Seafarers' Statistics in the EU

Statistical review (2016 data STCW-IS)

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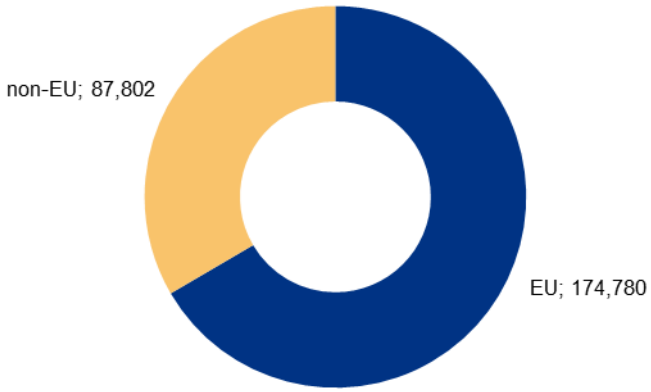
Executive Summary

The amendments to Directive 2008/106/EC introduced by Directive 2012/35/EU established a mechanism for gathering information on certificates and endorsements issued to seafarers by the EU Member States. The objective is to use it as a primary source of data for statistical analysis and for use by EU Member States and the Commission in policy-making.

The statistical review presented in this report is based on data extracted from certificates and endorsements registered by EU Member States until 31 December 2016 and recorded in the STCW Information System (STCW-IS). It represents a snapshot of the European labour market in terms of the number of seafarers holding valid certificates and endorsements in 2016. This is the third year in respect of which such data is available. In future reports, as more data is collected, it will be possible to conduct trend analysis that should hopefully contribute to a better understanding of the maritime labour force in Europe.

The data included now in the STCW-IS shows that 174,780 masters and officers hold valid certificates of competency (CoC) issued by EU Member States while another 87,802 masters and officers hold original CoCs issued by non-EU countries with endorsements issued by EU Member States attesting their recognition (EaR). Overall, the end of 2016 saw slightly above a quarter of a million masters and officers as potential manpower to serve on board EU Member State flagged vessels.



The five EU Member States that had more masters and officers holding CoCs issued by them in 2016 were the United Kingdom (24,375), Poland (19,518), Greece (17,048), France (14,362) and Italy (14,068). In addition, the five EU Member States that had more masters and officers holding EaRs were Malta (55,715), Cyprus (26,935), the United Kingdom (12,564), the Netherlands (11,260) and Portugal (6,594). Finally, the five non-EU countries which had more masters and officers holding their CoCs recognised by EU Member States were the Philippines (29,695), Ukraine (19,459), Russian Federation (14,395), India (6,795) and Turkey (4,874).

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List of Abbreviations

CoC	Certificate of Competency
CoP	Certificate of Proficiency
EaR	Endorsement attesting the recognition of a foreign certificate of competency
EC	European Commission
EMSA	European Maritime Safety Agency
ETO	Electro-technical Officer
EU	European Union
GT	Gross Tonnage
kW	kilowatts
NCV	Near Coastal Voyages
OEW	Officer in charge of an engineering watch
OOW	Officer in charge of a navigational watch
STCW Convention	The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978, as amended
STCW-IS	STCW Information System, hosted and managed by EMSA

1. Introduction

1.1 Legal background

The EMSA Founding Regulation[1] establishes in Article 2 that "the Agency shall facilitate cooperation between the EU Member States and the Commission in gathering and analysing data on seafarers provided and used in accordance with Directive 2008/106/EC[2] on the minimum level of training of seafarers".

Article 25a of Directive 2008/106/EC establishes that "the information shall be made available by EU Member States to the Commission on a yearly basis and in electronic format and shall include information registered until 31 December of the previous year". This data is recorded in the STCW-IS, operated by EMSA.

1.2 Data collection, analysis and beneficiaries

The statistical review presented in this report is based on data extracted from certificates and endorsements, registered by EU Member States until 31 December 2016 and received in the STCW Information System (STCW-IS). This third review presents a snapshot of the number of seafarers holding valid certificates and endorsements in 2016. It should be noted that, because the data extracted from the national registers held by EU Member States did not include any information on whether the holders were active or not, it was not possible to determine how many of them were working on board vessels during 2016.

EMSA did not conduct a trend analysis as the data gathered and reviewed for the years 2014, 2015 and 2016 could not yet provide sustainable indications. From the next report, the data gathered for four years should enable identification of trends which will hopefully contribute to enhanced insight into future analysis.

As in the previous annual reviews, the main beneficiaries of the statistical review continue to be the EU Member States and the Commission for policy-making purposes. Ship owners and ship operators may continue to derive added value in terms of knowing the magnitude of manpower available in the EU to crew their vessels. The information provided in this review is also intended to be useful to maritime education and training institutions in the EU and could facilitate estimating market needs for their services. Researchers may also be interested on some of the statistical outputs, as well as seafarers and the organisations that represent them.

1.3 Accuracy

The information in this review must be qualified by the limitation in EMSA's ability to gauge the margin of error in the data extraction processes undertaken at EU Member State level. Some inconsistencies were nevertheless identified during the validation phase at EMSA, demonstrating that in some cases seafarers' names and/or document numbers might have been registered as different strings by different EU Member States. As was done in the second review, corrections were made in the 2016 reported data on the seafarers' gender in cases when different genders were reported for the same seafarer in the same country. These corrections ensured that the inconsistencies, albeit negligible, did not impair the proper counting of seafarers at EU level.

Taking into account that the way in which information subject to data protection is encrypted was changed at the beginning of 2017, and that CoCs and EaRs may remain valid for five years, EU Member States were asked to provide the information on certificates and endorsements they had registered within the 2012-2016 period.

The original data received from the EU Member States included fields such as gender, nationality and the capacity together with its associated limitations. The information was made available in these fields as free text. To ensure harmonisation and comparability of data, the mentioned fields were subject to a coding process conducted by EMSA. In order to estimate the human error introduced through this process an automatic sample was selected from the data made available by each EU Member State and was validated by a different operator at EMSA, permitting the correction of all possible errors identified during the verification process. The dimension of the sample was established by the formula:

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32002R1406
[2] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0106

$$n = \frac{z^2 * 0.25 * N}{(N-1) * E^2 + 0.25 * z^2}$$

where,

n – is the dimension of the sample (number of documents to be randomly selected);

N – is the total number of documents belonging to the selected country;

z – is the level of confidence;

E – is the maximum amplitude of the error.

A level of confidence of 90% (z = 1.645) and an amplitude of the error (E) of 1% were established for the evaluation of the errors introduced by human intervention during the coding process. This ensured a negligible level of error when coding the free text received into STCW-IS internal values.

Although some variations in the number of seafarers holding valid certificates and endorsements in 2016 were noticed when comparing the statistical outputs with those in the statistical reviews for 2014 and 2015, the overall distribution in terms of departments, countries, capacities, gender and age did not show anything that could be considered anomalous. Considering that this is the third statistical review, a comparison between the statistical outputs over several years should confirm a higher degree of confidence in accuracy.

1.4 Coherence and comparability

The information set subject to review comprised data from 27 EU Member States (Austria does not issue certificates and endorsements to seafarers).

Regarding the identification of seafarers, a common application, the Anonymisation Module, was used to encrypt the information subject to data protection, such as seafarer's name, seafarer's unique identifier and certificates number. The encryption algorithm used maintained the comparability of data in its encrypted format at the same level of comparability as in its raw format.

A new version of the Anonymisation Module was made available to the Member States in February 2017. The changes introduced intended to increase the reliability of the data received in the seafarers' names field during the extraction process.

In order to ensure comparability of the data received from various sources, all data was subject to a coding process, which ensured that all fields received as free text were linked to predefined internal values.

Taking into account the diversity of the capacities established by the national manning regulations, the information received on capacities in which the seafarers were entitled to serve, together with their associated limitations, was converted during the data coding at EMSA into generic capacities as defined by the STCW Convention. In order to keep the coherence, EMSA applied the criteria already used in the statistical reviews for 2014 and 2015 while converting the data during the coding process.

It is to be noted that in the case of masters and officers, their total does not tally with the sum of the total number of masters and deck officers plus the total number of engineer officers. The reason for this is that some masters and officers may hold certificates for both the Deck and the Engine Departments. Furthermore, because a person may hold certificates/endorsements issued by different EU Member States, the sum of the number of masters and officers registered by individual EU Member States may not be equal to the total number of masters and officers at EU level.

1.5 Accessibility and clarity, dissemination format

User access to information featured in this report is restricted to the content of the written report. No direct access may be granted to the original data upon which the statistical compilation is based. EU Member States retain all property rights to the information in its raw data format and can amend their data at any time before its processing

begins. Detailed statistics could be compiled by EMSA upon request from the European Commission and the EU Member States based on agreed terms of reference.

This report is published on the STCW-IS portal (https://portal.emsa.europa.eu/web/stcw) hosted by EMSA.

1.6 Confidentiality

All publicly available statistics fully comply with the obligations established in Article 4 of Regulation (EC) 1406/2002[3], as amended. In order to ensure protection of personal data, EMSA developed and made available to the EU Member States a software module which converted all personal data extracted in its raw format from the national registries into anonymous strings of characters by using a powerful encryption algorithm. EMSA received and compiled only data in its encrypted format.

2. Statistical processing

The data subject to review was extracted from the national registries on certificates and endorsements issued to seafarers and maintained by the EU Member States. Taking into account the diversity of technologies used to register such data, each EU Member State developed a data extractor module to retrieve the information established in Annex V to Directive 2008/106/EC in a structured format defined by the technical specifications made available by EMSA. The data extracted was subject to a preliminary validation process to ensure consistency and to an encryption process by which all personal data was made anonymous at the EU Member State site.

Only documents with a valid status were considered (in principle, an EU Member State may provide information on all documents registered, including those suspended, cancelled, declared lost or destroyed).

Although, as already mentioned, identification of trends is not yet possible, a simple comparison between the results of the statistical reviews of the 2014, 2015 and 2016 data was made. Whenever a difference in the results was considered pertinent and of interest, it was referred to at the end of each main section (i.e. 2.1; 2.2; 2.3 and 2.4).

2.1 Masters and officers holding valid certificates of competency in 2016

2.1.1 Total

The total number of masters and officers holding valid certificates of competency (CoC) at EU level was 174,780. Out of this number, 5.03% held CoCs entitling them to serve in both the Deck and Engine Departments. In addition, just a very limited number of them (0.08%) held CoCs issued by more than one EU Member State.

2.1.2 Distribution by EU Member State

The data in Figure 2-1 shows the distribution of masters and officers as registered by EU Member State:

[3] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV%3Al24245

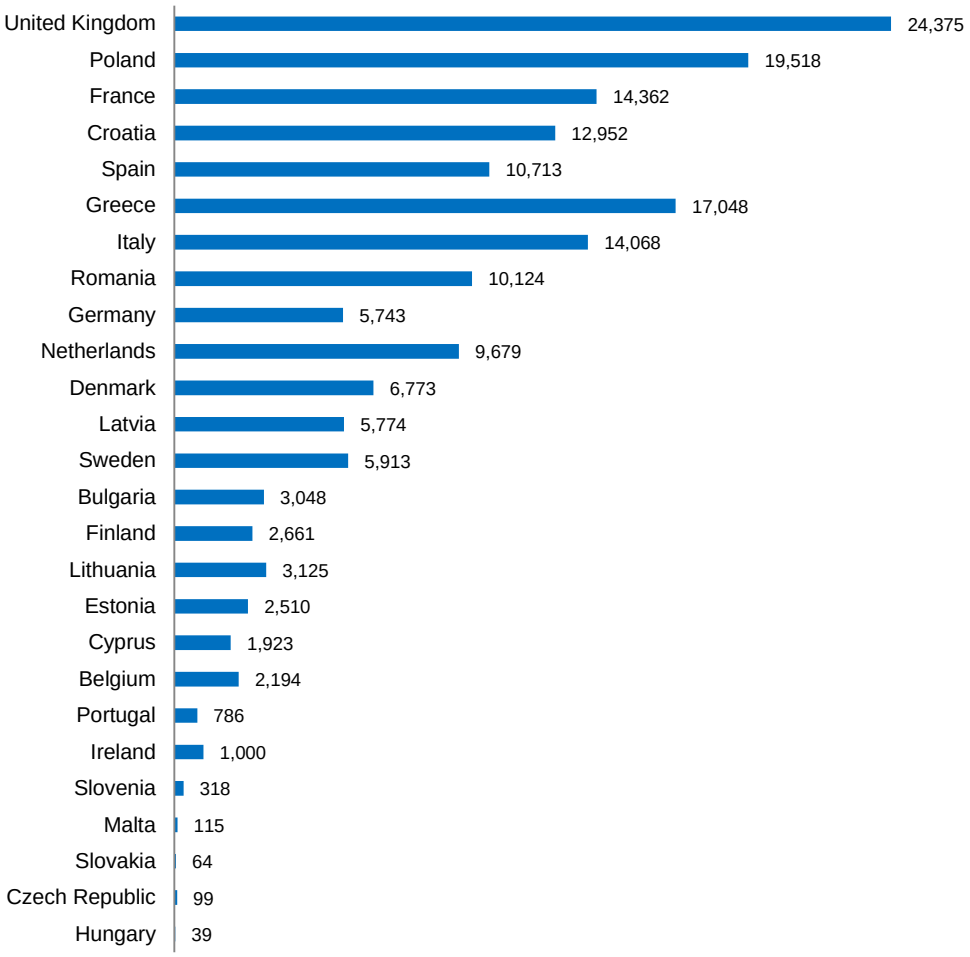

Figure 2-1 Masters and officers holding valid CoCs per EU Member State

2.1.3 Distribution by department

The number of masters and officers holding valid CoCs in each department is presented in Figure 2-2. It illustrates that the number of masters and officers entitled to serve in the Deck Department (Chapter II of the STCW Convention) was 46% higher than the number of officers entitled to serve in the Engine Department (Chapter III of the STCW Convention). The officers grouped under 'Alternative certification' (Chapter VII of the STCW Convention) were reported as holding a multipurpose capacity.

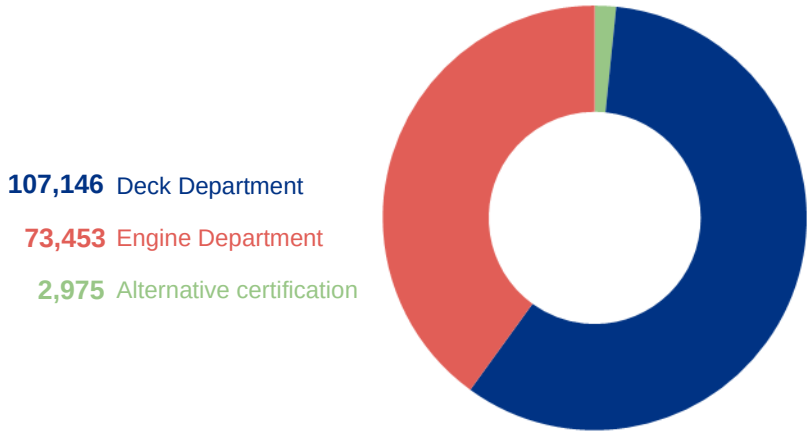

Figure 2-2 Distribution of masters and officers holding valid CoCs by department

The distribution by department for each EU Member State is presented in

Figure 2-3.

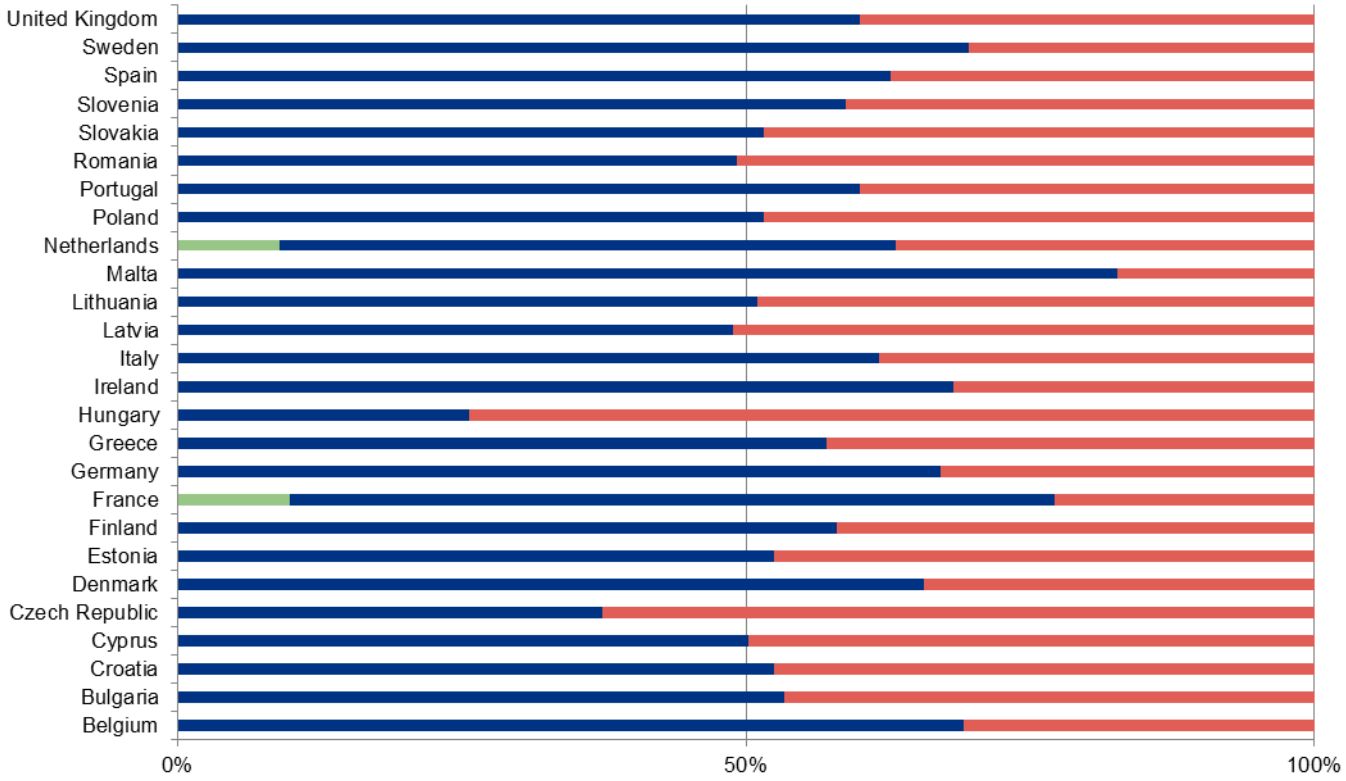

Figure 2-3 Distribution of masters and officers holding valid CoCs by departments in each EU Member State

2.1.4 Distribution by capacity

Taking into account the heterogeneity in naming the capacities in the manning regulations adopted by the EU Member States and in order to ensure comparability of data, all capacities reported in the CoCs were linked to the generic capacities established in Chapters II and III of the STCW Convention. The review was conducted separately for the Deck and the Engine Departments. The total number of masters and officers was established by counting each person in his/her highest capacity.

