European Maritime Safety Agency

Seafarers' Statistics in the EU

Statistical review (2015 data STCW-IS)

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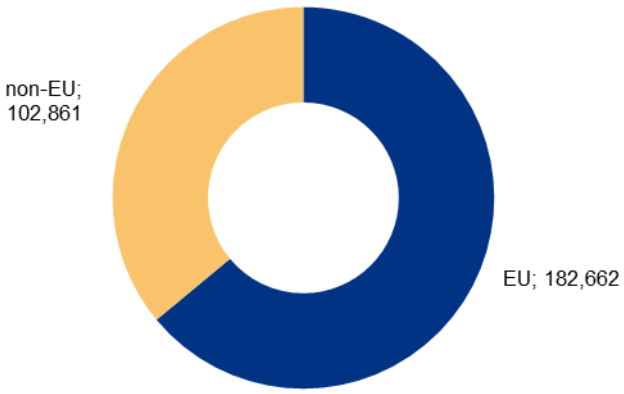
EMSA

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 until 31 December 2015 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 2015. This is the second year in respect of which such data is available. The first statistical review for 2014 was published by EMSA on 8 July 2016[1]. As more data is collected in the coming years, this will make possible 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 182,662 masters and officers hold valid certificates of competency (CoCs) issued by EU Member States while another 102,861 masters and officers hold original CoCs issued by non-EU countries with endorsements issued by EU Member States attesting their recognition (EaRs). Overall, the end of 2015 saw slightly above a quarter of a million masters and officers as potential manpower to serve on board EU Member States flagged vessels.



The five EU Member States that had more masters and officers holding CoCs issued by them in 2015 were the United Kingdom (31,448), Poland (20,700), France (13,552), Croatia (13,350) and Spain (11,697). In addition, the five EU Member States that had more masters and officers holding EaRs were Malta (63,142), Cyprus (29,654), the United Kingdom (15,779), the Netherlands (10,104) and Luxembourg (6,761). Finally, the five non-EU countries which had more masters and officers holding their CoCs recognised by EU Member States were the Philippines (33,966), Ukraine (23,192), Russian Federation (16,381), India (7,626) and Turkey (6,377).

[1] https://portal.emsa.europa.eu/documents/10406/110461/Seafarers%E2%80%99+Statistics+in+the+EU+-+Statistical+review+%282014+STCW-IS+data%29/672ad600-55a7-410c-b0c1-d8cce753a943

Table of Contents

List of Tables

List of Figures

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
HV	High Voltage
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

The statistical review presented in this report is based on data extracted from certificates and endorsements, registered by EU Member States until 31 December 2015 and received in the STCW Information System (STCW-IS). This second review presents a snapshot of the number of seafarers holding valid certificates and endorsements in 2015. 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 2015. Similar reports will be compiled in the coming years. This should in turn enable identification of trends which would hopefully contribute to enhanced insight into future possible analysis.

The main beneficiaries of the statistical review are the EU Member States and the Commission for policy-making purposes. Ship owners and ship operators can also derive added value in terms of knowing the magnitude of manpower available in the EU to crew their vessels. Maritime education and training institutions in the EU would also find this review useful in 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.

1.1 Legal background

The EMSA Founding Regulation[2] 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[3] 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 Accuracy

This report is based on data extracted by the EU Member States from their national registries and made available to EMSA through the STCW-IS. To this effect, 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. Unlike in the first review, corrections were made in the 2015 reported data on the seafarers' gender in cases when different genders were reported for the same seafarer in the same country. Such cases were noticed in all types of certificates (CoCs, EaRs and CoPs). Although the inconsistencies identified could in principle impair the counting of seafarers at EU level, it is assumed that such errors are negligible.

Taking into account that the CoCs and the EaRs may remain valid for five years and that the STCW-IS already held information on certificates and endorsements registered between 2010 and 2014, which was made available for the previous statistical review, EU Member States were asked to provide, as a minimum, the information on certificates and endorsements they had registered during 2015.

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 phase conducted by EMSA. In order to estimate the human error introduced through this process a sample was selected from the data made available by each EU Member State and was validated by a different operator at EMSA. The dimension of the sample was established by the formula:

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

[2] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV%3Al24245
[3] http://eur-lex.europa.eu/legal-content/LV/TXT/?uri=CELEX:32012L0035

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.

Regarding the certificates and endorsements issued between 2010 and 2014, a level of confidence of 90% (z = 1.645) and an amplitude of the error (E) of 10% were established for the evaluation of the errors introduced by human intervention. This evaluation was conducted on a sample randomly selected from the data received from all EU Member States and identified a level of error of 1.04% during the coding phase.

As for the certificates and endorsements issued in 2015, the evaluation of the errors introduced during the coding phase was made using a new algorithm implemented in the STCW-IS. This new feature enabled automatic sample selection, a reduction in the amplitude of the error (E) to 1% when coding the free text received into STCW-IS internal values and also the correction of all possible errors identified during the verification 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 2015 were noticed when comparing the statistical outputs with those in the statistical review for 2014, 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 second statistical review, a comparison between the statistical outputs over several years should confirm a higher degree of confidence in accuracy.

