European Maritime Safety Agency

Seafarers' Statistics in the EU

Statistical review (2017 data STCW-IS)

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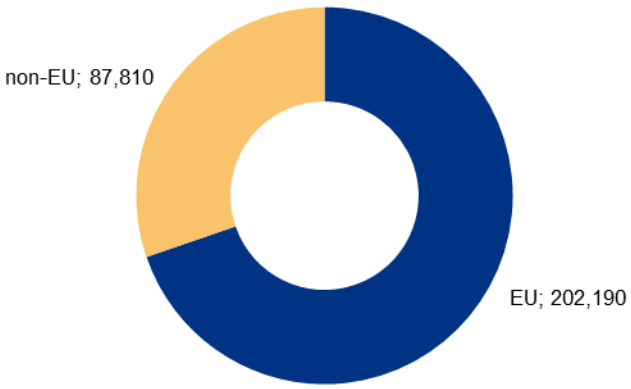
EMSA

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, Iceland and Norway until 31 December 2017. This data which was transferred and recorded in the STCW Information System (STCW-IS) until 31 December 2018, represents a snapshot of the European labour market in terms of the number of seafarers holding valid certificates and endorsements in 2017.

The data included in the STCW-IS shows that by end-2017, 202,190 masters and officers held valid certificates of competency (CoC) issued by EU Member States[1] while another 87,810 masters and officers held original CoCs issued by non-EU countries with endorsements issued by EU Member States attesting their recognition (EaR). Overall, the end of 2017 saw almost a third 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 2017 were the United Kingdom (30,833), Poland (20,138), Greece (18,935), Italy (15,154) and Norway (14,696). In addition, the five EU Member States that had more masters and officers holding EaRs issued were Malta (52,938), Cyprus (23,233), the United Kingdom (13,632), Norway (10,754) and the Netherlands (9,532). Finally, the five non-EU countries which had more masters and officers holding CoCs recognised by EU Member States were the Philippines (30,615), Ukraine (19,304), the Russian Federation (15,631), India (6,357) and Turkey (4,100).

The inclusion of data received from Iceland and Norway as from this year is a positive development and an important contribution to having more robust consolidated data in the system. This fact prevented the direct comparison of this year's information with the results of the previous three years. Nevertheless, EMSA has compiled data throughout the years with the objective of having a wide picture of the number of masters and officers available to serve on board EU Member State-flagged, which was not affected by such inclusion. Within this context therefore, it can be seen that the overall figures remained broadly stable in terms of distribution per department, capacity, gender, nationality and age. This stability may indicate that, in general terms, the European maritime labour market has been able to attract new entrants that have replaced those leaving the seafaring career.

[1] Hereinafter, and unless otherwise specified, reference to EU or EU Member State(s) is to be taken as including also Norway and Iceland.

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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
EFTA	European Free Trade Association
EMSA	European Maritime Safety Agency
ETO	Electro-technical Officer
EU	European Union
GT	Gross Tonnage
kW	kilowatts
ML	Management level
NCV	Near Coastal Voyages
OEW	Officer in charge of an engineering watch
OL	Operational level
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[2] establishes in its Article 2 that "The Agency shall facilitate cooperation between the Member States and the Commission in gathering and analysing data on seafarers provided and used in accordance with Directive 2008/106/EC[3] of the European Parliament and of the Council of 19 November 2008 on the minimum level of training of seafarers".

Article 25a of Directive 2008/106/EC, as amended, establishes that "information shall be made available by 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". Norway and Iceland (Members of the European Free Trade Association States) are similarly bound by this obligation. This data is recorded in the STCW Information System (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, Norway and Iceland until 31 December 2017, and received in the STCW-IS until 31 December 2018. This fourth review presents a snapshot of the number of seafarers holding valid certificates and endorsements in 2017. 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 2017.

The fact that data from Norway and Iceland (previously treated as third countries) were also included in the analysis affected the comparability of this year's data with those gathered in the previous years. Nevertheless, EMSA has compiled data throughout the years with the objective of having a wide picture of the number of masters and officers available to serve on board EU Member State-flagged, which was not affected by such inclusion. This overview can be found in section 2.5.

Due to the inclusion of data from Norway and Iceland and in order to simplify the text for the reader, where the wording EU or EU Member State(s) appears in respect of information for 2017 this is to be taken as including Norway and Iceland.

The main beneficiaries of this statistical review are 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 States' level. Some inconsistencies were in fact 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 with previous reviews, corrections were also made in the 2017 reported data on seafarers' gender when different genders were attributed to the same seafarer in the same country. These corrections ensured that any such identified inconsistencies, albeit negligible, would not impair the proper counting of seafarers at EU level.

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, thus maximising

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

the widest possible number of errors to be identified and corrected during the verification process. The dimension of the sample was established by the formula:

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

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 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.

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) and two EFTA countries (Norway and Iceland).

It is to be noted that while measures have been taken to safeguard information subject to data protection rules (please see 1.6 below), said measures still maintained intact the possibility for data in its encrypted form to be analysed and compared.

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 previous statistical reviews 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 this 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 EMSA's Founding Regulation[4], as amended. In order to ensure the safeguarding of personal information subject to data protection, EMSA developed and made available to the EU Member States, Norway and Iceland an anonymisation software module which converts all personal data – such as seafarer's name, seafarer's unique identifier and certificate/ endorsement number – extracted in its raw format from the national registries into anonymous strings of characters by using a powerful encryption algorithm. The data anonymised at source is received and compiled by EMSA in its encrypted format.

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

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. As noted above, 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).

2.1 Masters and officers holding valid certificates of competency in 2017

2.1.1 Total

The total number of masters and officers holding valid certificates of competency (CoC) at EU level was 202,190. Of these, 3.60% held CoCs entitling them to serve in both the Deck and Engine Departments. In addition, just a very limited number of them (0.06%) 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:

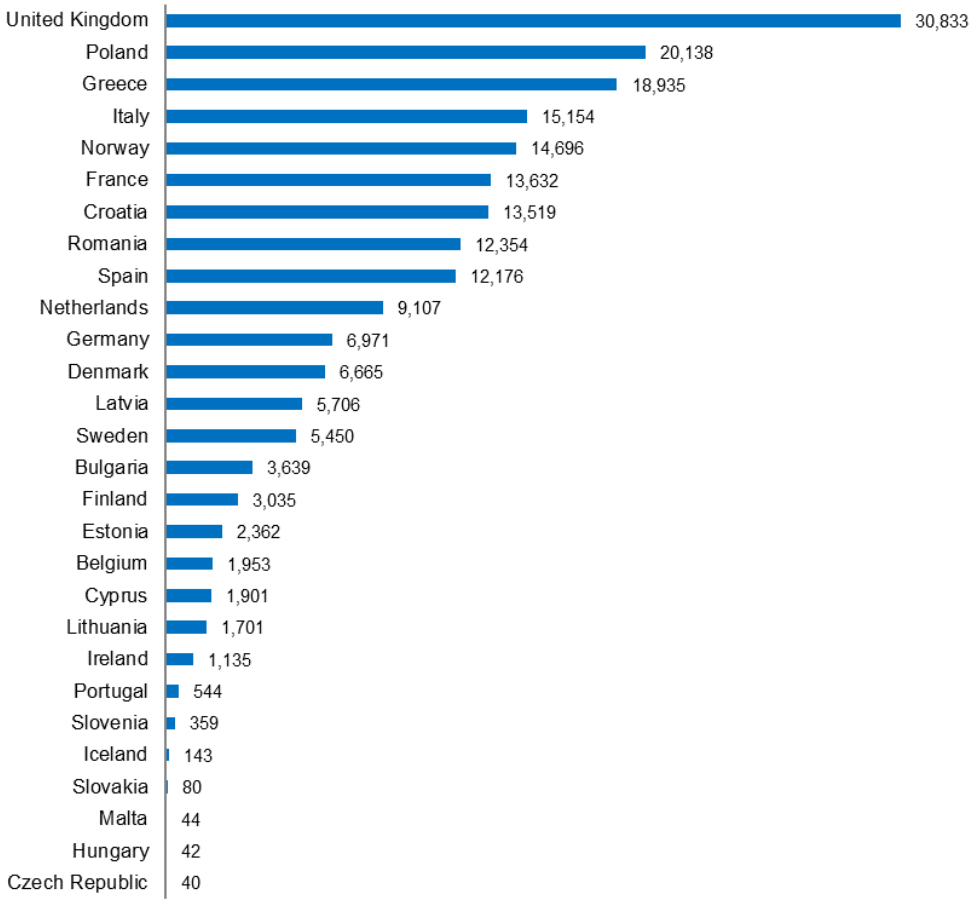

Figure 2-1 Masters and officers holding valid CoCs per EU Member State

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 49% 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.

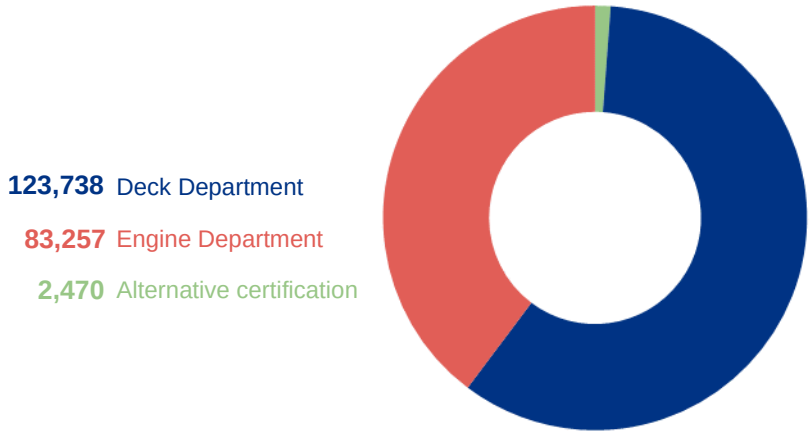

Figure 2-2 Distribution of masters and officers holding valid CoCs by department

The distribution by department within each EU Member State is presented in Figure 2-3.

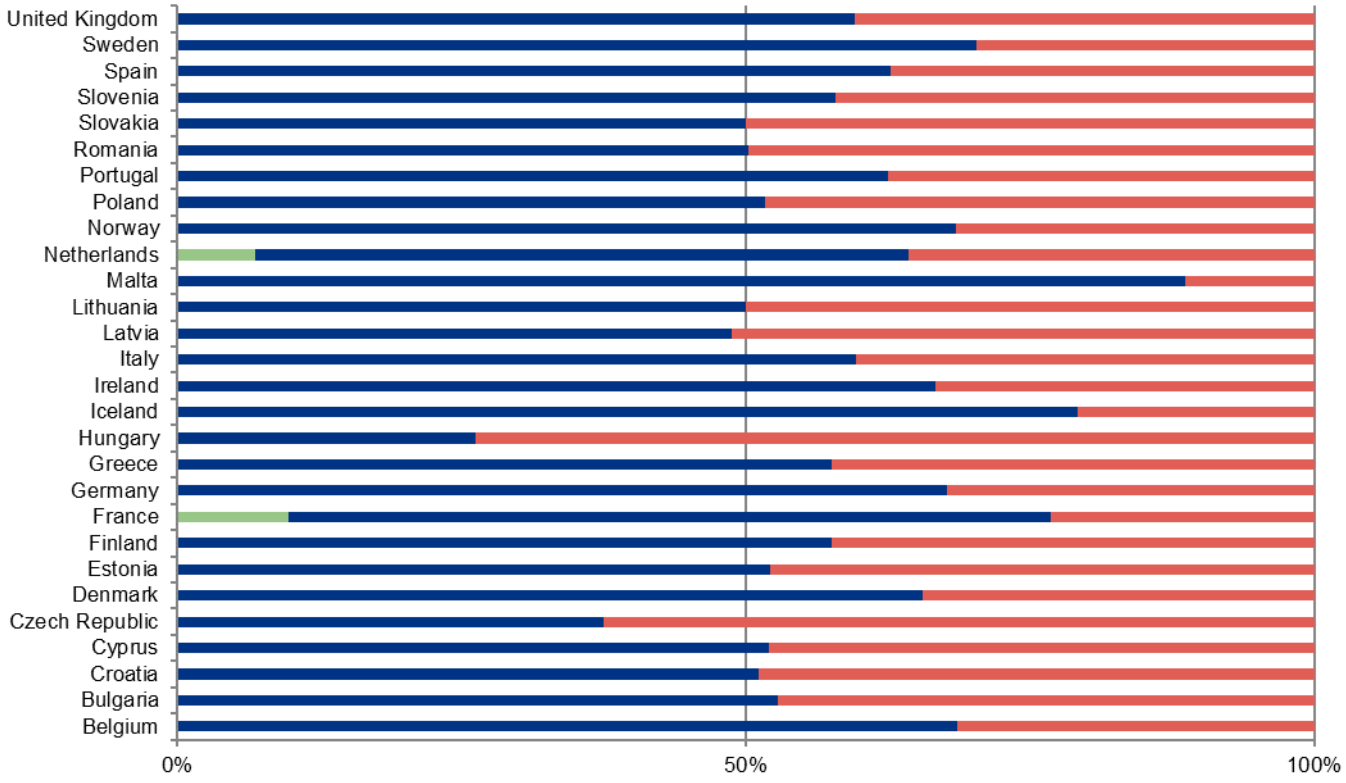

Figure 2-3 Distribution of masters and officers holding valid CoCs by department in each EU Member State

2.1.4 Distribution by capacity

Taking into account that EU Member States do not use the same terms to refer to capacities in their manning regulations, all capacities reported in the CoCs have been linked to the generic capacities established in Chapters II and III of the STCW Convention, in order to establish a common platform for data comparability. 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

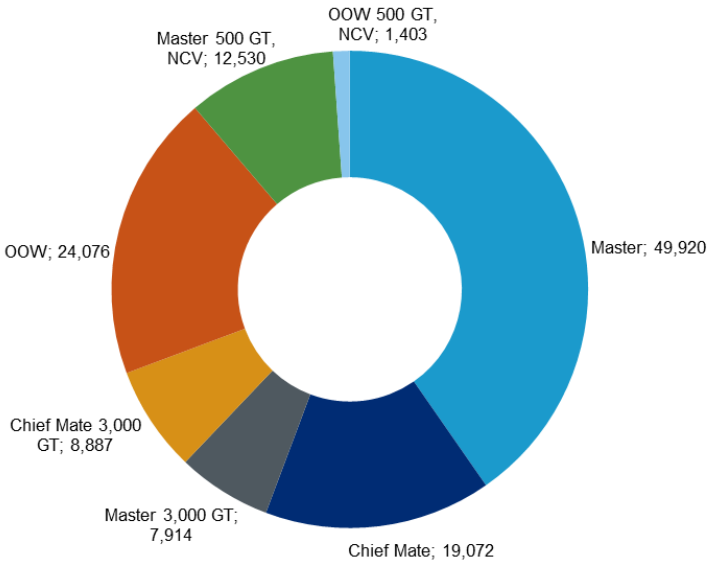

Figure 2-4 Distribution of masters and deck officers holding valid CoCs by deck capacity

The data in Figure 2-4 shows that 55.76% of the deck officers were entitled to serve at management level on ships of 3,000 GT or more, with 2.28% and 1.50% of their CoCs being limited in terms of gross tonnage and area of navigation, respectively.

2.1.4.2 Distribution by engine capacity

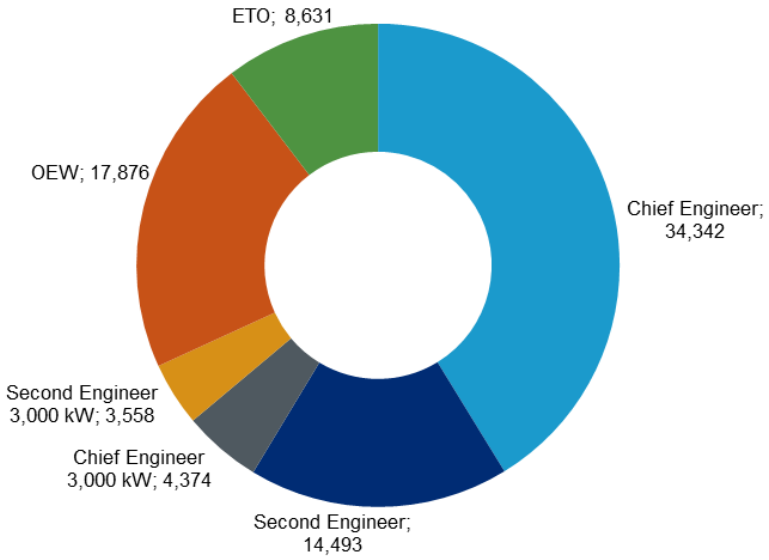

Figure 2-5 Distribution of engineer officers holding valid CoCs by engine capacity

The data in Figure 2-5 shows that 58.66% of the engineer officers were entitled to serve at management level on ships of 3,000 kW or more, with 4.81%, 33.65% and 3.96% 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 26 EU Member States which had such data available. Consequently, it covered 172,998 masters and officers representing 85.56% of the total number of officers holding valid CoCs in 2017 at EU level.

Considering the total number of masters and officers whose gender was known, it can be stated with a level of confidence of 99% that the percentage of female masters and officers was 2.13% ± 0.12% compared to 97.87% ± 0.12% of male masters and officers.