2.1.4.1 Distribution by deck capacity

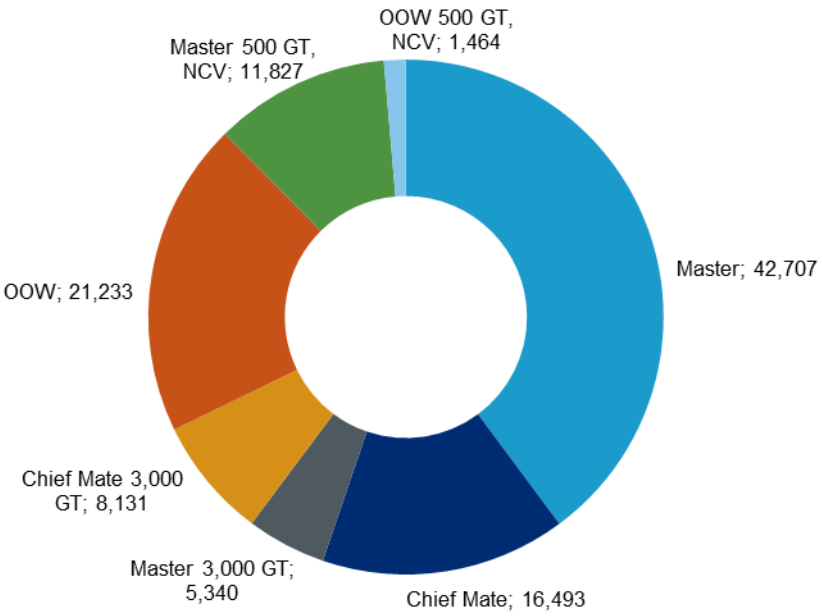

Figure 2-4 Distribution of masters and deck officers holding valid CoCs by deck capacity

The data in Figure 2-4 shows that 55.25% of the total number of masters and chief mates were entitled to serve on ships of 3,000 GT or more, with 2.45% and 1.81% of their CoCs being limited in terms of gross tonnage and area of navigation, respectively.

2.1.4.2 Distribution by engine capacity

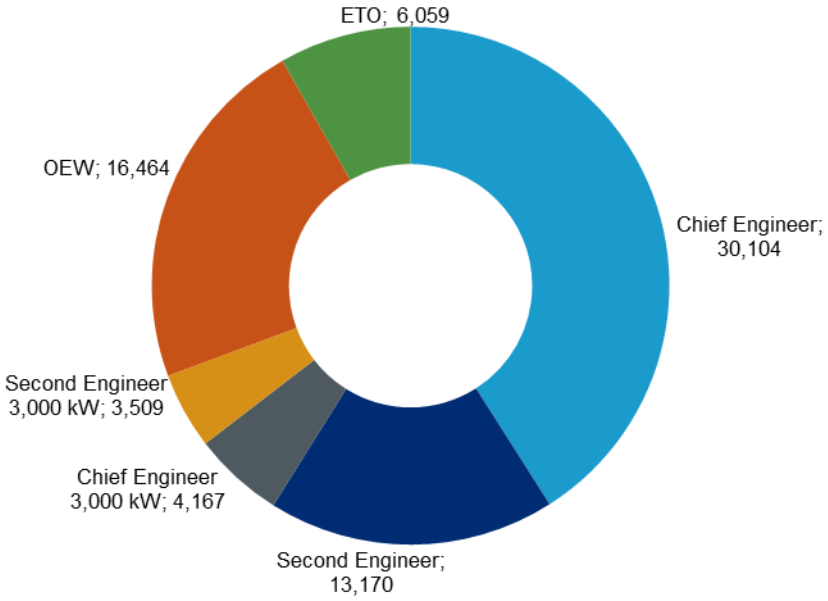

Figure 2-5 Distribution of engineer officers holding valid CoCs by engine capacity

The data in Figure 2-5 shows that 58.91% of the engineer officers were entitled to serve at management level on ships of 3,000 kW or more, with 4.83%, 27.64% and 3.98% of their CoCs being limited in terms of propulsion power, type of engine and area of navigation, respectively.

2.1.5 Gender distribution

The review on gender distribution was based on the data provided by 24 EU Member States which had such data available. Consequently, it was made for 145,647 masters and officers representing 83.33% of the total number of officers holding valid CoCs in 2016 at EU level.

Male masters and officers represented 81.52% of the total number of officers holding valid CoCs in 2016.

Considering the total number of masters and officers for whom the gender was known, it can be stated with a level of confidence of 99% that the percentage of female masters and officers was 2.17% ± 0.14% compared to 97.83% ± 0.14% of male masters and officers.

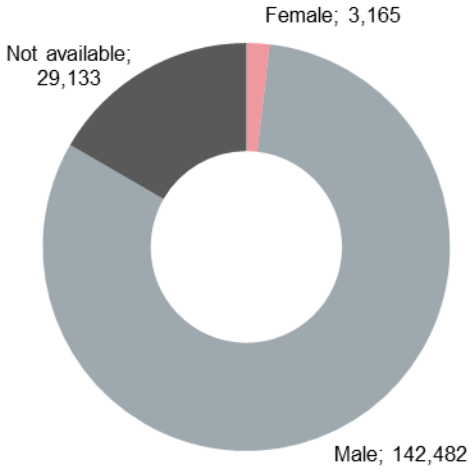

Figure 2-6 Gender distribution of masters and officers holding valid CoCs

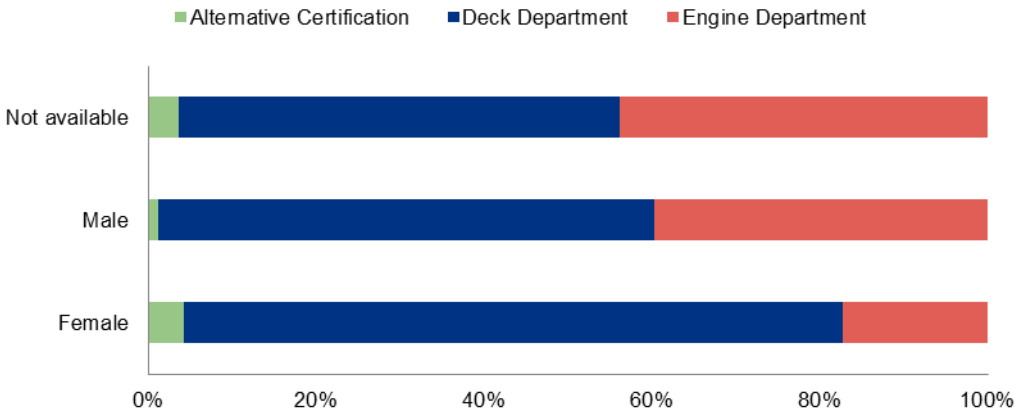

Figure 2-7 Distribution of masters and officers holding valid CoCs by department and by gender

The information presented in Figure 2-7 shows that male masters and officers follow a general distribution by department (60% entitled to serve in the Deck Department and 40% entitled to serve in the Engine Department) while most female masters and officers (86.60%) were entitled to serve in the Deck Department.

The distribution of the capacities of masters and deck officers holding valid CoCs by gender is presented in Figure 2-8.

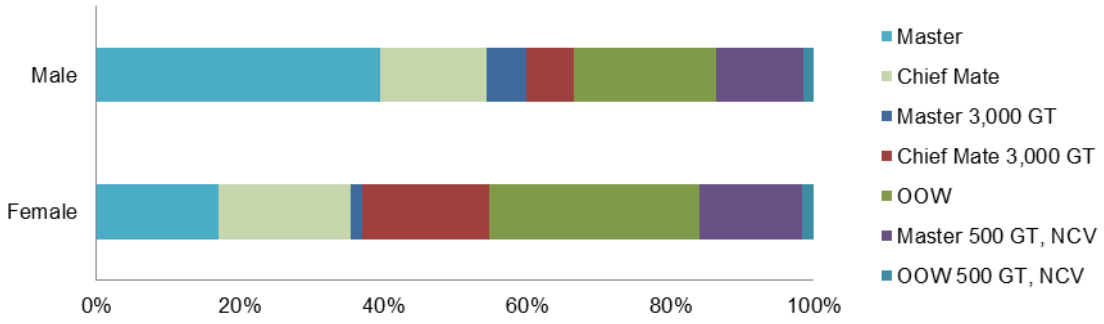

Figure 2-8 Distribution of the deck capacities of masters and deck officers holding valid CoCs by gender

As illustrated in Figure 2-8, the three main capacities in which female officers were entitled to serve were 'OOW' (29.30%), 'Chief Mate' (18.39%) and 'Chief Mate 3,000 GT' (17.84%), capacities representing 65.52% of the total number of female masters and officers entitled to serve in the Deck Department. The three main capacities in which male masters and officers were entitled to serve were 'Master' (39.61%), 'OOW' (19.85%) and 'Chief Mate' (14.82%), capacities representing 74.29% of the total number of male masters and officers entitled to serve in the Deck Department.

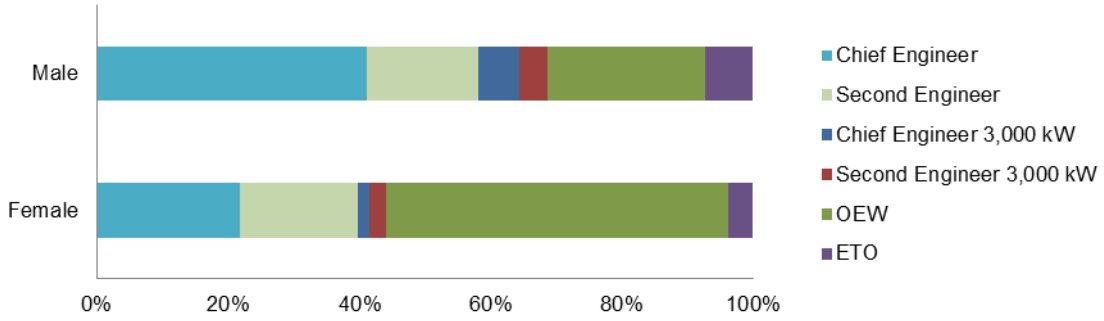

Figure 2-9 Distribution of the engine capacities of engineer officers holding valid CoCs by gender

As illustrated in Figure 2-9, the three main capacities in which female officers were entitled to serve in the Engine Department were 'OEW' (52.07%), 'Chief Engineer' (21.82%) and 'Second Engineer' (18.02%). These capacities represented 91.90% of the total number of female officers entitled to serve in the Engine Department. The three main capacities in which male officers were entitled to serve in the Engine Department were 'Chief Engineer' (41.05%), 'OEW' (24.02%) and 'Second Engineer' (17.13%). These capacities represented 82.21% of the total number of male officers entitled to serve in the Engine Department.

2.1.6 Distribution by nationality

The review of the data received from 26 EU Member States issuing CoCs showed that information on nationality was available for 170,960 masters and officers, representing 97.81% of the total number of officers at EU level.

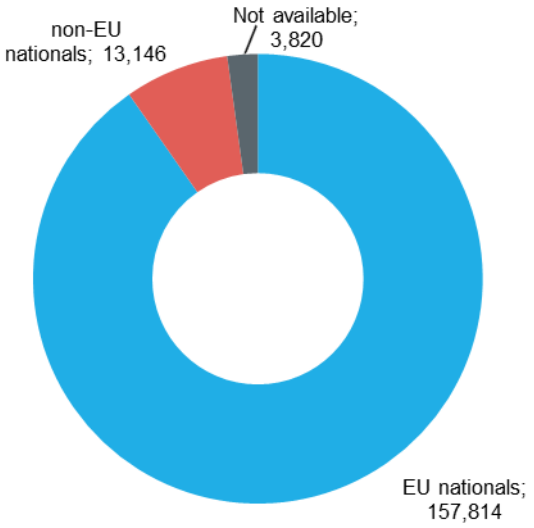

Figure 2-10 Nationality distribution of masters and officers holding valid CoCs

In addition to nationals of the EU Member States, 13,146 nationals of 102 non-EU countries held valid CoCs as masters or officers issued by EU Member States. When grouping these non-EU countries by region, 14 were located in Europe, 29 were located in Asia, 32 were located in Africa, 22 were located in the Americas and 5 were located in the Oceania.

The distribution of the non-EU nationals holding valid CoCs issued by the EU Member States presented in Figure 2-11 shows that 81.62% of them were nationals of countries located in Asia.

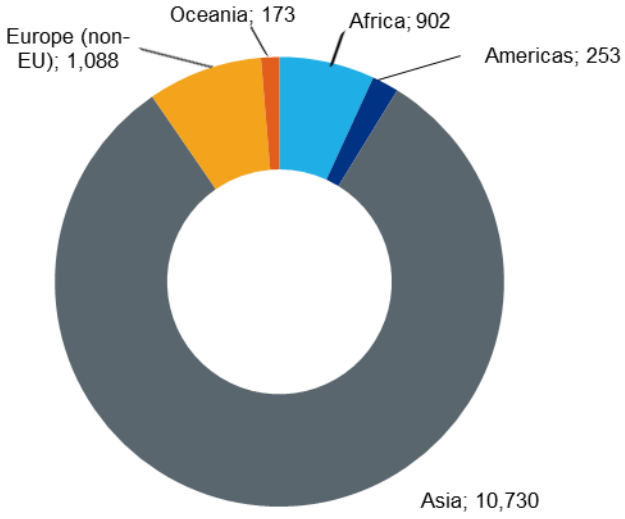

Figure 2-11 Nationality distribution of non-EU nationals holding valid CoCs issued by EU Member States by region of origin

2.1.7 Age distribution

The average age of masters and officers holding valid CoCs was 43.4 (years). If the age group under 25 counted 6,306 masters and officers, all other age groups had a relatively uniform distribution, counting from between 18,000 and 25,000 masters and officers, which represented 10%-14% of the total number.

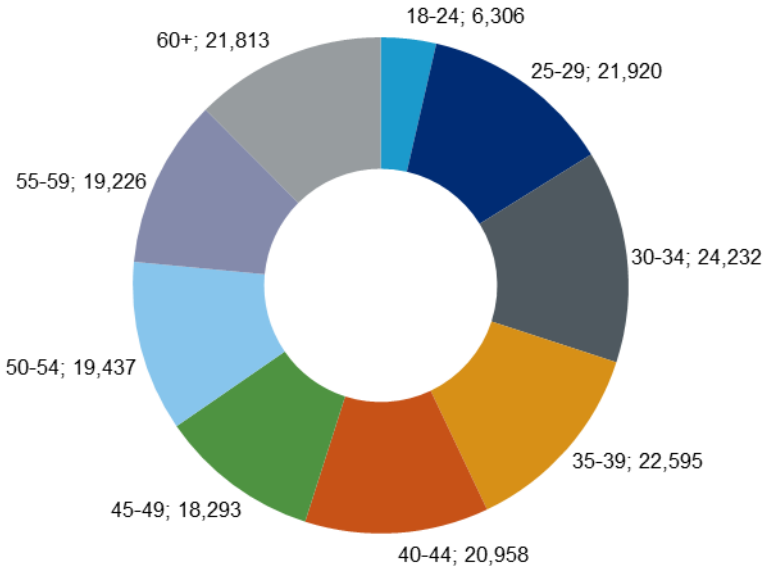

Figure 2-12 Age distribution of masters and officers holding valid CoCs

The age profile per departments is presented in Figure 2-13.

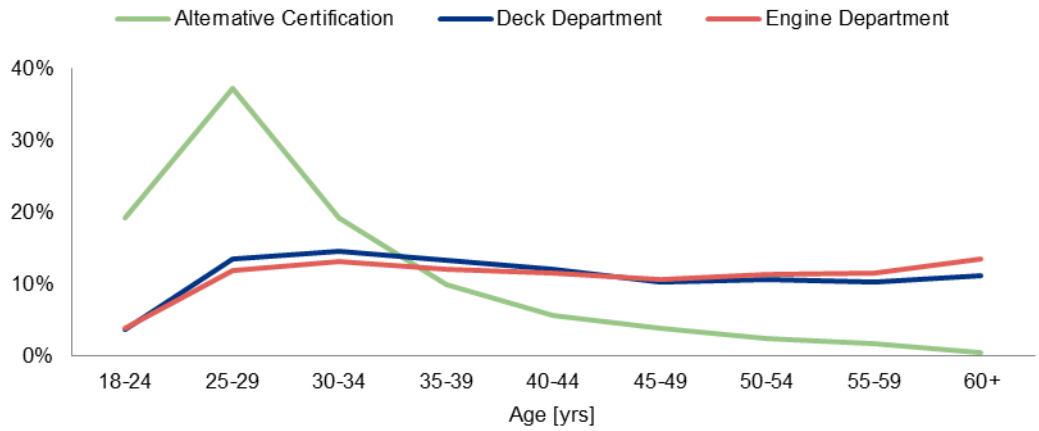

Figure 2-13 Age profile of masters and officers holding valid CoCs per departments

Reviewing the data in Table 2-7 of Appendix A, the following conclusions could be stated:

- 75.76% of the officers holding certificates issued under Chapter VII, 'Alternative certification' of the STCW Convention were younger than 35 years of age;
- The masters and officers certified under Chapter II (Deck Department) and Chapter III (Engine Department) of the STCW Convention were evenly distributed throughout the age groups other than 18-24 years of age;
- 57.40% of masters and deck officers and 52.81% of the engineer officers were younger than 45 years of age.

