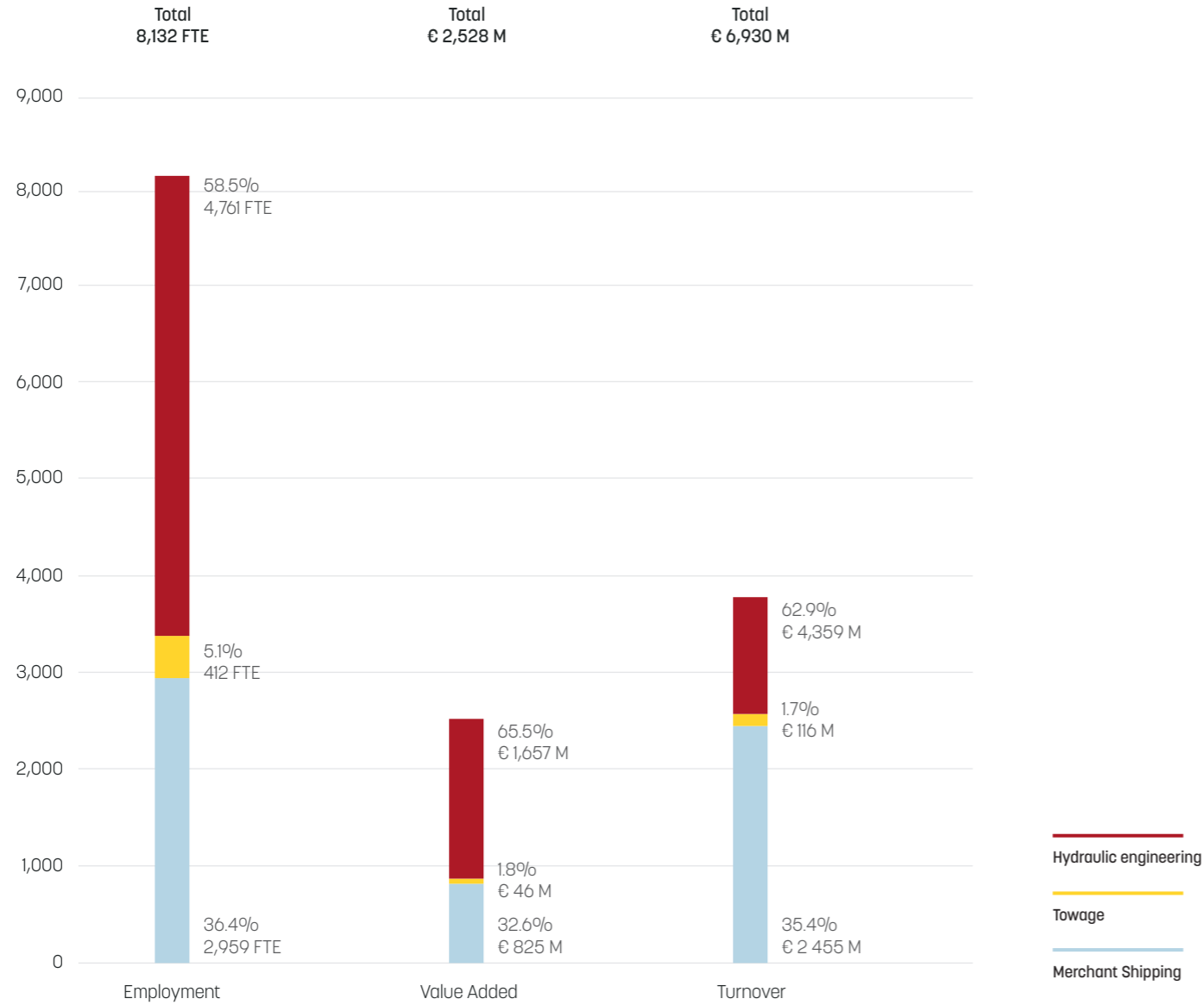
Uniform determination of economic key figures over the update studies

- A. **Determining direct economic importance**
 - » Updating bottom-up data files
 - Collecting individual annual reports of companies in the sectors
 - » Updating key figures (incl. the intermediate years up to 2020)
 - Information from the NBB Balance sheet office and annual reports
- B. **Calculating indirect economic importance**
 - » EIS methodology
 - » Basic parameters from earlier bottom-up study
 - » Assessing structural changes in purchasing/sales patterns