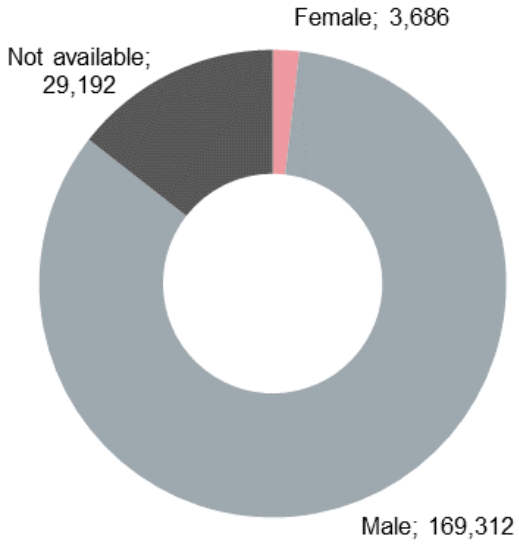

Figure 2-6 Gender distribution of masters and officers holding valid CoCs

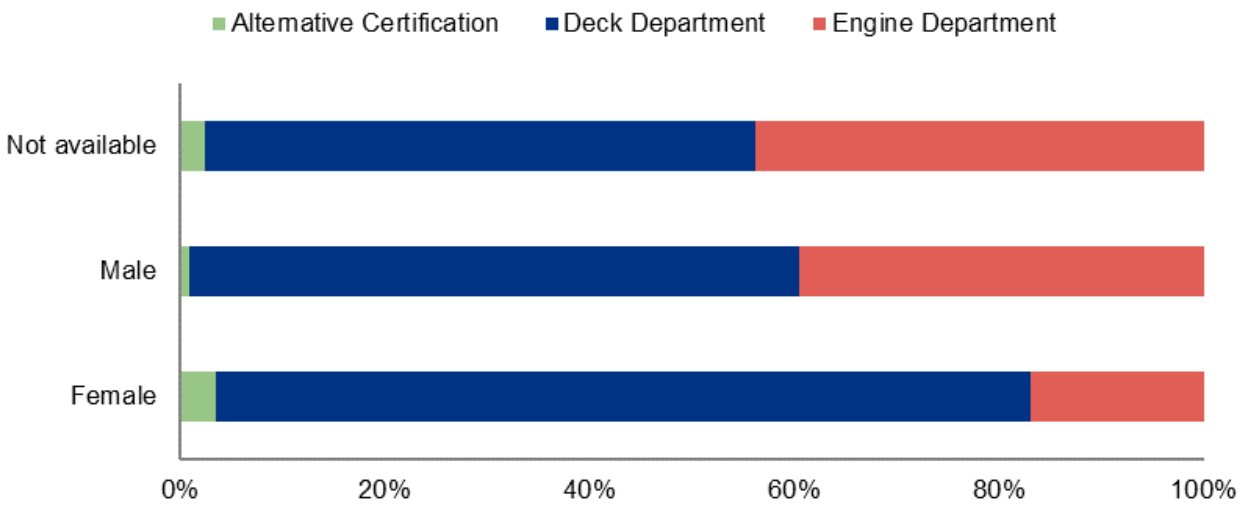

Figure 2-7 Distribution of masters and officers holding valid CoCs by department and by gender

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 (86.41%) 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.

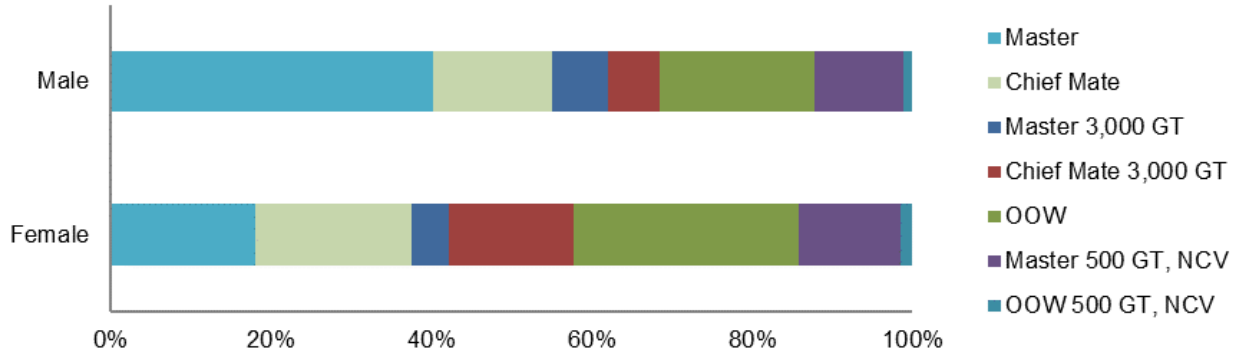

Figure 2-8 Distribution of the deck capacities of masters and deck officers holding valid CoCs by gender

As illustrated in Figure 2-8, the three main capacities in which female officers were entitled to serve were 'OOW' (28.07%), 'Chief Mate' (19.40%) and 'Master' (18.12%), capacities representing 65.59% 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' (40.29%), 'OOW' (19.37%) and 'Chief Mate' (14.77%), capacities representing 74.43% of the total number of male masters and officers entitled to serve in the Deck Department.

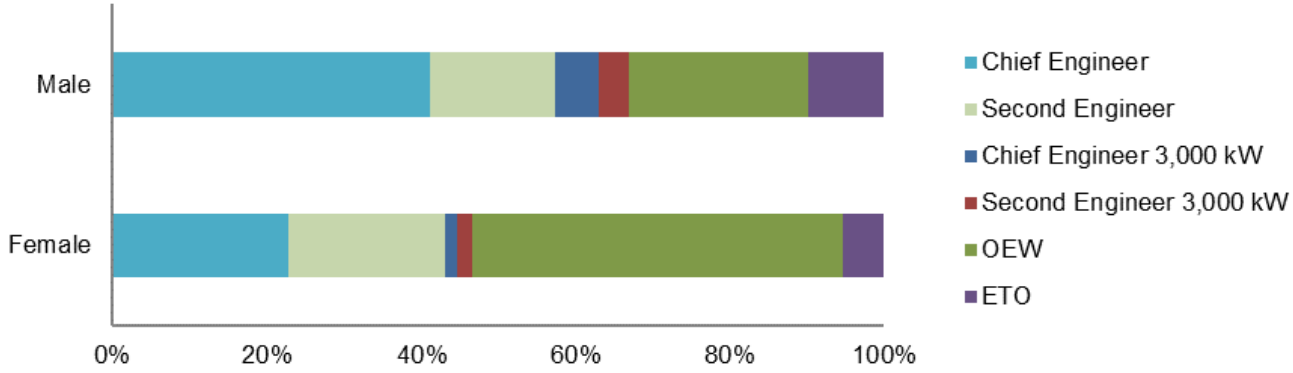

Figure 2-9 Distribution of the engine capacities of engineer officers holding valid CoCs by gender

As illustrated in Figure 2-9, the three main capacities in which female officers were entitled to serve in the Engine Department were 'OEW' (48.01%), 'Chief Engineer' (22.68%) and 'Second Engineer' (20.32%). These capacities covered 91.02% 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' (41.03%), 'OEW' (23.27%) and 'Second Engineer' (16.30%). These capacities represented 80.60% 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 28 EU Member States issuing CoCs showed that information on nationality was available for 196,853 masters and officers, representing 97.36% of the total number of officers at EU level holding a CoC.

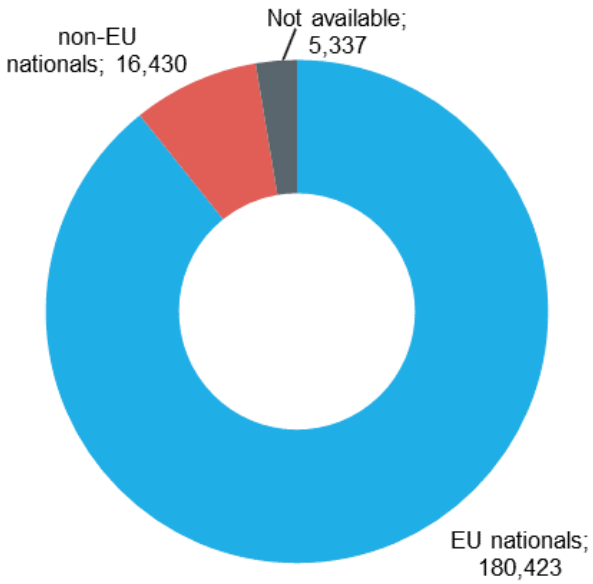

Figure 2-10 Nationality distribution of masters and officers holding valid CoCs

In addition to nationals of the EU Member States, 16,430 nationals of 105 non-EU countries held valid CoCs as masters or officers issued by EU Member States. When grouping these non-EU countries by region, it occurs that 15 were located in Europe, 32 were located in Asia, 31 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 84.18% of them were nationals of countries located in Asia.

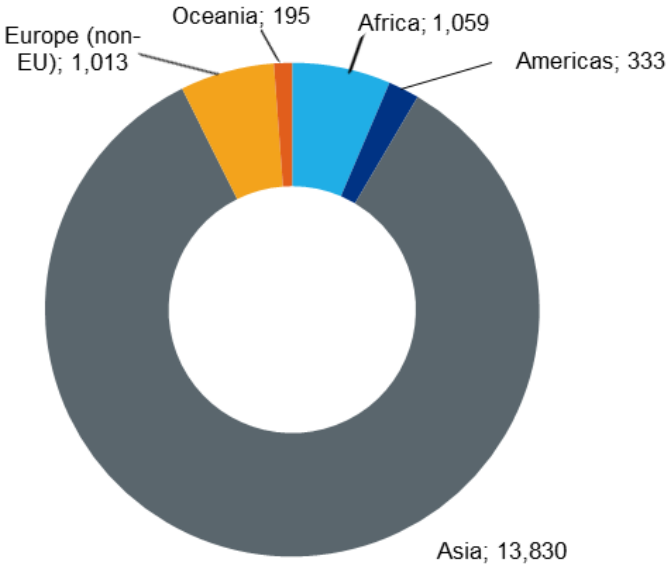

Figure 2-11 Nationality distribution of non-EU nationals holding valid CoCs issued by EU Member States by region of origin

2.1.7 Age distribution

The average age of masters and officers holding valid CoCs was 43.5 (years). Whereas the under 25 age group counted 6,664 masters and officers, all other age groups had a relatively uniform distribution, each counting between 21,000 and 29,000 masters and officers, which represented 11%-14% of the total number.

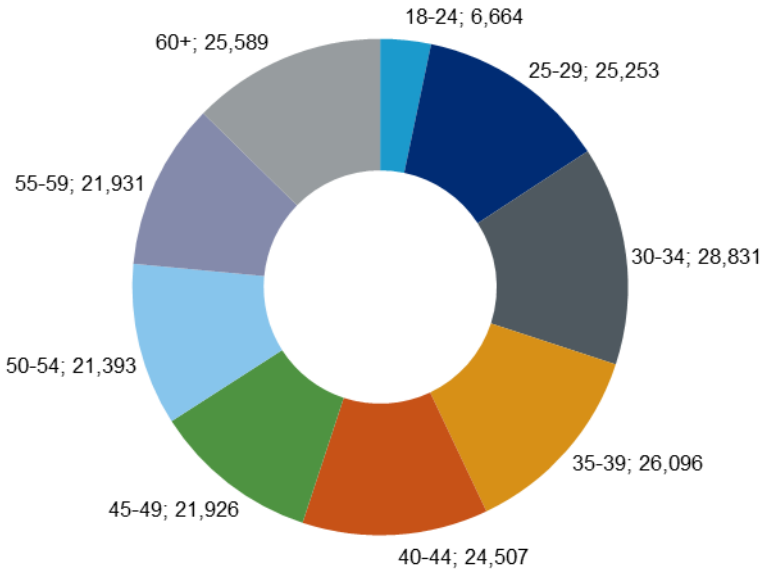

Figure 2-12 Age distribution of masters and officers holding valid CoCs

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

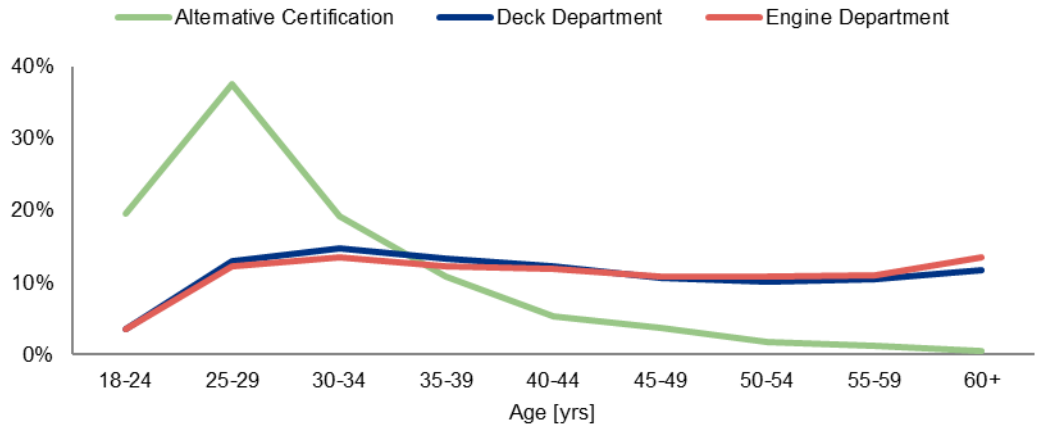

Figure 2-13 Age profile of masters and officers holding valid CoCs per department

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

- 76.44% of 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;
- 56.92% of masters and deck officers and 53.56% of the engineer officers were younger than 45 years of age.

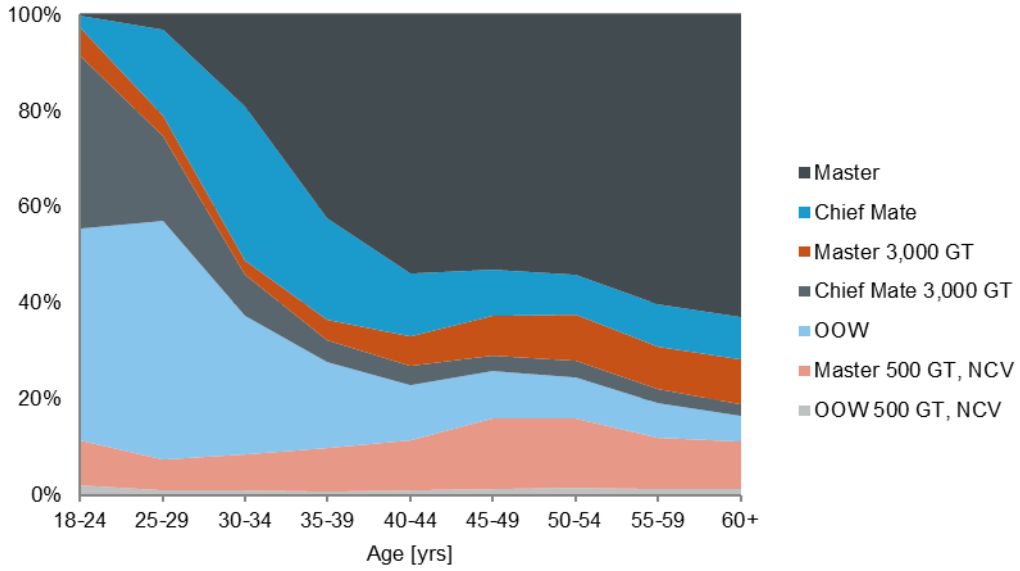

Figure 2-14 Distribution of masters and deck officers holding valid CoCs by age groups

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

- 61.64% of those entitled to serve as 'Master' were 45 years old or older;
- 64.79% of those entitled to serve as 'Chief Mate' were younger than 40 years of age;
- 60.55% of those entitled to serve as 'Master 3,000 GT' were 45 years old or older;
- 67.03% of those entitled to serve as 'Chief Mate 3,000 GT' were younger than 35 years of age;
- 63.44% of those entitled to serve as 'OOW' were younger than 35 years of age;
- 54.68% of those entitled to serve as 'Master 500 GT, NCV' were between 35 and 55 years old; and
- 59.52% of those entitled to serve as 'OOW 500 GT, NCV' were older than 40 years of age.

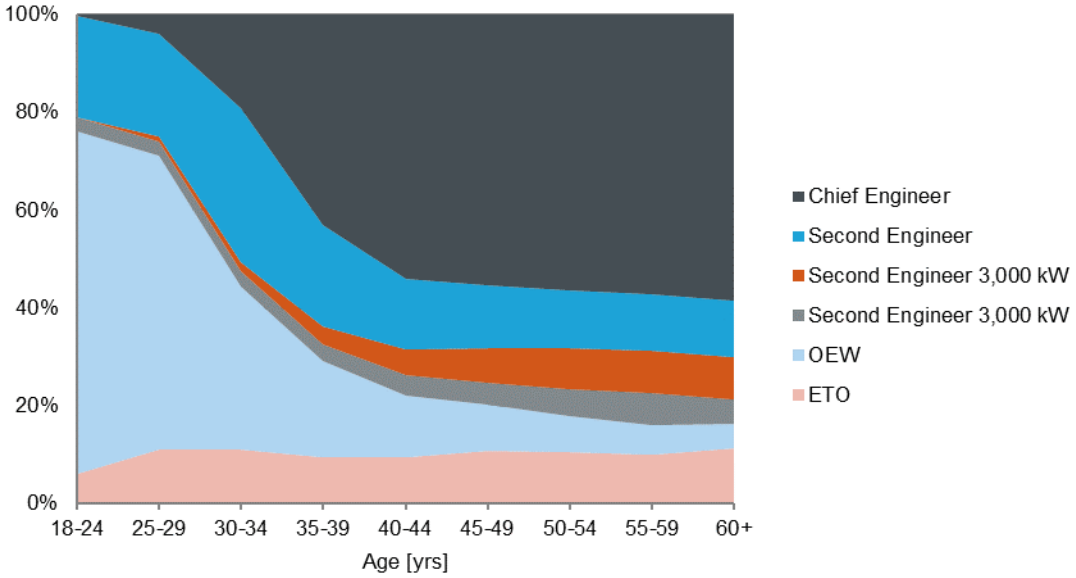

Figure 2-15 Distribution of engineer officers holding valid CoCs by age groups

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

- 64.20% of those entitled to serve as 'Chief Engineer' were 45 years old or older;
- 58.33% of those entitled to serve as 'Second Engineer' were younger than 40 years of age;
- 58.37% of those entitled to serve as 'Chief Engineer 3,000 kW' were 50 years old or older;

- 57.95% of those entitled to serve as ‘Second Engineer 3,000 kW’ were 45 years old or older;
- 67.08% of those entitled to serve as ‘OEW’ were younger than 35 years of age; and
- 59.09% 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 capacity for each of the two gender groups. These figures indicate that:

- the average age for female masters and officers was 34 years, while that for male masters and officers was 43.4 years;
- 76.34% of 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 42.87%;
- the average age of female masters and deck officers (34.2 years) was higher than the average age of the female engineer officers (32.4 years).