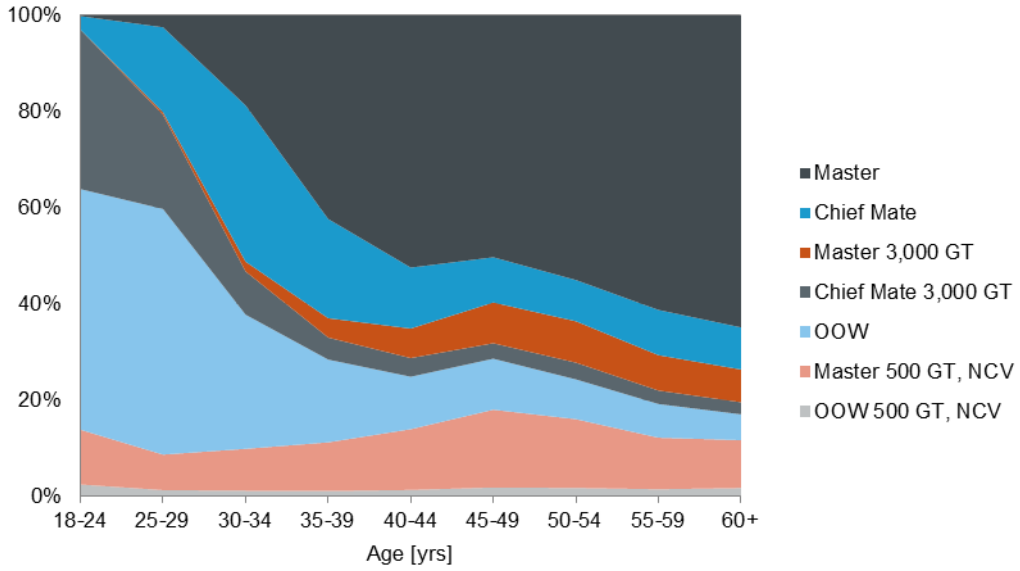

Figure 2-14 Distribution of masters and deck officers holding valid CoCs by age groups

Considering the highest capacity in which masters and deck officers were entitled to serve:

- 62.07% of those entitled to serve as ‘Master’ were 45 years old or older;
- 64.28% of those entitled to serve as ‘Chief Mate’ were between 25 and 40 years old;
- 51.01% of those entitled to serve as ‘Master 3,000 GT’ were between 40 and 55 years old;
- 68.77% of those entitled to serve as ‘Chief Mate 3,000 GT’ were younger than 35 years of age;
- 64.92% of those entitled to serve as ‘OOW’ were younger than 35 years of age;
- 55.28% of those entitled to serve as ‘Master 500 GT, NCV’ were between 35 and 55 years old; and
- 60.45% of those entitled to serve as ‘OOW 500 GT, NCV’ were older than 40 years of age.

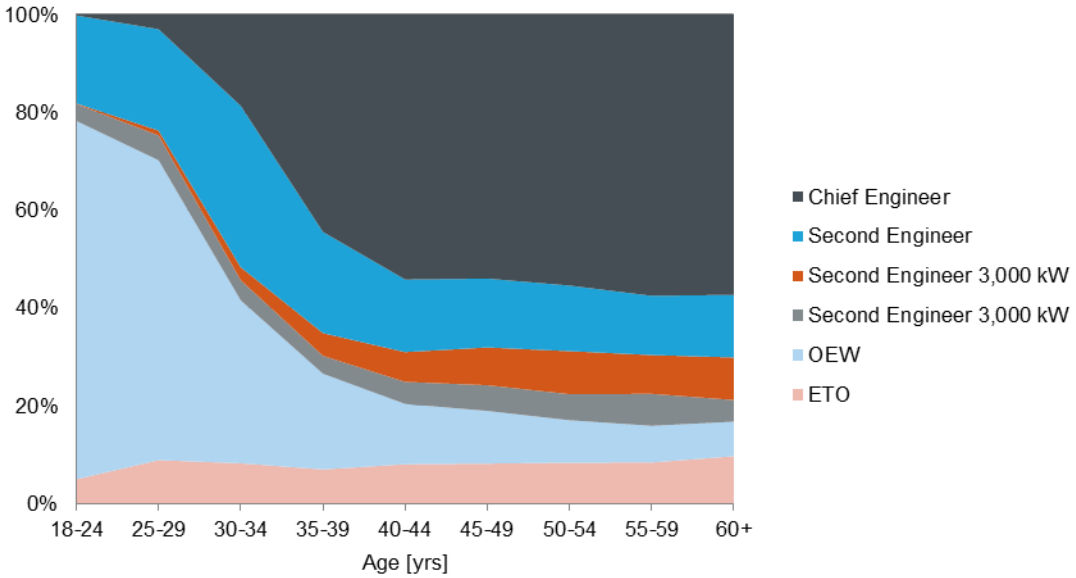

Figure 2-15 Distribution of engineer officers holding valid CoCs by age groups

Considering the highest capacity in which the engineer officers were entitled to serve:

- 50.72% of those entitled to serve as ‘Chief Engineer‘ were 50 years old or older;
- 56.04% of those entitled to serve as ‘Second Engineer’ were younger than 40 years of age;
- 54.81% of those entitled to serve as ‘Chief Engineer 3,000 kW’ were 50 years old or older;

- 52.86% of those entitled to serve as ‘Second Engineer 3,000 kW’ were 45 years old or older;
- 65.39% of those entitled to serve as ‘OEW’ were younger than 35 years of age; and
- 61.23% of those entitled to serve as ‘ETO’ were older than 40 years of age.

Figure 2-16 presents the age profile per gender, while Figure 2-17 and Figure 2-18 present the average age per capacities for each of the two gender groups. It showed that:

- the average age for female masters and officers was 33.5 years, while that for male masters and officers was 43.4 years;
- 77.63% of the female masters and officers were younger than 40 years of age, while the percentage of the male masters and officers in the same age group was only 42.95%;
- the average age of female masters and deck officers (33.7 years) was higher than the average age of the female engineer officers (32 years).

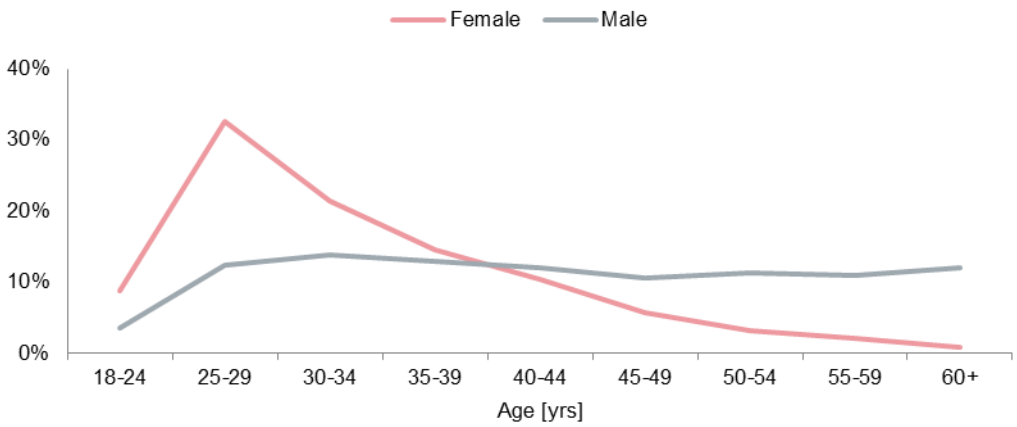

Figure 2-16 Age profile of masters and officers holding valid CoCs per gender

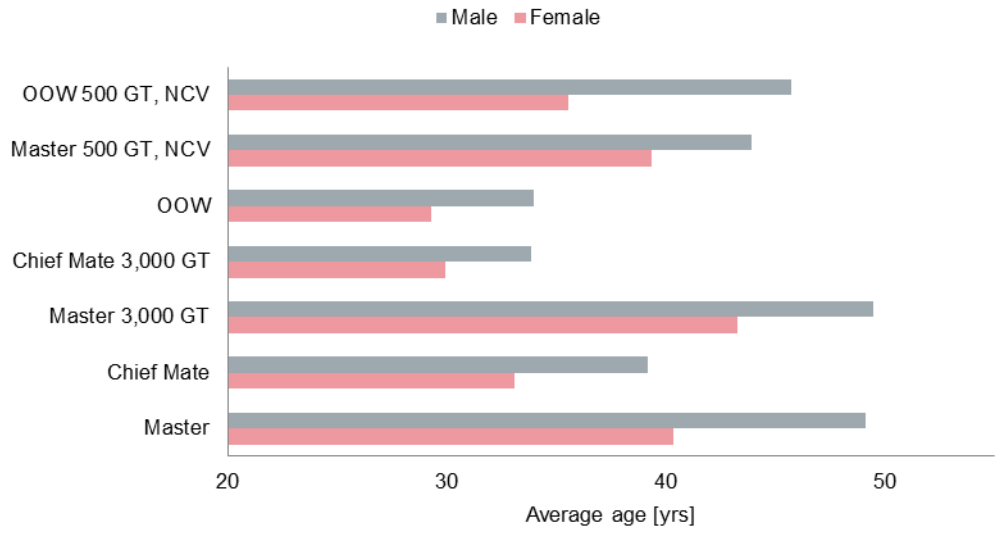

Figure 2-17 Average age of masters and deck officers holding valid CoCs per gender by deck capacity

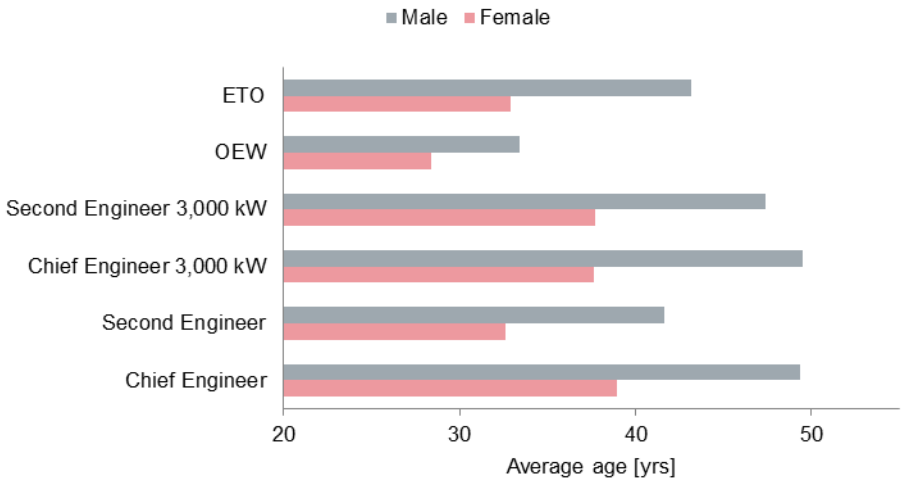

Figure 2-18 Average age of engineer officers holding valid CoCs per gender by engine capacity

2.1.8 Main variations observed when comparing with 2014 and 2015 results

The total number of masters and officers holding valid CoCs at EU level slightly decreased in relation to 2015. Nevertheless, it is still 8% higher than in 2014. These changes however, need to be considered with caution as only when the data for 2017 is received and reviewed will it be possible to have clearer insight on detectable trends, if any.

The number of masters and officers entitled to serve in the Deck Department is 45% higher than the number of officers entitled to serve in the Engine Department. In 2015 it was 50% higher.

The distribution among the capacities in the Engine Department remained the same over the last three years, notwithstanding the percentage of officers entitled to serve as 'ETO' that increased from 5.59% (2015) to 8.25% (2016) in relation to the total number of officers entitled to serve in the Engine Department.

The average age of masters and officers remained the same for both the total number and the age distribution.

The highest capacity in which masters and deck officers were entitled to serve reported to age groups resulted in the following findings:

- 62.07% of those entitled to serve as ´Master´ were 45 years old or older while in the previous years they were 50 years old or older;
- 60.45% of those entitled to serve as ´OOW 500 GT, NCV´ were 40 years old or older in 2016 compared with 45 years old or older in the previous years;
- An increase of around 10% since 2014 on those younger than 35 years of age entitled to serve as ´Chief Mate 3,000 GT´ was noted.

The highest capacity in which the engineer officers were entitled to serve reported by age group identified that the majority of those entitled to serve as ´ETO´ were 40 years old or older while in the previous years the majority of them were 45 years old or older. This decrease will have to be followed in the following years in order to confirm if there is any trend towards younger ETO officers.

2.2 Masters and officers who in 2016 held valid endorsements attesting the recognition

2.2.1 Total

The total number of masters and officers holding valid EaRs at EU level was 128,354, with 0.16% of them entitled to serve in both the Deck and Engine Departments. In addition, 9.41% of them held more than one EaR issued by different EU Member States.

Reviewing the distribution by group of countries issuing the original CoC, 40,595 masters and officers held original CoCs issued by other EU Member States (23.23% of the total number of masters and officers holding valid CoCs, see section 2.1.1), 87,802 held original CoCs issued by non-EU countries and 0.04% held original CoCs issued by both EU Member States and non-EU countries.

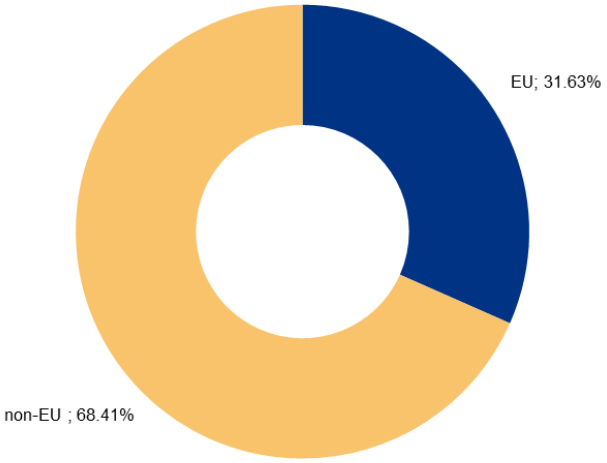

Figure 2-19 Distribution of masters and officers holding valid EaRs by countries issuing the original CoC

2.2.2 Distribution by EU Member State

The distribution of the number of masters and officers holding valid EaRs issued by EU Member State is presented in Figure 2-20.

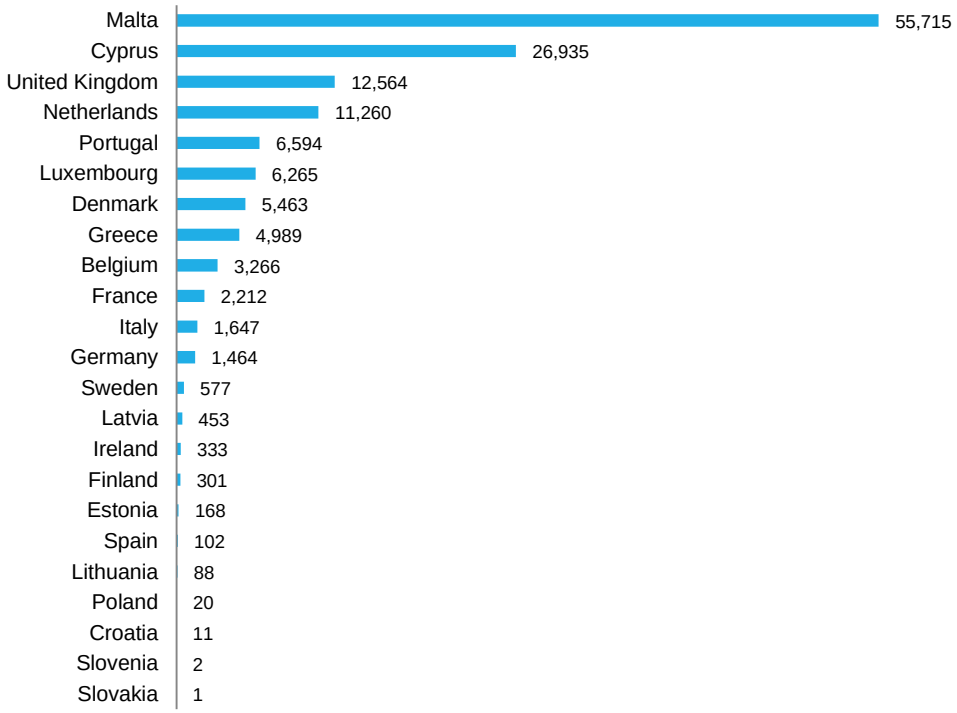

Figure 2-20 Masters and officers holding valid EaRs per EU Member State

The distribution of the masters and officers holding valid EaRs endorsing original CoCs issued by EU and non-EU countries is presented in Figure 2-21.

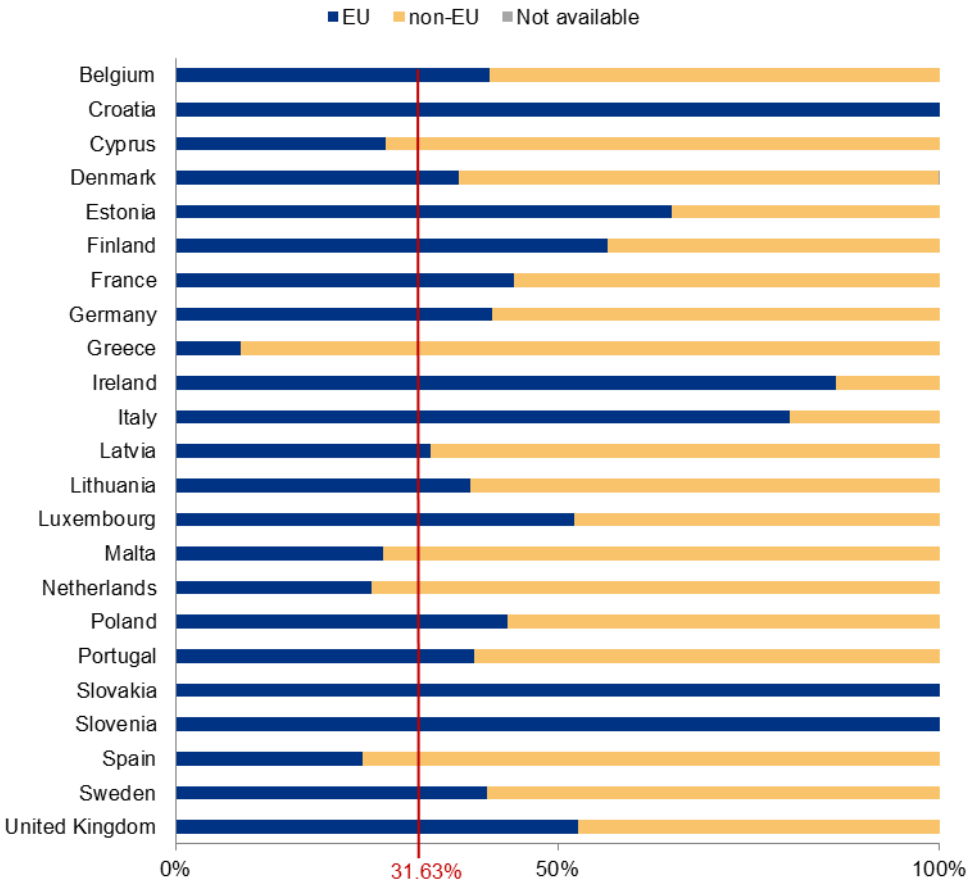

Figure 2-21 Distribution of masters and officers holding valid EaRs recognising original CoC issued by EU and non-EU countries

2.2.3 Distribution by countries issuing the original CoCs

Reported by the 23 EU Members States issuing EaRs, the name of the country that issued the original CoC was made available for 128,352 masters and officers, which represented 99.998% of the total number of masters and officers holding valid EaRs at EU level. Figure 2-22 shows the distribution of masters and officers holding valid EaRs by region according to the respective countries issuing the original CoC.