1.3 Timeliness and punctuality

All EU Member States complied with their obligation to make available information on certificates and endorsements registered until 31 December 2015. The STCW-IS received the last set of data in December 2016.

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 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.

In order to ensure comparability of the data received from various sources, all data was subject to a coding phase, 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 validation 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 review for 2014 while converting the data during the coding phase. The exception were the multipurpose capacities since, within the 2015 registered certificates and endorsements, capacities such as "polyvalent officer" were not disregarded even when the document included a separate capacity for the Deck and Engine Departments.

It is to be noted that in the case of officers, their total does not tally with the sum of the total number of deck officers plus the total number of engineer officers. The reason for this is that some 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 officers registered by individual EU Member States may not be equal to the total number of 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 will be 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[4], 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 validation process to ensure consistency and an anonymisation process by which all personal data was made anonymous at the EU Member State site.

After receiving the data in its anonymous format, EMSA conducted a validation to ensure that only the 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).

Only the data successfully passing the validation and coding phases was considered for statistical review.

Although, as already mentioned, identification of trends was not yet possible, a simple comparison between the results of the statistical reviews of the 2014 and 2015 data was made. Whenever a difference in the results was considered pertinent and of interest, it was referred 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 (CoC) in 2015

2.1.1 Total

The total number of masters and officers holding valid CoCs at EU level was 182,662. Out of this number, 3.59% held CoCs entitling them to serve in both the Deck and Engine Departments. In addition, 0.05% of them held more than one CoC issued by different EU Member States.

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:

- Among them, six EU Member States, namely the United Kingdom, Poland, France, Croatia, Spain and Greece, accounted for 55.97% of the total number of masters and officers holding valid CoCs;
- 18 EU Member States registered less than 10,000 masters and officers each;
- Luxembourg did not issue CoCs and consequently did not register masters or officers holding valid CoCs.

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

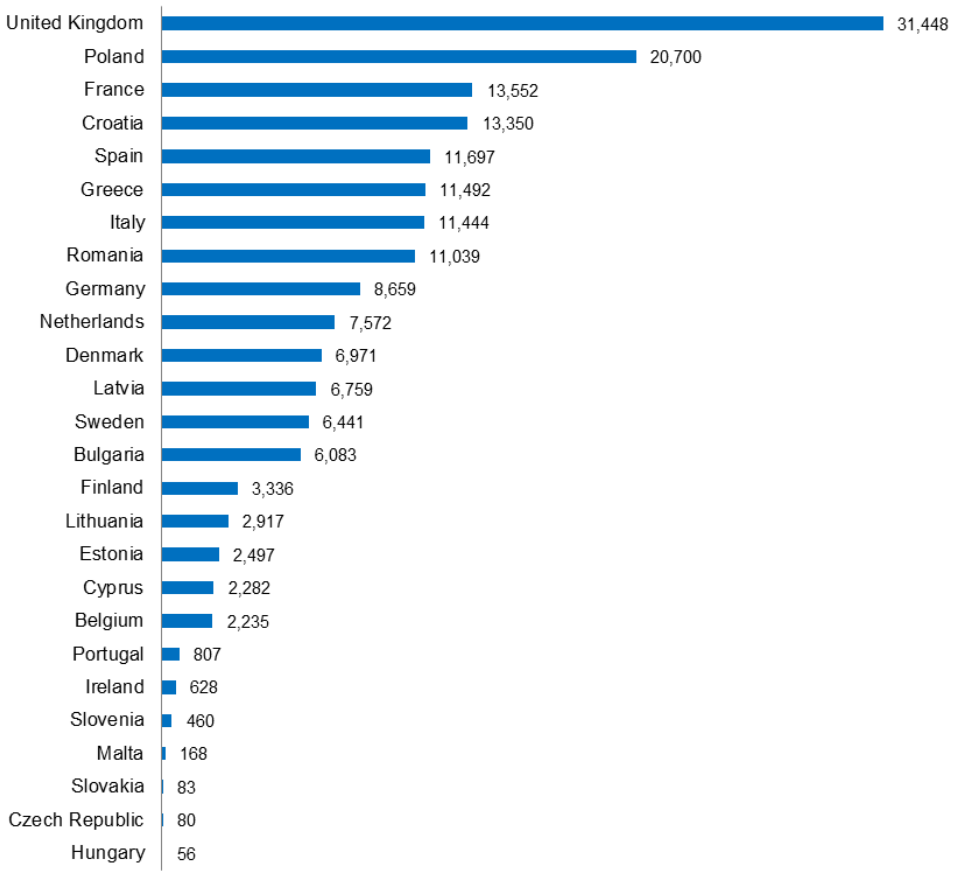


Figure 2-1 Masters and officers holding valid CoCs per EU Member State

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 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.

