

Economic impact of the European Towage sector

European Tugowners Association (ETA)



*Marten van den Bossche
Onno de Jong
Rick Janse*

Context

What is the economic impact of the Towage sector in wider Europe?

Outline

1. How big is the European tug fleet active in European ports?
2. How large is employment in the European towage sector?
3. What is the contribution of the towage sector to the European Gross Domestic product (GDP)?
4. What are the (yearly) investments made in the towage sector?
5. Provide an indication of the amount of cargo moved by tugs in the largest 15 European ports
6. Which trends are relevant in the – near – future of the towage industry?

Data sources

- European Tugowners Association survey results & data
- MarineTraffic (AIS based data)
- Commercial databases with financial statements (i.e. D&B Hoovers, Company.info)

European tug fleet

How big is the European tug fleet operating in EU ports?

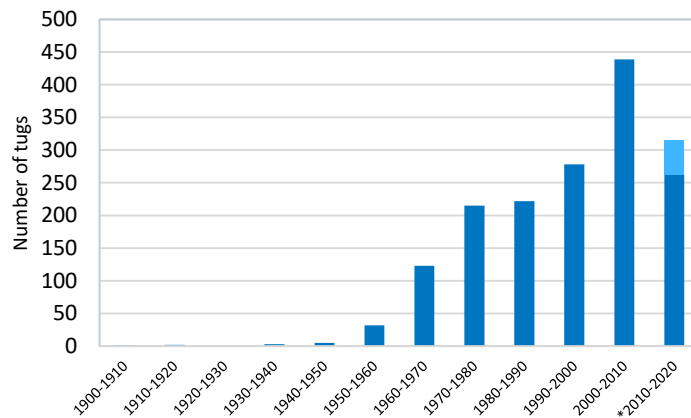
 **GEOGRAPHICAL DISTRIBUTION OF WIDER EUROPEAN TUGS**



Source: MarineTraffic (2019) (modified by Ecorys)



TUGFLEET AGE STRUCTURE



Number of tugboats



1.595 tugs

Average age of wider European tugs



25 years

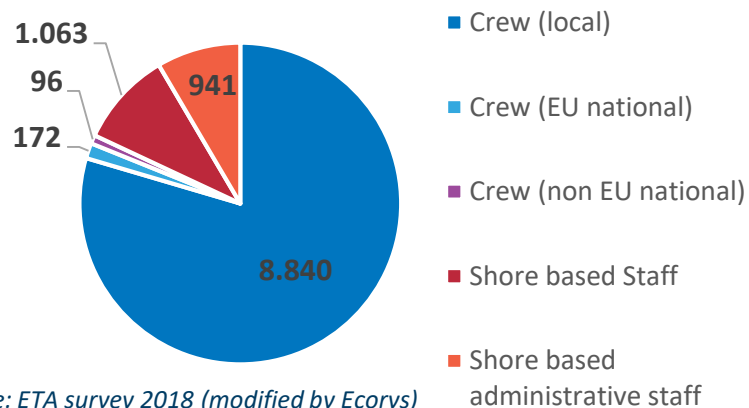
Employment

How large is the employment in the European towage sector?



Figure: ETA survey results: employment characteristics

Employee category	Percentage	Number of employees
Crew (local)	79,6%	3.608
Crew (EU national)	1,5%	70
Crew (non EU national)	0,9%	39
Shore based Staff	9,6%	434
Shore based administrative staff	8,5%	384
Total	100%	4.535



Source: ETA survey 2018 (modified by Ecorys)

Gross Domestic Products (GDP)

What is the contribution to the Gross Domestic product (GDP) in Europe?

Total turnover

- Total turnover of 40 ETA members = **€ 520 million**
- Average turnover per company = **€ 13.7 million**
- Average turnover per employee = **€ 111.000**
- Total turnover of the sector = **± € 1.2 billion**

Net profit

- The average profit margin was **8%** of the total turnover.