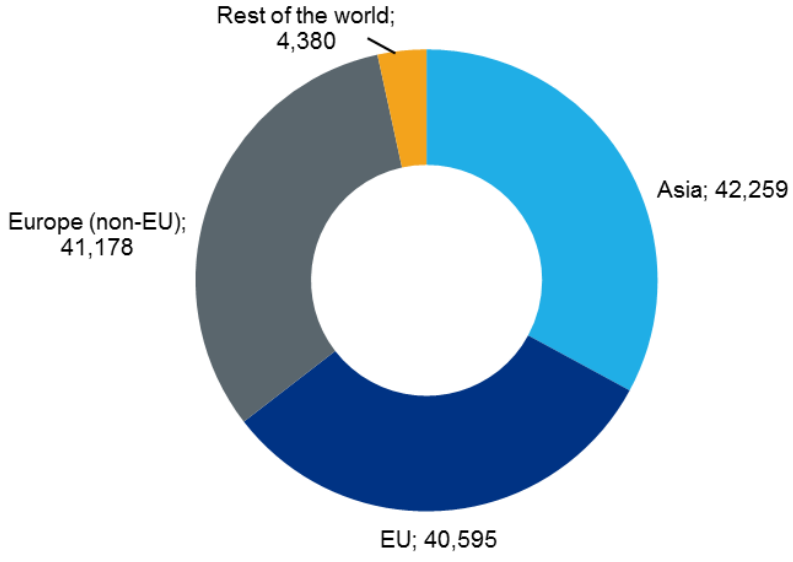

Figure 2-22 Distribution of masters and officers holding valid EaRs by region of the country issuing the original CoC

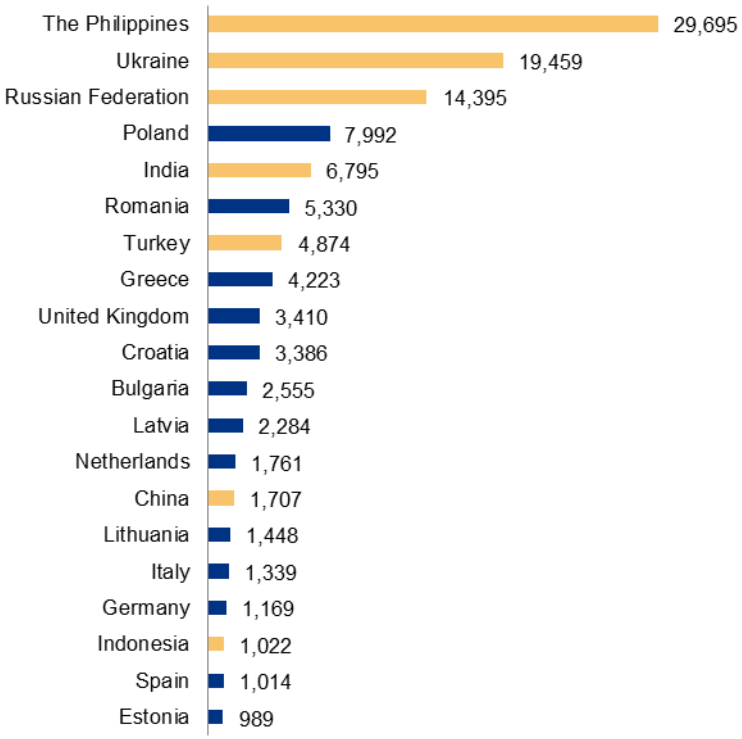

Figure 2-23 Countries issuing the original CoCs registering more than 0.75% of masters and officers holding valid EaRs

The masters and officers registered with valid EaRs in 2016 held original CoCs issued by 93 countries. Figure 2-23 identifies the 20 countries, thirteen EU Member States and seven non-EU countries, which provided 89.48% of the total number of masters and officers holding valid EaRs at EU level. Table 2-15 and Table 2-16 of Appendix B present a more detailed list of countries issuing the original CoCs.

2.2.4 Distribution by department

The departments in which the holders of EaRs were entitled to serve are presented in Figure 2-24.

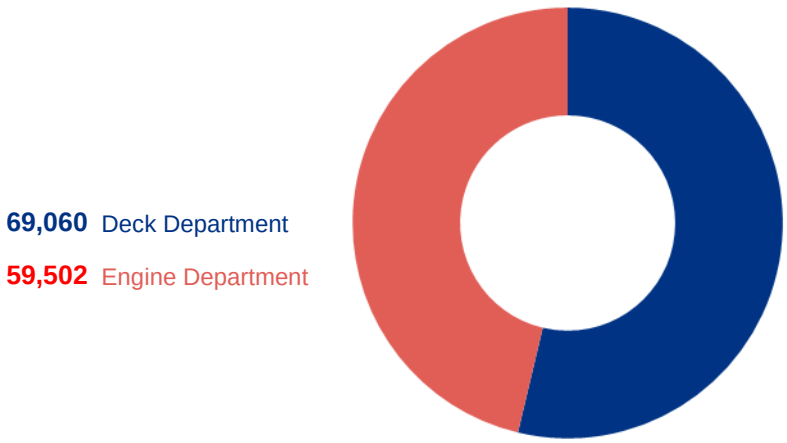

Figure 2-24 Distribution of masters and officers holding valid EaRs by department

The figure illustrates that the number of masters and officers entitled to serve in the Deck Department was 16% higher than the number of officers entitled to serve in the Engine Department.

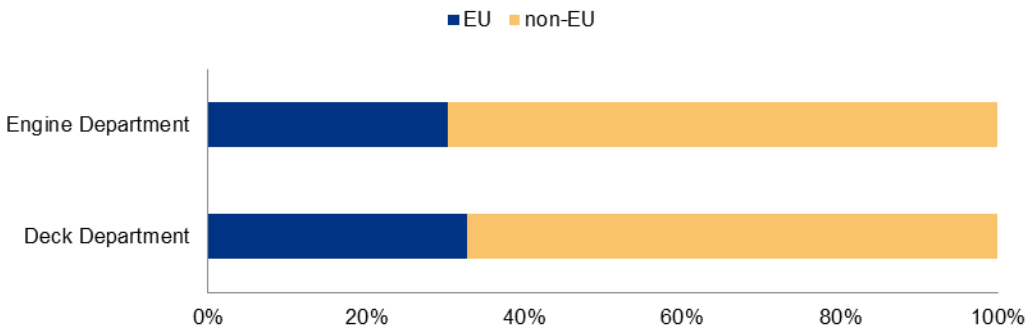

Figure 2-25 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by department

The ratio between the masters and officers holding original CoCs issued by EU Member States and those holding original CoCs issued by non-EU countries follows the same pattern for both the Deck (33% to 67%) and the Engine (30% to 70%) Departments, which is similar to the general distribution presented in Figure 2-19.

2.2.5 Distribution by capacity

A significant heterogeneity in naming capacities and associated limitations was noticed during the coding process when converting the original capacities in the EaRs due to the different manning regulations adopted by the EU Member States. For this reason, in order to ensure comparability of data, all capacities reported by the EU Member States in the EaRs were linked to the generic capacities established in Chapters II and III of the STCW Convention. The review was conducted separately for the Deck and the Engine Departments. The total number of masters and officers was established by counting each person in his/her highest capacity.

2.2.5.1 Distribution by deck capacity

The information in Figure 2-26 shows that, out of the total number of masters and deck officers holding valid EaRs in 2016, 97.51% of them were entitled to serve on ships of 3,000 GT or more. In addition, the data also indicated that 58.72% of them were entitled to serve as masters or chief mates on ships of 3,000 GT or more. 99% of them had no limitations in terms of gross tonnage or area of navigation.

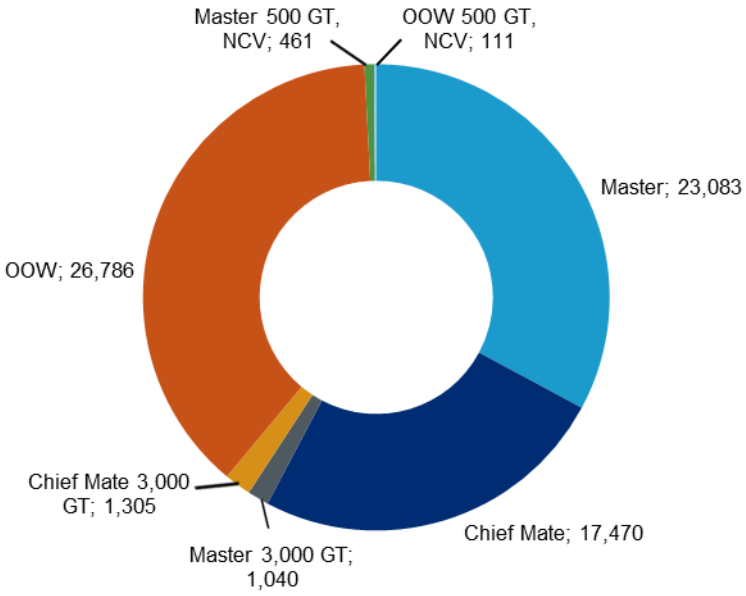

Figure 2-26 Distribution of masters and deck officers holding valid EaRs by deck capacity

The ratio between the masters and officers holding valid EaRs endorsing CoCs issued by EU Member States and those holding CoCs issued by non-EU countries was 33% to 67%. Nevertheless, the majority of masters and officers

entitled to serve on board ships limited in tonnage or navigation area held CoCs issued mainly by EU Member States (see Figure 2-27).

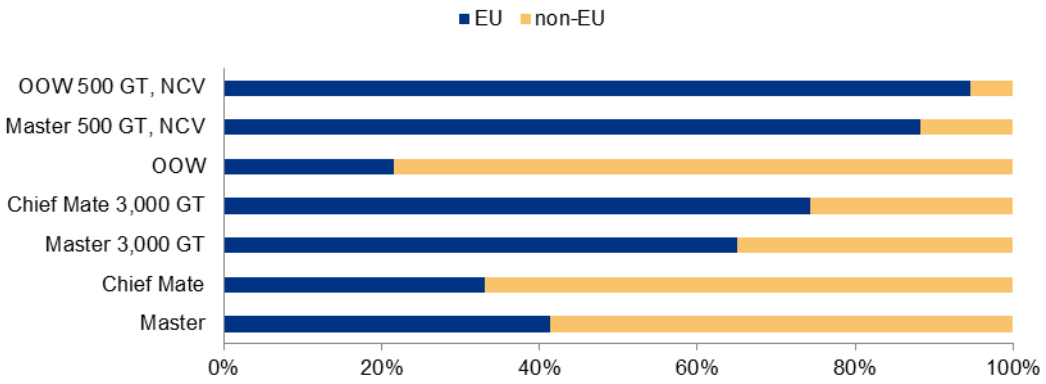

Figure 2-27 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by deck capacity

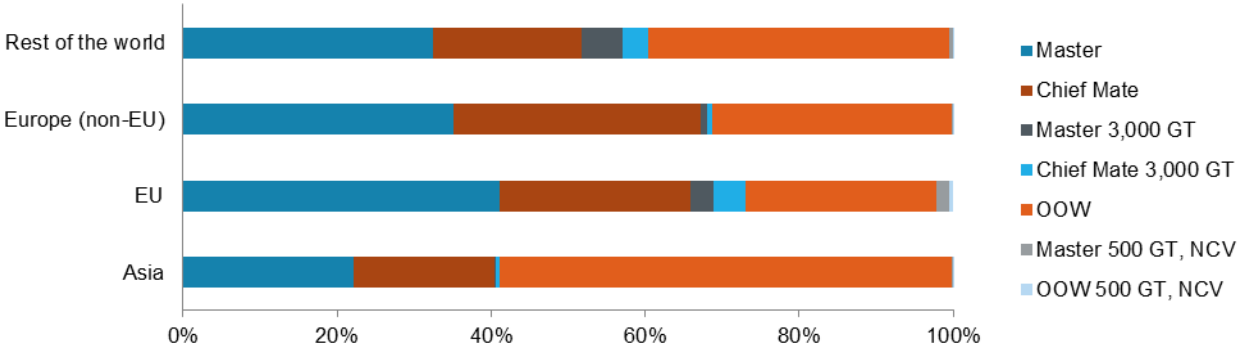

Figure 2-28 Distribution of the deck capacities of masters and deck officers holding valid EaRs by region of the country issuing the original CoC

The majority of the masters and deck officers having their original CoC issued by Asian countries held EaRs entitling them to serve at operational level. Deck officers with CoCs issued by countries in other parts of the world held, in their majority, EaRs entitling them to serve at management level.

2.2.5.2 Distribution by engine capacity

The information in Figure 2-29 shows that, out of the total number of engineer officers holding valid EaRs, 95.25% of them were entitled to serve on ships powered by main propulsion machinery of 3,000 kW propulsion power or more. In addition, the data also indicated that 62% of the engineer officers were entitled to serve at management level on ships powered by main propulsion machinery of 3,000 kW propulsion power or more. 99% of them had no limitations in terms of propulsion power or area of navigation and 26% had limitations in terms of type of propulsion machinery.

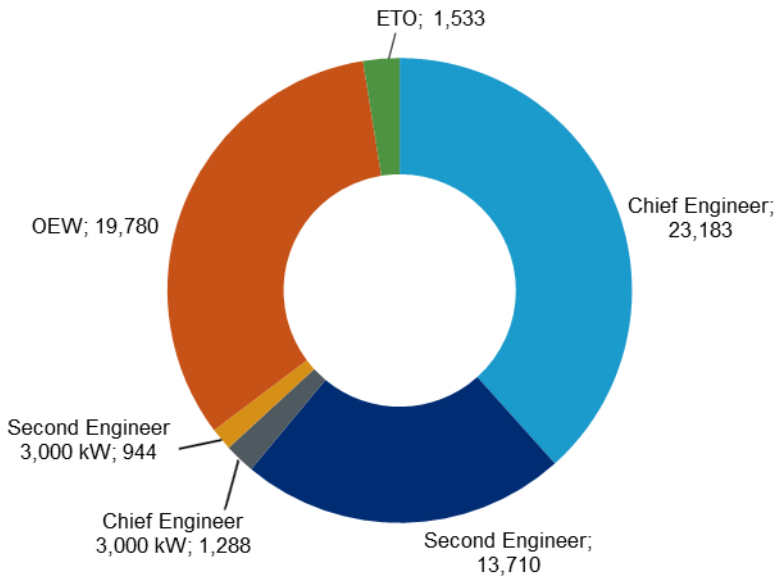

Figure 2-29 Distribution of engineer officers holding valid EaRs by engine capacity

The ratio between the engineer officers holding CoCs issued by EU Member States and those holding CoCs issued by non-EU countries was 30% to 70%. Nevertheless, those entitled to serve as 'Chief Engineer 3,000 kW' held, in their majority, CoCs issued by EU Member States (see Figure 2-30).

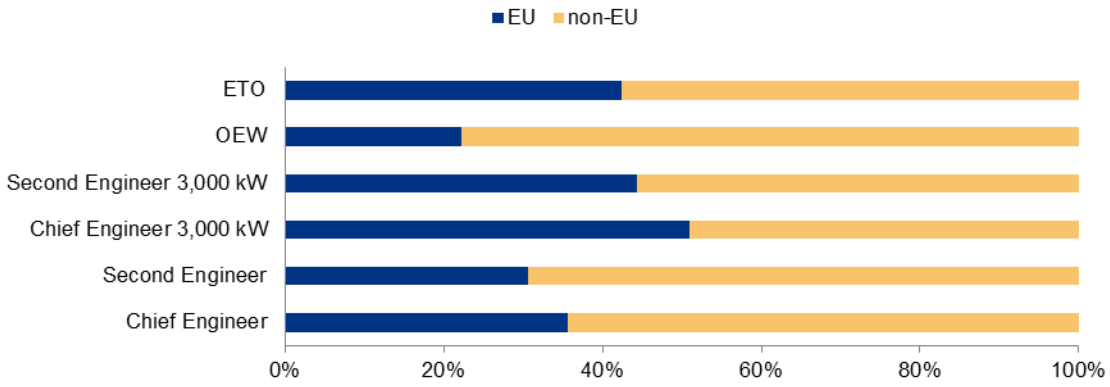

Figure 2-30 Distribution of engineer officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by engine capacity

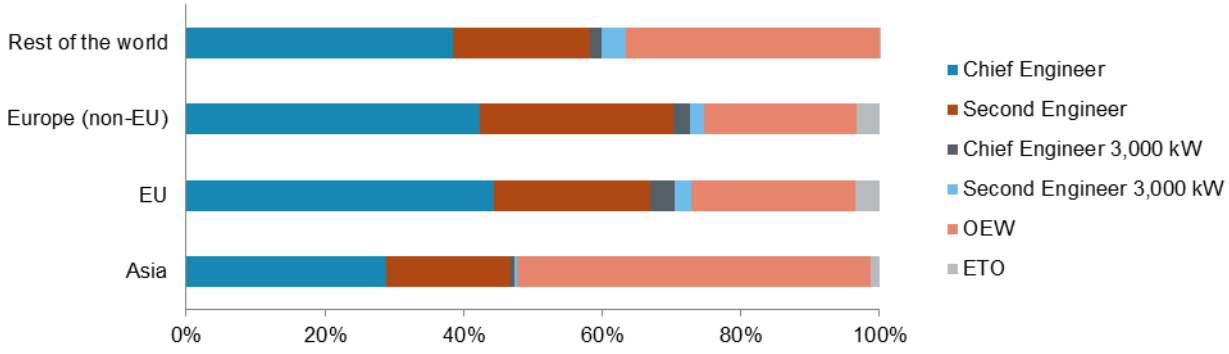

Figure 2-31 Distribution of the engine capacities of engineer officers holding valid EaRs by region of the country issuing the original CoC

The majority of the engineer officers having the original CoC issued by Asian countries held EaRs entitling them to serve at operational level. Engineer officers with CoCs issued by countries located in other parts of the world held, in their majority, EaRs entitling them to serve at management level.