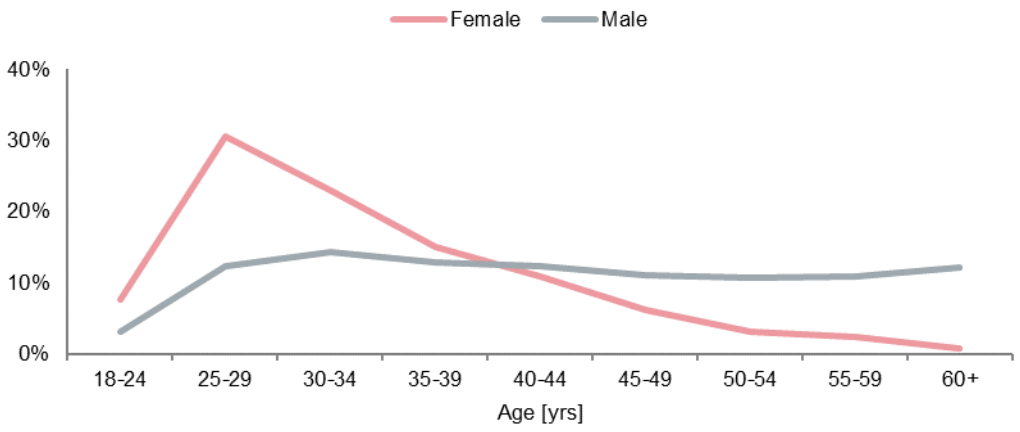

Figure 2-16 Age profile of masters and officers holding valid CoCs per gender

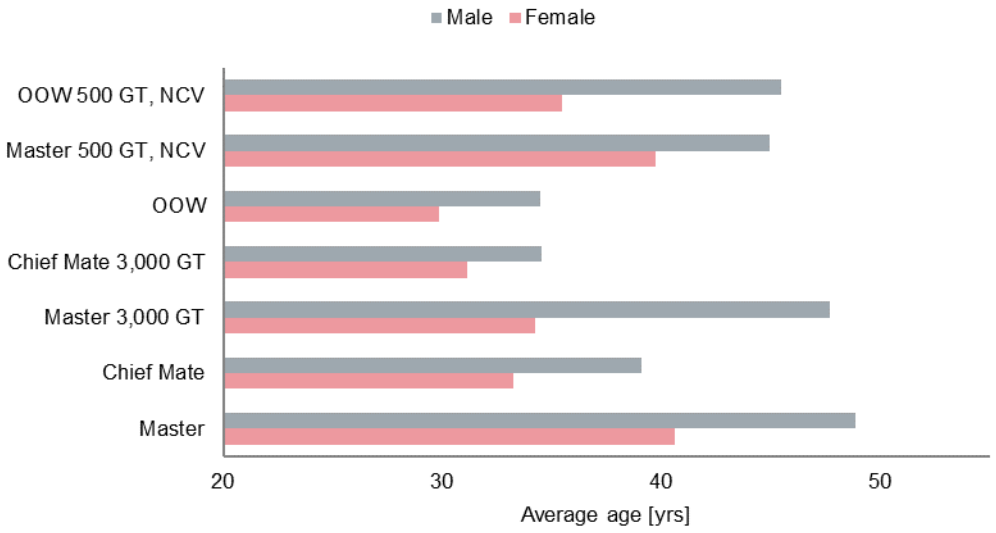

Figure 2-17 Average age of masters and deck officers holding valid CoCs per gender by deck capacity

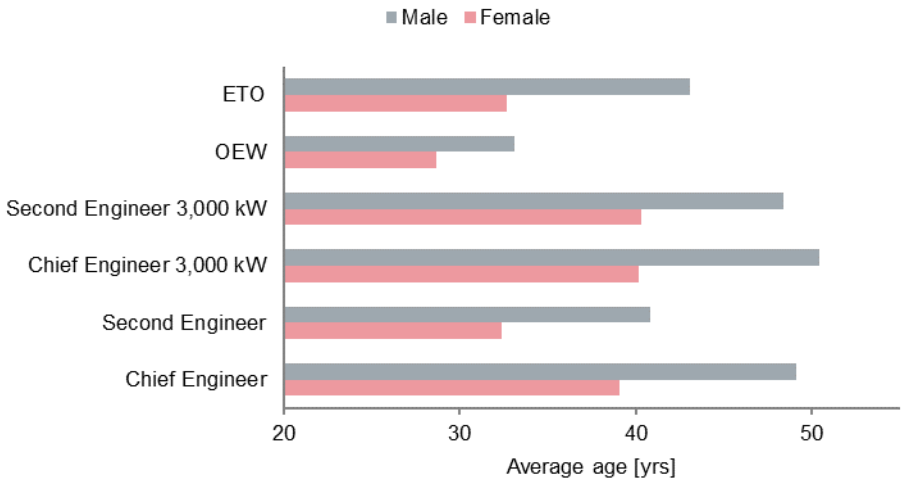

Figure 2-18 Average age of engineer officers holding valid CoCs per gender by engine capacity

2.2 Masters and officers who in 2017 held valid endorsements attesting recognition

2.2.1 Total

The total number of masters and officers holding valid EaRs at EU level was 131,538, with 0.10% of them entitled to serve in both the Deck and Engine Departments. In addition, 7.71% of them held more than one EaR issued by different EU Member States.

Reviewing the distribution by group of countries issuing the original CoC, 43,743 masters and officers held original CoCs issued by other EU Member States (21.63% of the total number of masters and officers holding valid CoCs, see section 2.1.1), 87,810 held original CoCs issued by non-EU countries and 0.02% held original CoCs issued by both EU Member States and non-EU countries.

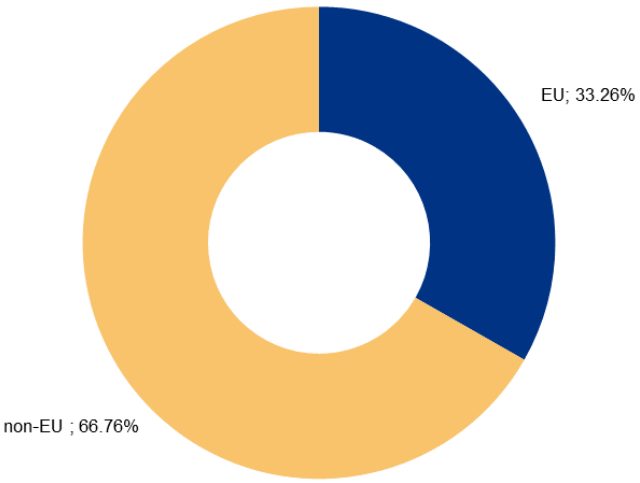

Figure 2-19 Distribution of masters and officers holding valid EaRs by countries issuing the original CoC

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.

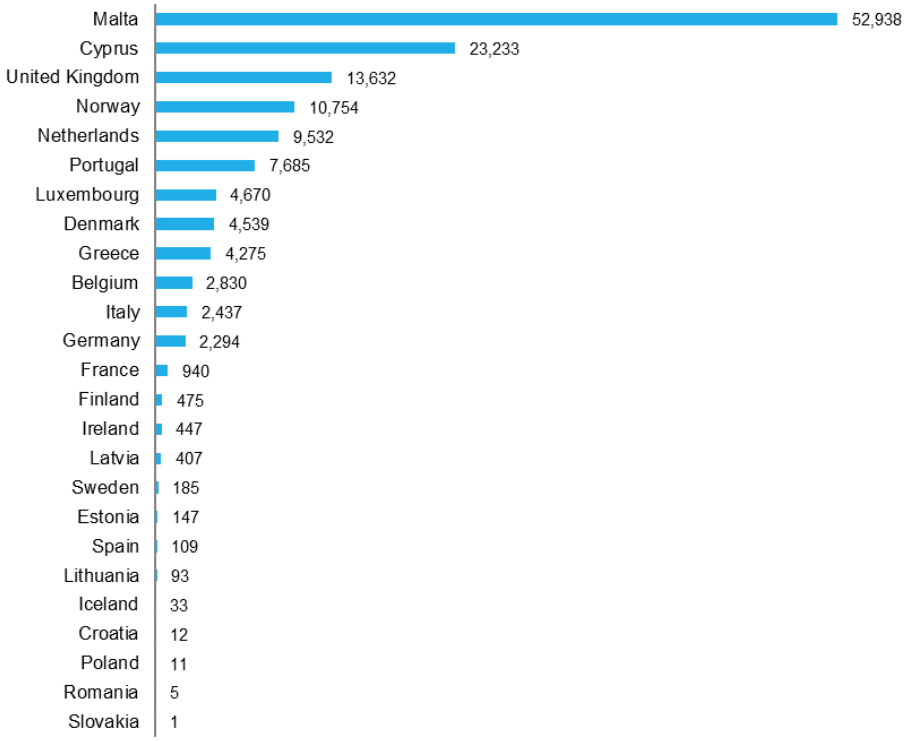

Figure 2-20 Masters and officers holding valid EaRs per EU Member State

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.

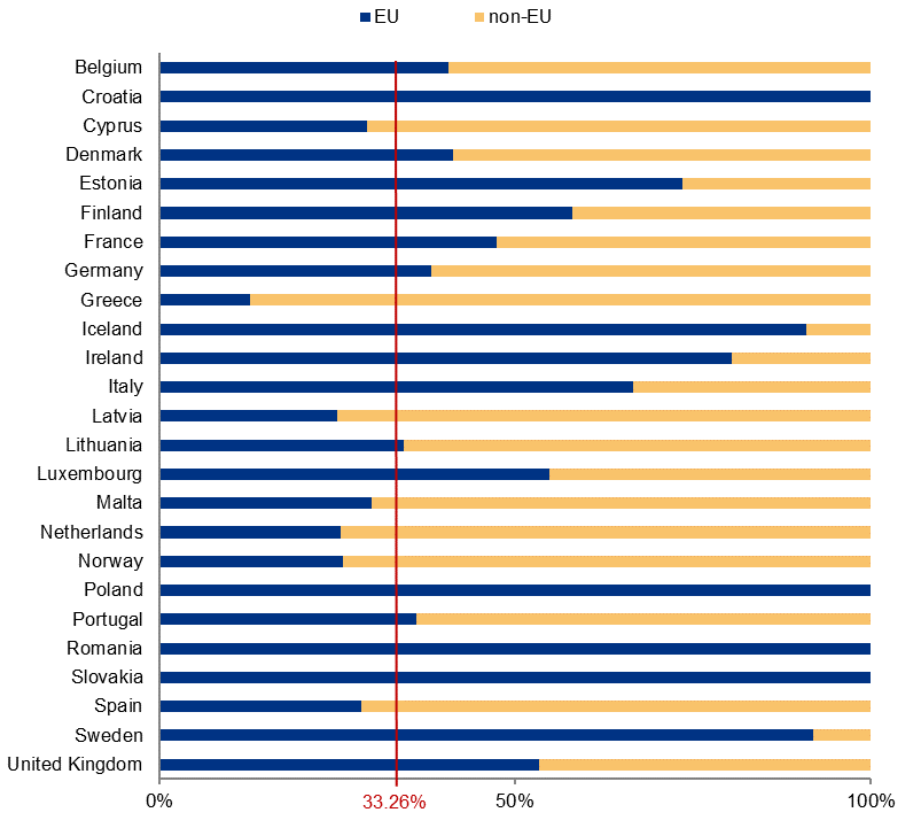

Figure 2-21 Distribution of masters and officers holding valid EaRs recognising original CoCs issued by EU and non-EU countries

2.2.3 Distribution by countries issuing the original CoCs

Based on reporting by the 25 EU Members States issuing EaRs, the names of the country that issued the original CoC was made available for 131,527 masters and officers, which represented 99.99% 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 where the respective countries issuing the original CoC are located.

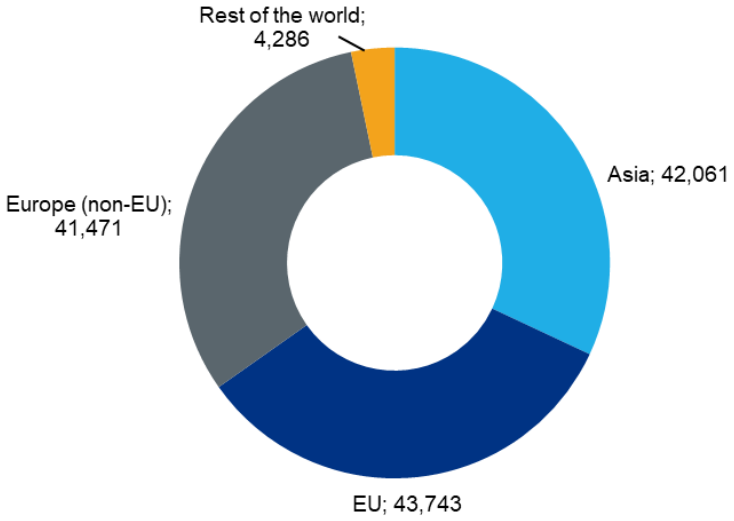

Figure 2-22 Distribution of masters and officers holding valid EaRs by region of the country issuing the original CoC

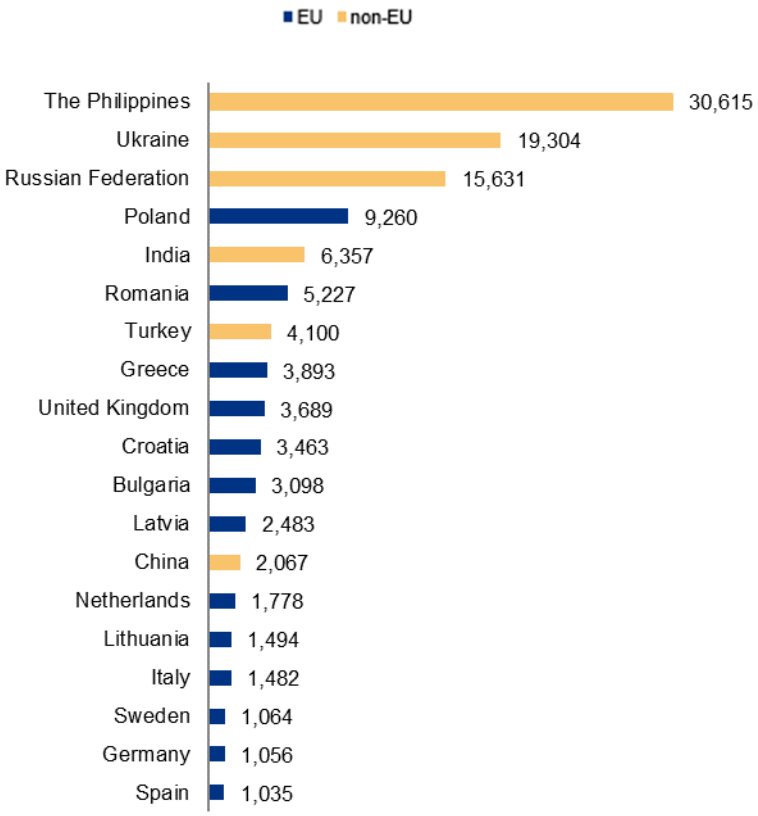

Figure 2-23 Countries issuing the original CoCs registering more than 0.75% of masters and officers holding valid EaRs

The masters and officers registered with valid EaRs in 2017 held original CoCs issued by 86 countries. Figure 2-23 identifies the 19 countries – thirteen EU Member States and six non-EU countries – which provided 89.02% 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.

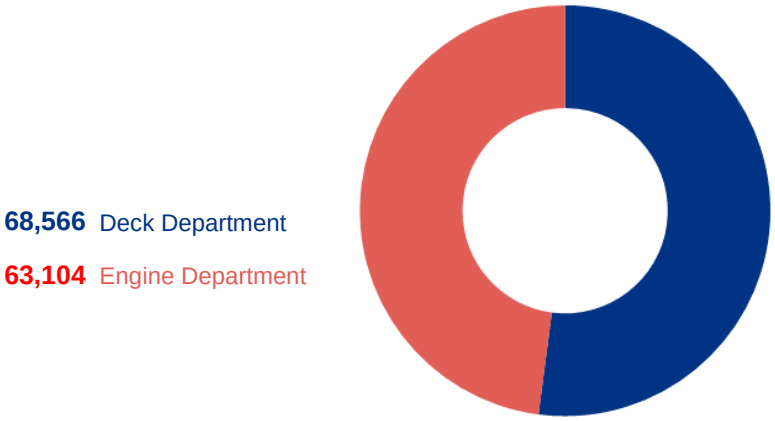

Figure 2-24 Distribution of masters and officers holding valid EaRs by department

The figure illustrates that the number of masters and officers entitled to serve in the Deck Department was only 8.66% higher than the number of officers entitled to serve in the Engine Department.

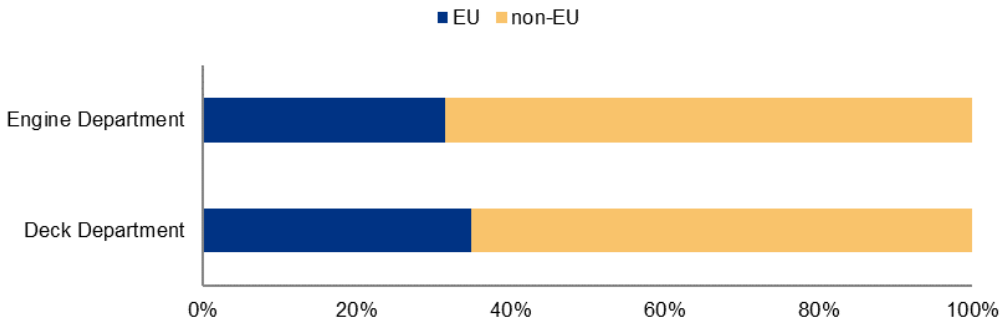

Figure 2-25 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by department

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 (35% to 65%) and the Engine (32% to 68%) Departments, which is similar to the general distribution presented in Figure 2-19.