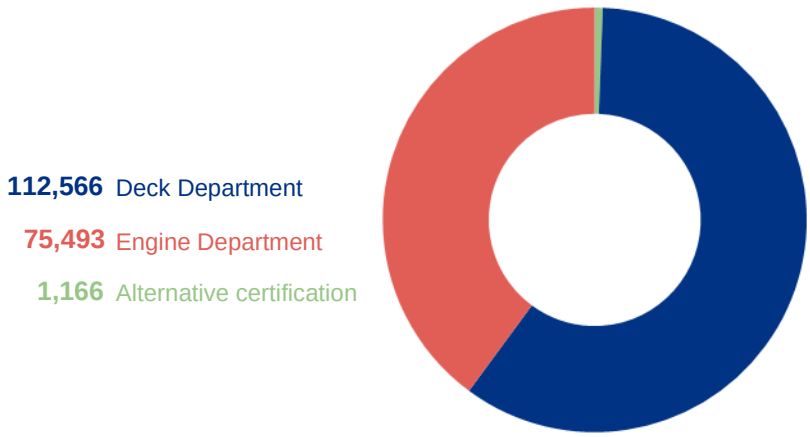


Figure 2-2 Distribution of masters and officers holding valid CoCs by department

The distribution by department for each EU Member State is presented in Figure 2-3 below and shows that:

- in four EU Member States, namely Bulgaria, Cyprus, the Czech Republic and Hungary, most of the officers were entitled to serve in the Engine Department;
- in Poland, the number of officers entitled to serve in the Deck and in the Engine Departments was similar (less than 1% difference, among them).

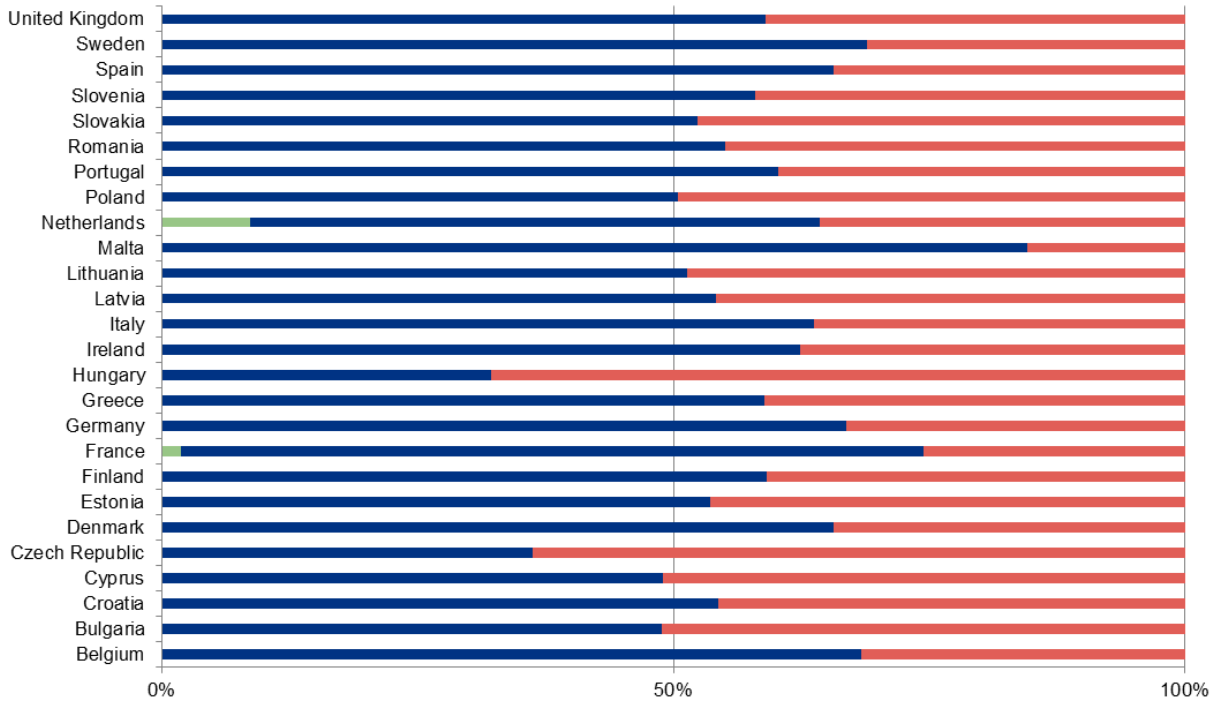


Figure 2-3 Distribution of masters and officers holding valid CoCs by departments in each EU Member State

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 officers was established by counting each person in his/her highest capacity.