Terminology – turnover and value added

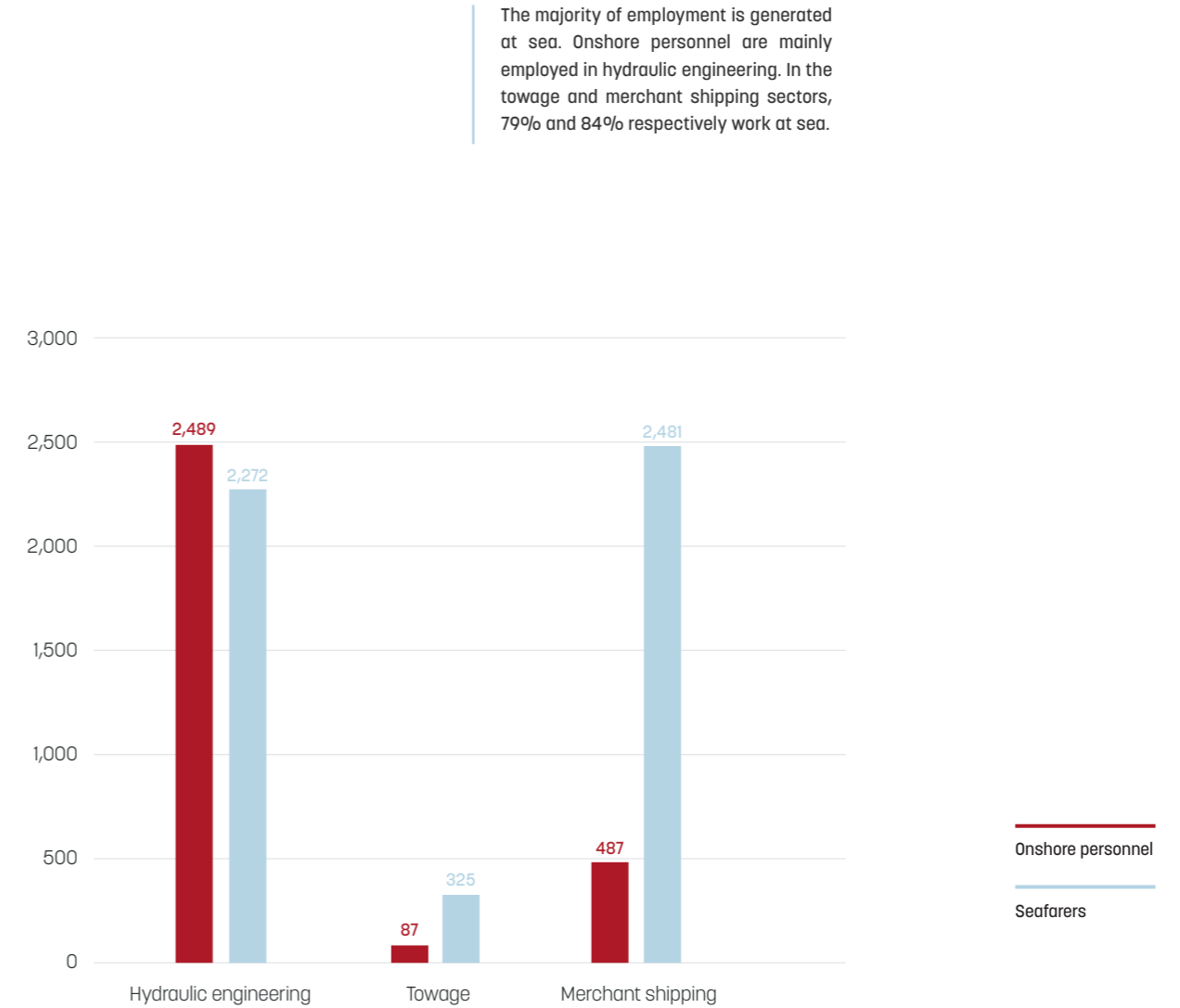


Direct economic importance — Belgian shipping cluster in 2020



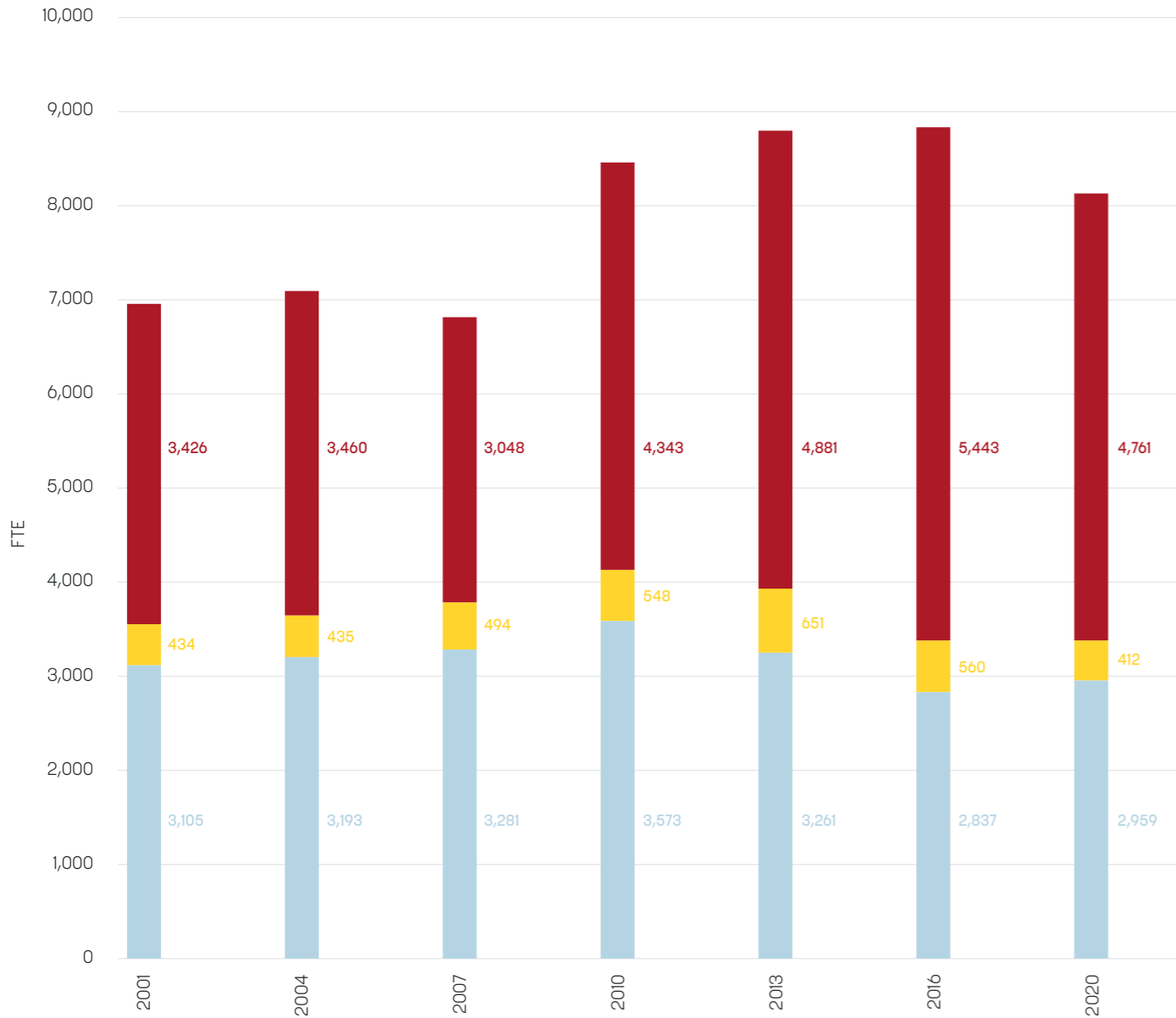
Source: Policy Research Corporation, based on annual reports

Direct economic importance — Direct employment onshore and at sea in 2020



Source: Policy Research Corporation, based on annual reports

Evolution of direct employment



Source: Policy Research Corporation, based on annual reports

Direct employment decreased in 2016 – 2020 in hydraulic engineering, as projects were delayed (COVID-19). However, it increased slightly in merchant shipping.

- Hydraulic engineering*
- Towage
- Merchant Shipping

*Employment in the hydraulic engineering sector during the period 2001 – 2016 has been retrospectively adjusted, as a party was added to the figures. Therefore, hydraulic engineering figures do not exactly match those of previous reports.