2.2.5 Distribution by capacity

Taking into account that EU Member States do not use the same terms to refer to capacities in their manning regulations, all capacities reported in the CoCs have been linked to the generic capacities established in Chapters II and III of the STCW Convention, in order to establish a common platform for data comparability. 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 2017, 97.16% were entitled to serve on ships of 3,000 GT or more. In addition, the data also indicated that 60.86% of

them were entitled to serve at management level on ships of 3,000 GT or more, with less than 0.5% of their EaRs being limited in terms of tonnage and/or navigation area.

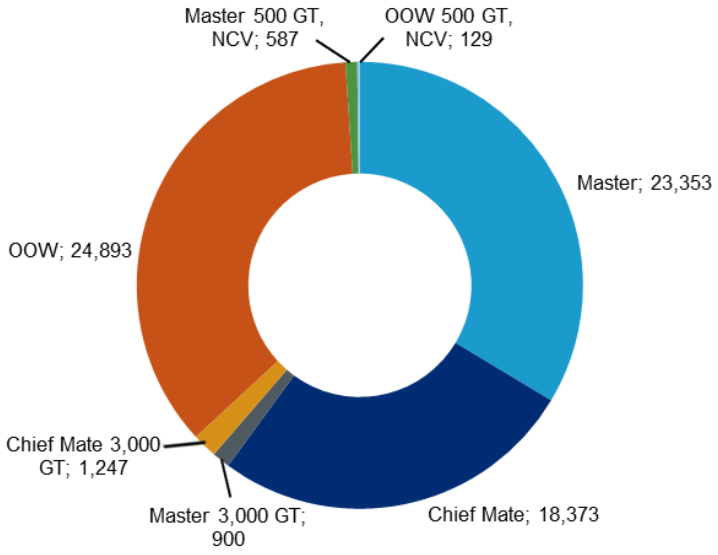

Figure 2-26 Distribution of masters and deck officers holding valid EaRs by deck capacity

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 35% to 65%. 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).

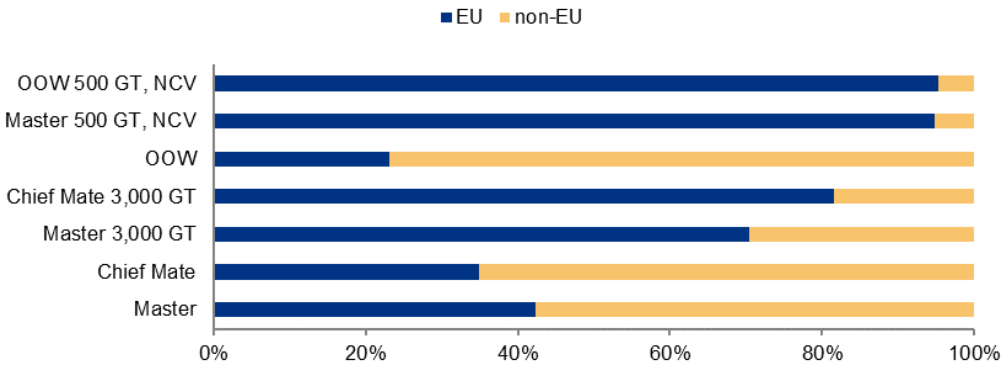

Figure 2-27 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by deck capacity

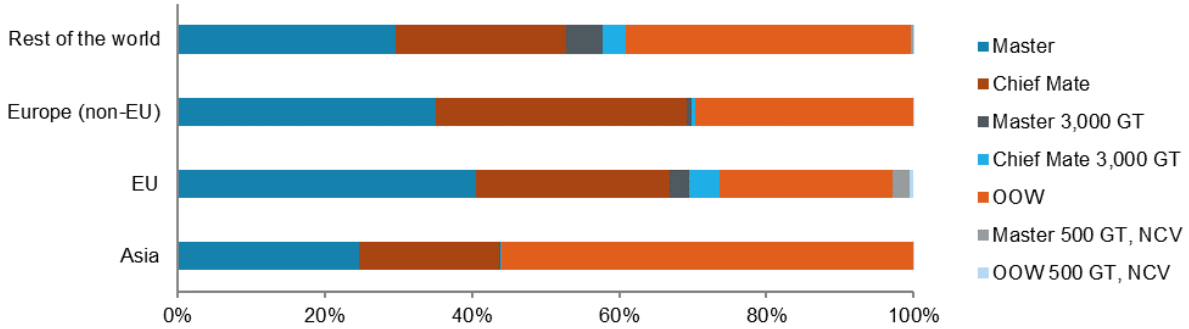

Figure 2-28 Distribution of the deck capacities of masters and deck officers holding valid EaRs by region of the country issuing the original CoC

The majority of masters and deck officers having their original CoC issued by Asian countries held EaRs entitling them to serve at operational level. Deck officers with original 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, 87.63% 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 59.21% 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, with less than 1% of their EaRs being limited in terms of propulsion power or area of navigation and 31.29% being limited in terms of type of propulsion machinery.

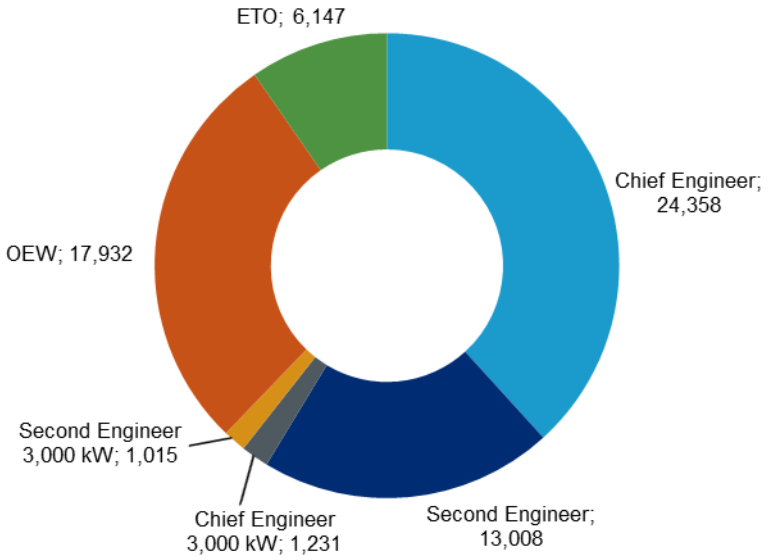

Figure 2-29 Distribution of engineer officers holding valid EaRs by engine capacity

The ratio between the engineer officers holding CoCs issued by EU Member States and those holding CoCs issued by non-EU countries was 32% to 68%. Nevertheless, this pattern was not clearly followed by those entitled to serve on board ships limited in propulsion power (see Figure 2-30).

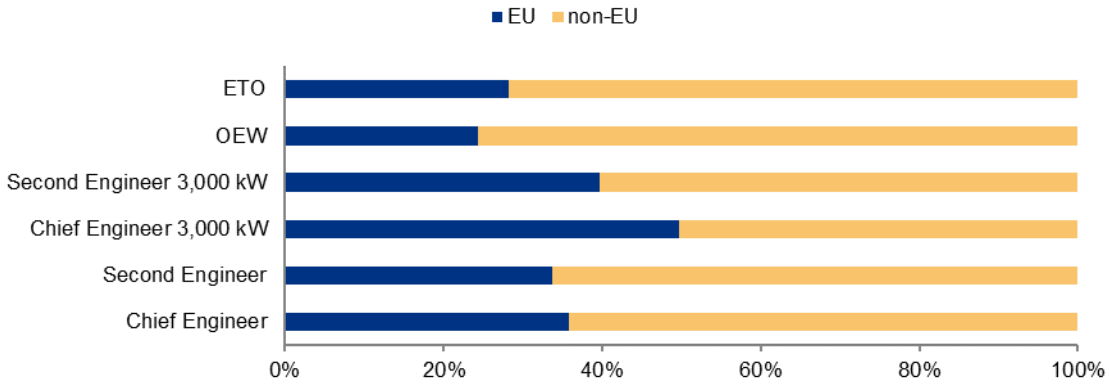

Figure 2-30 Distribution of engineer officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by engine capacity

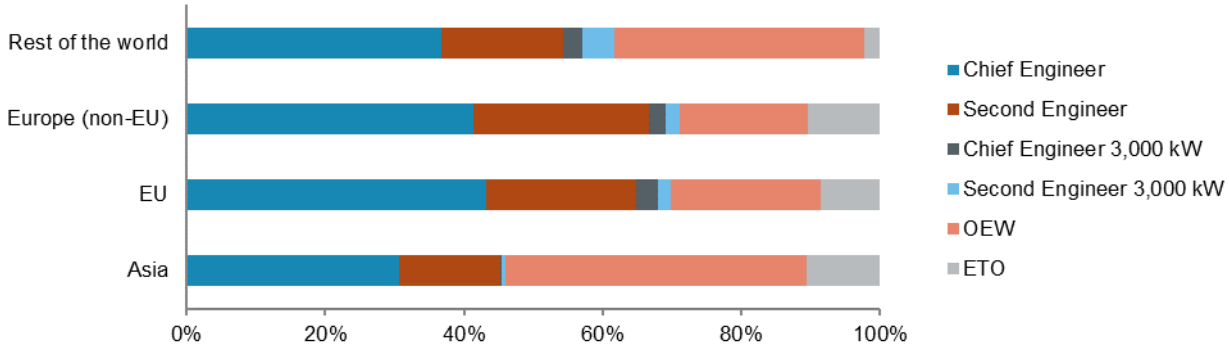

Figure 2-31 Distribution of the engine capacities of engineer officers holding valid EaRs by region of the country issuing the original CoC

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 masters and officers holding valid EaRs considered the data provided by 23 EU Member States. Consequently, this review was conducted for 123,575 masters and officers that represented 93.95% of the total number holding valid EaRs in 2017 at EU level.

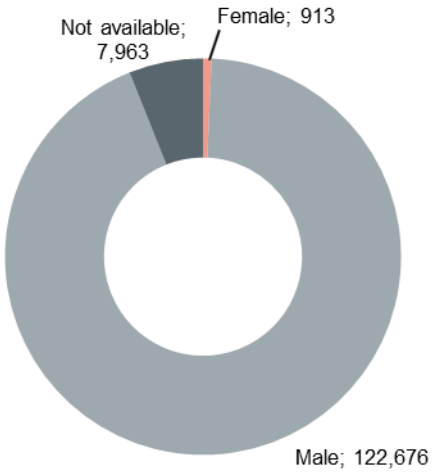

Figure 2-32 Gender distribution of masters and officers holding valid EaRs

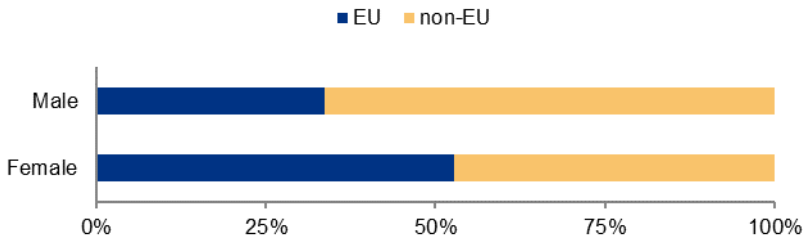

Figure 2-33 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by gender

It was noted that 52.79% of the total number of female masters and officers holding valid EaRs held original CoCs issued by EU Member States, followed by 16.76%% who had their original CoCs issued by countries located in the Americas.

2.2.7 Distribution by nationality

The review of data made available by the 25 EU Member States issuing EaRs showed that masters and officers holding valid EaRs were nationals of 121 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 40.8 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 42.9 years, while of those holding original CoCs issued by non-EU countries was 39.8 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 (33% to 67%), 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 those older than 59 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 (except for those of the boundaries) which was not the case with the masters and deck officers;
- 55.58% 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 44 years of age.

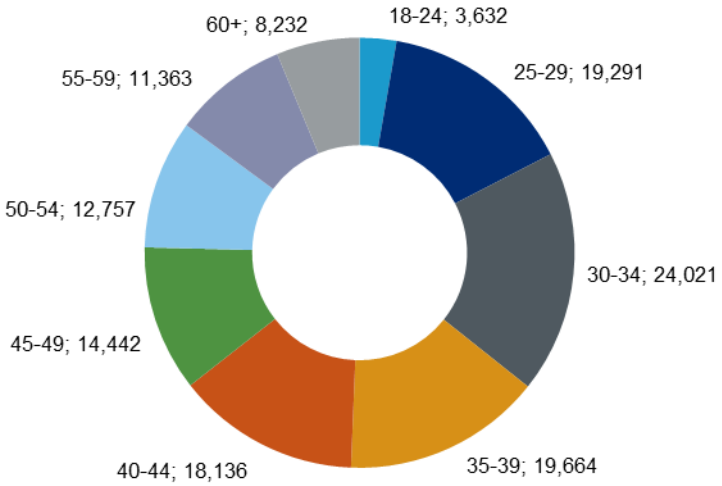

Figure 2-34 Age distribution of masters and officers holding valid EaRs

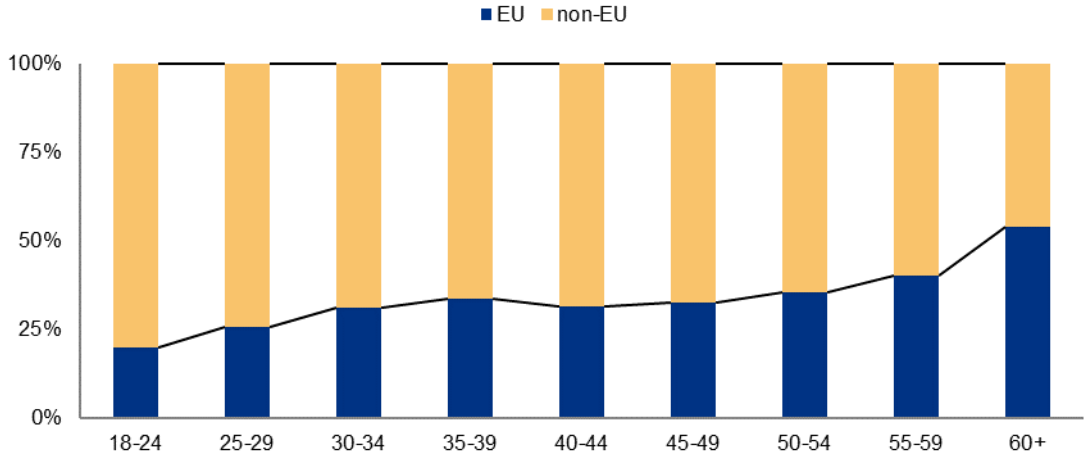

Figure 2-35 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by age group

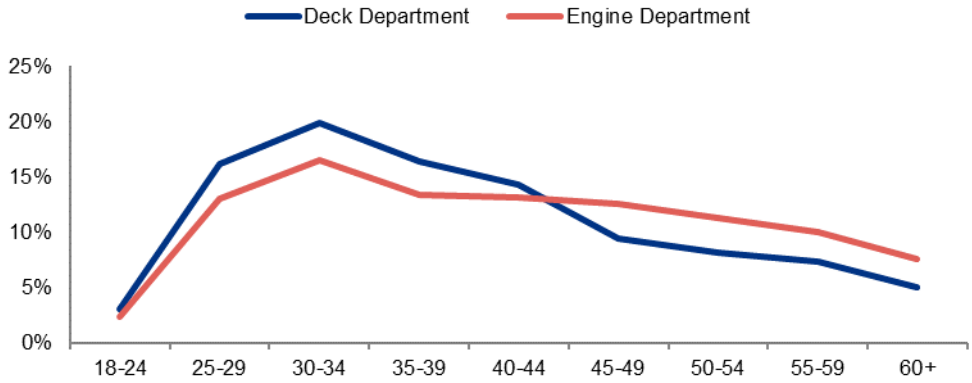

Figure 2-36 Age profile of masters and officers holding valid EaRs per department

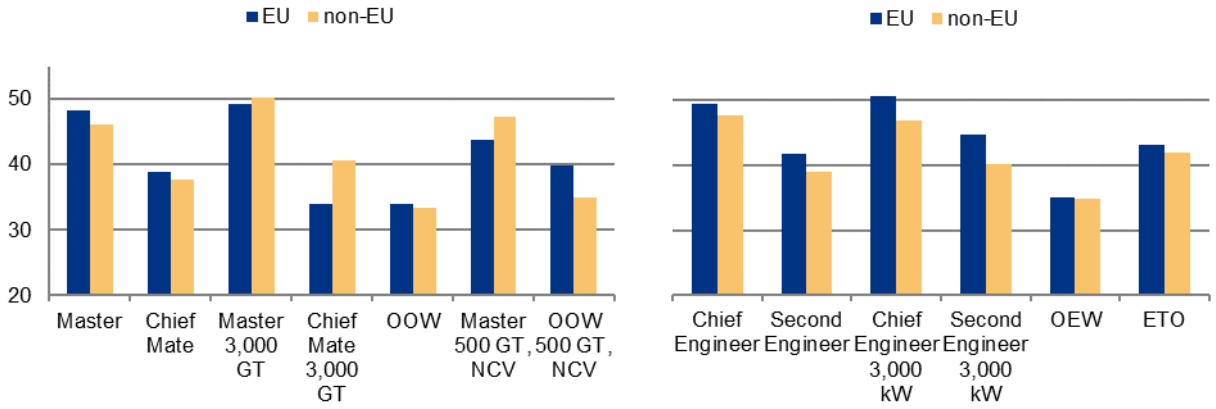

Figure 2-37 Average age of officers holding valid EaRs per EU and non-EU countries issuing the original CoC by capacity

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

2.3 Masters and officers available to serve on board EU Member State flagged vessels in 2017

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 2017 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 290,000, 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.