2.1.4.1 Distribution by deck capacity

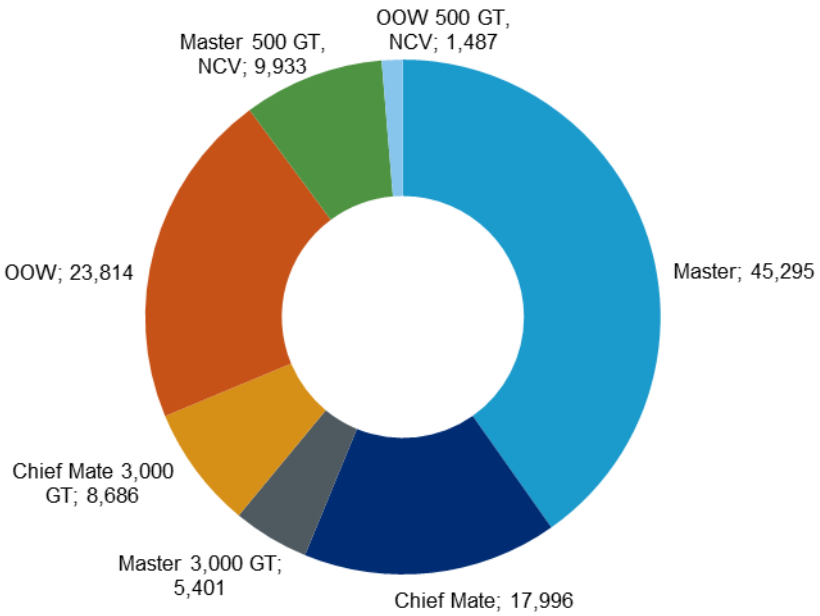


Figure 2-4 Distribution of masters and deck officers holding valid CoCs by deck capacity

The data in Figure 2-4 shows that 56.23% of the total number of masters and deck officers were entitled to serve at management level on ships of 3,000 GT or more.

When reviewing the detailed data on masters and officers presented in Table 2-2 of Appendix A, the following could be stated:

- In five EU Member States, namely Cyprus (87.21%), the Czech Republic (75.86%), Germany (62.74%), Finland (56.28%) and Bulgaria (51.26%), the majority of the deck officers were entitled to serve as 'Master';
- 56.49% of the officers entitled to serve as 'Master 3,000 GT' had CoCs issued by two EU Member States, Spain (39.44%) and Italy (17.05%);
- 66.01% of the officers entitled to serve as 'Chief Mate 3,000 GT' had CoCs issued by three EU Member States, Greece (31.53%), Spain (17.45%) and the Netherlands (17.03%);
- Slovakia was the only EU Member State where the majority (52.27%) of the deck officers were entitled to serve as 'Officer in charge of a navigational watch (OOW)';
- 77.15% of the officers entitled to serve as 'Master 500 GT, NCV' had CoCs issued by France, which represented 65.90% of the total number of masters and officers holding CoCs for the Deck Department certified by this EU Member State;
- 59.58% of the officers entitled to serve as 'OOW 500 GT, NCV' had CoCs issued by two EU Member States, Denmark (46.61%) and the Netherlands (14.55%);
- Five EU Member States had no masters or deck officers holding CoCs entitling them to serve exclusively on ships of less than 500 GT engaged on NCV.

2.1.4.2 Distribution by engine capacity

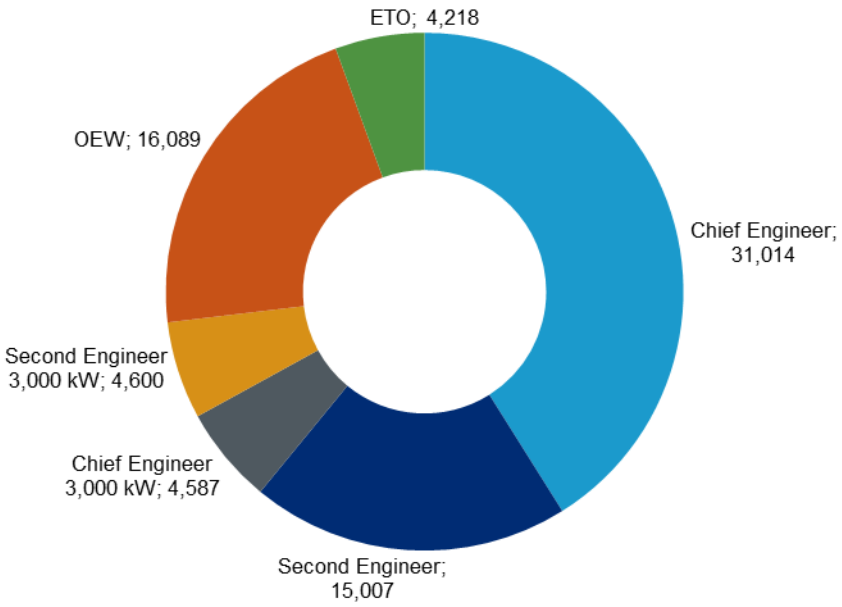


Figure 2-5 Distribution of engineer officers holding valid CoCs by engine capacity

The data in Figure 2-5 shows that 60.96% of the total number of engineer officers were entitled to serve at management level on ships of 3,000 kW or more.

When reviewing the detailed data on engineer officers presented in Table 2-3 of Appendix A, the following could be stated:

- In eight EU Member States, namely Hungary (78.95%), Cyprus (71.44%), Germany (69.17%), Finland (58.32%), the Czech Republic (56.86%), Italy (56.00%), Sweden (55.73%) and Estonia (51.16%), the majority of the engineer officers were entitled to serve as 'Chief Engineer';
- 51.35% of the officers entitled to serve as 'Second Engineer 3,000 kW' had CoCs issued by two EU Member States, Poland (27.33%) and the United Kingdom (24.02%);
- In two EU Member States, namely Malta (69.23%) and Slovakia (62.50%) more than 50% of the total number of engineer officers were entitled to serve as 'OEW';
- 10 EU Member States had no officers holding CoCs entitling them to serve exclusively as 'Electro-technical Officer (ETO)'.