2.2.6 Gender distribution

The review of the gender distribution of the masters and officers holding valid EaRs considered the data provided by 21 EU Member States. Consequently, this review was conducted for 119,191 masters and officers that represented 92.86% of the total number holding valid EaRs in 2016 at EU level.

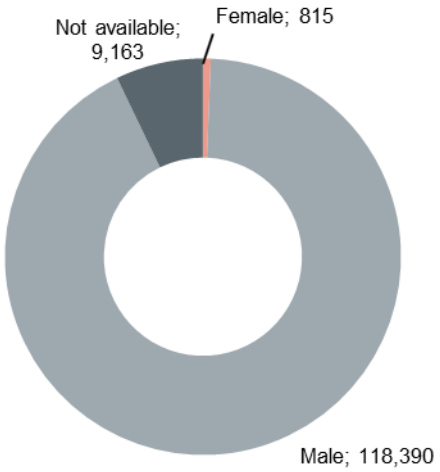

Figure 2-32 Gender distribution of masters and officers holding valid EaRs

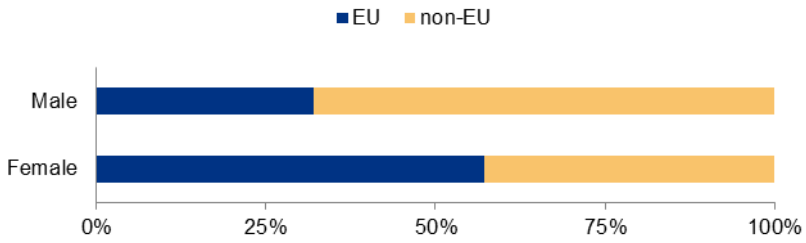

Figure 2-33 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by gender

It was noted that 57.30% of the total number of female masters and officers holding valid EaRs held original CoCs issued by EU Member States, followed by 14.60% who had their original CoCs issued by other countries located in Europe.

2.2.7 Distribution by nationality

The review of data made available by the 23 EU Member States issuing EaRs showed that the masters and officers holding valid EaRs were nationals of 120 countries. The distribution of these countries per region of origin does not show a significant deviation from the review on countries issuing the original CoCs.

2.2.8 Age distribution

The average age of masters and officers holding valid EaRs was 41.1 years. Reviewing the average age per country issuing the original CoCs, the average age of masters and officers holding CoCs issued by the EU Member States was 43.1 years, while of those holding original CoCs issued by non-EU countries was 40.3 years.

Considering the ratio between the masters and officers holding valid EaRs endorsing CoCs issued by the EU Member States and those holding valid EaRs endorsing CoCs issued by non-EU countries (31.63% to 68.41%), the distribution by age groups shows a deviation for the masters and officers younger than 30 years of age and for those older than 54 years of age, especially for the age group older than 60 as presented in Figure 2-35.

The data presented in Table 2-17 of Appendix B and in Figure 2-36 indicates that:

- the number of officers entitled to serve in the Engine Department was similar throughout the age groups which was not the case with the masters and deck officers;
- 54.83% of the masters and officers holding valid EARs for the Deck Department were younger than 40 years of age;
- the number of engineer officers was higher than the number of masters and deck officers for all age groups over 45 years of age.

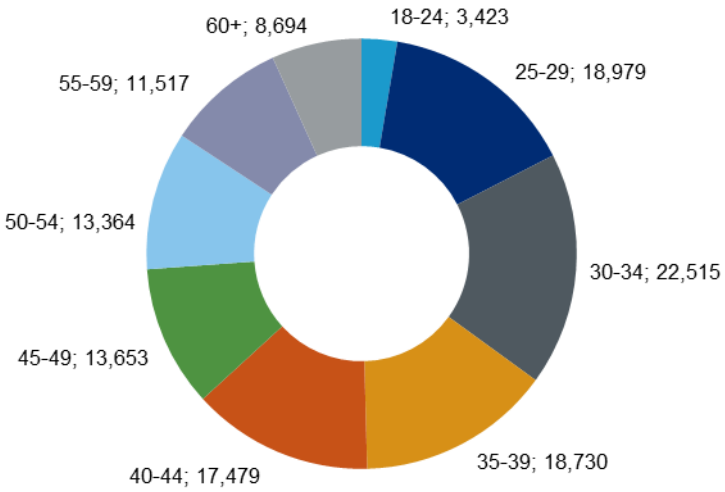

Figure 2-34 Age distribution of masters and officers holding valid EaRs

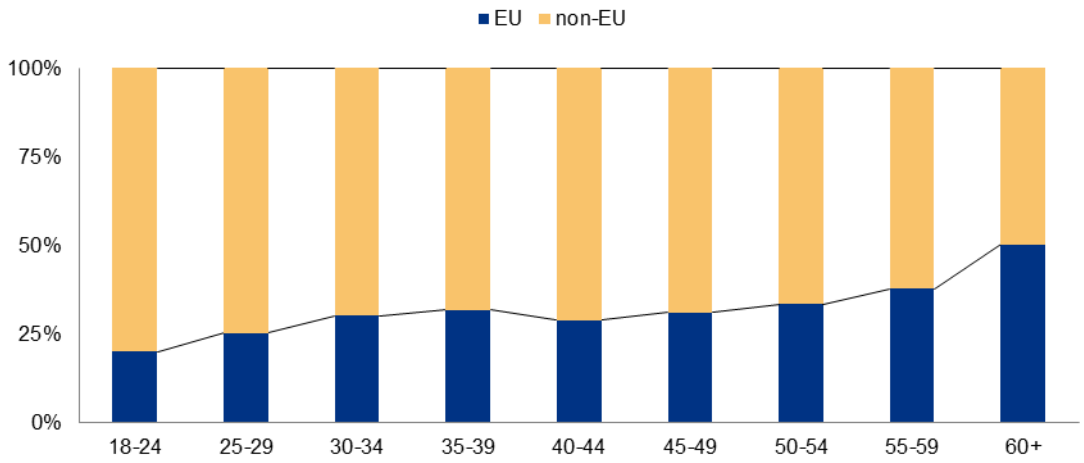

Figure 2-35 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by age group

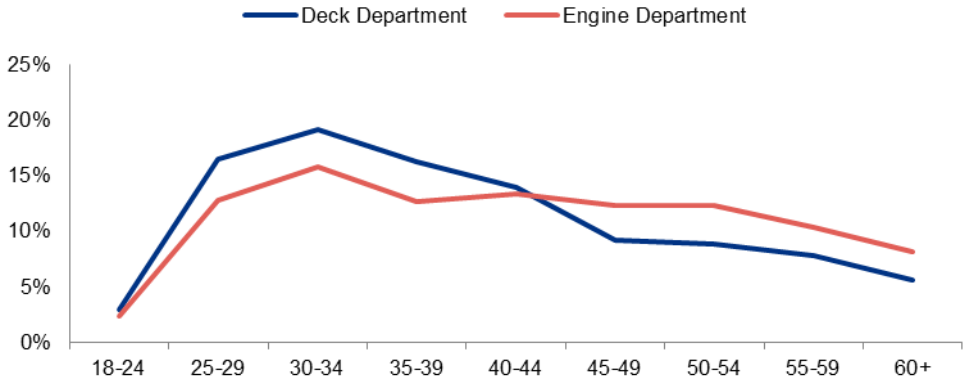

Figure 2-36 Age profile of masters and officers holding valid EaRs per department

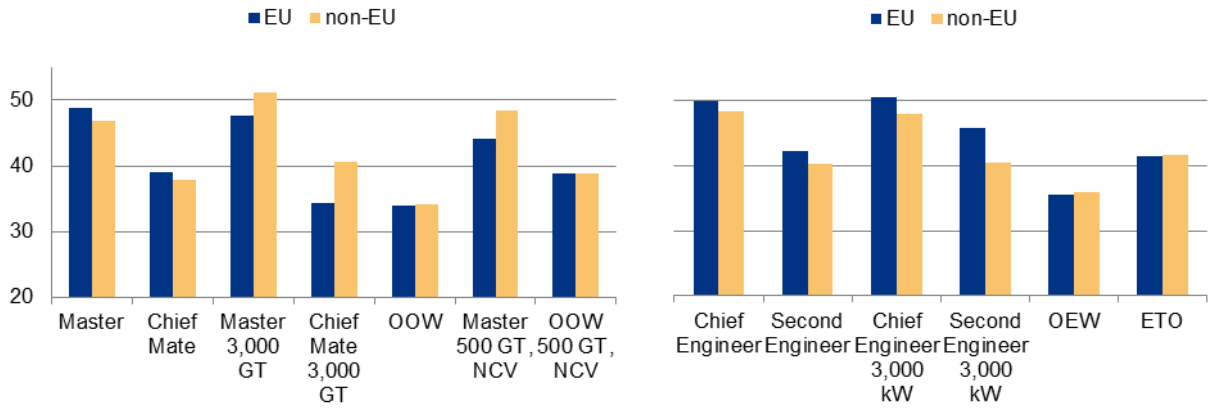

Figure 2-37 Average age of officers holding valid EaRs per EU and non-EU countries issuing the original CoC by capacity

The graphs in Figure 2-37 indicate that the average age of the masters and management level officers was higher for those holding original CoCs issued by the EU Member States, except for masters and chief mates holding EaRs endorsing capacities limited in gross tonnage.

2.2.9 Main variations observed when comparing with 2014 and 2015 results

Following an increase of 18% in the number of masters and officers holding valid EaRs at EU level from 2014 to 2015, 2016 showed a decrease of 15% in such number. Nevertheless, when comparing the data between 2014 and 2016 there is still an increase of 1% in the number of masters and officers holding valid EaRs at EU level.

The distribution by EU / non-EU countries issuing the original CoC was similar to the results in the previous years. Only in a very few situations was it not possible to establish the country issuing the original CoC. This did not affect the final analysis and the results reached.

When compared with 2015, the distribution of capacities revealed a slight increase from 56.20% to 58.72% in the number of masters and chief mates on ships of 3,000 GT or more. No changes were identified in the distribution of capacities in the Engine Department.

With regard to the total number of female masters and officers holding valid EaRs, the percentage of those who held original CoCs issued by countries located in the Americas continued to decrease. In addition, this region was no longer the second highest region in terms of female masters and officers holding EaRs, being replaced in 2016 by Europe (non-EU).

Finally, when comparing with the 2015 data, there was a reduction of eight countries from where the masters and officers holding valid EaRs in 2016 were nationals.

2.3 Masters and officers available to serve on board EU Member State flagged vessels in 2016

Figure 2-38 aggregates the number of masters and officers holding valid CoCs and EaRs. This encompasses EaRs issued to holders of CoCs issued by both EU and non-EU countries analysed in sections 2.1 and 2.2.

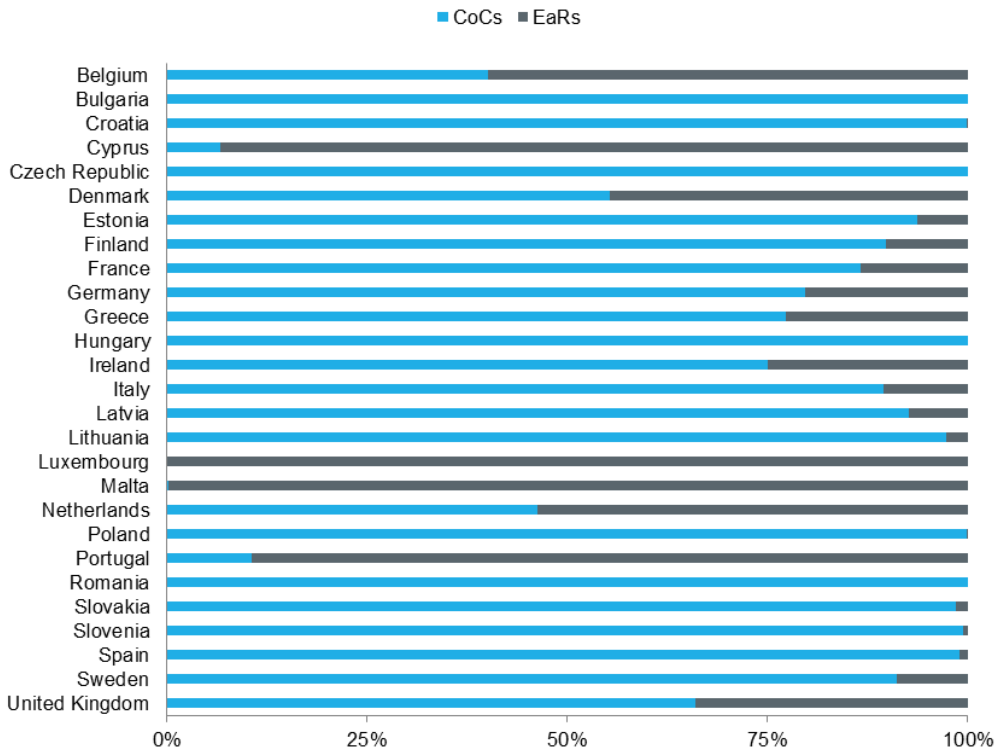

Figure 2-38 Masters and officers holding valid CoCs or EaRs in 2016 per EU Member State

2.3.1 Total

The total number of masters and officers available to serve on board EU Member State flagged vessels was 262,582, distributed as presented in Figure 2-39. It included the masters and officers holding valid CoCs issued by EU Member States and the masters and officers holding valid EaRs issued by EU Member States recognising CoCs issued by non-EU countries.

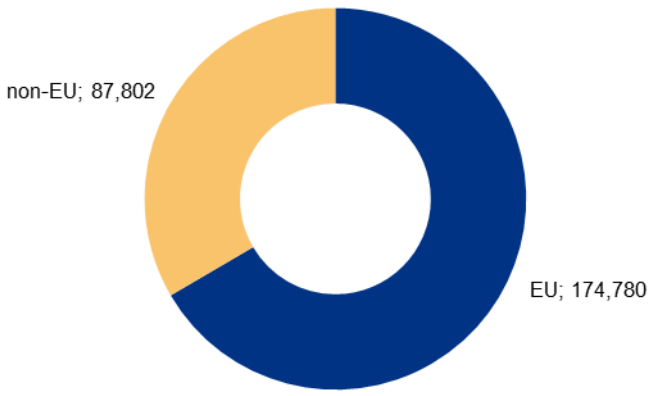

Figure 2-39 Distribution of masters and officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC

2.3.2 Distribution by department

Figure 2-40 presents the distribution by department of masters and officers available to serve on board EU Member State flagged vessels. It excluded officers holding original CoCs issued by EU Member States under Chapter VII 'Alternative Certification' of the STCW Convention because no officers from non-EU countries held such certification.

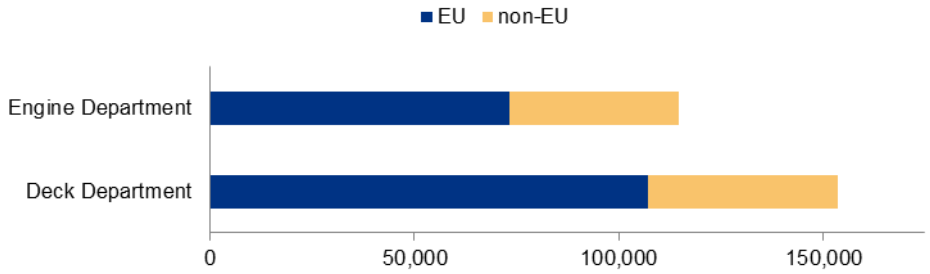

Figure 2-40 Distribution of masters and officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by department

The number of masters and officers available to serve in the Deck Department (153,583) was 34% higher than the number of officers available to serve in the Engine Department (114,873). This percentage changes depending on whether the CoCs were issued by EU Member States or non-EU countries. In the first case it was 46% while in the second case it was 12%.

In both Deck and Engine Departments, the number of officers holding valid CoCs issued by EU Member States and available to serve on board EU Member State flagged vessels was higher than those holding CoCs issued by non-EU countries.

2.3.3 Distribution by capacity

Taking into account the heterogeneity in naming the capacities in the manning regulations adopted by the EU Member States and in order to ensure comparability of data, all capacities reported were linked to the generic capacities established in Chapters II and III of the STCW Convention. The review was conducted separately for the Deck and the Engine Departments. The total number of masters and officers was established by counting each person in his/her highest capacity.

2.3.3.1 Distribution by deck capacity

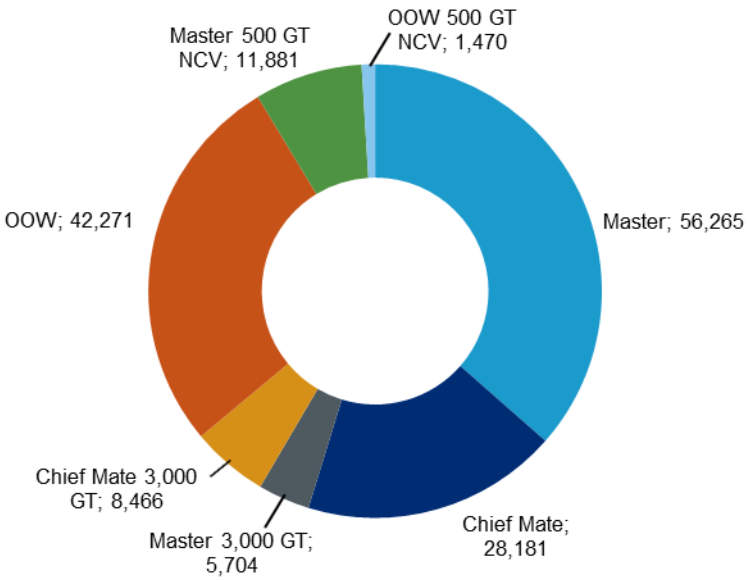

Figure 2-41 Distribution of masters and deck officers available to serve on board EU Member State flagged vessels by deck capacity

The information in Figure 2-41 shows that 54.98% of the total number of available masters and deck officers were entitled to serve at management level on ships of 3,000 GT or more.