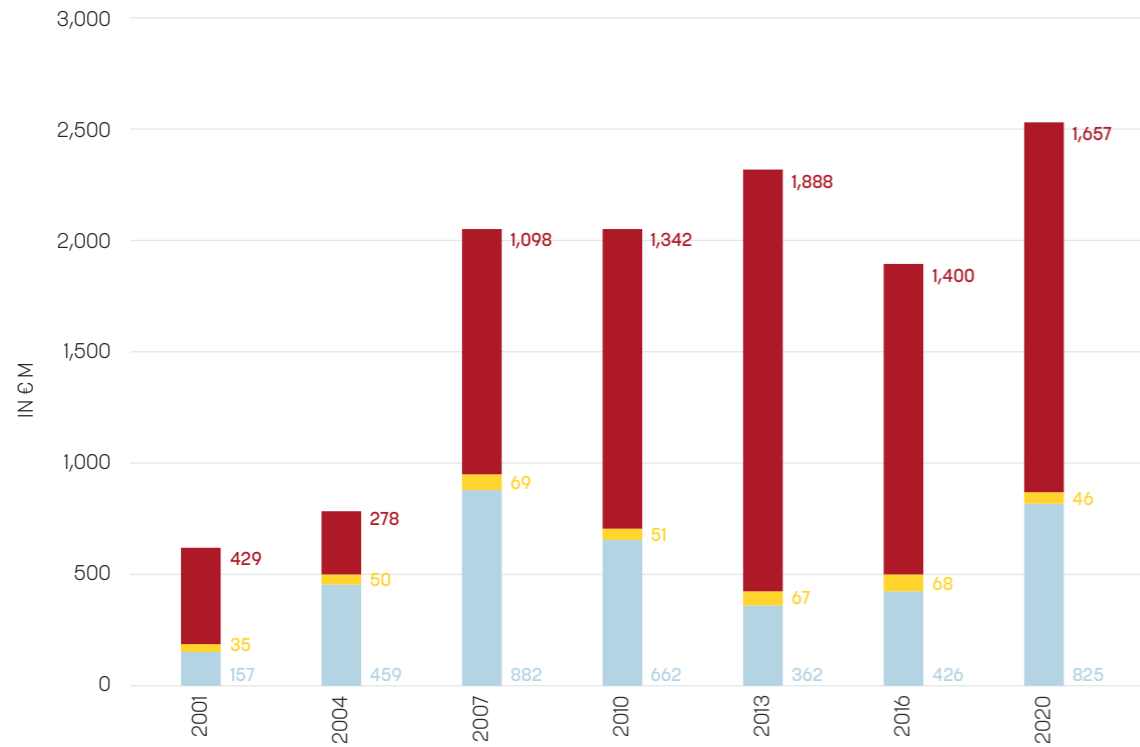


Evolution of direct value added

Hydraulic engineering*
Towage
Merchant Shipping

Hydraulic engineering recovered between 2016 and 2020 from the contraction in 2013-2016.

The value added of the merchant shipping sector has almost doubled since 2016.



Source: Policy Research Corporation, based on annual reports

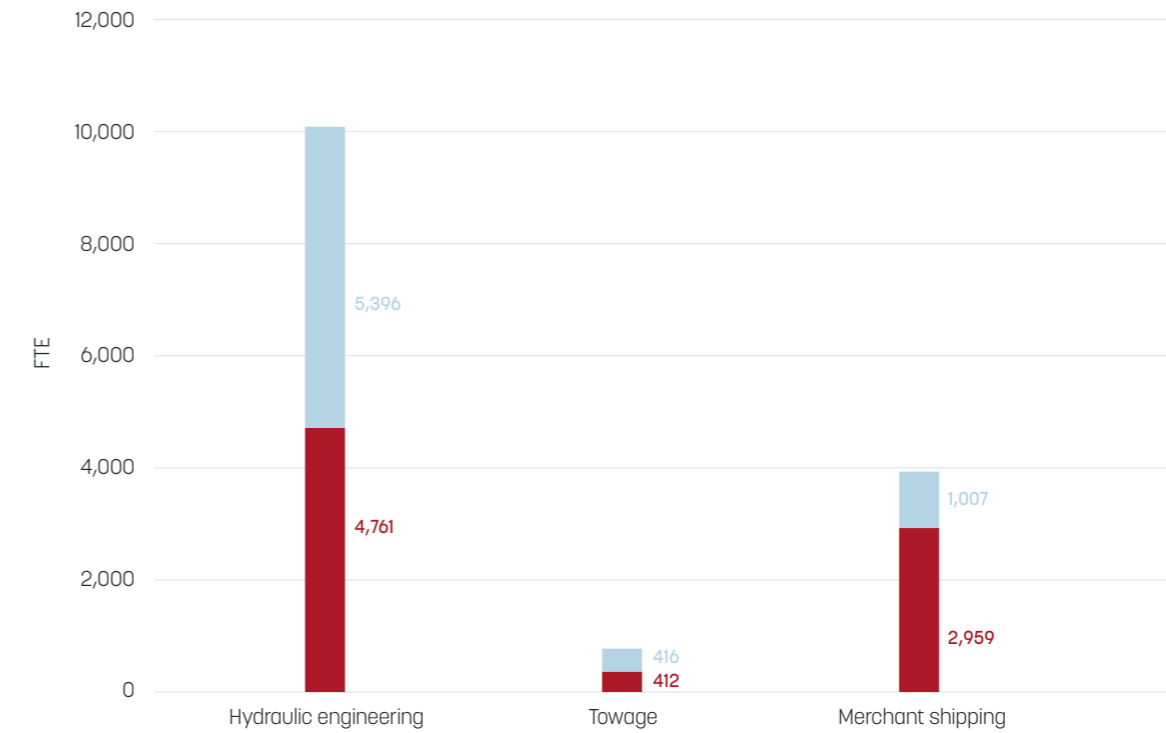
*Employment in the hydraulic engineering sector during the period 2001 – 2016 has been retrospectively adjusted, as a party was added to the figures. Therefore, hydraulic engineering figures do not exactly match those of previous reports.

Total employment in the Belgian shipping sector in 2020

Indirect
Direct

As a construction sector with subcontractors, hydraulic engineering generates very high indirect employment.

Total direct and indirect employment generated by the shipping sector in 2020 amounts to 14,951 FTE.