Direct Gross Value Added (GVA)

- Direct GVA per employee = **€ 63.500**

Indirect Gross Value Added

- Multiplier of **2.05** leads to a GVA of **€ 743 million**



ECONOMIC INDICATORS

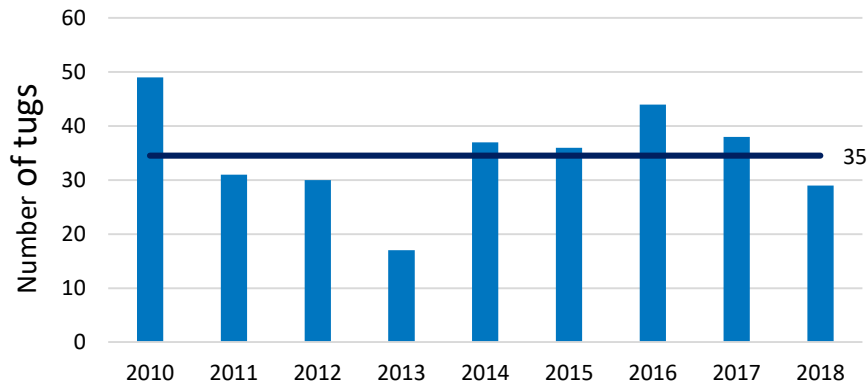


Key figures	Value
Turnover	€ 1.229 million
Operational costs	€ 1.131 million
Crew wages	€ 440 million
Depreciation	€ 170 million
GVA	€ 708 million
Employees	11.150
GVA / employee	€ 63.500

Source: ETA survey 2018 (extrapolated by Ecorys)

Investments

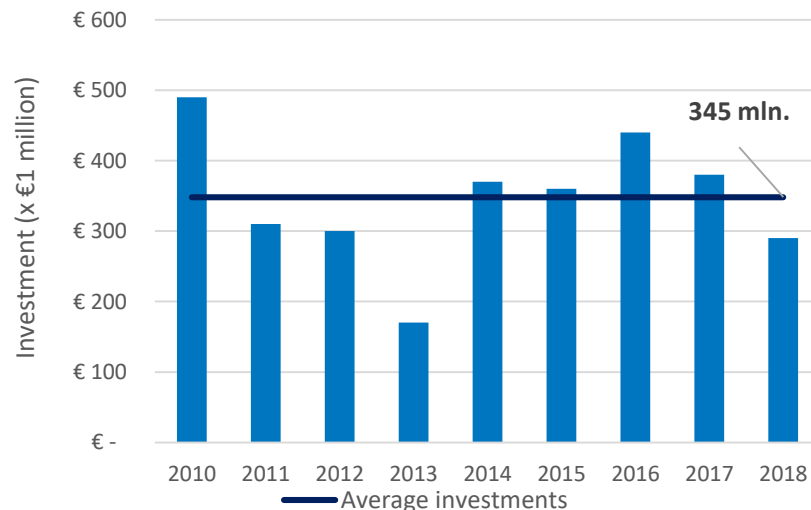
What are the investments made in the towage industry?



Source: MarineTraffic (2019) (modified by Ecorys)

- Yearly renewal of the fleet = **35 tugs**
- Average investment per tug = **€ 10 million**
 - Pre-built tug: €8 - €9 million
 - Standard tug: €10 - €11 million
 - LNG or hybrid tug: €13 million
- Total (average) yearly investments in the sector equal **€ 345 million**

INVESTMENTS



Cargo moved by European tugs

Provide an indication of the yearly number of tug operations in the largest EU ports

1. How many vessels are accompanied by tugs
2. What is the throughput of these vessels

EU major seaports (table 1)

- Starting point are the key indicators of Europe's largest seaports

Random sample (table 2)

- Population is **69 tugs** (out of 217 active tugs)
- Monitored during a week in **July**
- Two events are monitored: (1) **Tug operation started**;
(2) **Tug operation ended**.