Although the ratio between masters and officers holding CoCs issued by EU Member States and those holding CoCs issued by non-EU countries was 67% to 33%, it changed significantly in the Deck Department for masters and officers entitled to serve on board ships limited in gross tonnage or area of navigation where more than 90% were holders of CoCs issued by EU Member States. In the case of those officers entitled to serve as OOW there was an even distribution between holders of CoCs issued by EU Member States and non-EU countries. This is presented in Figure 2-42.

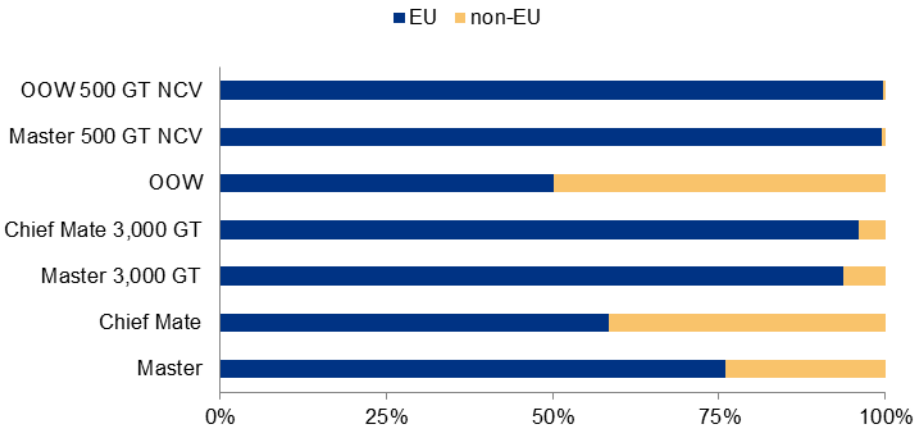

Figure 2-42 Distribution of masters and deck officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by deck capacity

2.3.3.2 Distribution by engine capacity

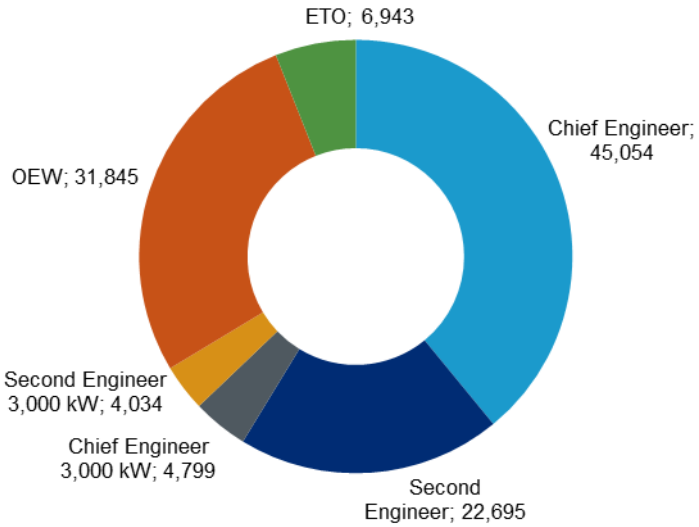

Figure 2-43 Distribution of available officers in the Engine Department

The information in Figure 2-43 shows that 58.98% of the engineer officers were entitled to serve at management level on ships powered by main propulsion machinery of 3,000 kW propulsion power or more.

Although the ratio between the engine officers holding CoCs issued by EU Member States and those holding CoCs issued by non-EU countries was 67% to 33%, it changed significantly for the officers entitled to serve on board ships limited in propulsion power or as ETO where more than 85% were holders of CoCs issued by EU Member States. This is illustrated in Figure 2-44.

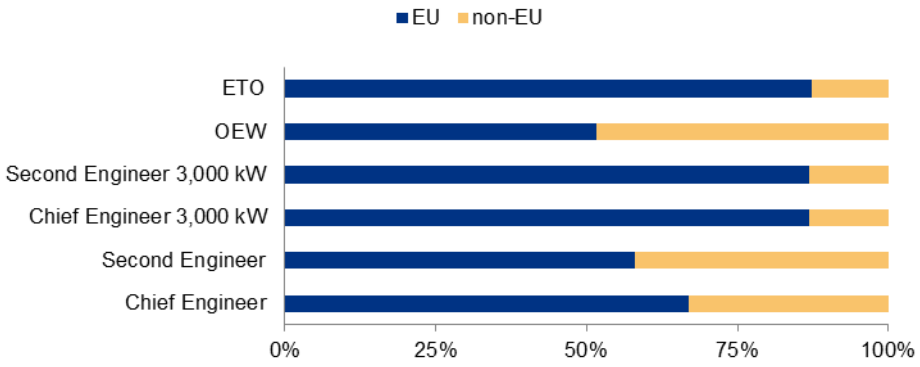

Figure 2-44 Distribution of engineer officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by engine capacity

2.3.4 Gender distribution

The review on gender distribution of masters and officers available to serve on board EU Member State flagged vessels considered the data provided by the 25 EU Member States, which made available information on gender. Consequently, the review was made for 226,416 masters and officers representing 86.23% of the total number of those available to serve on board EU Member State flagged vessels.

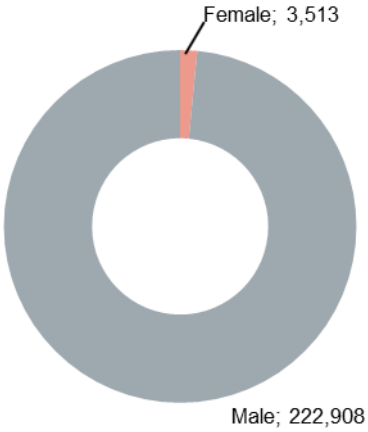

Figure 2-45 Gender distribution of masters and officers available to serve on board EU Member State flagged vessels

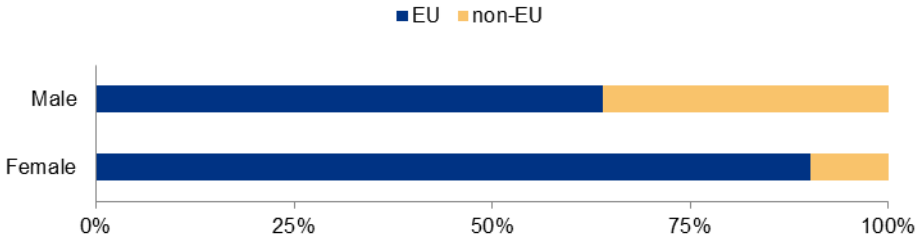

Figure 2-46 Distribution of masters and officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by gender

The masters and officers for whom the gender was known were predominantly males. Female masters and officers represented 1.55% of the total number of officers available, with 90.09% of them holding CoCs issued by EU Member States.

Within the total number of masters and officers holding valid CoCs issued by EU Member States and available to serve on board EU Member State flagged vessels, female masters and officers represented 2.17% of their total, while for CoCs issued by non-EU countries they represented 0.43% of their total.

2.3.5 Distribution by nationality

The review of the data submitted by the 27 EU Member States indicated that information on nationality was available for 258,750 masters and officers, representing 98.54% of the total number of officers available to serve on board EU Member State flagged vessels. It also showed that the masters and officers were nationals of 145 countries, with the distribution by region as presented in Figure 2-47.

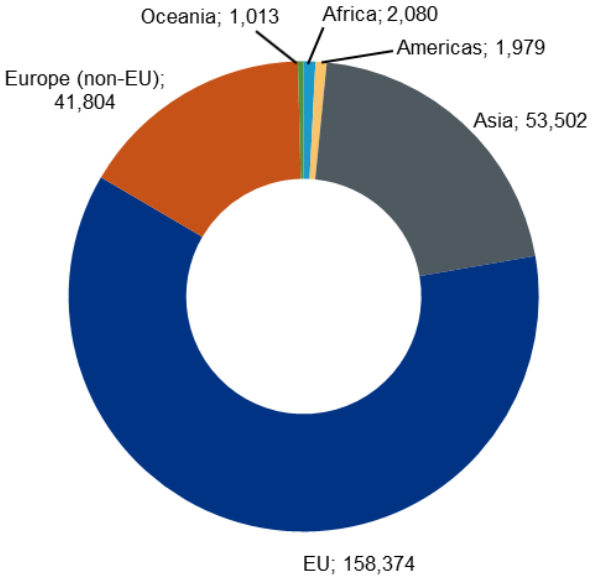

Figure 2-47 Nationality distribution of masters and officers available to serve on board EU Member State flagged vessels by geographical region according to nationality

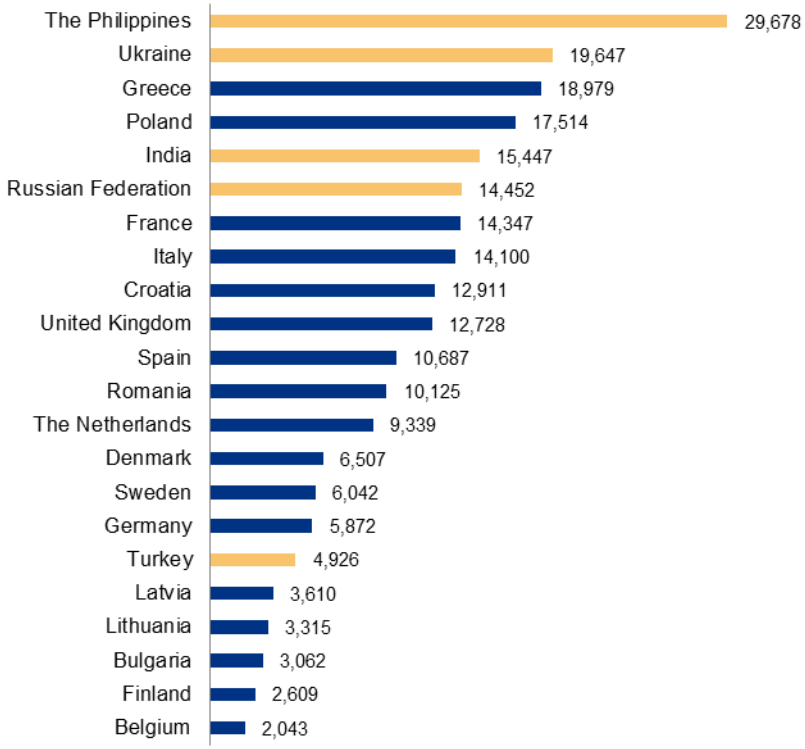

Figure 2-48 Countries whose nationals represented more than 0.75% of the total number of masters and officers available to serve on board EU Member State flagged vessels

The data in Figure 2-48 identifies the 22 countries whose nationals represented 90.62% of the total number of masters and officers available to serve on board EU Member State flagged vessels.

2.3.6 Age distribution

The average age of all masters and officers available to serve on board EU Member State flagged vessels was 42.4 years. The average age of masters and officers holding CoCs issued by the EU Member States was 43.4 years, while for those holding original CoCs issued by non-EU countries was 40.3 years.

The age profile, per country issuing the original CoC as presented in Figure 2-49, shows that those holding EU CoCs were more evenly distributed throughout the age groups than those holding non-EU CoCs.

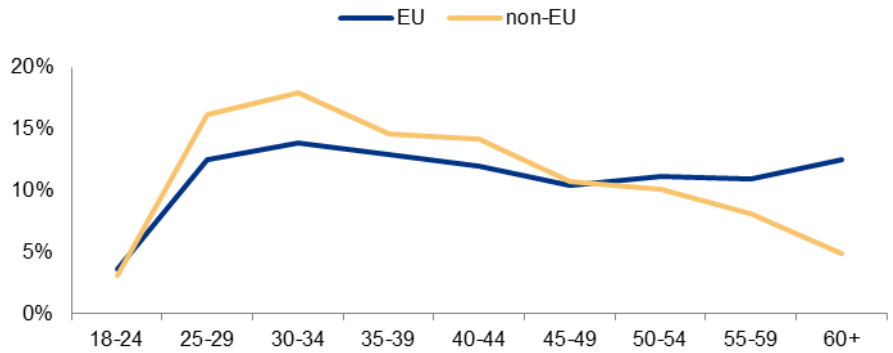

Figure 2-49 Age profile of masters and officers available to serve on board EU Member State flagged vessels per EU and non-EU countries issuing the original CoC

The highest average age was identified for masters entitled to serve on ships of 500 GT or more and for Chief Engineers entitled to serve on ships powered by main propulsion machinery of 750 kW propulsion power or more, as presented in Figure 2-50.

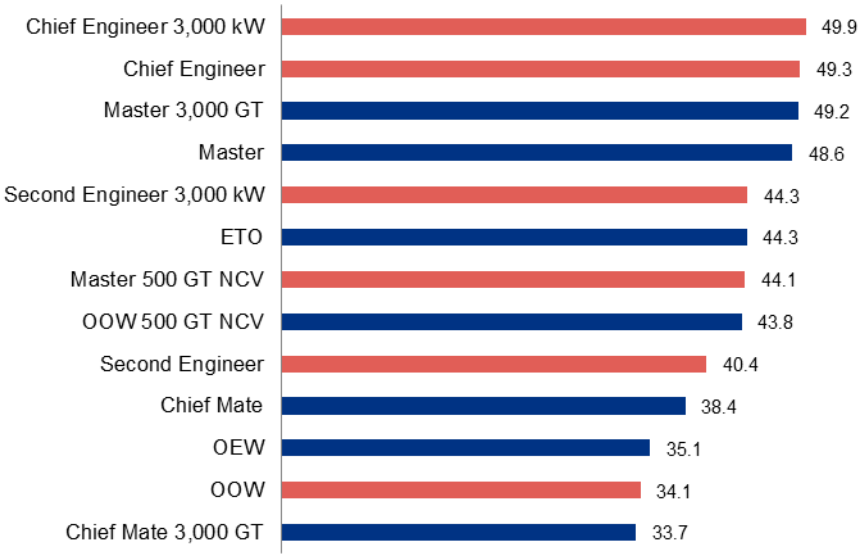

Figure 2-50 Average age of masters and officers available to serve on board EU Member State flagged vessels per deck and engine capacities

A variation ranging between 1 and 2 years in the average age was noticed for Masters, Chief Mates, Chief Engineers and OEWs holding CoCs issued by EU Member States and non-EU countries. With the exception of the OEWs, the highest average age was found in holders of CoCs issued by EU Member States.

In the case of Second Engineer Officers and OOWs, the average age was similar irrespectively of whether the country issuing the CoC was an EU Member State or not.

2.3.7 Main variations observed when comparing with 2014 and 2015 results

Following an increase of 15% from 2014 to 2015 in the number of masters and officers available to serve on board EU Member States flagged vessels, a decrease of 8% was noticed from 2015 to 2016 in that number. Yet, when comparing the data between 2014 and 2016 there is still an increase of around 6% in the number of masters and officers available to serve on board EU Member State flagged vessels. Nevertheless, as in previous situations, a better picture of the situation can emerge when data for more years is collected. Only then will it be possible to identify if there is a trend or if such variations are irregular throughout the years.

Comparing the data between 2015 and 2016, an increase from 63.97% to 66.56% in the number of masters and officers holding CoCs issued by EU Member States and a decrease from 36.03% to 33.44% on those holding CoCs issued by non-EU countries was noticed. The contrary had been observed between 2014 and 2015 when there was a decrease in the number of masters and officers holding CoCs issued by EU Member States and an increase on those holding CoCs issued by non-EU countries.

The number of masters and officers entitled to serve in the Deck Department was 34% higher than the number of officers entitled to serve in the Engine Department. This is 1% less than the 35% identified in 2015. Between 2014 and 2015, the decrease in terms of percentage was the same. Looking into more detail at the numbers available when the CoCs were issued by EU Member States there was a decrease of approximately 5%, as referred in section 2.1.8, while when the CoCs were issued by non-EU countries no variation was noticeable.

More than 85% of engineer officers entitled to serve at management level on board ships limited to 3,000 kW propulsion power continued to hold CoCs issued by EU Member States, a percentage which did not change from previous years. In addition, in 2016 more than 87% of the ETOs continued to hold CoCs issued by EU Member States although, in this case, there was an increase of 12% on the number of ETOs holding CoCs issued by non-EU countries when compared with 2014.

The average age was in 2016 the same for Second Engineer Officers holding CoCs issued by EU Member States and for those holding CoCs issued by non-EU Countries, which was not the case in the previous years when the latter were younger.

2.4 Ratings holding valid certificates of proficiency in 2016

The data presented below is based on the information provided on certificates of proficiency (CoP) issued to ratings under regulations II/4, II/5, III/4, III/5, III/7 and VII/2 of the STCW Convention. This data is not mandatory under Directive 2008/106/EC but was voluntarily provided by 15 EU Member States.

2.4.1 Total

The total number of ratings holding valid CoPs in 2016 in the 15 EU Member States reporting such data was 53,461 with 7.36% of them entitled to serve in both the Deck and the Engine Departments.

2.4.2 Distribution by EU Member State

The distribution of the number of ratings holding valid CoPs by EU Member State is presented in Figure 2-51.

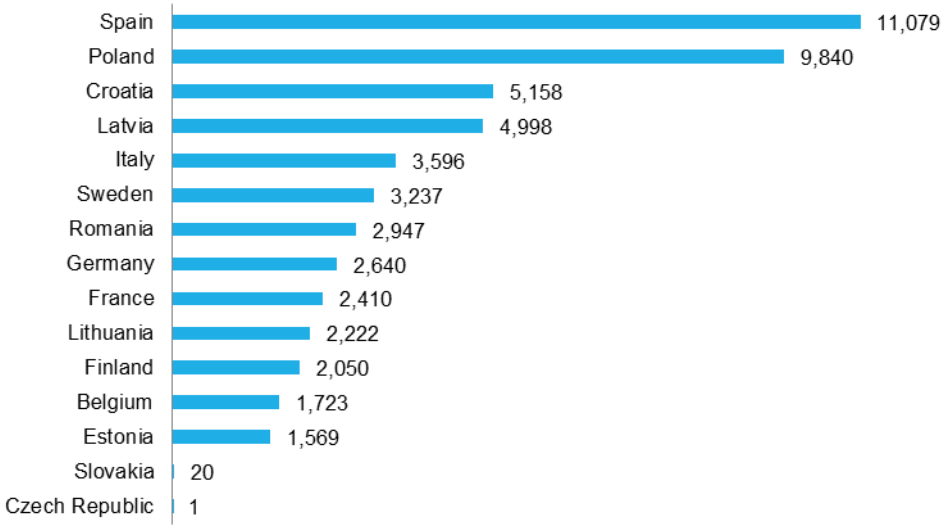

Figure 2-51 Ratings holding valid CoPs per EU Member State

2.4.3 Distribution by department

The distribution by department on which the ratings were entitled to serve is presented in Figure 2-52. It shows that the number of ratings entitled to serve in the Deck Department (Chapter II of the STCW Convention) was 92% higher than the number of ratings entitled to serve in the Engine Department (Chapter III of the STCW Convention). It also shows that 4.29% of them are qualified under Chapter VII, Alternative Certification, of the STCW Convention.