Source: Policy Research Corporation, based on annual reports

Evolution of total employment in the Belgian shipping sector

- Hydraulic engineering*
- Towage
- Merchant Shipping

Total employment decreased for the first time as a result of less work in hydraulic engineering, especially for Jan de Nul, where an exceptional 2016 was followed by decreasing dredging orders on the market and COVID-19 challenges.



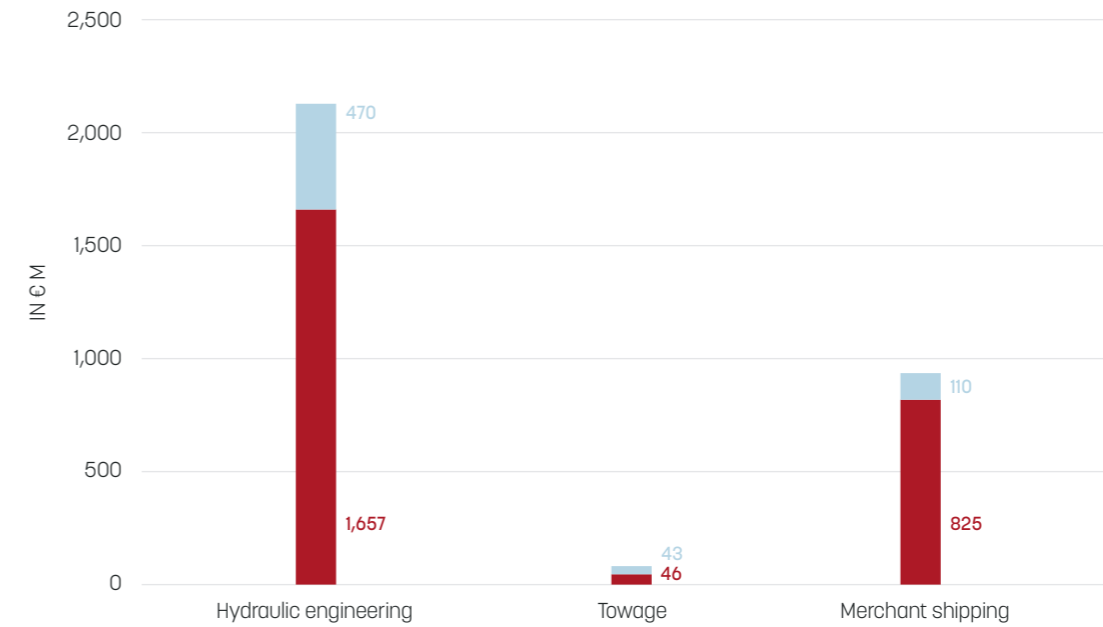
Source: Policy Research Corporation, based on annual reports

*Employment in the hydraulic engineering sector during the period 2001 – 2016 has been retrospectively adjusted, as a party was added to the figures. Therefore, hydraulic engineering figures do not exactly match those of previous reports.

Total value added of the Belgian shipping sector in 2020

- Indirect
- Direct

With € 2,127 M, hydraulic engineering contributes largely to the value added of the shipping sector.