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 154,436 masters and officers representing 84.55% of the total number of officers holding valid CoCs in 2015 at EU level.

In 2015, officers holding valid CoCs were predominantly men representing 82.73% of the total number of officers holding valid CoCs in 2015.

Considering the total number of officers for whom the gender was known, it can be stated with a level of confidence of 99% that the percentage of female officers was 2.15% ± 0.13% comparing with the percentage for the male officers which was 97.85% ± 0.13%.

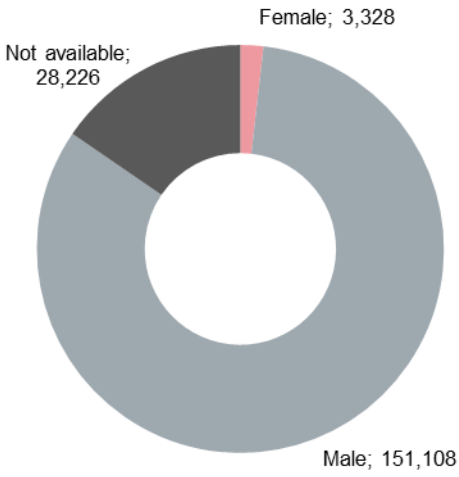


Figure 2-6 Gender distribution of masters and officers holding valid CoCs

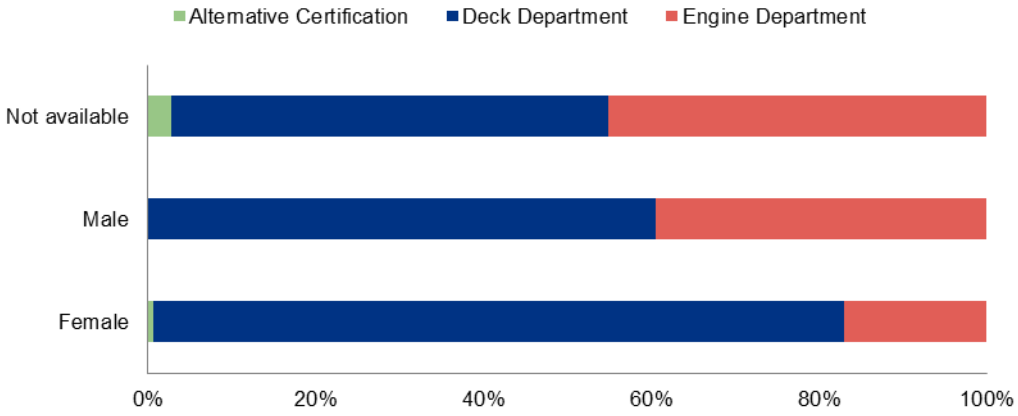


Figure 2-7 Distribution of masters and officers holding valid CoCs by department and by gender

The information presented in Figure 2-7 shows that male officers follow the general distribution on officers by department (60% entitled to serve in the Deck Department and 40% entitled to serve in the Engine Department) while most of female officers (87.98%) were entitled to serve in the Deck Department.

In addition, the data presented in Table 2-4 of Appendix A indicated that:

- three EU Member States, namely the Czech Republic, Hungary and Slovakia reported only male officers;
- out of the 21 EU Member States that reported both male and female officers, in six of them, Croatia, Cyprus, Estonia, Lithuania, Malta and Slovenia, female officers were entitled to serve in the Deck Department only;
- 59.16% of the total number of female officers had CoCs issued by four EU Member States, Spain (17.46%), France (16.05%), United Kingdom (14.42%) and Germany (11.24%);
- four EU Member States, Malta (5.36%), Spain (4.97%), Germany (4.32%) and Finland (4.29%) registered more than 4% female officers in their total number of masters and officers.

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

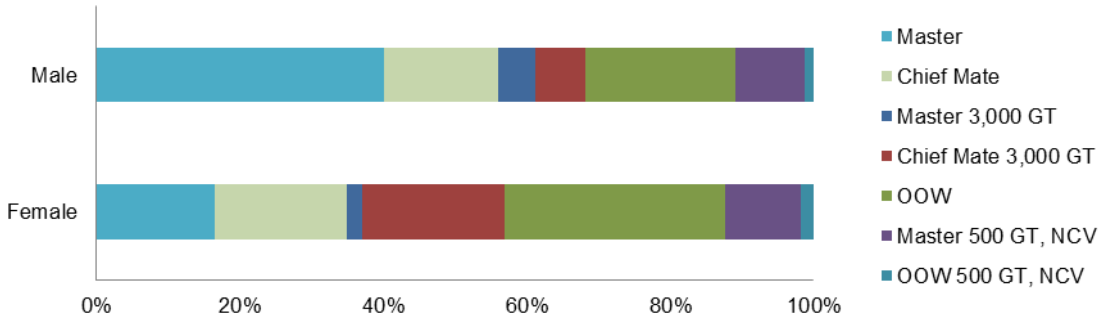


Figure 2-8 Distribution of the deck capacities of masters and deck officers holding valid CoCs by gender

As seen above (Figure 2-8), the three main capacities in which female officers were entitled to serve were 'OOW' (30.74%), 'Chief Mate 3,000 GT' (19.88%) and 'Chief Mate' (18.51%) giving a total percentage of 69.13% of the total number of female officers entitled to serve in the Deck Department. The three main capacities in which male officers were entitled to serve were 'Master' (40.22%), 'OOW' (20.92%) and 'Chief Mate' (15.77%) giving a total percentage of 76.90% of the total number of male officers entitled to serve in the Deck Department.