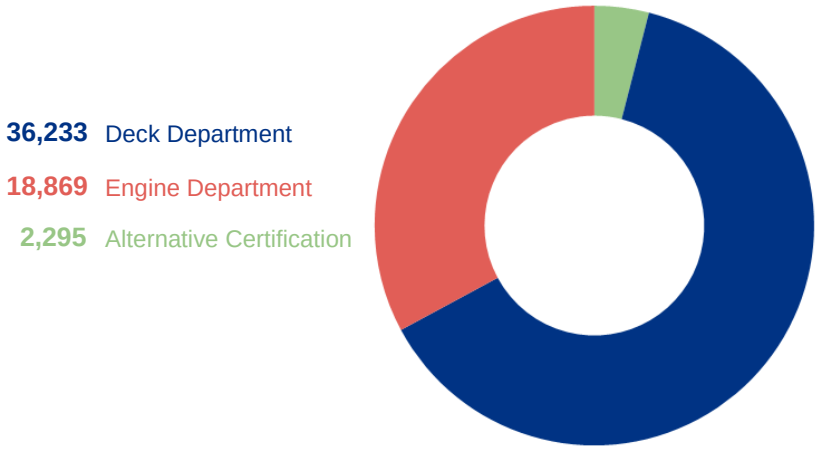

Figure 2-52 Distribution of ratings holding valid CoPs by department

2.4.4 Distribution by capacity

The distribution of ratings by capacity is illustrated in Table 2-22 of Appendix C. Taking into account that the amendments to the STCW Convention that entered into force on 1 January 2012 added new capacities for ratings, and more than three quarters of the ratings were entitled to serve in the existing capacities before these amendments entered into force, a detailed review on capacities assigned to ratings was considered unnecessary at this stage.

2.4.5 Gender distribution

Fourteen out of the 15 EU Member States that provided data on ratings made available information on gender. It covered 43,621 ratings representing 81.59% of the total number of the ratings reported as holding valid CoPs.

It shows that the ratings holding valid CoPs were predominantly male. Considering the data provided as a sample of the total number of ratings at EU level, it can be stated with a level of confidence of 99% that the percentage of the female ratings was 3.51% ± 0.26%.

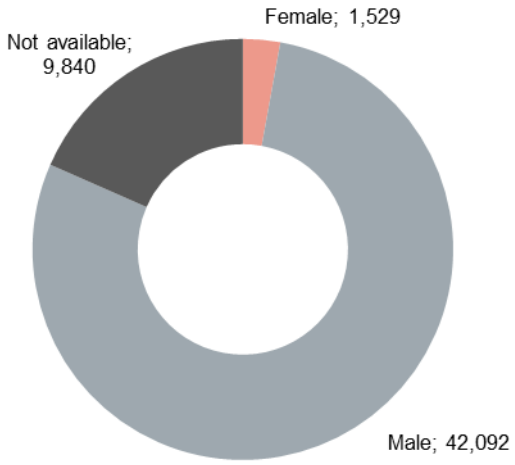

Figure 2-53 Gender distribution of ratings holding valid CoPs

2.4.6 Distribution by nationality

The review of the data made available by the 15 EU Member States showed that ratings holding valid CoPs were nationals from 92 countries (25 EU Member States and 67 Non-EU countries). The review also showed that 88.13% of them were nationals of the same EU Member State providing the data (see section 2.4.2) and that for 4.59% of them the nationality was not made available.

2.4.7 Age distribution

The average age of ratings holding valid CoPs was 40.1 years. Except for the 25-29 age group, all other groups registered similar distributions between 10.07% and 13.29%. The average age for female ratings was 32.6 years, while that for male ratings was 40.8 years. Out of the total number of female ratings, 74.62% were younger than 40 years of age, while the percentage of male ratings in the same age group was 47.95%.

The distribution of the gender groups by age intervals is presented in Figure 2-55.

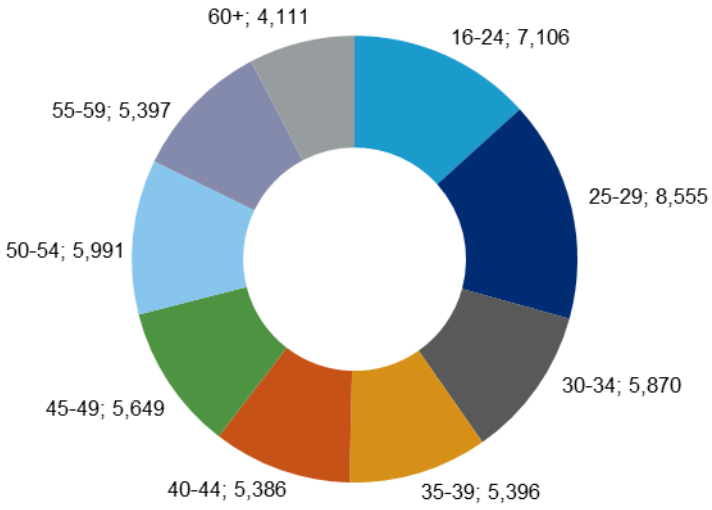

Figure 2-54 Age distribution of ratings holding valid CoPs

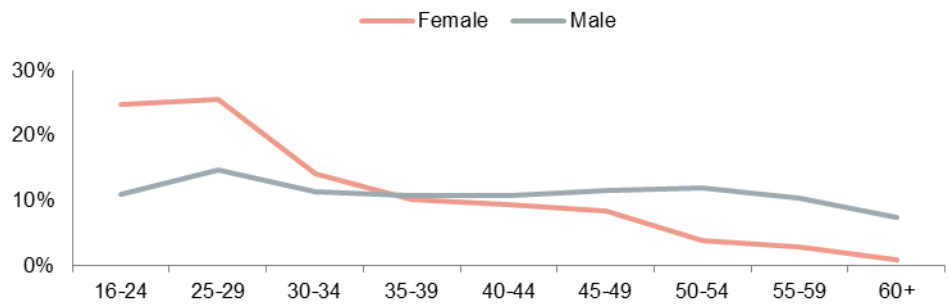

Figure 2-55 Age profile of ratings holding valid CoPs per gender

2.4.8 Main variations observed when comparing with 2014 and 2015 results

The comparison is based on 15 EU Member States that submitted data, the same number as in the previous year.

Following an increase of 12% in the number of valid CoPs for ratings from 2014 to 2015, the 2016 data identified a decrease of 27% compared with 2015 and a decrease of 19% compared with 2014.

The number of ratings entitled to serve in the Deck Department in 2016 was 92% higher than the number of ratings entitled to serve in the Engine Department, while in 2015 it was 96% higher. The total number of ratings entitled to serve in the Deck Department was higher than the total number of ratings entitled to serve in the Engine Department in all three years reviewed so far.

Out of the total number of ratings reported in 2016, the gender information was made available for 81.59% of them, while in 2015 this information was made available for 89.06%. However, no variations were identified in terms of gender distribution.

For the time being such numbers do not allow for any detailed analysis but in the coming years it is expected that once data is gathered some possible trends can be identified. It should be kept in mind that from different studies that have been published in the market throughout the last decades as well as from information gathered from different authorities and from the industry itself the number of ratings trained in the EU appears to be decreasing.

Appendix A Data on masters and officers holding valid CoCs in 2016

Table 2-1 Distribution of masters and officers by departments and EU Member States

Department	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Alternative certification	0	0	0	0	0	0	0	0	0	0	1815	0	0	0	0	0	0	0	1160	0	0	0	0	0	0	0
Deck	1517	1627	966	37	3884	4560	1317	9739	7014	1547	12366	6799	10	683	9071	1595	2824	95	7007	10073	472	4984	4200	187	33	14646
Engine	678	1423	957	62	1899	2390	1194	7312	4178	1122	4207	6163	29	318	5642	1531	2953	20	4755	9451	314	5142	1838	131	31	9746
Total[4]	**2194**	**3048**	**1923**	**99**	**5743**	**6773**	**2510**	**17048**	**10713**	**2661**	**14362**	**12952**	**39**	**1000**	**14068**	**3125**	**5774**	**115**	**9679**	**19518**	**786**	**10124**	**5913**	**318**	**64**	**24375**

Table 2-2 Master and deck officers registered by EU Member States

Capacity	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Master	699	888	817	29	2225	2123	565	3392	1695	993	1822	2799	2	269	4209	582	1106	49	3091	4540	200	1703	1819	85	9	7024
Chief Mate	150	278	122	4	554	195	354	2450	477	142	553	1100	1	180	1082	577	624	11	750	2288	98	1270	648	20	3	2563
Master 3,000 GT	17	17	2	0	23	329	3	237	1986	2	382	527	3	6	882	2	76	1	454	0	22	6	248	25	0	94
Chief Mate 3,000 GT	13	7	1	0	0	272	33	3305	1547	6	238	175	0	14	106	22	50	0	1669	194	13	14	216	4	0	232
OOW	371	420	24	4	824	480	294	143	1309	394	948	1698	4	134	2560	379	886	34	85	3000	119	1983	543	53	21	4527
Master 500 GT, NCV	183	17	0	0	212	534	54	212	0	7	8355	355	0	80	192	32	69	0	734	0	7	8	642	0	0	156
OOW 500 GT, NCV	84	0	0	0	46	627	14	0	0	3	68	145	0	0	44	1	13	0	225	51	13	0	84	0	0	50
TOTAL	**1517**	**1627**	**966**	**37**	**3884**	**4560**	**1317**	**9739**	**7014**	**1547**	**12366**	**6799**	**10**	**683**	**9071**	**1595**	**2824**	**95**	**7007**	**10073**	**472**	**4984**	**4200**	**187**	**33**	**14646**

[4] The sum of the rows may not be equal to the total because some officers held CoCs for both Deck and Engine Departments

Table 2-3 Engineer officers registered by EU Member States

Capacity	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Chief Engineer	233	588	685	35	1237	755	598	2732	1600	583	1627	2019	18	109	3013	600	1138	0	2137	3756	115	1610	1012	57	6	3850
Second Engineer	53	272	99	3	236	227	303	1262	220	70	670	1218	0	77	881	500	697	4	1383	1629	32	1069	352	30	1	1882
Chief Eng. 3,000 kW	130	27	0	1	13	233	1	191	1156	25	400	558	2	9	547	0	106	0	94	403	17	1	19	12	0	223
Second Eng. 3,000 kW	16	30	0	0	0	18	21	348	726	3	153	182	0	53	57	33	58	0	540	511	19	5	11	8	0	717
OEW	246	302	172	1	359	406	180	2417	472	355	1357	1304	1	39	1096	259	645	16	601	1457	131	1271	444	13	20	2902
Electro-technical Officer	0	204	1	22	54	751	91	362	4	86	0	882	8	31	48	139	309	0	0	1695	0	1186	0	11	4	172
TOTAL	**678**	**1423**	**957**	**62**	**1899**	**2390**	**1194**	**7312**	**4178**	**1122**	**4207**	**6163**	**29**	**318**	**5642**	**1531**	**2953**	**20**	**4755**	**9451**	**314**	**5142**	**1838**	**131**	**31**	**9746**

Table 2-4 Distribution of gender groups by EU Member States

Gender	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Female	72	7	4	0	264	189	19	343	565	103	603	25	0	29	148	11	37	4	not available		29	78	237	0	1	397
Male	2122	3041	1919	99	5479	6584	2491	16705	10148	2558	13759	12927	39	971	13920	3114	5737	111	not available		757	10046	5676	318	63	23978
TOTAL	**2194**	**3048**	**1923**	**99**	**5743**	**6773**	**2510**	**17048**	**10713**	**2661**	**14362**	**12952**	**39**	**1000**	**14068**	**3125**	**5774**	**115**			**786**	**10124**	**5913**	**318**	**64**	**24375**

Table 2-5 Non-EU nationals holding CoCs issued by EU Member States

Region of origin	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	Total
Africa	80	1	3	0	1	4	0	0	21	1	56	34	0	35	0	0	0	0	4	52	0	0	0	0	1	609	**902**
Americas	59	0	0	0	2	3	1	0	22	1	7	2	0	2	4	0	1	0	10	0	0	0	1	0	0	138	**253**
Asia	17	0	1	0	0	2	0	0	0	0	2	12	0	45	0	1	0	0	29	7	0	0	0	0	0	10614	**10730**
Europe (non-EU)	4	4	1	0	25	143	428	0	8	1	5	14	0	0	0	66	288	0	7	39	0	23	11	2	0	19	**1088**
Oceania	0	0	1	0	1	1	0	0	0	0	0	0	0	16	2	0	2	0	4	2	0	0	0	0	0	144	**173**
TOTAL	**160**	**5**	**6**	**0**	**29**	**153**	**429**	**0**	**51**	**3**	**70**	**62**	**0**	**98**	**6**	**67**	**291**	**0**	**54**	**100**	**0**	**23**	**12**	**2**	**1**	**11524**	**13146**

Table 2-6 Age distribution by EU Member States

Age	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IT	LT	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
age<25	67	0	0	0	124	59	47	1129	187	66	705	279	1	88	711	118	142	9	788	212	8	242	106	10	5	1204
25≤age<30	322	205	33	0	977	591	247	3241	919	269	1955	1403	1	155	1939	400	644	29	1284	1836	66	1758	576	25	13	3040
30≤age<35	308	303	65	2	986	707	355	3361	1158	347	2120	1745	0	151	1655	421	872	9	1078	2671	86	1665	677	37	15	3447
35≤age<40	217	377	31	3	717	645	240	2409	1585	381	2034	2126	0	130	1478	312	711	4	1012	2534	72	1463	644	34	8	3451
40≤age<45	216	495	15	3	479	722	236	1729	1785	364	2079	1837	0	142	1549	273	734	3	1172	2215	89	1201	677	35	2	2915
45≤age<50	242	412	20	6	488	797	248	1254	1450	306	1895	1345	1	107	1451	269	539	2	1192	1724	59	1432	672	31	2	2365
50≤age<55	324	358	203	10	556	954	371	1705	1594	344	1637	1485	10	62	1618	427	674	6	1203	2098	85	948	655	36	9	2093
55≤age<60	275	364	512	23	656	892	352	1405	1307	302	1248	1289	12	62	1684	461	689	10	915	2554	111	899	637	53	5	2528
age≥60	223	534	1044	52	760	1406	414	815	728	282	689	1443	14	103	1983	444	769	43	1035	3674	210	516	1269	57	5	3332
TOTAL	**2194**	**3048**	**1923**	**99**	**5743**	**6773**	**2510**	**17048**	**10713**	**2661**	**14362**	**12952**	**39**	**1000**	**14068**	**3125**	**5774**	**115**	**9679**	**19518**	**786**	**10124**	**5913**	**318**	**64**	**24375**

Table 2-7 Age distribution by departments

Department	age<25	25≤age<30	30≤age<35	35≤age<40	40≤age<45	45≤age<50	50≤age<55	55≤age<60	age≥60	Total
Alternative certification	573	1109	572	296	169	114	72	55	15	**2975**
Deck Department	4076	14455	15569	14397	13005	11013	11473	11068	12090	**107146**
Engine Department	2932	8808	9653	8899	8495	7783	8399	8494	9990	**73453**
TOTAL[5]	**6306**	**21920**	**24232**	**22595**	**20958**	**18293**	**19437**	**19226**	**21813**	**174780**

[5] The sum of the rows may not be equal to the total because some officers held CoCs for both Deck and Engine Departments

Table 2-8 Age distribution for masters and deck officers

Capacity	age<25	25≤age<30	30≤age<35	35≤age<40	40≤age<45	45≤age<50	50≤age<55	55≤age<60	age≥60	Total
Master	5	352	2914	6102	6827	5546	6323	6787	7851	**42707**
Chief Mate	113	2558	5067	2977	1652	1036	986	1043	1061	**16493**
Master 3,000 GT	2	77	317	581	800	935	989	815	824	**5340**
Chief Mate 3,000 GT	1353	2837	1402	660	506	356	402	310	305	**8131**
OOW	2042	7394	4348	2483	1420	1170	950	777	649	**21233**
Master 500 GT, NCV	465	1071	1358	1460	1648	1784	1646	1189	1206	**11827**
OOW 500 GT, NCV	96	171	167	145	158	192	188	151	196	**1464**
TOTAL	**4076**	**14455**	**15569**	**14397**	**13005**	**11013**	**11473**	**11068**	**12090**	**107146**

Table 2-9 Age distribution for engineer officers

Capacity	age<25	25≤age<30	30≤age<35	35≤age<40	40≤age<45	45≤age<50	50≤age<55	55≤age<60	age≥60	Total
Chief Engineer	5	264	1803	3956	4603	4204	4656	4887	5726	**30104**
Second Engineer	528	1825	3185	1842	1260	1096	1126	1029	1279	**13170**
Chief Eng. 3,000 kW	4	88	257	414	519	601	740	674	870	**4167**
Second Eng. 3,000 kW	101	448	397	326	382	410	447	556	442	**3509**
OEW	2148	5401	3216	1741	1048	838	729	636	707	**16464**
Electro-technical Officer	146	784	796	623	684	638	704	716	968	**6059**
TOTAL	**2932**	**8808**	**9653**	**8899**	**8495**	**7783**	**8399**	**8494**	**9990**	**73453**

Table 2-10 Age distribution by gender group

Gender	age<25	25≤age<30	30≤age<35	35≤age<40	40≤age<45	45≤age<50	50≤age<55	55≤age<60	age≥60	Total
Female	282	1031	681	463	332	182	100	68	26	**3165**
Male	5024	17773	19807	18596	17245	15204	16048	15699	17086	**142482**
Not available	1000	3116	3744	3536	3381	2907	3289	3459	4701	**29133**
TOTAL	**6306**	**21920**	**24232**	**22595**	**20958**	**18293**	**19437**	**19226**	**21813**	**174780**

Appendix B Data on masters and officers holding valid EaRs in 2016

Table 2-11 EU and non-EU countries issuing the original CoCs per EU Member States issuing the EaRs