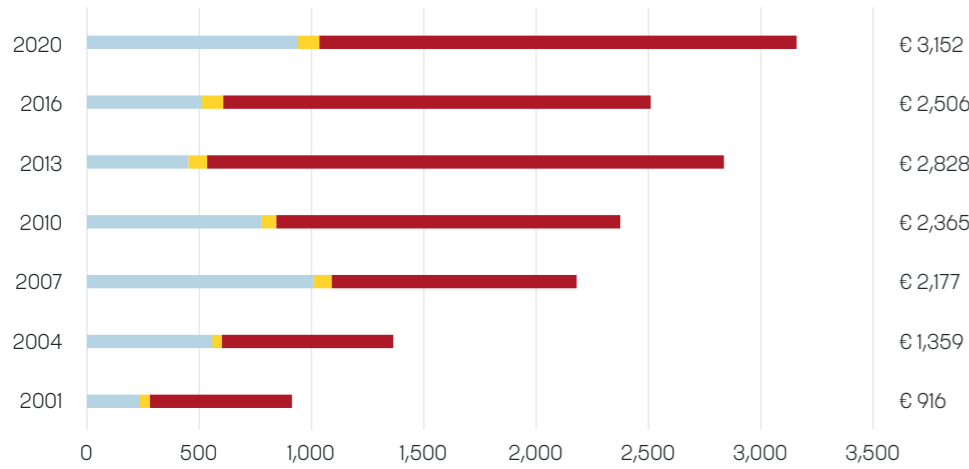


Source: Policy Research Corporation, based on annual reports

Evolution of the total value added of the Belgian shipping sector

AMOUNTS x 1,000,000

- Merchant Shipping
- Towage
- Dredging



Source: Policy Research Corporation, based on annual reports



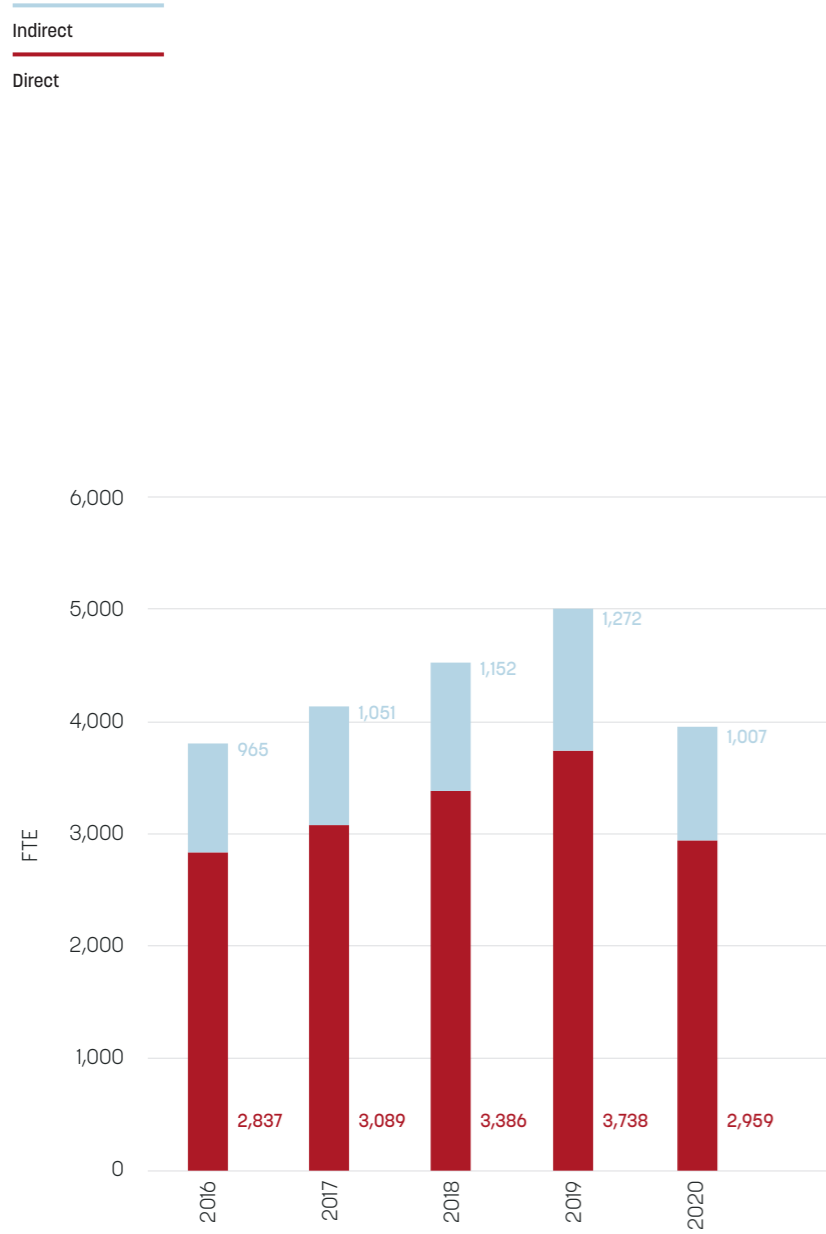
07 ~ Economic importance per subsector



Merchant shipping

- » Belgian merchant shipping has a strong presence on the market for petroleum products (Euronav) and gas (Exmar), as well as in dry bulk (Bocimar).
- » Moreover, Belgian shipowners also engage in breakbulk shipping (Boeckmans/Fast Lines) and in container shipping (Delphis).
- » As a result of COVID-19 and other factors, container shipping has seen a worldwide overcapacity turn into undercapacity, causing high freight rates in container shipping. In bulk transport, prices are high as well.

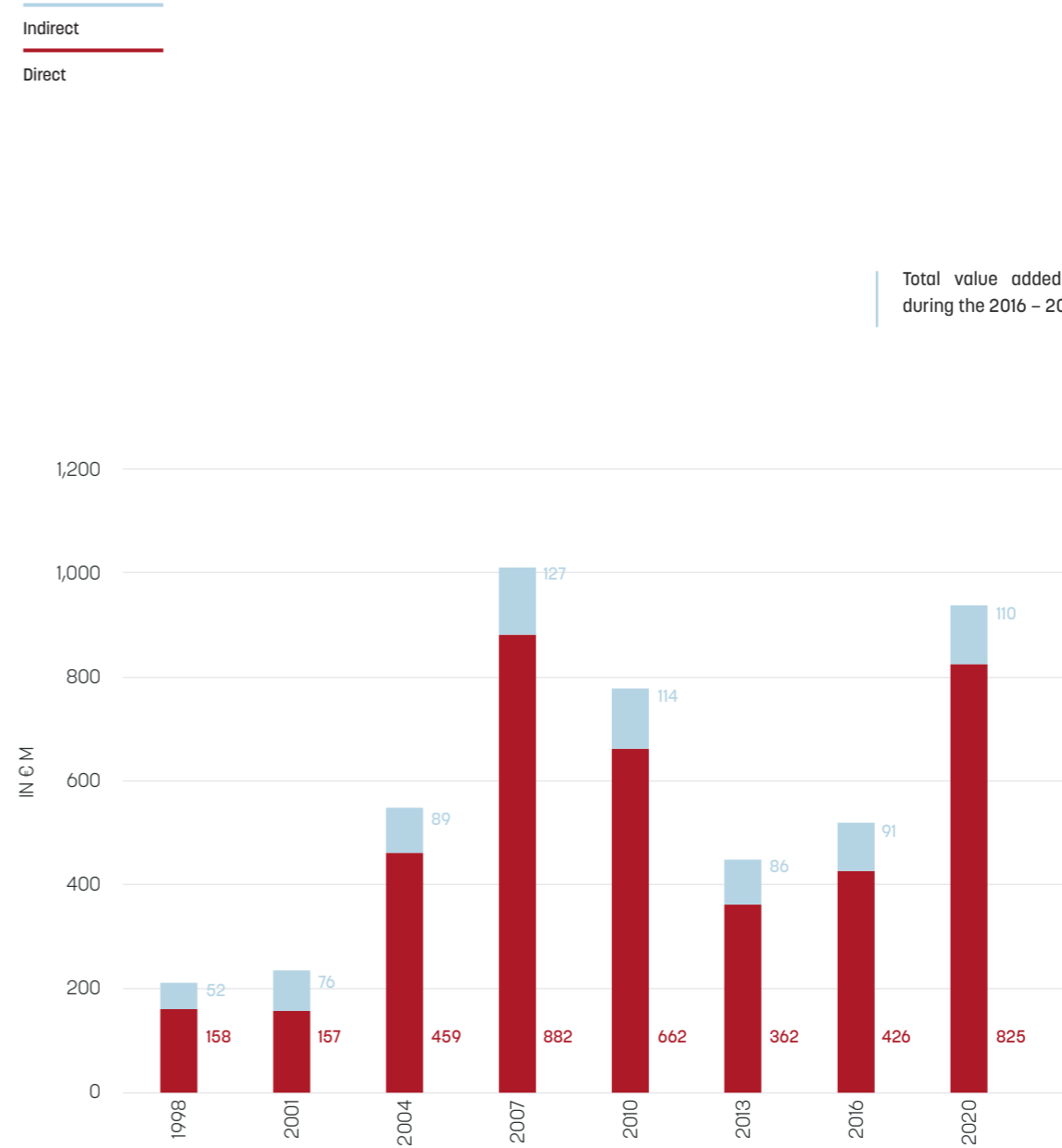
Employment in merchant shipping 2016 - 2020



The upward trend of total employment was interrupted in 2020, especially as a result of the COVID-19 outbreak

Source : Policy Research Corporation, based on annual reports

Trend of value added in merchant shipping



Total value added rose by 81% during the 2016 - 2020 period.