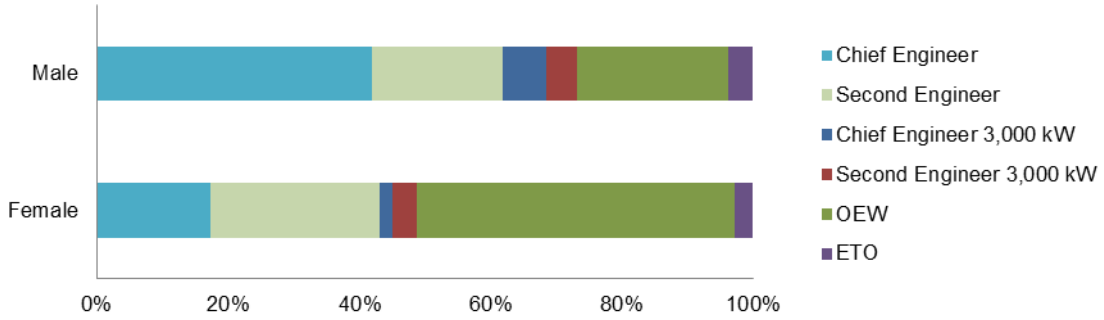


Figure 2-9 Distribution of the engine capacities of engineer officers holding valid CoCs by gender

As for the engine department (Figure 2-9), the three main capacities in which female officers were entitled to serve were 'OEW' (48.51%), 'Second Engineer' (25.66%) and 'Chief Engineer' (17.38%) giving a total percentage of 91.56% 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 were 'Chief Engineer' (41.83%), 'OEW' (23.18%) and 'Second Engineer' (20.01%) giving a total percentage of 85.02% 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 179,082 masters and officers, representing 98.04% of the total number of officers at EU level.

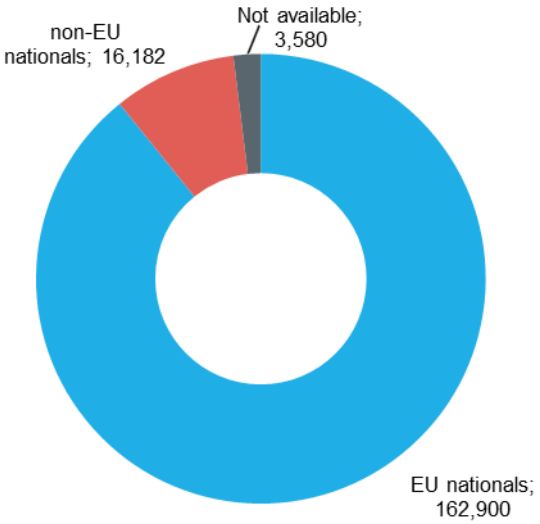


Figure 2-10 Nationality distribution of masters and officers holding valid CoCs

In addition to nationals from the EU Member States, 16,182 masters and officers holding valid CoCs issued by EU Member States were nationals of 105 non-EU countries. Grouping these non-EU countries per region of origin, 16 were located in Europe, 29 were located in Asia, 31 were located in Africa, 23 were located in the Americas and 6 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 below shows that 83.90% of non-EU masters and officers were nationals of countries located in Asia.

The distribution by EU Member State is presented in Table 2-5 of Appendix A. The detailed data showed that:

- nationals of six, out of 105, non-EU countries reached more than 1% of the total number of non-EU masters and officers. Nationals from India (63.55%), Pakistan (6.98%), Bangladesh (5.25%), the Russian Federation (4.41%), Sri Lanka (3.73%) and Nigeria (3.01%) represented 86.93% of the total number of non-EU nationals holding CoCs issued by EU Member States;
- 90.27% of the non-EU nationals held CoCs issued by the United Kingdom;
- there were no nationals from countries in Asia and in the Oceania qualified to serve as ‘Master 500 GT, NCV’ or ‘OOW 500 GT, NCV’;
- there were no nationals from countries in the Oceania qualified to serve as ‘ETO’;
- 1.41% of the female officers holding valid CoCs were nationals of non-EU countries;
- the highest percentage of female officers, among the regions of origin, was from countries located in the Americas (4.90%) and the lowest one was from countries located in Asia (0.04%).