Tug operations (table 3)

- The average yearly tug utilization is 865 operations, which leads to the total number of tug operations equal to **187.740**

Ports	Throughput (in mln. tons)	Number of vessels	Number of tugs
Europe's major seaports	1.605	135.584	217

Source: Eurostat & MarineTraffic (2019) (modified by Ecorys)

Tug utilization	Key figures	Unit
Random sample	69	Number of tugs
Tug operations started	1.148	Number of tug operations started
Average tug operations	2,4	Per day
Average tug operations	± 17	Per week per tug
Average tug operations	865	Per year (based on 52 weeks)

Source: MarineTraffic (2019) (modified by Ecorys)

Tug operations in the largest 15 ports	Key figures	Unit
Tugs in the 15 largest ports	217	Number of tugs
Tug operations in the 15 largest ports	187.740	Number of operations

Source: MarineTraffic (2019) (modified by Ecorys)

Cargo moved by European tugs

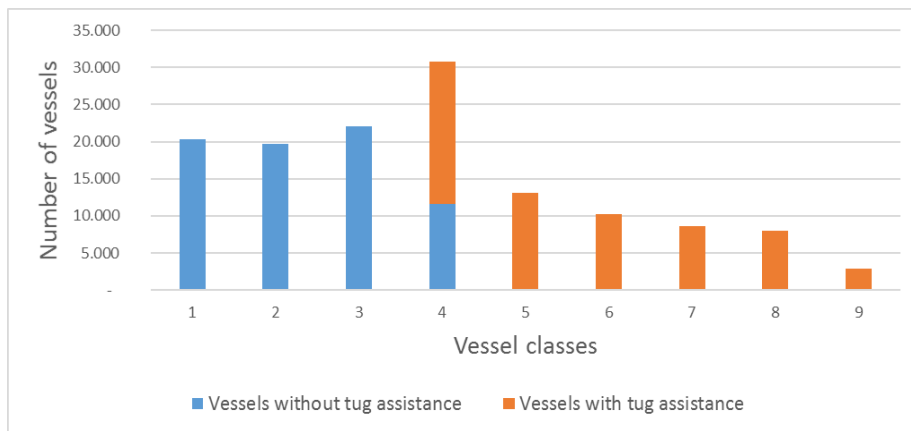
Provide an indication of the amount of cargo moved by EU tugs

- The number of vessels with tug assistance equals **56.300 vessels** (i.e. 42% of the total number of vessels). By taking into account:
 - Incoming and outgoing tugs
 - Sometimes ($\pm 20\%$) two tugs are needed

Cargo moved by EU tugs

- Larger vessels are often required to have tug assistance. In order to avoid underestimating the vessel size have to be taken into account:
 - These largest vessels, in classes 4 to 9, cover **91%** of the total DWT in Dutch ports
- The estimated cargo moved by EU tugs equals **1.3 billion tons** (80% - 90% of the cargo moved within Europe)

Ports	Number of vessels	Number of tugs	Number of tug operations	Number of vessels with tug assistance
Europe's major sea ports	135.584	217	187.740	56.300



CARGO MOVED



1.6 BILLION TONS MOVED WITHIN EUROPE



80%-90% CARGO MOVED BY THE TOWAGE SECTOR

Strategic outlook of the European towage sector

Developments shaping the industry in the coming years

Changing port landscape

- Economies of scale
- Technology

Market structure calls for actions

- Further concentration of major port towage service provider
 - KotugSmit (NL) and Boluda (ES)

Drive for innovation: digitalisation & energy transition

- Digitalisation of ports (i.e. port call optimisation)
- Communication and connectivity between ship and shore (i.e. real time monitoring)
- Energy transition slowly penetrating shipping
 - Stricter emissions requirements
 - LNG fuelled tugs vs. hybrid tugs



Economic impact of the European Tugboat sector