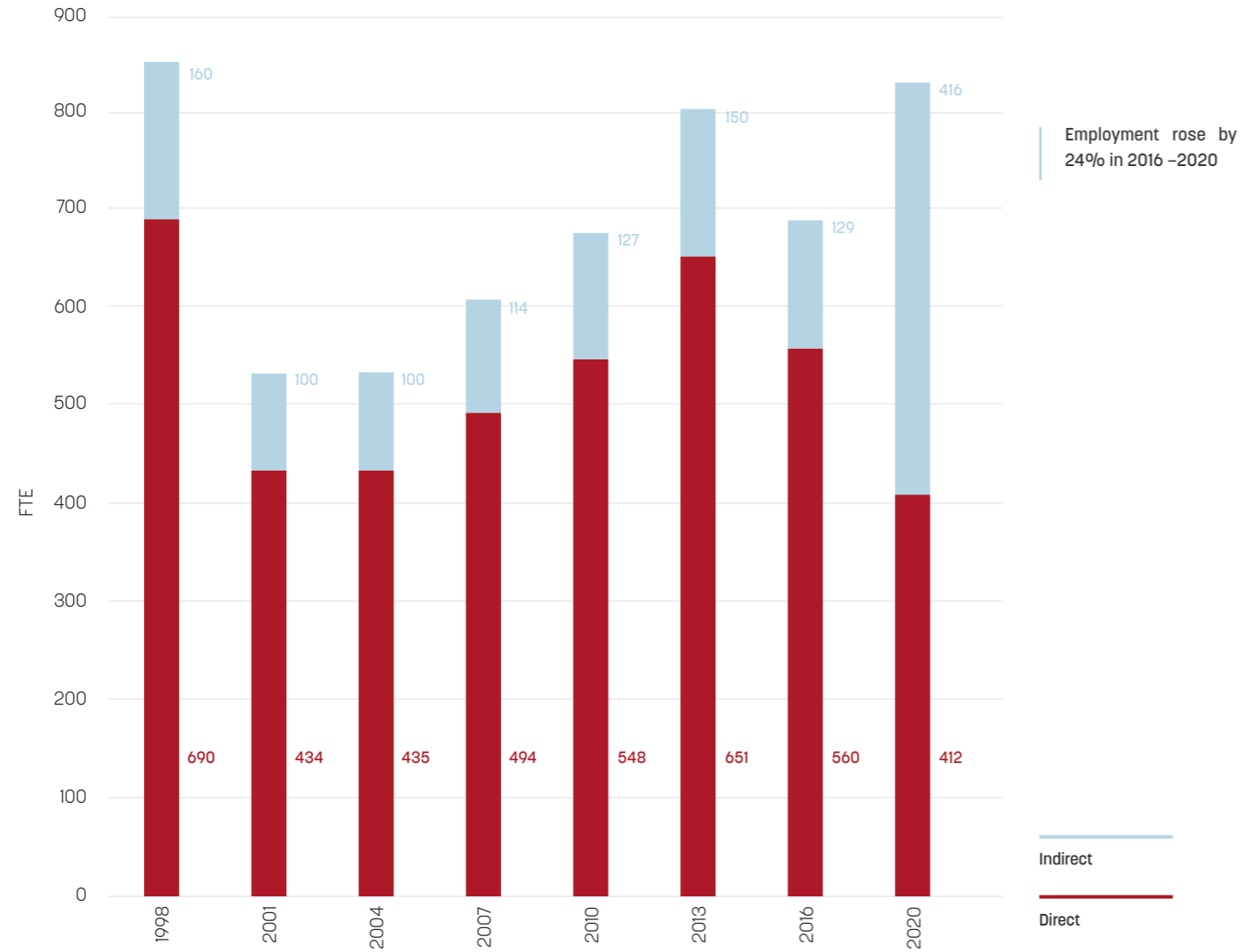
Source: Policy Research Corporation, based on annual reports



Towage

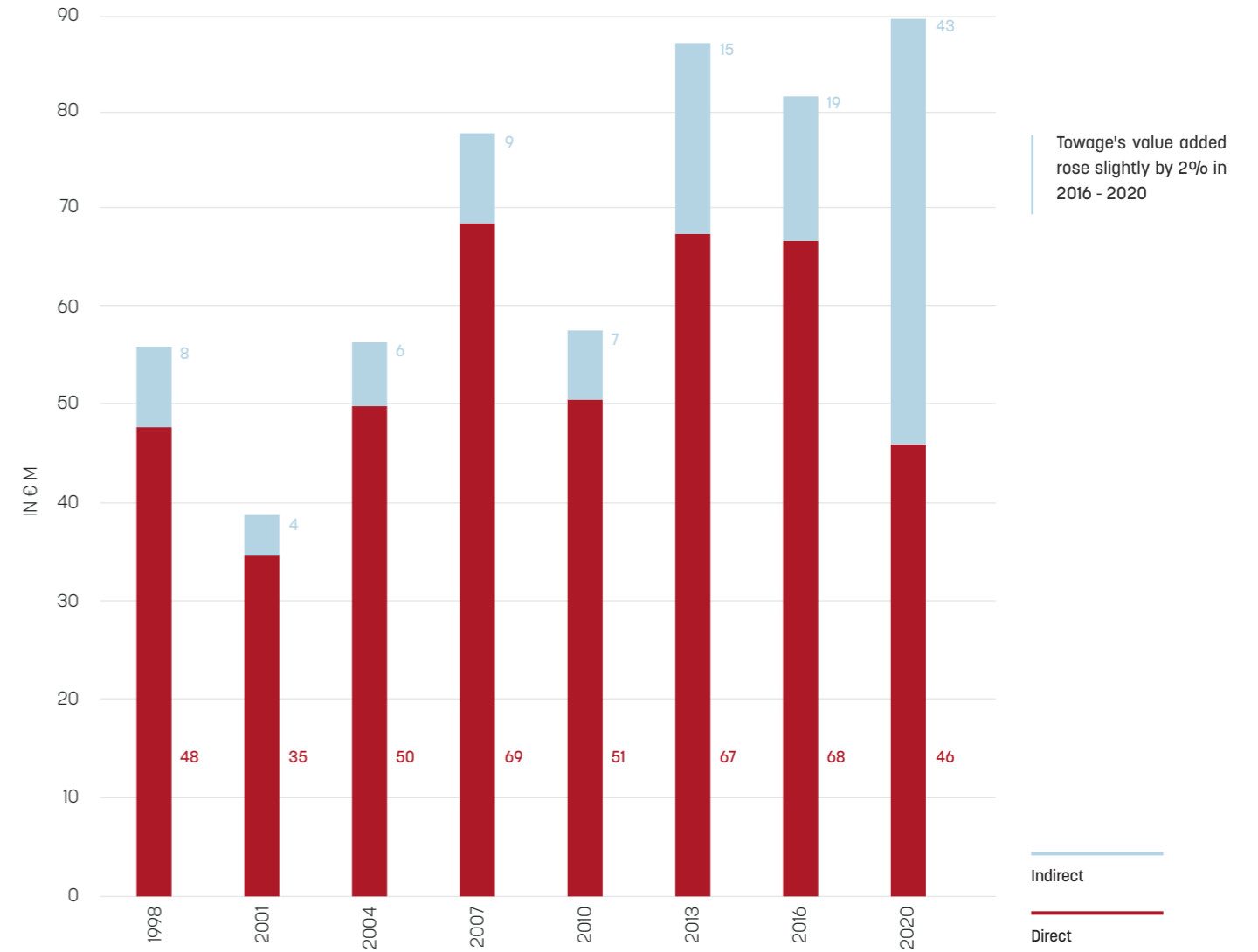
- » URS Belgium has a new owner after the takeover of Kotug Smit by Boluda Towage.
- » As a result of the takeover, Boskalis and Boluda have become the two main players in Belgian towage.