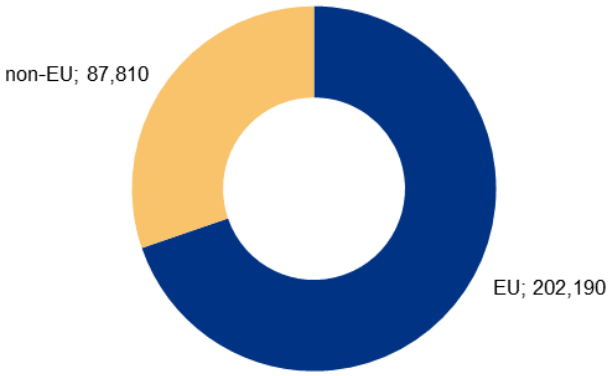

Figure 2-39 Distribution of masters and officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC

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 excludes 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.

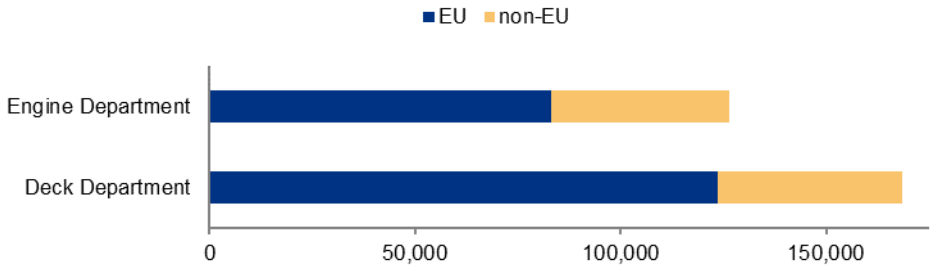

Figure 2-40 Distribution of masters and officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by department

The number of masters and officers available to serve in the Deck Department (168,404) was 33% higher than the number of officers available to serve in the Engine Department (126,425). This percentage changes depending on whether the CoCs were issued by EU Member States or non-EU countries. In the first case it was 49% while in the second case it was 3.5%.

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 that EU Member States do not use the same terms to refer to capacities in their manning regulations, all capacities reported in the CoCs have been linked to the generic capacities established in Chapters II and III of the STCW Convention, in order to establish a common platform for data comparability. 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

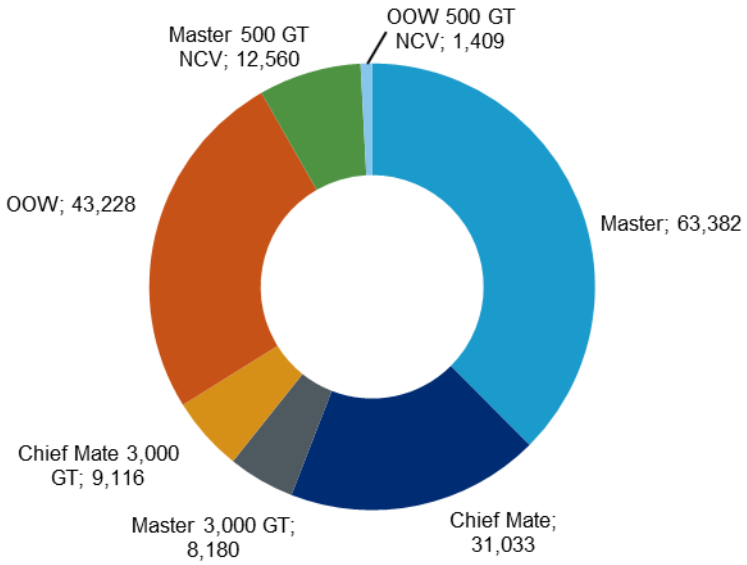

Figure 2-41 Distribution of masters and deck officers available to serve on board EU Member State flagged vessels by deck capacity

The information in Figure 2-41 shows that 56.06% (94,415) 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 deck officers holding CoCs issued by EU Member States and those holding CoCs issued by non-EU countries was 73% to 27%, it changed significantly for masters and officers entitled to serve on board ships limited in gross tonnage or area of navigation where more than 95% were holders of CoCs issued by EU Member States. In the case of those officers entitled to serve as OOW the ratio was 56% to 44%. This is presented in Figure 2-42.

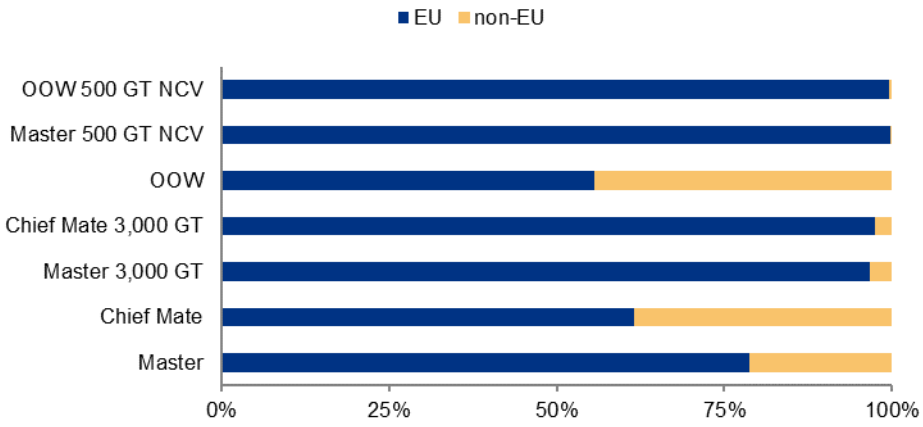

Figure 2-42 Distribution of masters and deck officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by deck capacity

2.3.3.2 Distribution by engine capacity

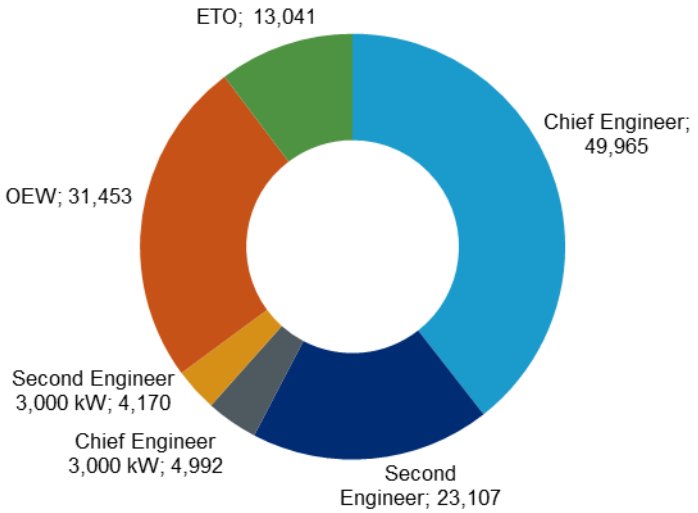

Figure 2-43 Distribution of engineer officers available to serve on board EU Member State flagged vessels by engine capacity

The information in Figure 2-43 shows that 57.80% 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 engineer officers holding CoCs issued by EU Member States and those holding CoCs issued by non-EU countries was 66% to 34%, it changed significantly for officers entitled to serve on board ships limited in propulsion power where more than 85% were holders of CoCs issued by EU Member States. This is illustrated in Figure 2-44.

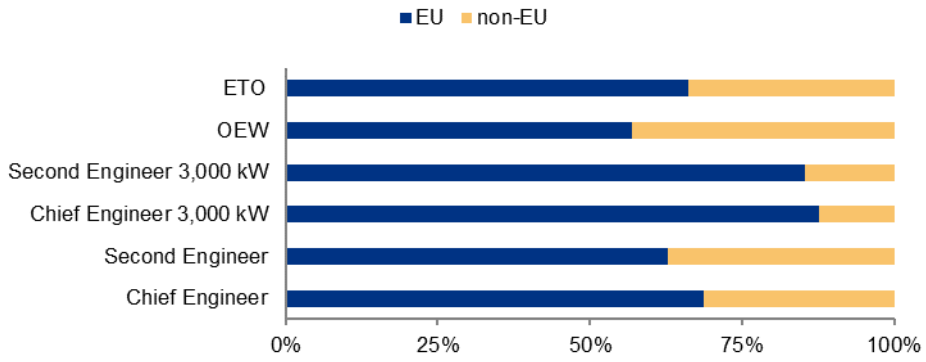

Figure 2-44 Distribution of engineer officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by engine capacity

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 27 EU Member States, which made available information on gender. Consequently, the review was made for 254,706 masters and officers representing 87.83% of the total number of those available to serve on board EU Member State flagged vessels.

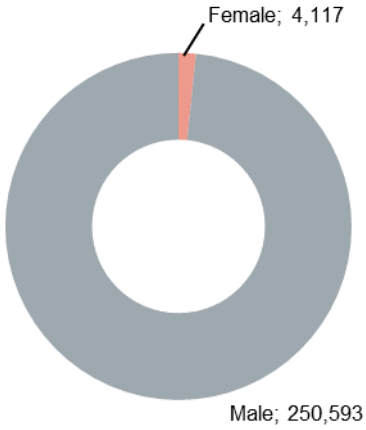

Figure 2-45 Gender distribution of masters and officers available to serve on board EU Member State flagged vessels

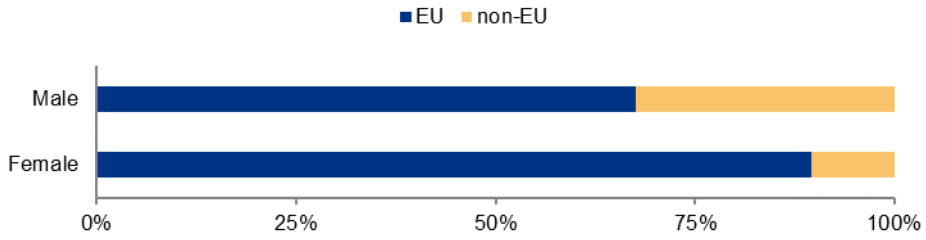

Figure 2-46 Distribution of masters and officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by gender

Masters and officers whose gender was known were predominantly males. Female masters and officers represented 1.62% of the total number of officers available, with 89.53% 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 2.13% of their total, while for CoCs issued by non-EU countries they represented 0.53% of their total.

2.3.5 Distribution by nationality

The review of the data submitted by the 29 EU Member States indicated that information on nationality was available for 280,122 masters and officers, representing 96.59% 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 148 countries, with the distribution by region as presented in Figure 2-47.

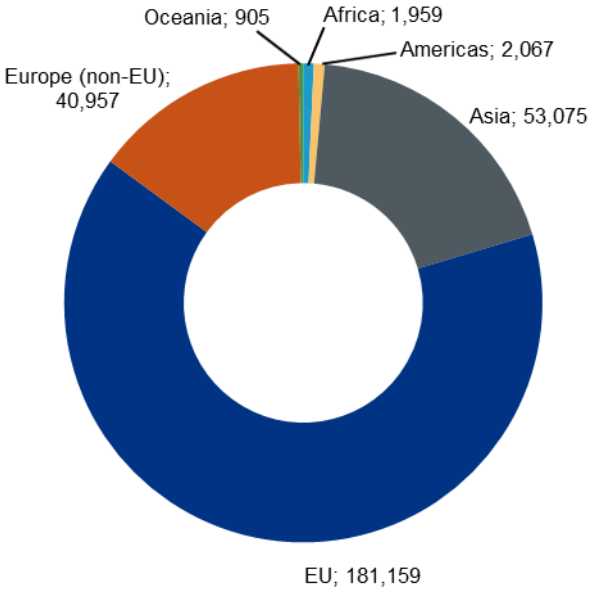

Figure 2-47 Nationality distribution of masters and officers available to serve on board EU Member State flagged vessels by geographical region according to nationality

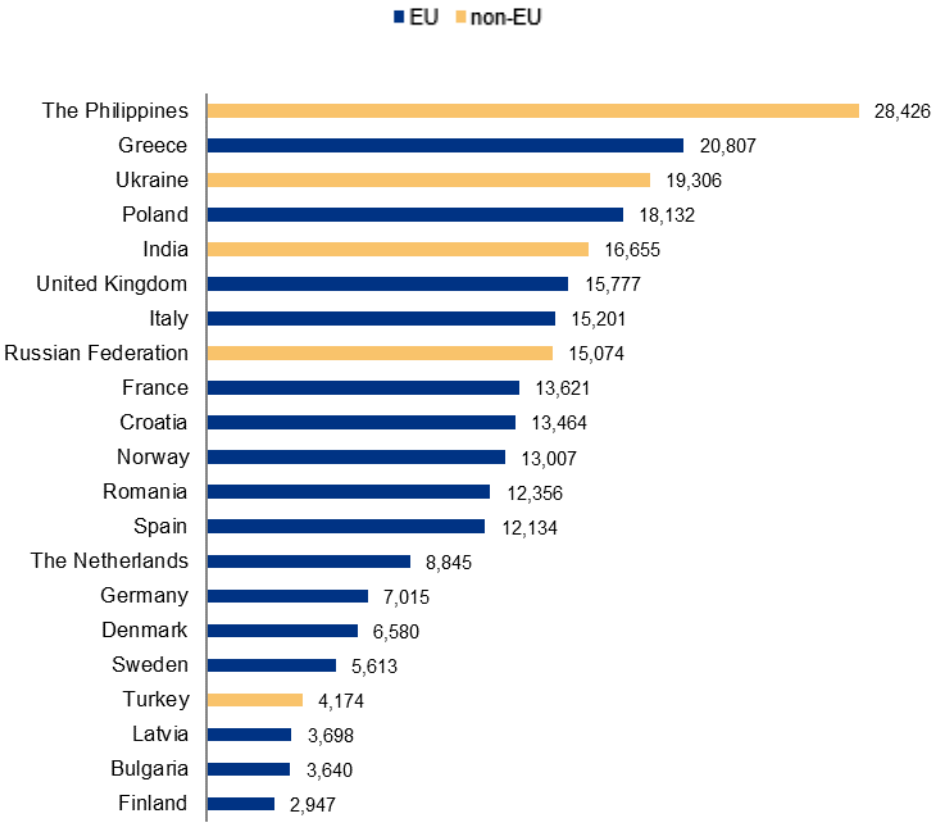

Figure 2-48 Countries whose nationals represented more than 0.75% of the total number of masters and officers available to serve on board EU Member State flagged vessels

The data in Figure 2-48 identifies the 21 countries whose nationals represented 88.44% 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 EU Member States was 43.5 years, while for those holding original CoCs issued by non-EU countries, it was 39.8 years.

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

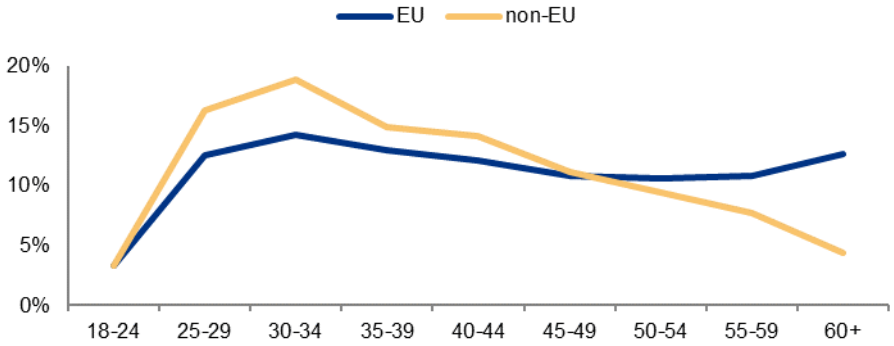

Figure 2-49 Age profile of masters and officers available to serve on board EU Member State flagged vessels per EU and non-EU countries issuing the original CoC

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.

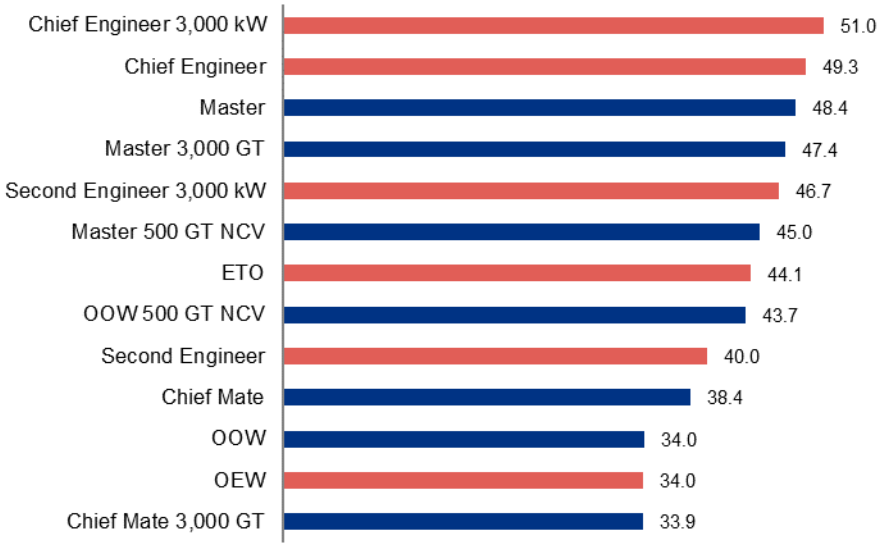

Figure 2-50 Average age of masters and officers available to serve on board EU Member State flagged vessels per deck and engine capacities

A variation ranging between 1 and 3 years in the average age was noticed for Masters, Chief Mates, Chief Engineers, Second Engineers, OOWs 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.

2.4 Ratings holding valid certificates of proficiency in 2017

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 2017 in the 15 EU Member States reporting such data was 62,170 with 7.43% 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.