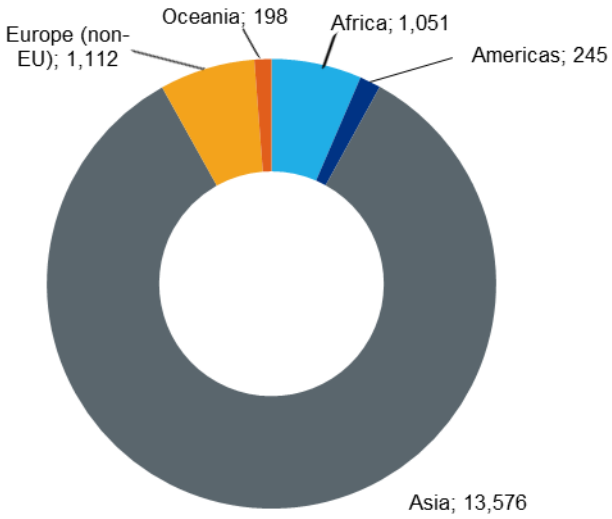


Figure 2-11 Nationality distribution of non-EU nationals holding valid CoCs issued by EU Member States by region of origin

2.1.7 Age distribution

The average age of masters and officers holding valid CoCs was 43.9 (years). Except for the age group under 25 (only 6,006 officers with a CoC), all other age groups had a similar number of officers with CoCs (between 18,000 and 25,000) and percentages out of the total between 10% and 13%.

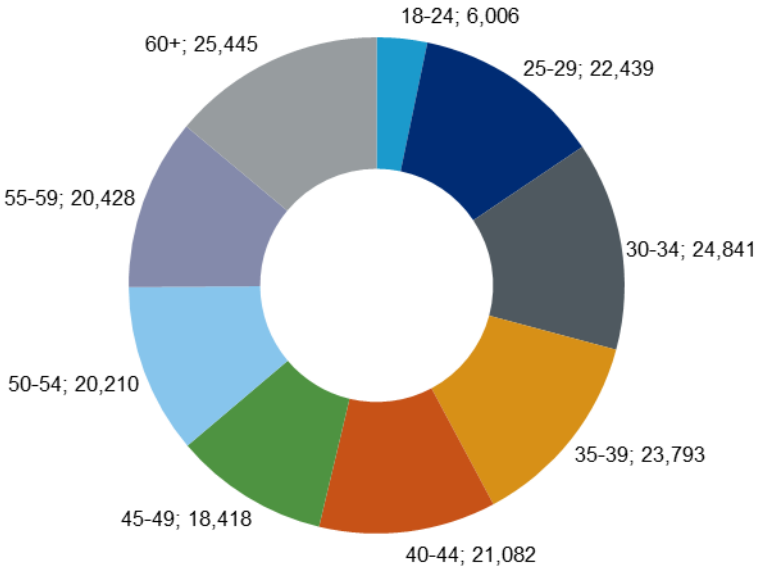


Figure 2-12 Age distribution of masters and officers holding valid CoCs

Furthermore, the review gave an account of the average age of the officers with only two EU Member States (Greece and Ireland) with the average age of less than 40, and three EU Member States (the Czech Republic, Cyprus and Hungary) with the average over 50. In addition, the Czech Republic had no officers younger than 30 years of age and Hungary had no officers younger than 40 years of age. Moreover, 56 officers with an age that varied between 80 and 87 were noted in different EU Member States (see Table 2-6 of Appendix A).

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

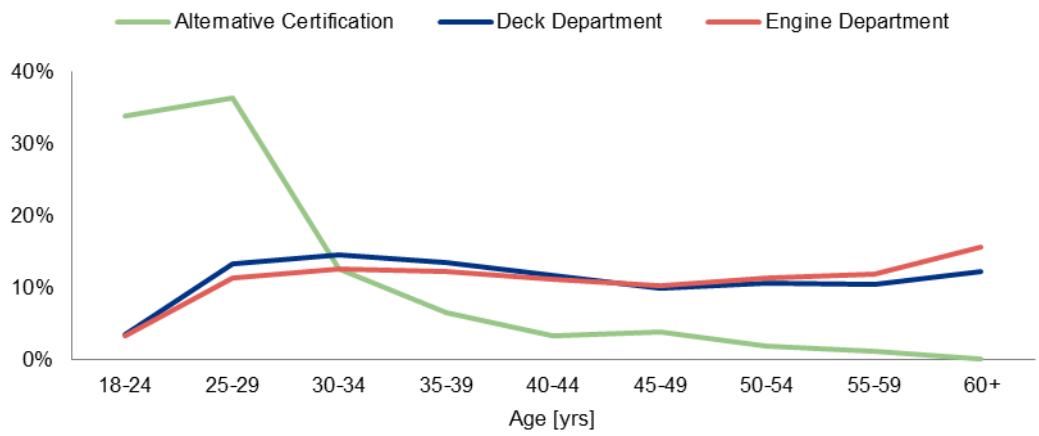


Figure 2-13 Age profile of masters and officers holding valid CoCs per departments

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

- 70.15% of the number of officers holding certificates issued under Chapter VII, 'Alternative certification' of the STCW Convention were younger than 30 years of age;
- The officers certified under Chapters II (Deck Department) and III (Engine Department) of the STCW Convention were evenly distributed throughout the age groups older than 25 years of age;
- 56.67% of officers entitled to serve in the Deck Department and 50.93% of the officers entitled to serve in the Engine Department were younger than 45 years of age.