Trend of total employment in towage



Source: Policy Research Corporation, based on annual reports

Trend of total value added in towage



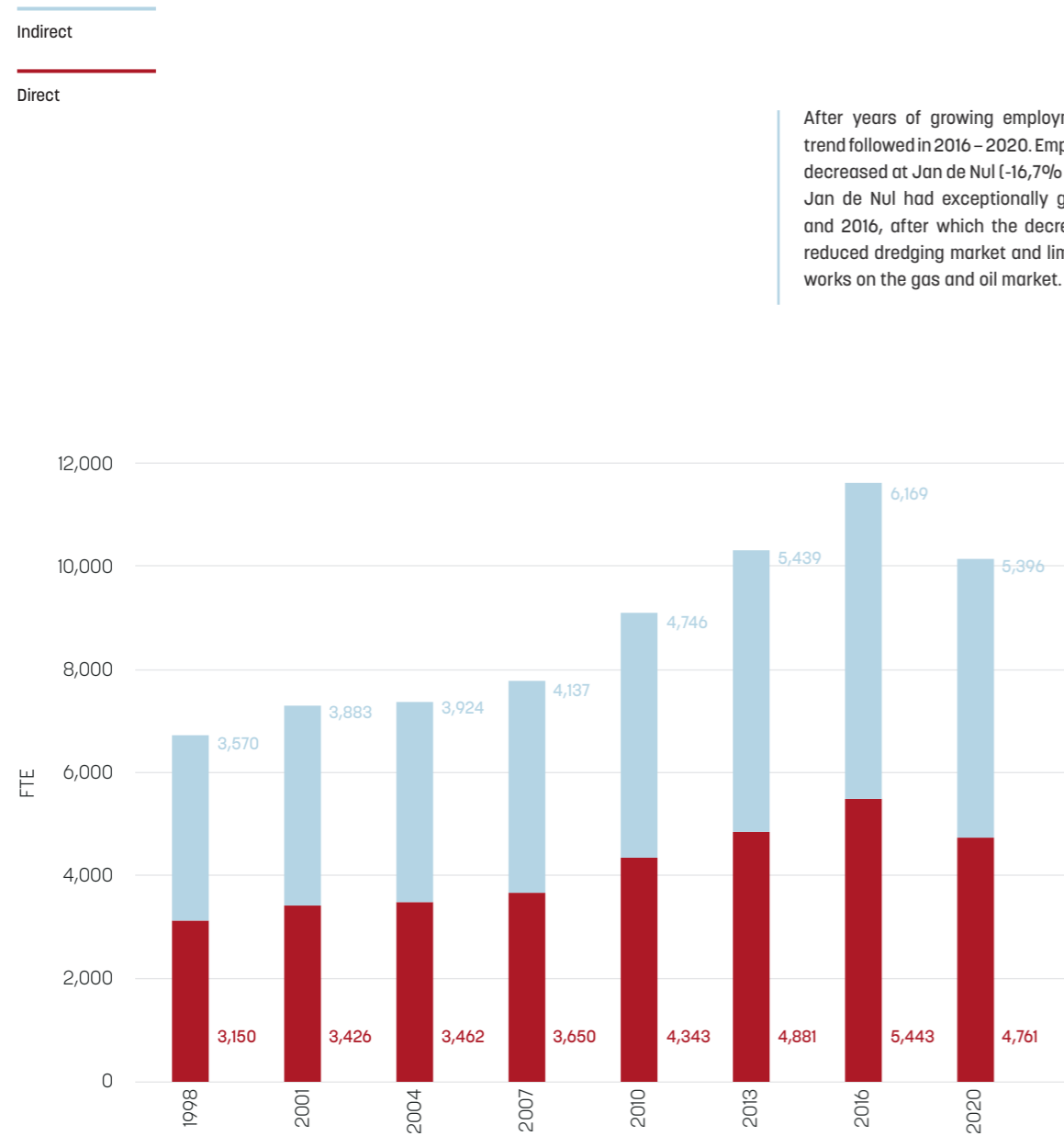
Source: Policy Research Corporation, based on annual reports



Hydraulic engineering

- » Belgian hydraulic engineering has two worldwide top players.
- » In this sector too, overcapacity plays a part, with less large-scale orders and intense competition among players.
- » COVID-19 has hit hydraulic engineering hard. Logistical processes in this worldwide sector were disrupted. The (temporary) collapse of the oil market in 2020 was also felt in hydraulic engineering.
- » As this is a construction sector, indirect effects are especially high. In view of the many subcontractors involved, indirect employment has the same importance as direct employment.