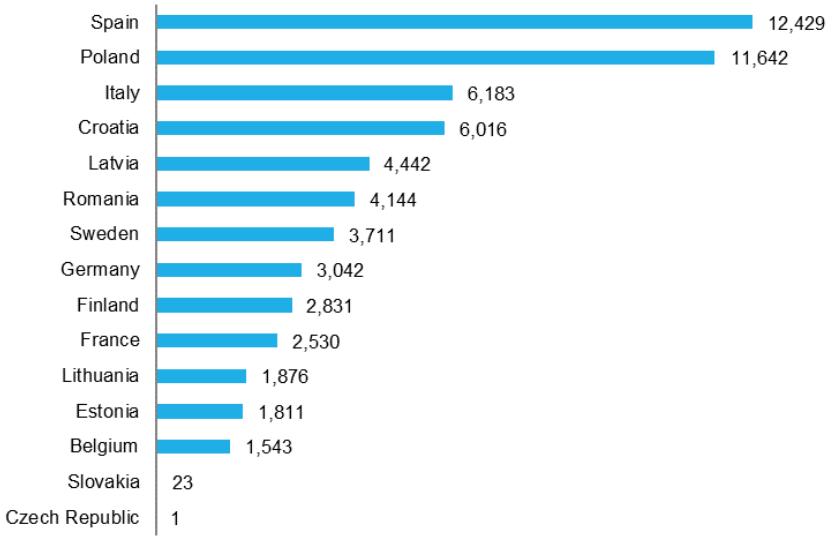

Figure 2-51 Ratings holding valid CoPs per EU Member State

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 84% higher than the number of ratings entitled to serve in the Engine Department (Chapter III of the STCW Convention). It also shows that 4.56% of them are qualified under Chapter VII, Alternative Certification, of the STCW Convention.

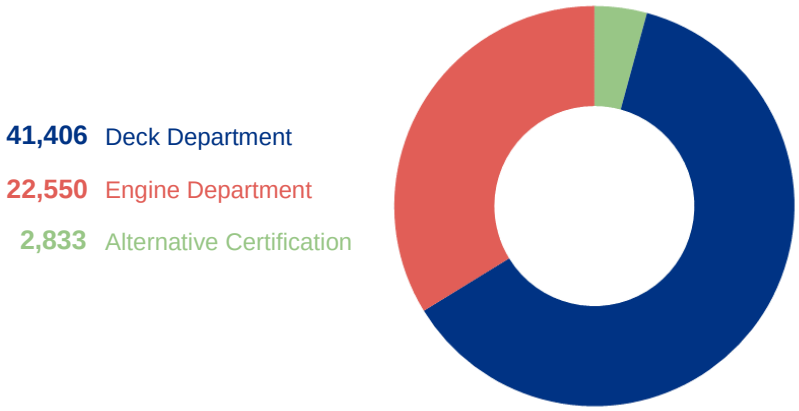

Figure 2-52 Distribution of ratings holding valid CoPs by department

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 EU Member States do not use the same terms to refer to capacities in their manning regulations, all capacities reported in the CoPs have been linked to the generic capacities established in Chapters II and III of the STCW Convention, in order to establish a common platform for data comparability. The review was conducted separately for the Deck and the Engine Departments, even if compiled in Figure 2-53. The total number of deck and engineer ratings was established by counting each person in his/her highest capacity per department.

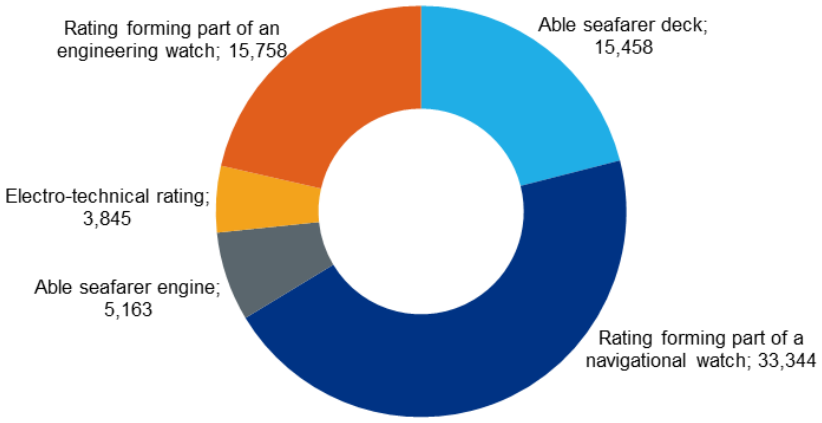

Figure 2-53 Distribution of ratings holding valid CoPs by capacity

The information shows that the majority of ratings either of deck or engine were entitled to serve as ratings forming part of a watch, being 80.53% for deck and 69.88% for engine.

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 50,528 ratings representing 81.27% of the total number of the ratings reported as holding valid CoPs.

The information 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 female ratings was 3.59% ± 0.25%.

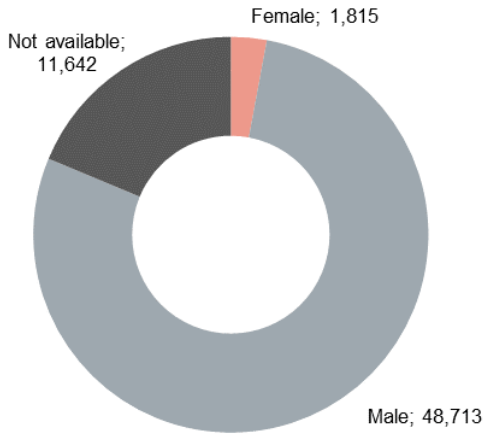

Figure 2-54 Gender distribution of ratings holding valid CoPs

2.4.6 Distribution by nationality

The review of the data made available by the 15 EU Member States showed that, except for 3.64% where nationality was not made available, ratings holding valid CoPs were nationals from 98 countries (29 EU Member States and 69 Non-EU countries). The review also showed that 93.86% of ratings were nationals of the same EU Member State providing the data (see section 2.4.2).

2.4.7 Age distribution

The average age of ratings holding valid CoPs was 40.7 years. Except for the 25-29 and 60+ age groups, all other groups registered similar distributions between 10.07% and 11.47%. The average age for female ratings was 32.9 years, while that for male ratings was 41.5 years. 74.55% of all female ratings were younger than 40 years of age while the percentage of male ratings in the same age group was 46%.

The distribution of gender groups by age intervals is presented in Figure 2-56.

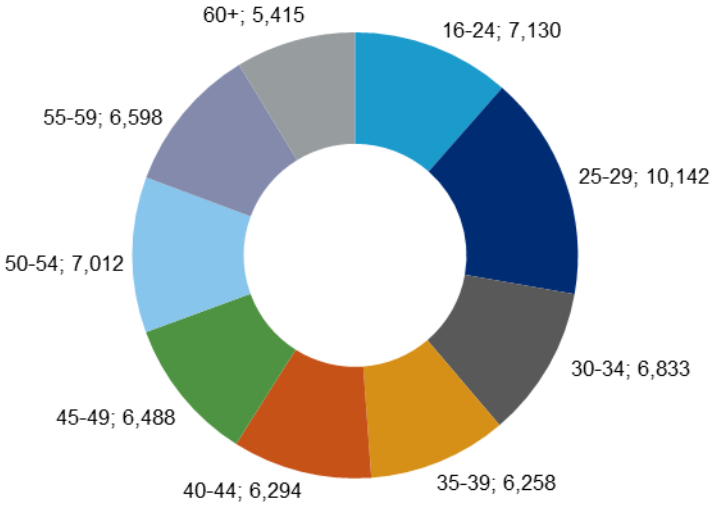

Figure 2-55 Age distribution of ratings holding valid CoPs

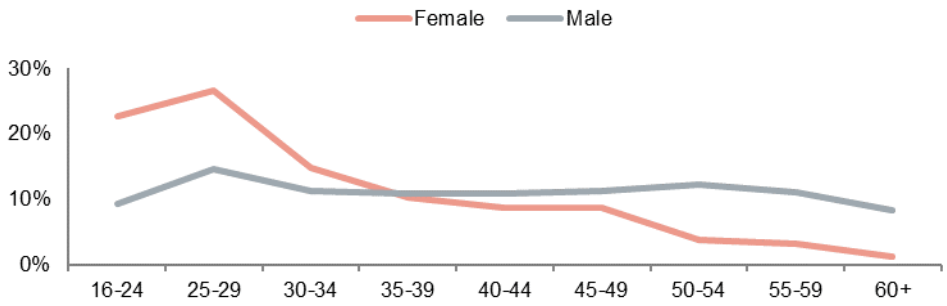

Figure 2-56 Age profile of ratings holding valid CoPs per gender

2.5 Masters and officers - summary overview 2014-2017

In the past two years' review exercises a simple comparison between the results of the statistical reviews of the 2014, 2015 and 2016 data was made. When 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).

This year, because of the inclusion of data from Iceland and Norway, such comparison could not be conducted. Nevertheless, EMSA has compiled for the last four years data that allowed having a wider picture of masters and

officers available to serve on board EU Member State flagged vessels. Notwithstanding, a more accurate picture of the situation can only emerge when data for more years is collected.

Apart from an increase in the absolute number of masters and officers available to serve on board EU Member State flagged vessels – as was indeed expected upon inclusion of data from two more countries – the overall figures remain broadly stable throughout the years in terms of distribution by department, capacity, gender, nationality and age. This stability may indicate that, in general terms, the European maritime labour market has been able to attract new entrants that have replaced those leaving the seafaring career.

2.5.1 Countries issuing the original CoCs

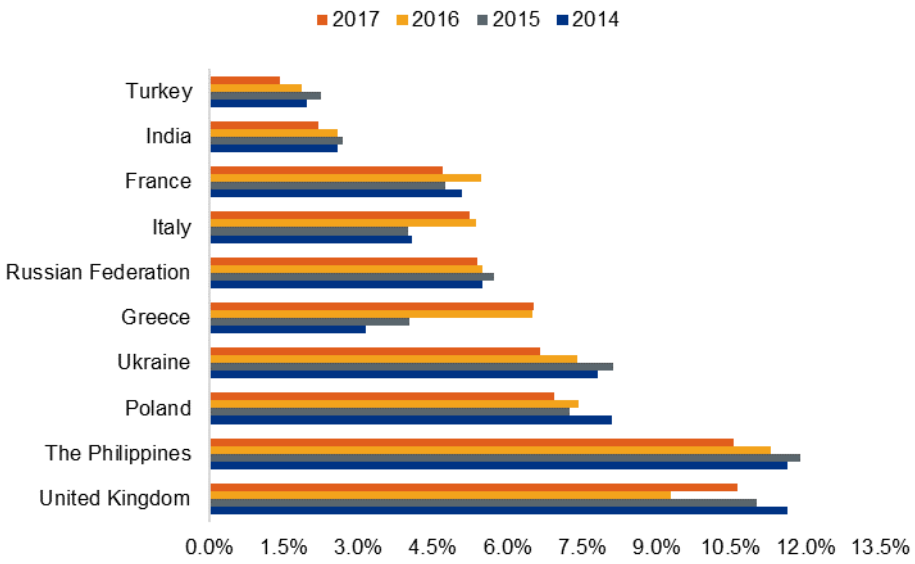

Figure 2-57 Top 5 EU and top 5 non-EU countries issuing the original CoCs

The five non-EU countries (India, the Russian Federation, the Philippines, Turkey and Ukraine) which had more masters and officers holding their CoCs recognised by EU Member States have retained the top spots throughout the last four years.

For EU countries, the situation has been more fluid, with the top five spots – particularly the third, fourth and fifth – being occupied by different countries over recent years. Figure 2-57 in fact, features the five EU Member States that occupied the top rankings in 2017, but which may not have necessarily placed similarly in the previous years. It is also to be noted that upon introduction of its data, Norway featured in this list but is not being included for the purpose of this review in anticipation of further consideration of data in future years to ensure solidity and consistence of figures.

Figure 2-58 below presents the forecast for the next two years in relation to masters and officers holding CoCs issued by the top 3 EU and the top 3 non-EU countries. In terms of linear forecast, one would anticipate a slight decrease concerning the UK and Poland and an increase for Greece. Nevertheless, it is necessary to take into account that although the linear forecast for Greece shows an increase of 2% for the next two years, only in a future analysis can this be confirmed, as this country has only been in the top 5 for the last two years.

Concerning the non-EU countries, the percentage of masters and officers holding CoCs issued by the Russian Federation is expected to remain unchanged. The perspective for the Philippines and Ukraine appears at this stage to suggest a slight decrease.

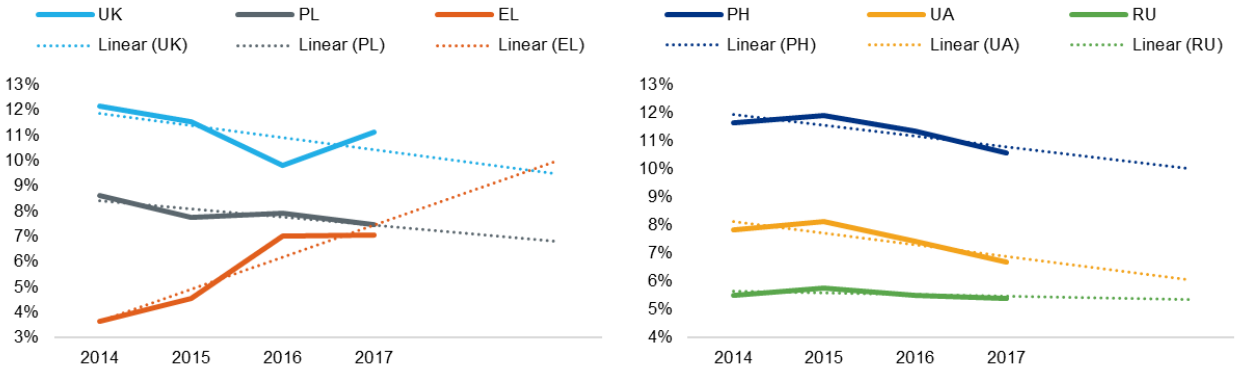

Figure 2-58 Forecast for the next two years of masters and officers holding CoCs issued by the top 3 EU and top 3 non-EU countries

2.5.2 Department - level of responsibility

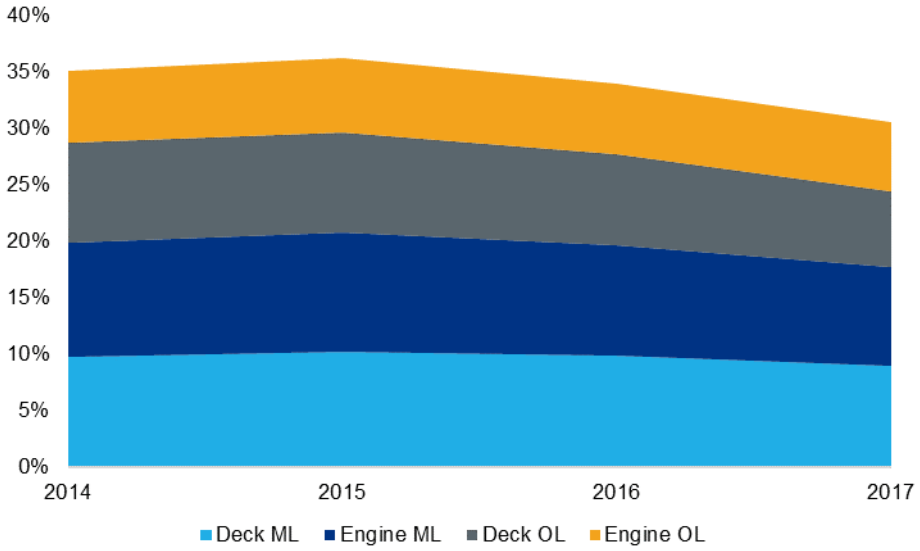

Figure 2-59 Officers at management and operational level holding CoCs issued by non-EU countries

The total percentage of masters and officers holding CoCs issued by non-EU countries recognised by EU Member States has been slightly decreasing, with this decrease becoming negligible in the case of those entitled to serve in the engine department at operational level (OEW and ETO), as illustrated in Figure 2-59.

Regarding the percentage of masters and officers available to serve on board EU Member State flagged vessels, Figure 2-60 below shows that a slight increase is expected for officers entitled to serve in the engine department at operational level. This is most likely due to the identified increase in the number of ETOs in the last two years.

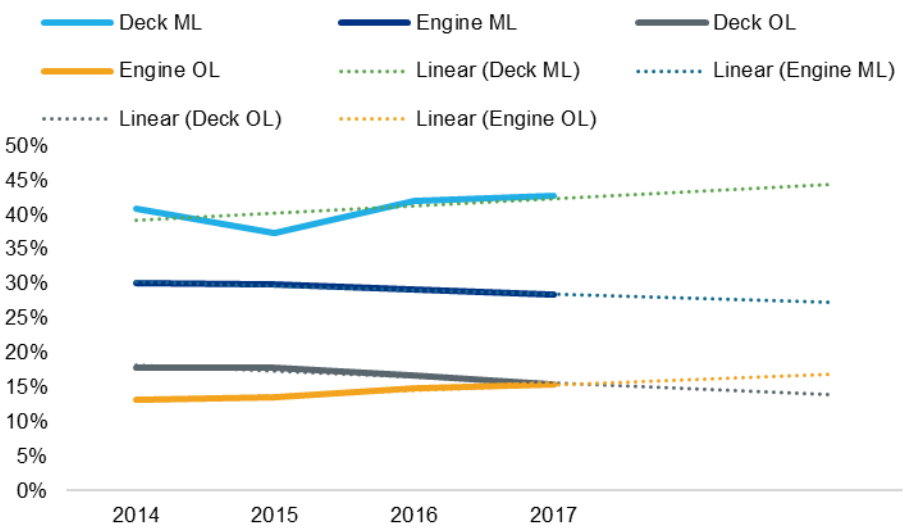

Figure 2-60 Forecast for the next two years of officers at management and operational level available to serve on board EU Member State flagged vessels

2.5.3 Female officers

As presented in Figure 2-61 below, the majority of female officers continue to be made up of those who hold CoCs issued by EU Member States entitling them to work in the deck department.