Country issuing the original CoC	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
EU Member State	1341	7423	607	2030	109	427	25	170	981	11	288	1324	34	3268	151	15080	2894	10	2581	0	236	2	1	6628
non-EU country	1928	19512	857	3435	59	4564	77	131	1231	0	45	323	54	3000	302	40635	8370	13	4017	0	342	0	0	5936
Not available	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL[6]	**3266**	**26935**	**1464**	**5463**	**168**	**4989**	**102**	**301**	**2212**	**11**	**333**	**1647**	**88**	**6265**	**453**	**55715**	**11260**	**20**	**6594**	**0**	**577**	**2**	**1**	**12564**

Table 2-12 EU and non-EU countries issuing the original CoCs per departments

	Deck Department		Engine Department		Total[7]
Country issuing the original CoC	Number	Percentage	Number	Percentage	Number
EU Member State	22646	55.79%	18102	44.59%	**40595**
non-EU country	46437	52.89%	41420	47.17%	**87802**
Not available	1	50.00%	1	50.00%	**2**
TOTAL[12]	**69060**	**53.80%**	**59502**	**46.36%**	**128354**

Table 2-13 Engineer officers holding EaRs registered by EU Member States

Capacity	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Chief Engineer	560	5345	277	1027	39	517	47	61	260	2	70	394	15	1180	62	9709	1956	5	1413	0	60	0	1	2355
Second Engineer	364	2780	119	591	15	480	7	30	203	0	24	179	19	651	47	6102	1180	0	698	0	42	0	0	1457
Chief Eng. 3,000 kW	75	66	19	22	4	0	1	3	29	0	15	74	4	119	25	494	260	0	6	0	16	0	0	114
Second Eng. 3,000 kW	39	83	2	18	1	0	2	2	6	0	0	4	2	44	6	569	68	0	4	0	0	0	0	124
OEW	519	3790	192	1534	16	1374	7	41	480	2	8	216	8	594	37	8353	1384	2	688	0	341	0	0	1514
Electro-technical Officer	19	76	73	0	6	45	0	0	73	0	7	27	1	126	0	597	93	0	2	0	4	0	0	427
TOTAL	**1573**	**12140**	**682**	**3190**	**81**	**2416**	**64**	**137**	**1051**	**4**	**124**	**894**	**49**	**2712**	**177**	**25824**	**4935**	**7**	**2810**	**0**	**462**	**0**	**1**	**5991**

[6] The sum of the rows may not be equal to the total because some officers held EaRs recognising original CoCs issued by EU Member States and non-EU countries
[7] The sum of the columns may not be equal to the total because some officers held EaRs for both Deck and Engine Departments

Table 2-14 Master and deck officers holding EaRs registered by EU Member States

Capacity	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Master	550	5773	107	451	32	203	12	42	137	5	58	171	14	1412	96	10874	1379	12	1575	0	64	0	0	1766
Chief Mate	371	3324	184	531	11	616	6	10	320	1	47	217	10	913	70	6685	2452	0	894	0	35	1	0	2195
Master 3,000 GT	59	103	30	4	8	0	2	2	12	0	26	98	4	139	21	294	29	0	4	0	25	1	0	212
Chief Mate 3,000 GT	63	119	4	17	2	1	2	0	8	0	19	15	0	86	11	737	20	0	24	0	6	0	0	199
OOW	566	5476	454	1202	27	1764	11	93	683	1	59	212	11	958	81	11140	2430	1	1291	0	14	0	2	2207
Master 500 GT, NCV	81	1	1	45	7	1	5	9	1	0	0	23	1	83	0	159	25	0	0	0	3	0	0	23
OOW 500 GT, NCV	8	1	2	31	0	0	0	8	2	0	0	23	0	15	0	12	6	0	0	0	0	0	0	5
TOTAL	**1698**	**14797**	**782**	**2279**	**87**	**2585**	**38**	**164**	**1162**	**7**	**209**	**758**	**40**	**3599**	**276**	**29901**	**6332**	**13**	**3788**	**0**	**147**	**2**	**0**	**6607**

Table 2-15 EU Member States and EFTA countries issuing original CoCs endorsed by other EU Member States

Country issuing the original CoC	EU Member State issuing the EaR																							Total[8]
	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	
Austria	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Belgium	0	19	5	0	0	4	0	0	100	0	0	6	0	501	0	71	202	0	0	0	0	0	0	9	**867**
Bulgaria	173	267	15	12	0	28	0	0	78	0	0	95	0	57	0	1475	57	0	129	0	1	0	0	501	**2555**
Croatia	375	417	22	93	0	0	0	0	67	0	0	17	0	796	25	1092	396	0	137	0	0	2	0	571	**3386**
Cyprus	0	0	0	0	0	105	0	0	0	0	0	0	0	0	0	232	0	0	1	0	0	0	0	0	**334**
Czech Republic	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	5	0	0	0	0	1	**9**
Denmark*	3	49	1	0	0	0	0	1	2	0	1	0	0	3	0	72	54	0	0	0	42	0	0	27	**248**
Estonia	6	226	12	23	0	0	0	125	4	0	1	7	15	15	88	186	217	0	45	0	3	0	0	161	**989**
Finland	0	17	0	6	62	3	0	0	0	0	0	0	0	4	1	43	29	0	3	0	146	0	0	14	**307**
France	24	42	4	1	0	0	5	0	0	0	0	6	0	369	0	163	24	0	0	0	1	0	0	142	**761**
Germany	1	173	0	21	15	0	5	0	2	0	0	54	0	177	3	328	168	2	263	0	0	0	0	58	**1169**
Greece	5	1140	0	1	1	0	0	0	1	0	0	0	0	4	0	3174	27	0	37	0	5	0	0	18	**4223**
Hungary	0	6	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	4	0	0	0	0	1	**15**

[8] The sum of the columns may not be equal to the total because some officers held EaRs issued by different EU Member States

Country issuing the original CoC	EU Member State issuing the EaR																								Total[8]
	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	
Iceland	0	0	0	10	11	0	0	0	0	0	0	0	1	1	0	0	0	11	0	0	1	0	0	2	**37**
Ireland	0	31	0	6	0	0	0	0	1	0	0	3	0	4	0	24	20	0	2	0	0	0	0	258	**329**
Italy	2	113	0	2	0	1	0	0	6	0	1	0	0	22	0	406	12	0	72	0	0	0	0	756	**1339**
Latvia	35	405	14	102	16	4	0	1	94	0	0	64	18	38	0	805	361	1	149	0	7	0	0	596	**2284**
Lithuania	31	406	18	45	6	0	8	0	16	0	20	2	0	180	26	290	289	1	140	0	2	0	0	346	**1448**
Malta	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	2	0	0	0	0	2	**9**
Netherlands	437	511	34	39	0	0	0	5	13	5	1	0	1	454	2	273	0	0	11	0	3	0	0	84	**1761**
Norway	0	126	3	25	0	0	2	3	5	0	0	0	0	0	0	321	25	0	2	0	20	0	0	101	**622**
Poland	67	2310	443	434	0	19	2	5	123	0	209	13	0	284	4	2144	249	0	835	0	21	0	1	1927	**7992**
Portugal	1	8	1	5	0	0	0	0	0	0	0	0	0	2	0	62	5	0	0	0	0	0	0	10	**91**
Romania	51	431	13	332	0	246	1	0	402	0	0	867	0	196	1	2308	262	0	458	0	2	0	0	877	**5330**
Slovakia	0	3	2	0	0	0	0	0	0	0	0	0	0	1	0	6	0	0	8	0	0	0	0	0	**20**
Slovenia	2	60	1	1	0	0	4	0	3	6	0	22	0	10	1	44	14	0	13	0	0	0	0	6	**153**
Spain	10	161	2	10	0	9	0	0	7	0	0	2	0	38	0	415	60	0	184	0	1	0	0	207	**1014**
Sweden	0	64	9	350	7	0	0	29	2	0	0	0	0	1	0	106	19	0	5	0	0	0	0	58	**640**
United Kingdom	120	569	11	546	2	8	0	3	60	0	55	167	0	114	0	1388	434	0	80	0	3	0	0	0	**3410**

*Includes Faroe Islands

Table 2-16 non-EU countries, recognised at EU level or under the process of recognition, issuing original CoCs endorsed by EU Member States

Country issuing the original CoC	EU Member State issuing the EaR																								Total[9]
	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	
Algeria	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Argentina	84	17	1	8	0	0	2	0	0	0	0	0	0	8	0	0	0	0	6	0	0	0	0	0	**125**
Australia	20	178	1	52	13	0	0	0	3	0	0	0	0	103	0	238	100	0	1	0	0	0	0	68	**694**
Azerbaijan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	411	0	0	0	0	0	0	0	0	**411**
Bangladesh	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**28**

[9] The sum of the columns may not be equal to the total because some officers held EaRs issued by different EU Member States

Country issuing the original CoC	EU Member State issuing the EaR																								Total[9]
	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	
Brazil	0	228	0	142	0	0	0	0	13	0	0	2	0	22	0	0	13	0	19	0	0	0	0	66	**483**
Canada	3	14	0	8	0	9	0	0	2	0	0	0	0	3	0	70	13	0	2	0	0	0	0	62	**177**
Cape Verde	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**6**
Chile	0	24	0	0	0	0	4	0	0	0	0	0	0	17	0	0	0	0	1	0	0	0	0	0	**41**
China	0	208	11	6	0	0	0	0	0	0	0	0	0	0	0	510	61	0	22	0	0	0	0	953	**1707**
Cuba	0	41	0	0	0	0	59	0	0	0	0	5	0	0	0	149	0	0	84	0	0	0	0	0	**315**
Egypt	2	162	0	0	0	0	0	0	3	0	0	0	0	70	0	598	0	0	52	0	0	0	0	0	**879**
Ethiopia	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Fiji	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Georgia	4	150	0	0	0	56	0	0	0	0	0	2	1	0	0	351	0	0	16	0	0	0	0	0	**542**
Ghana	0	70	0	2	0	0	0	0	0	0	0	0	0	24	0	10	0	0	2	0	0	0	0	0	**107**
Hong Kong	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	6	**16**
India	295	903	0	1155	1	48	0	0	147	0	0	305	0	144	0	3475	89	0	94	0	0	0	0	511	**6795**
Indonesia	6	312	0	0	0	13	0	0	8	0	0	1	0	58	0	225	357	0	77	0	0	0	0	0	**1022**
Iran, Islamic Republic of	1	151	0	0	0	0	0	0	0	0	0	0	0	0	0	615	0	0	0	0	0	0	0	4	**664**
Israel	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	0	0	**67**
Jamaica	65	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	5	**78**
Japan	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**2**
Jordan	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	**81**
Korea, Republic of	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	268	0	0	1	0	0	0	0	9	**304**
Lebanon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	0	0	0	0	0	0	0	0	**45**
Madagascar	0	0	0	0	0	0	0	0	40	0	0	0	0	61	0	0	0	0	0	0	0	0	0	0	**75**
Malaysia	1	22	0	0	0	0	0	0	11	0	0	0	0	10	0	0	0	0	0	0	0	0	0	4	**48**
Mexico	3	33	0	0	0	0	2	0	0	0	0	0	0	7	0	0	0	0	4	0	0	0	0	0	**47**
Montenegro	0	253	1	0	0	0	0	0	0	0	0	0	0	40	0	479	0	0	0	0	0	0	0	127	**815**
Morocco	0	34	0	0	0	0	0	0	44	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	**86**
Myanmar	0	125	5	0	0	0	0	0	0	0	0	0	0	22	0	293	0	0	125	0	0	0	0	38	**580**
New Zealand	7	74	1	31	8	0	0	0	0	0	0	0	0	32	0	95	73	0	7	0	0	0	0	115	**420**
Pakistan	0	83	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	**100**
Peru	1	63	1	0	0	0	6	0	0	0	0	0	0	1	0	119	0	0	145	0	0	0	0	0	**329**

Country issuing the original CoC	EU Member State issuing the EaR																							Total[9]
	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	
Russian Federation	247	3763	156	149	26	0	0	16	27	0	37	7	45	520	229	6227	2814	0	758	0	1	0	0	1129	**14395**
Senegal	0	0	0	0	0	0	0	0	13	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	**17**
Serbia	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	**17**
Singapore	9	97	0	151	0	0	0	0	6	0	0	1	0	15	0	165	14	0	8	0	0	0	0	25	**472**
South Africa	2	45	0	11	0	0	0	0	0	0	0	0	0	22	0	0	2	0	1	0	0	0	0	17	**97**
Sri Lanka	2	137	3	0	0	0	0	0	0	0	0	0	0	6	0	230	0	0	46	0	0	0	0	33	**432**
The Philippines	299	6609	486	1317	0	3684	0	109	612	0	3	0	0	516	0	12063	2530	1	1014	0	319	0	0	1274	**29695**
Tunisia	0	0	0	0	0	0	0	0	17	0	0	0	0	18	0	4	0	0	0	0	0	0	0	0	**26**
Turkey	0	9	2	0	0	0	0	0	0	0	0	0	0	23	0	4795	4	0	105	0	0	0	0	0	**4874**
Ukraine	861	5268	186	359	0	736	0	3	238	0	5	0	7	1159	76	8625	2228	1	1424	0	0	0	0	1266	**19459**
United States	9	14	0	18	0	0	0	0	0	0	0	0	0	1	0	57	0	0	0	0	0	0	0	83	**180**
Uruguay	0	9	0	0	0	0	2	0	0	0	0	0	0	19	0	0	0	0	1	0	0	0	0	0	**28**
Vietnam	0	93	0	0	0	0	0	0	0	0	0	0	0	0	0	30	59	0	0	0	0	0	0	20	**202**

Table 2-17 Age distribution of holders of EaRs by departments

Department	age<25	25≤age<30	30≤age<35	35≤age<40	40≤age<45	45≤age<50	50≤age<55	55≤age<60	age≥60	Total
Deck	2023	11414	13194	11235	9583	6342	6084	5349	3836	**69060**
Engine	1402	7621	9363	7527	7923	7322	7296	6182	4866	**59502**
TOTAL[10]	**3423**	**18979**	**22515**	**18730**	**17479**	**13653**	**13364**	**11517**	**8694**	**128354**

Table 2-18 Age distribution for engineer officers holding EaRs

Capacity	age<25	25≤age<30	30≤age<35	35≤age<40	40≤age<45	45≤age<50	50≤age<55	55≤age<60	age≥60	Total
Chief Engineer	3	149	1391	2849	3787	3663	4075	3875	3391	**23183**
Second Engineer	37	1306	3527	2371	1843	1554	1394	968	710	**13710**
Chief Eng. 3,000 kW	0	18	106	146	171	183	223	201	240	**1288**
Second Eng. 3,000 kW	16	111	188	118	106	99	98	124	84	**944**
OEW	1316	5930	4135	2005	1920	1715	1412	960	387	**19780**

[10] The sum of the rows may not be equal to the total because some officers held EaRs for both Deck and Engine Departments

Electro-technical Officer	37	223	240	186	227	221	185	121	93	**1533**
TOTAL	**1402**	**7621**	**9363**	**7527**	**7923**	**7322**	**7296**	**6182**	**4866**	**59502**

Table 2-19 Age distribution for masters and deck officers holding EaRs

Capacity	age<25	25≤age<30	30≤age<35	35≤age<40	40≤age<45	45≤age<50	50≤age<55	55≤age<60	age≥60	Total
Master	5	152	1737	3560	4235	3351	3688	3488	2867	**23083**
Chief Mate	55	2280	5192	3730	2505	1412	1071	756	469	**17470**
Master 3,000 GT	0	10	80	130	142	173	187	143	175	**1040**
Chief Mate 3,000 GT	75	371	327	145	130	71	76	66	44	**1305**
OOW	1892	8747	6119	3804	2645	1345	1074	891	269	**26786**
Master 500 GT, NCV	2	33	50	76	79	78	60	45	38	**461**
OOW 500 GT, NCV	1	20	27	23	6	12	11	5	6	**111**
TOTAL	**2023**	**11414**	**13194**	**11235**	**9583**	**6342**	**6084**	**5349**	**3836**	**69060**

Table 2-20 Age distribution of officers holding EaRs by gender group[11]

Gender	age<25	25≤age<30	30≤age<35	35≤age<40	40≤age<45	45≤age<50	50≤age<55	55≤age<60	age≥60	Total
Female	79	321	213	99	46	24	17	10	6	**815**
Male	2845	17019	20548	17333	16235	12773	12474	10851	8312	**118390**
TOTAL	**2923**	**17338**	**20759**	**17430**	**16277**	**12796**	**12489**	**10861**	**8318**	**119191**

Table 2-21 Age distribution by region of the country issuing the original CoC

Region of the country issuing the original CoC	age<25	25≤age<30	30≤age<35	35≤age<40	40≤age<45	45≤age<50	50≤age<55	55≤age<60	age≥60	Total
Asia	1339	6772	7313	6613	7070	4506	3729	3295	1622	**42259**
EU	682	4774	6771	5932	5051	4229	4447	4342	4367	**40595**
Europe (non-EU)	1301	6661	7695	5621	4934	4513	4714	3450	2289	**41178**
Rest of the World	101	780	747	577	432	414	478	434	417	**4380**
TOTAL	**3423**	**18979**	**22514**	**18730**	**17479**	**13653**	**13363**	**11517**	**8694**	**128352**

[11] Poland and the Netherlands not included

Appendix C Data on ratings holding valid CoPs in 2016

Table 2-22 Ratings holding CoPs registered by EU Member States

Capacity	BE	CZ	DE	EE	ES	FI	FR	HR	IT	LT	LV	PL	RO	SE	SK
Able seafarer deck	0	1	13	0	314	507	380	140	1096	211	2110	3733	334	1968	2
Rating forming part of a navigational watch	1012	0	1095	1118	8624	355	1587	2977	1649	1558	2177	6873	1117	757	7
Able seafarer engine	0	0	3	641	139	266	255	40	382	1	937	336	137	444	1
Rating forming part of an engineering watch	410	0	314	0	4609	235	660	1427	790	502	750	2835	1090	184	10
Electro-technical rating	0	0	45	56	41	226	68	966	181	10	34	153	688	157	0
TOTAL[12]	**1723**	**1**	**2640**	**1569**	**11079**	**2050**	**2410**	**5158**	**3596**	**2222**	**4998**	**9840**	**2947**	**3237**	**20**

[12] The sum of the rows may not be equal to the total because some ratings held certificates for both the Deck and the Engine Departments

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