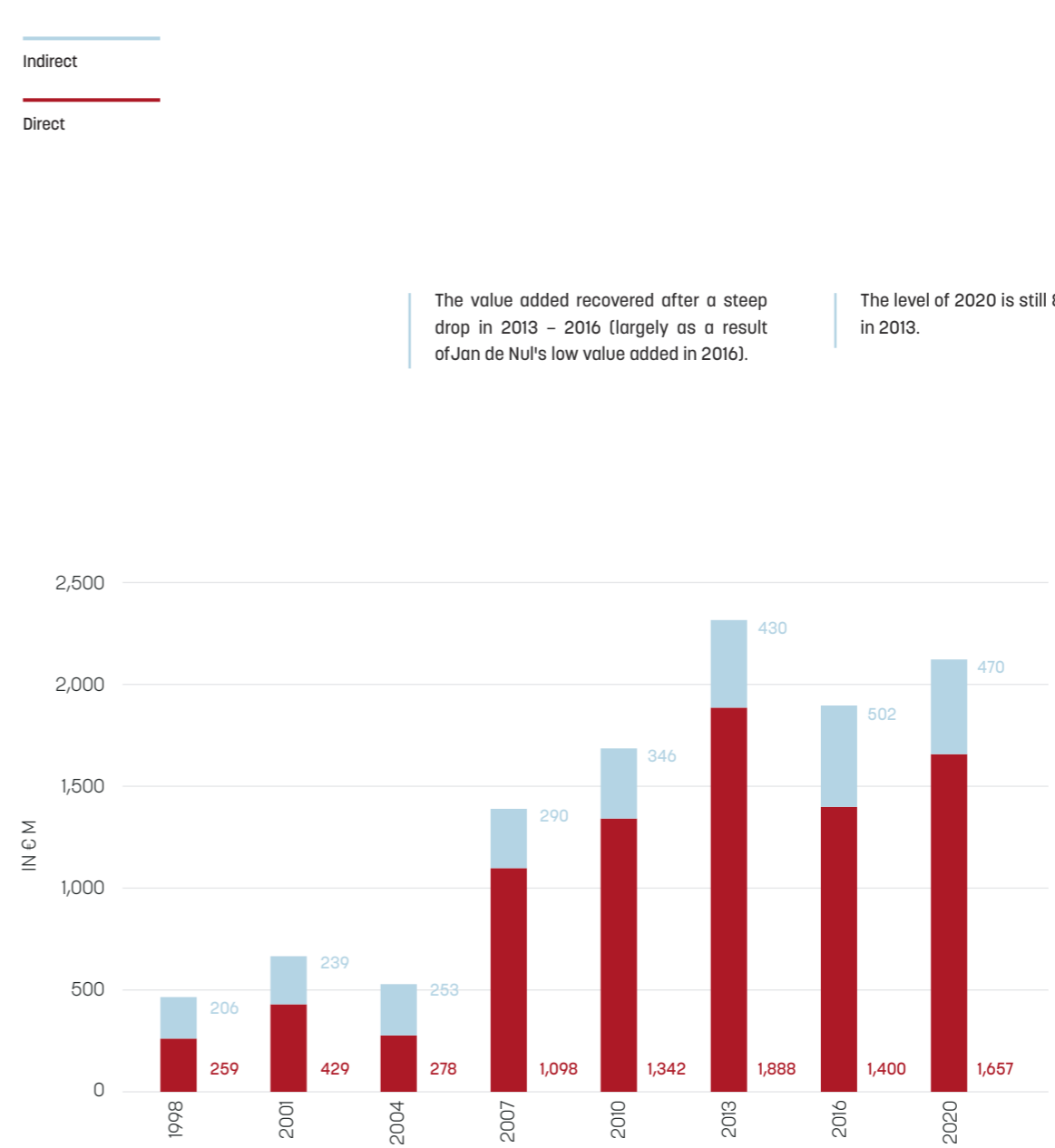
Trend of total employment in hydraulic engineering



After years of growing employment, a downward trend followed in 2016 – 2020. Employment especially decreased at Jan de Nul (-16,7% compared to 2016). Jan de Nul had exceptionally good years in 2015 and 2016, after which the decrease set in, with a reduced dredging market and limited infrastructure works on the gas and oil market.

Source: Policy Research Corporation, based on annual reports

Trend of total value added in hydraulic engineering



The value added recovered after a steep drop in 2013 – 2016 (largely as a result of Jan de Nul's low value added in 2016).

The level of 2020 is still 8% lower than in 2013.

The value added of hydraulic engineering for the years 2001 – 2016 has been adjusted retrospectively, therefore the figures do not match those of previous reports.

Source: Policy Research Corporation, based on annual reports

08 ~ Conclusions



Total

In 2020, the Belgian shipping cluster generated over **€6.9 billion of direct turnover**. Total direct and indirect value added increased by 26% to **€3.15 billion** (2.5 billion in 2016). Total direct and indirect employment was just below **15,000 FTE**. The cluster therefore contributes over 0.6% to Belgium's GDP. Since 2016, the Belgian-controlled fleet has **expanded considerably**, both in terms of numbers and GT. The percentage of ships sailing under Belgian flag remains high; approximately 33% of DWT is registered in Belgium. The fleet of the Belgian shipowners has expanded by a factor of 4.5 since 2001, which is about twice the growth rate of the world fleet. The European and Belgian maritime shipping policy has thus proved to be a success story.

Towage

Towage is the smallest sector, generating 1.7% of direct turnover, 5% of direct employment and 1.8% of direct value added. Economic growth stabilised in the period of 2016 – 2020. In 2019, the Belgian towage sector was shaken up by Boluda Towage's takeover of Kotug Smit.

Hydraulic engineering

Hydraulic engineering generates 63% of direct turnover in the shipping cluster, as well as 59% of direct employment and 66% of direct value added. The results of hydraulic engineering during the period of 2016 - 2020 vary; turnover and employment decreased, but added value rose. The sector was hit by COVID-19: logistical processes were disrupted, orders were delayed and there was less work on the severely impacted oil market. This led to decreased economic activity in 2020.

Merchant shipping

Merchant shipping generates 35% of direct turnover in the shipping cluster, as well as 36% of direct employment and 33% of direct value added. Since 2019, the freight rates of several segments have been rising considerably, which has led to **strong improvement in economic performance**. Value added of merchant shipping had almost doubled by 2020 compared to 2016. In view of the persistence of high freight rates and the expected fleet renewal, economic growth of merchant shipping is expected as well in 2021 and beyond.