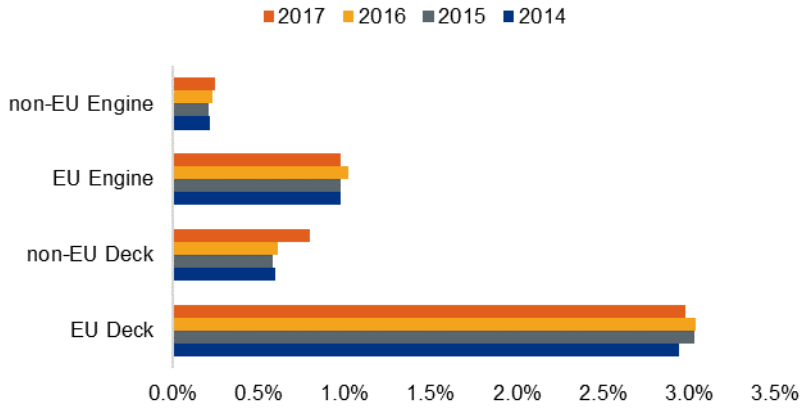

Figure 2-61 Female officers per department holding CoCs issued by EU and non-EU countries

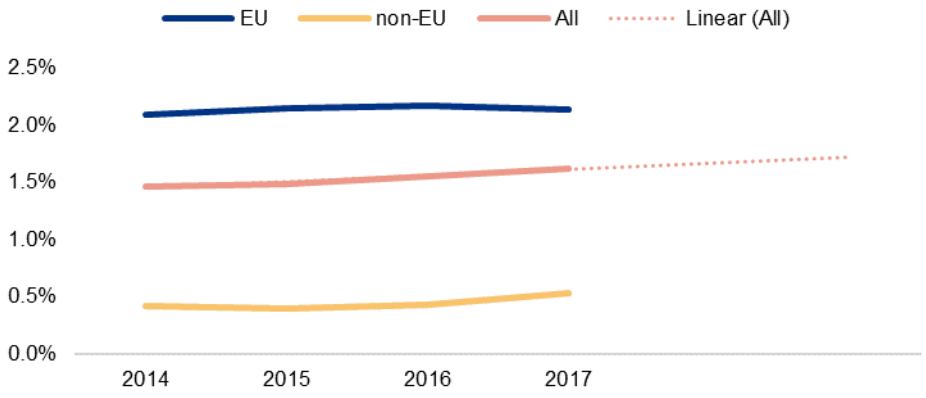

Figure 2-62 Forecast for the next two years of female officers available to serve on board EU Member State flagged vessels

As shown in Figure 2-62 the percentage of female officers globally (EU and non-EU) is expected to increase in the coming years. However, it is unlikely that globally this will reach the 2% of the total number of masters and officers already available to serve on board EU Member State flagged vessels; this percentage denotes the proportion of female participation currently achieved in the EU as indicated in the said Figure.

2.5.4 Nationality

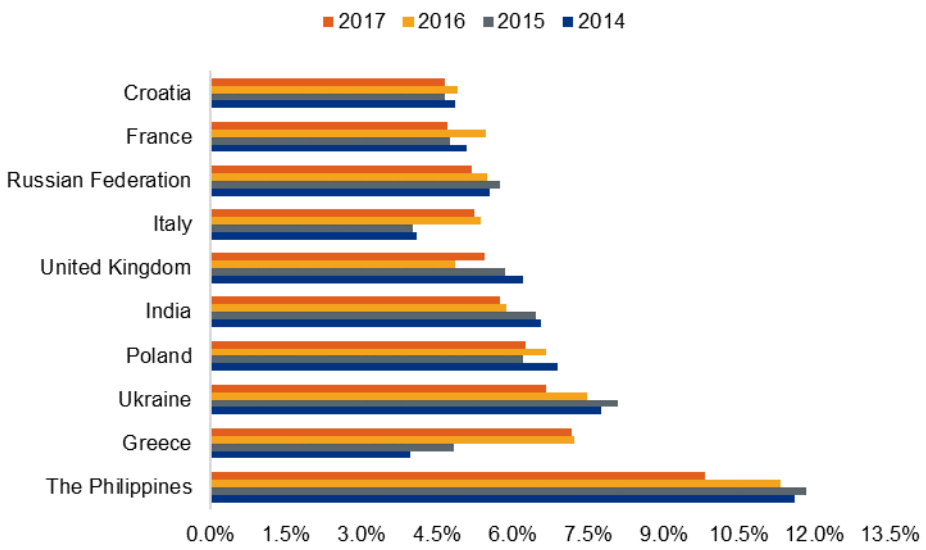

Figure 2-63 Top 10 nationalities of masters and officers available to serve on board EU member State flagged vessels

The 10 nationalities which had more masters and officers available to serve on board EU Member State flagged vessels have remained the same for the last two years.

Figure 2-64 below indicates that there is a potential increase of nationals from EU Member States and that the Philippines will continue to be the country from where there are more nationals among the masters and officers available to serve on board EU Member State flagged vessels. However, the indication is that they are decreasing.

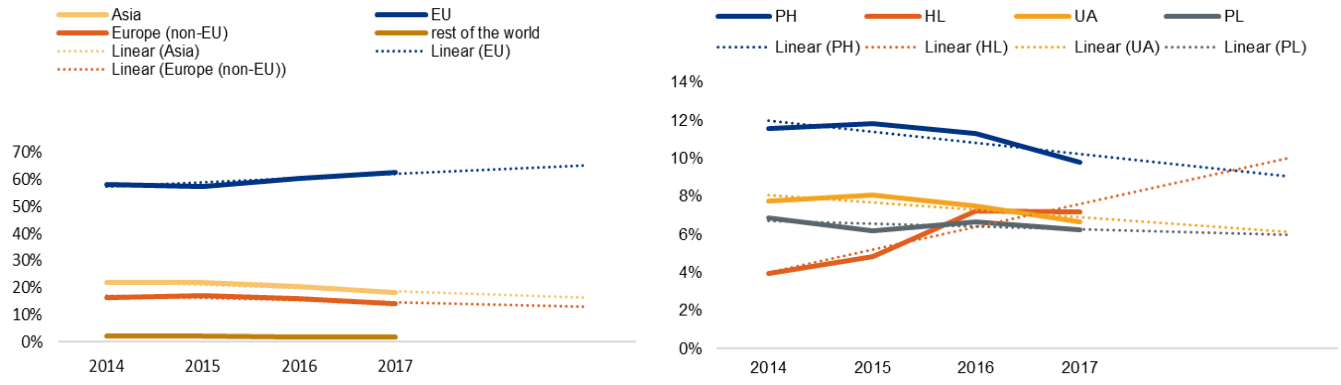

Figure 2-64 Forecast for the next two years of the nationalities of masters and officers available to serve on board EU Member State flagged vessels

2.5.5 Age

The average age of masters and officers available to serve on board EU Member State flagged vessels has remained stable throughout the years and there is no indication that it will increase in the next two years.

Figure 2-66 indicates that the average age of masters and officers holding CoCs at management level, either issued by EU or non-EU countries, will not increase. This may suggest that officers of a lower rank are progressing in the

seafaring career. However, for officers holding CoCs at operational level there is an indication that the average age will increase except for those holding CoCs issued by non-EU countries.

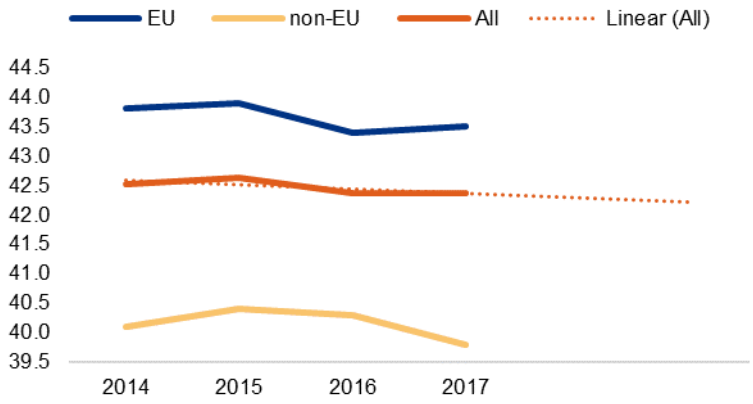

Figure 2-65 Forecast for the next two years concerning the average age of masters and officers available to serve on board EU Member State flagged vessels

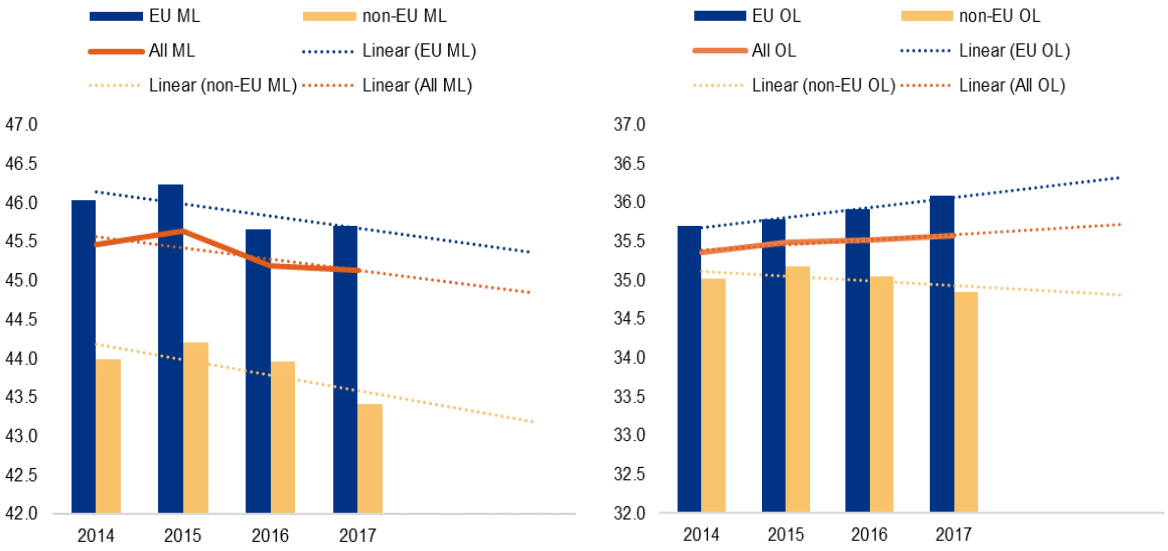

Figure 2-66 Forecast for the next two years concerning the average age of officers at management and operational level available to serve on board EU Member State flagged vessels

Appendix A Data on masters and officers holding valid CoCs in 2017

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	IS	IT	LT	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	UK
Alternative certification	0	0	0	0	0	0	0	0	0	0	1699	0	0	0	0	0	0	0	0	771	0	0	0	0	0	0	0	0
Deck	1340	1921	990	15	4757	4427	1232	10898	8013	1757	11682	6919	11	758	114	9284	850	2784	39	6485	10057	10402	340	6202	3915	209	40	18385
Engine	615	1719	911	25	2270	2326	1131	8040	4758	1294	4039	6608	31	378	30	6258	851	2924	5	4020	4639	9742	204	6156	1653	152	40	12470
Total[5]	**1953**	**3639**	**1901**	**40**	**6971**	**6665**	**2362**	**18935**	**12176**	**3035**	**13632**	**13519**	**42**	**1135**	**143**	**15154**	**1701**	**5706**	**44**	**9107**	**14696**	**20138**	**544**	**12354**	**5450**	**359**	**80**	**30833**

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	IS	IT	LT	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	UK
Master	556	1002	806	14	2747	1921	551	3808	1938	1078	1694	2850	2	300	32	3974	230	1070	11	2878	5384	4689	130	2065	1706	90	11	8397
Chief Mate	133	337	151	1	681	144	331	2623	569	169	547	1078	1	194	0	1312	260	631	9	739	1188	2400	84	1520	589	24	2	3356
Master 3,000 GT	20	22	0	0	32	328	3	324	2160	3	361	521	3	6	0	932	0	77	0	450	2268	19	18	7	218	30	0	114
Chief Mate 3,000 GT	14	5	1	0	2	294	24	3485	1857	7	293	172	0	14	0	126	19	43	0	1604	234	182	10	21	188	3	0	289
OOW	373	539	32	0	898	345	269	403	1489	485	879	1763	5	152	18	2678	332	888	19	31	209	3059	84	2579	518	62	27	5943
Master 500 GT, NCV	184	16	0	0	337	776	43	255	0	9	7820	404	0	92	64	226	5	69	0	609	774	0	6	10	630	0	0	213
OOW 500 GT, NCV	60	0	0	0	60	619	11	0	0	6	88	131	0	0	0	44	4	6	0	176	0	53	8	0	66	0	0	73
Total	**1340**	**1921**	**990**	**15**	**4757**	**4427**	**1232**	**10898**	**8013**	**1757**	**11682**	**6919**	**11**	**758**	**114**	**9284**	**850**	**2784**	**39**	**6485**	**10057**	**10402**	**340**	**6202**	**3915**	**209**	**40**	**18385**

[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 2-3 Engineer officers registered by EU Member States

Capacity	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IS	IT	LT	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	UK
Chief Engineer	204	643	637	13	1484	498	584	3074	1769	632	1508	2046	20	119	24	3020	239	1084	0	2022	3035	3035	3926	97	1956	937	64	4712
Second Engineer	48	362	148	0	318	82	277	1281	287	85	646	1145	0	93	0	780	220	690	0	1482	763	763	1654	19	1255	324	32	2501
Chief Eng. 3,000 kW	107	23	0	0	13	224	1	216	1252	37	387	530	2	10	3	572	0	105	0	19	158	158	398	12	1	17	13	275
Second Eng. 3,000 kW	19	30	0	0	0	5	12	391	772	5	146	181	0	57	0	79	10	60	0	472	0	0	410	8	7	7	8	879
OEW	237	322	123	0	382	293	154	2658	652	420	1348	1367	1	58	3	1609	225	652	5	25	0	0	1511	68	1520	368	17	3831
Electro-technical Officer	0	339	3	12	73	1224	103	420	26	115	4	1339	8	41	0	198	157	333	0	0	683	683	1843	0	1417	0	18	272
Total	**615**	**1719**	**911**	**25**	**2270**	**2326**	**1131**	**8040**	**4758**	**1294**	**4039**	**6608**	**31**	**378**	**30**	**6258**	**851**	**2924**	**5**	**4020**	**4639**	**4639**	**9742**	**204**	**6156**	**1653**	**152**	**12470**

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	IS	IT	LT	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	UK
Female	71	9	5	0	320	189	18	328	648	121	587	23	0	32	2	152	12	37	4	**----**	272	----	16	103	225	0	1	512
Male	1882	3630	1896	40	6651	6476	2344	18607	11528	2914	13045	13496	42	1103	141	15002	1689	5669	40	----	14424	----	528	12251	5225	359	79	30321
Total	**1953**	**3639**	**1901**	**40**	**6971**	**6665**	**2362**	**18935**	**12176**	**3035**	**13632**	**13519**	**42**	**1135**	**143**	**15154**	**1701**	**5706**	**44**		**14696**		**544**	**12354**	**5450**	**359**	**80**	**30833**

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	IS	IT	LT	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	UK	Total
Africa	55	1	1	0	1	5	0	0	24	1	61	35	0	44	0	0	0	0	0	5	0	60	0	0	0	0	1	765	**1059**
Americas	79	0	0	0	2	3	1	0	25	1	6	3	0	2	0	2	0	1	0	14	6	0	0	0	0	0	0	188	**333**
Asia	12	1	1	0	0	2	0	0	0	1	2	12	0	47	0	0	0	0	0	34	1	7	0	0	0	0	0	13710	**13830**
Europe (non-EU)	5	21	1	0	29	109	397	0	10	3	4	25	0	0	0	0	32	270	0	1	3	51	0	28	0	2	0	22	**1013**
Oceania	0	0	0	0	1	2	0	0	0	0	0	0	0	16	0	1	0	2	0	4	0	2	0	0	0	0	0	167	**195**
Total	**151**	**23**	**3**	**0**	**33**	**121**	**398**	**0**	**59**	**6**	**73**	**75**	**0**	**109**	**0**	**3**	**32**	**273**	**0**	**58**	**10**	**120**	**0**	**28**	**0**	**2**	**1**	**14852**	**16430**

Table 2-6 Age distribution by EU Member States

Age	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IS	IT	LT	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	UK
age<25	61	65	0	0	116	56	24	1323	218	77	550	292	0	84	1	633	106	126	7	815	347	185	7	169	90	10	3	1299
25≤age<30	333	325	79	0	984	633	239	3205	1062	322	1887	1505	1	174	16	2277	390	678	13	1258	1814	1822	59	1972	498	28	18	3667
30≤age<35	296	443	101	1	1241	667	314	3739	1262	390	2001	1860	1	188	14	1980	264	833	9	1069	1760	2668	73	2239	646	47	18	4717
35≤age<40	211	452	55	1	887	597	274	2500	1642	404	2009	2183	0	144	12	1590	180	762	2	949	1604	2690	66	1700	616	31	15	4541
40≤age<45	188	566	30	1	602	706	220	2162	2036	422	1899	2018	0	148	11	1720	136	717	0	1049	1676	2297	60	1477	623	44	3	3711
45≤age<50	229	477	21	3	593	772	231	1415	1566	332	1915	1459	1	133	19	1609	110	593	2	1129	1929	1869	53	1607	652	35	2	3188
50≤age<55	256	416	177	4	675	911	314	1831	1775	371	1556	1478	9	77	22	1653	152	592	1	1114	1659	1948	45	1190	668	39	7	2475
55≤age<60	251	396	502	10	763	886	365	1719	1591	346	1149	1403	11	63	22	1737	178	686	1	921	1678	2470	69	1138	581	54	8	2952
age≥60	128	499	936	20	1110	1437	381	1041	1024	371	666	1321	19	124	26	1955	185	719	9	803	2229	4189	112	862	1076	71	6	4283
Total	**1953**	**3639**	**1901**	**40**	**6971**	**6665**	**2362**	**18935**	**12176**	**3035**	**13632**	**13519**	**42**	**1135**	**143**	**15154**	**1701**	**5706**	**44**	**9107**	**14696**	**20138**	**544**	**12354**	**5450**	**359**	**80**	**30833**

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	485	928	475	269	133	94	44	31	11	**2470**
Deck	4333	16177	18325	16503	15092	13277	12622	12937	14472	**123738**
Engine	2997	10216	11312	10189	9881	9040	9098	9238	11286	**83257**
Total[6]	**6664**	**25253**	**28831**	**26096**	**24507**	**21926**	**21393**	**21931**	**25589**	**202190**

[6] 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	3	511	3507	6991	8137	7044	6834	7782	9111	**49920**
Chief Mate	110	2887	5888	3472	1967	1290	1055	1143	1260	**19072**
Master 3,000 GT	249	686	524	720	943	1076	1211	1147	1358	**7914**
Chief Mate 3,000 GT	1567	2837	1553	747	608	442	420	374	339	**8887**
OOW	1911	8058	5304	2958	1708	1320	1102	942	773	**24076**
Master 500 GT, NCV	402	1036	1393	1484	1585	1960	1822	1402	1446	**12530**
OOW 500 GT, NCV	91	170	165	142	151	156	191	150	187	**1403**
Total	**4333**	**16177**	**18325**	**16503**	**15092**	**13277**	**12622**	**12937**	**14472**	**123738**

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	8	400	2161	4388	5337	5006	5139	5296	6607	**34342**
Second Engineer	619	2160	3566	2109	1441	1175	1069	1062	1292	**14493**
Chief Eng. 3,000 kW	1	92	220	385	500	623	770	797	986	**4374**
Second Eng. 3,000 kW	85	300	353	340	418	407	493	601	561	**3558**
OEW	2102	6125	3765	2009	1243	857	676	548	551	**17876**
Electro-technical Officer	182	1141	1248	960	946	977	952	936	1289	**8631**
Total	**2997**	**10216**	**11312**	**10189**	**9881**	**9040**	**9098**	**9238**	**11286**	**83257**

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	283	1130	849	552	404	230	118	90	30	**3686**
Male	5381	21046	24248	21915	20765	18707	18223	18458	20569	**169312**
Not available	1000	3077	3734	3629	3338	2989	3052	3383	4990	**29192**
Total	**6664**	**25253**	**28831**	**26096**	**24507**	**21926**	**21393**	**21931**	**25589**	**202190**

Appendix B Data on masters and officers holding valid EaRs in 2017

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	IS	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SK	UK
EU Member State	1148	6794	876	1872	108	544	31	276	446	12	360	30	1623	32	2558	102	15790	2426	2764	11	2775	5	170	1	7287
non-EU country	1682	16442	1418	2664	39	3731	78	199	494	0	87	3	814	61	2112	306	37151	7109	7983	0	4910	0	15	0	6345
Not available	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	0	0	0	0	0	0
Total[7]	**2830**	**23233**	**2294**	**4539**	**147**	**4275**	**109**	**475**	**940**	**12**	**447**	**33**	**2437**	**93**	**4670**	**407**	**52938**	**9532**	**10754**	**11**	**7685**	**5**	**185**	**1**	**13632**

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

Country issuing the original CoC	Deck Department		Engine Department		Total[8]
	Number	Percentage	Number	Percentage	Number
EU Member State	23909	54.66%	19941	45.59%	**43743**
non-EU country	44666	50.87%	43168	49.16%	**87810**
Not available	5	45.45%	7	63.64%	**11**
Total[9]	**68566**	**52.13%**	**63104**	**47.97%**	**131538**

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

Capacity	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IS	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SK	UK
Chief Engineer	464	4725	399	910	30	529	50	91	124	4	103	3	497	15	856	54	9327	1851	2173	2	1631	1	25	1	2542
Second Engineer	275	2132	202	477	9	400	8	48	98	1	31	5	327	21	463	36	5568	910	869	0	709	0	4	0	1557
Chief Eng. 3,000 kW	60	17	23	21	5	0	1	3	10	0	15	1	15	3	80	32	449	237	156	0	0	0	4	0	126
Second Eng. 3,000 kW	37	27	2	10	1	0	2	3	3	0	0	0	99	1	36	4	540	41	94	0	0	0	0	0	134
OEW	412	2868	292	1281	11	975	7	72	147	1	14	1	314	7	418	22	7058	1031	1466	0	747	0	53	0	1642
Electro-technical Officer	116	1078	172	0	8	457	0	0	64	0	8	0	171	4	217	3	2291	143	627	0	469	0	8	0	550
Total	**1362**	**10845**	**1090**	**2696**	**64**	**2361**	**68**	**217**	**446**	**6**	**171**	**10**	**1423**	**51**	**2069**	**151**	**25226**	**4210**	**5376**	**2**	**3556**	**1**	**94**	**1**	**6551**

[7] 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
[8] The sum of the columns may not be equal to the total because some officers held EaRs for both Deck and Engine Departments
[9] 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

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	IS	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SK	UK
Master	502	5240	131	430	30	271	13	52	67	4	83	1	216	14	1113	85	10374	1277	1211	9	1784	4	63	0	1901
Chief Mate	313	2774	315	433	14	482	6	19	143	0	70	13	311	13	611	70	6313	2306	2121	0	954	0	12	0	2377
Master 3,000 GT	59	56	38	5	6	0	4	6	13	0	29	3	60	4	101	22	279	7	0	0	0	0	15	0	224
Chief Mate 3,000 GT	45	50	13	15	2	0	3	1	7	0	20	1	14	0	74	12	720	5	75	0	0	0	2	0	217
OOW	475	4271	701	893	19	1167	10	153	264	2	75	3	292	11	647	67	9813	1712	1961	0	1395	0	15	0	2368
Master 500 GT, NCV	73	0	5	47	12	1	5	15	0	0	0	2	101	0	62	0	235	21	0	0	0	0	0	0	25
OOW 500 GT, NCV	3	1	2	20	0	0	0	12	1	0	0	0	24	0	10	0	11	11	29	0	0	0	0	0	6
Total	**1470**	**12392**	**1205**	**1843**	**83**	**1921**	**41**	**258**	**495**	**6**	**276**	**23**	**1017**	**42**	**2615**	**256**	**27735**	**5328**	**5380**	**9**	**4133**	**4**	**107**	**0**	**7117**

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[10]
	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IS	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SK	UK	
Austria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Belgium	0	9	6	0	0	6	0	0	41	0	0	0	12	0	464	0	96	194	3	0	0	0	0	0	10	**800**
Bulgaria	162	284	22	8	0	22	0	0	64	0	0	0	96	0	55	0	1944	59	54	0	158	0	0	0	544	**3098**
Croatia	290	371	38	58	0	5	0	0	32	0	1	1	0	0	601	23	1047	257	445	0	118	0	0	0	628	**3463**
Cyprus	0	0	0	0	0	165	0	0	0	0	0	0	0	0	0	0	320	0	0	0	2	0	0	0	0	**473**
Czech Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	6	0	0	0	1	**12**
Denmark*	2	46	6	0	1	0	0	1	1	0	1	0	0	1	0	0	52	63	498	0	1	1	31	0	27	**723**
Estonia	5	153	17	9	0	1	0	211	3	0	4	0	9	13	5	53	121	182	41	0	88	0	0	0	167	**983**
Finland	0	34	0	4	63	1	0	0	0	0	0	2	0	0	1	2	27	22	96	0	4	0	88	0	14	**340**
France	23	51	6	1	0	0	6	0	0	0	0	0	6	0	330	0	199	23	5	0	0	0	1	0	143	**771**
Germany	3	141	0	15	7	1	5	1	0	0	0	0	87	0	73	3	314	134	24	1	270	0	1	0	63	**1056**
Greece	5	753	0	1	0	0	0	0	1	0	0	0	0	0	4	0	3157	13	2	0	23	0	1	0	21	**3893**
Hungary	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	2	**13**
Iceland	0	0	1	10	10	0	0	0	0	0	0	14	0	1	0	0	0	1	59	6	0	0	0	0	3	**105**
Ireland	0	23	0	4	0	0	0	0	1	0	0	0	2	0	0	0	21	13	7	0	3	0	1	0	289	**348**

[10] 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[10]
	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IS	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SK	UK	
Italy	3	119	1	5	0	0	0	0	5	0	1	0	0	0	21	0	445	9	3	0	38	0	0	0	881	**1482**
Latvia	34	299	25	84	15	3	0	2	52	0	0	2	75	13	21	0	910	295	234	0	145	0	4	0	616	**2483**
Lithuania	31	333	33	43	4	0	9	1	3	0	23	10	22	0	124	17	269	219	82	1	193	0	1	0	386	**1494**
Luxembourg	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**2**
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	2	**5**
Netherlands	342	421	75	37	0	0	1	13	7	8	2	0	0	4	348	1	479	0	23	0	10	0	1	0	95	**1778**
Norway	0	80	4	17	0	0	2	3	0	1	0	0	0	0	0	0	177	20	0	0	3	4	15	0	105	**415**
Poland	85	2550	583	438	0	19	2	5	92	0	253	1	0	0	266	2	2324	273	587	3	977	0	20	1	2096	**9260**
Portugal	0	9	2	2	0	0	1	0	0	0	0	0	0	0	0	0	17	4	19	0	0	0	0	0	11	**65**
Romania	28	287	27	292	0	307	1	0	100	0	0	0	1069	0	116	0	1997	189	49	0	528	0	1	0	891	**5227**
Slovakia	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	10	0	1	0	0	**22**
Slovenia	1	44	2	1	0	0	4	0	0	3	0	0	5	0	3	1	27	9	3	0	20	0	0	0	6	**115**
Spain	9	218	3	11	2	4	0	0	5	0	0	0	5	0	38	0	428	43	21	0	95	0	1	0	229	**1035**
Sweden	0	39	10	263	6	0	0	35	1	0	1	0	0	0	0	0	55	18	592	0	5	0	0	0	60	**1064**
United Kingdom	126	532	11	570	1	10	0	3	38	0	75	0	236	0	91	0	1391	390	287	0	86	0	3	0	0	**3689**

*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[11]
	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IS	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	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	0	**1**
Argentina	67	13	1	1	0	0	2	0	0	0	0	0	0	0	13	0	23	0	67	0	1	0	0	0	0	**183**
Australia	5	99	1	34	5	1	0	0	0	0	1	0	0	0	23	0	162	32	289	0	7	0	0	0	79	**697**
Azerbaijan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	465	0	0	0	0	0	0	0	0	**465**
Bangladesh	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**25**
Brazil	0	189	0	142	0	0	0	0	12	0	0	0	2	0	14	0	0	8	244	0	16	0	0	0	66	**668**
Canada	2	12	0	22	0	1	0	0	2	0	0	0	0	0	4	0	45	9	27	0	0	0	0	0	68	**185**

[11] 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[11]
	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IS	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SK	UK	
Cape Verde	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**7**
Chile	0	21	0	0	0	0	4	0	0	0	0	0	0	0	9	0	0	0	2	0	0	0	0	0	0	**32**
China	0	177	22	16	0	0	0	0	0	0	0	0	0	0	0	0	519	67	264	0	39	0	0	0	1046	**2067**
Cuba	0	33	0	0	0	0	61	0	0	0	0	0	5	0	0	0	122	0	0	0	35	0	0	0	0	**242**
Egypt	5	113	1	1	0	0	0	0	3	0	0	0	0	0	66	0	429	0	1	0	63	0	0	0	0	**667**
Ethiopia	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	**12**
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	0	**1**
Georgia	4	162	0	0	0	73	0	0	0	0	0	0	3	1	0	0	481	0	0	0	25	0	0	0	0	**698**
Ghana	2	66	0	2	0	0	0	0	0	0	0	0	0	0	22	0	14	0	2	0	4	0	0	0	0	**109**
Hong Kong	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	1	0	0	0	0	0	7	**18**
India	244	549	0	951	1	39	0	0	29	0	0	0	436	0	102	0	2362	60	1004	0	265	0	0	0	547	**6357**
Indonesia	4	250	0	0	0	7	0	0	3	0	0	0	0	0	24	0	226	308	26	0	77	0	0	0	0	**891**
Iran, Islamic Republic of	1	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65	0	0	0	0	0	0	0	4	**95**
Israel	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	**66**
Jamaica	79	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	1	0	0	0	7	**95**
Japan	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**7**
Jordan	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	0	0	0	0	0	0	0	0	**103**
Korea, Republic of	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	339	0	0	0	1	0	0	0	9	**365**
Lebanon	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	51	0	0	0	0	0	0	0	0	**52**
Madagascar	0	0	0	0	0	0	0	0	9	0	0	0	0	0	46	0	0	0	0	0	0	0	0	0	0	**49**
Malaysia	1	19	0	0	0	0	0	0	3	0	0	0	0	0	11	0	0	0	5	0	0	0	0	0	5	**44**
Mexico	4	36	1	0	0	0	2	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	**49**
Montenegro	0	230	1	0	0	0	0	0	0	0	0	0	0	0	24	0	509	0	32	0	38	0	0	0	148	**894**
Morocco	0	36	0	0	0	0	0	0	24	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	**66**
Myanmar	0	45	8	1	0	0	0	0	0	0	0	0	0	0	1	0	231	0	10	0	67	0	0	0	45	**396**
New Zealand	6	46	1	22	3	0	0	0	0	0	0	0	0	0	14	0	85	65	61	0	9	0	0	0	137	**430**
Pakistan	0	70	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	13	**87**

Country issuing the original CoC	EU Member State issuing the EaR																								Total[11]
	BE	CY	DE	DK	EE	EL	ES	FI	FR	HR	IE	IS	IT	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SK	UK	
Panama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	**4**
Peru	0	66	1	0	0	0	6	0	0	0	0	0	0	0	1	0	157	0	2	0	131	0	0	0	0	**353**
Russian Federation	200	3873	259	148	29	1	0	21	23	0	76	2	11	56	469	256	6748	2753	559	0	906	0	0	0	1212	**15631**
Senegal	0	0	0	0	0	0	0	0	10	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	**15**
Serbia	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	**9**
Singapore	5	32	0	74	0	0	0	0	0	0	0	0	0	0	8	0	97	5	53	0	15	0	0	0	29	**312**
South Africa	1	8	0	7	0	0	0	0	0	0	0	0	0	0	3	0	0	4	0	0	2	0	0	0	21	**45**
Sri Lanka	0	97	4	0	0	0	0	0	0	0	0	0	0	0	0	0	164	0	15	0	54	0	0	0	38	**359**
The Philippines	217	5580	747	939	0	2796	0	173	187	0	4	0	357	0	402	0	11127	1690	4441	0	1212	0	15	0	1396	**30615**
Tunisia	0	0	0	0	0	0	0	0	6	0	0	0	0	0	12	0	4	0	0	0	0	0	0	0	0	**15**
Turkey	0	14	3	0	0	0	0	0	0	0	0	0	0	0	13	0	3998	2	0	0	126	0	0	0	0	**4100**
Ukraine	825	4277	368	288	0	803	0	5	148	0	6	1	0	4	728	50	8470	2061	488	0	1804	0	0	0	1351	**19304**
United States	5	10	1	18	0	0	0	0	0	0	0	0	0	0	0	0	63	1	17	0	0	0	0	0	90	**203**
Uruguay	0	8	0	0	0	0	3	0	0	0	0	0	0	0	15	0	0	0	0	0	1	0	0	0	0	**22**
Viet Nam	0	97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	51	0	0	4	0	0	0	22	**205**

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	2147	11101	13647	11211	9836	6518	5596	5036	3474	**68566**
Engine	1489	8233	10393	8474	8313	7932	7173	6332	4765	**63104**
Total[12]	**3632**	**19291**	**24021**	**19664**	**18136**	**14442**	**12757**	**11363**	**8232**	**131538**

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

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	144	1620	3221	4103	4110	3929	3947	3281	**24358**
Second Engineer	38	1378	3677	2346	1662	1384	1133	842	548	**13008**
Chief Eng. 3,000 kW	0	26	119	135	150	188	204	194	215	**1231**
Second Eng. 3,000 kW	22	118	217	137	120	112	103	103	83	**1015**
OEW	1317	5925	3838	1837	1585	1343	1094	720	273	**17932**
Electro-technical Officer	111	705	1062	906	763	862	759	578	401	**6147**
Total	**1489**	**8233**	**10393**	**8474**	**8313**	**7932**	**7173**	**6332**	**4765**	**63104**

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	3	160	1864	3742	4544	3608	3446	3404	2582	**23353**
Chief Mate	62	2318	5626	3875	2682	1474	1092	788	456	**18373**
Master 3,000 GT	0	9	67	88	124	142	175	132	163	**900**
Chief Mate 3,000 GT	101	354	321	139	108	69	57	58	40	**1247**
OOW	1981	8299	5900	3443	2394	1204	807	650	215	**24893**
Master 500 GT, NCV	3	40	79	85	108	92	91	46	43	**587**
OOW 500 GT, NCV	4	18	31	26	13	8	12	10	7	**129**
Total	**2147**	**11101**	**13647**	**11211**	**9836**	**6518**	**5596**	**5036**	**3474**	**68566**

Table 2-20 Age distribution of officers holding EaRs by gender group[13]

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	93	360	246	104	49	27	17	10	7	**913**
Male	3130	17627	22247	18417	16999	13603	12000	10756	7897	**122676**
Total	**3223**	**17982**	**22490**	**18520**	**17046**	**13629**	**12016**	**10766**	**7903**	**123575**

[13] Poland and the Netherlands not included

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	1414	7245	7697	6554	6894	4696	3354	2828	1379	**42061**
EU	726	4967	7477	6637	5699	4694	4530	4584	4429	**43743**
Europe (non-EU)	1395	6285	8011	5887	5135	4671	4466	3557	2064	**41471**
Rest of the World	97	796	842	590	412	387	408	393	361	**4286**
Total	**3632**	**19291**	**24019**	**19662**	**18134**	**14440**	**12756**	**11361**	**8232**	**131527**

Appendix C Data on ratings holding valid CoPs in 2017

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	30	0	825	618	380	575	3143	236	2177	4377	923	2171	3
Rating forming part of a navigational watch	1011	0	1263	1310	9487	466	1587	3394	1928	1277	1100	8099	1447	970	7
Able seafarer engine	0	0	7	726	354	350	255	143	1057	13	811	441	510	497	1
Rating forming part of an engineering watch	310	0	342	0	5229	302	769	1622	909	423	621	3406	1557	257	11
Electro-technical rating	0	0	91	64	106	321	98	1271	500	13	43	241	925	171	1
Total[14]	**1543**	**1**	**3042**	**1811**	**12429**	**2831**	**2530**	**6016**	**6183**	**1876**	**4442**	**11642**	**4144**	**3711**	**23**

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

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