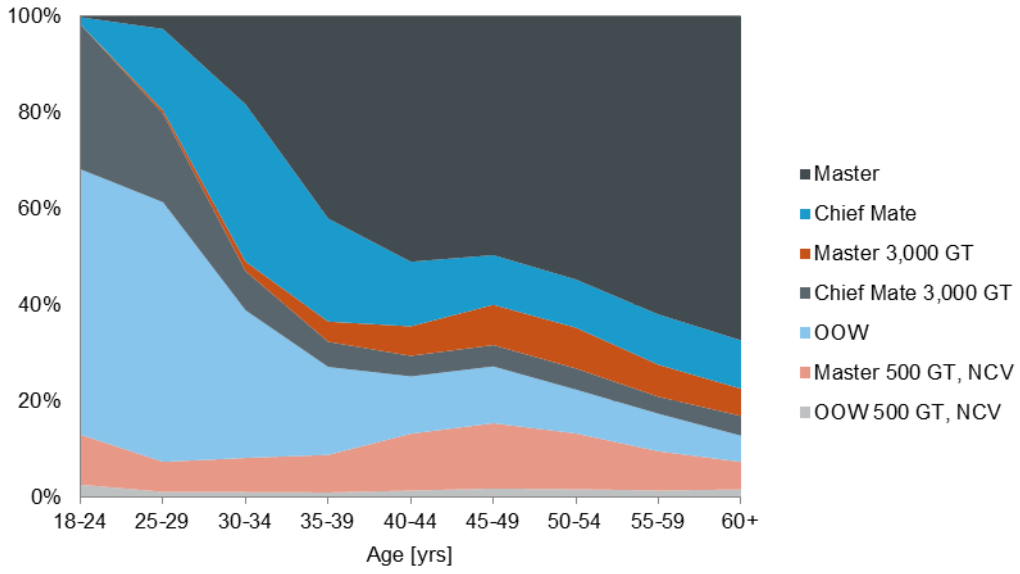


Figure 2-14 Distribution of the deck capacities of masters and deck officers holding valid CoCs by age groups

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

- 51.30% of those entitled to serve as 'Master' were 50 years old or older;
- 62.14% of those entitled to serve as 'Chief Mate' were between 25 and 40 years old;
- 51.10% of those entitled to serve as 'Master 3,000 GT' were between 40 and 55 years old;
- 61.12% of those entitled to serve as 'Chief Mate 3,000 GT' were younger than 35 years of age;
- 64.46% of those entitled to serve as 'OOW' were younger than 35 years of age;
- 57.02% of those entitled to serve as 'Master 500 GT, NCV' were between 35 and 55 years old; and
- 50.64% of those entitled to serve as 'OOW 500 GT, NCV' were above 45 years old.

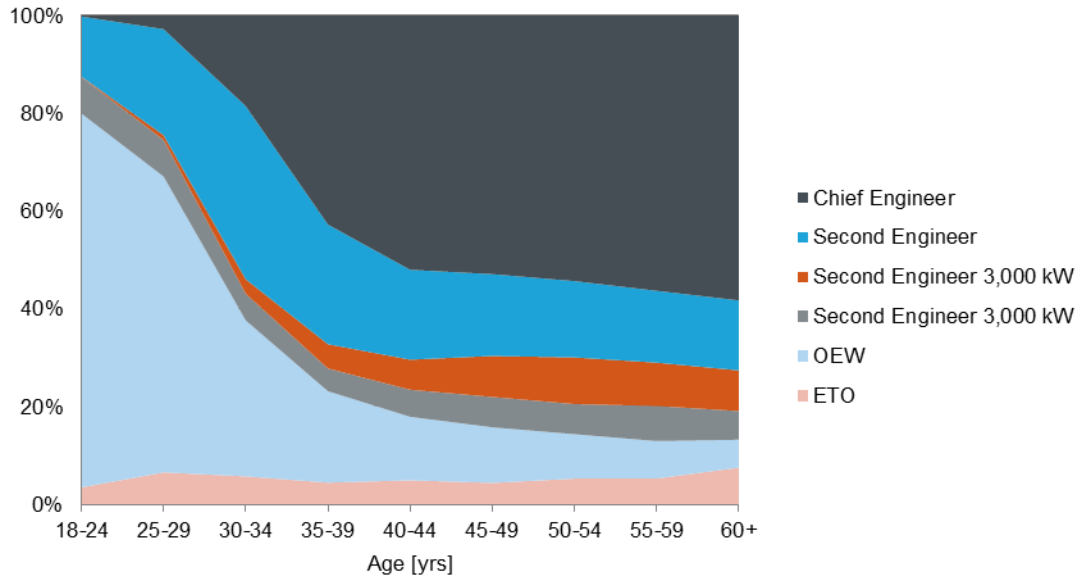


Figure 2-15 Distribution of the engine capacities of engineer officers holding valid CoCs by age groups

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

- 53.39% of those entitled to serve as 'Chief Engineer' were 50 years old or older;
- 52.12% of those entitled to serve as 'Second Engineer' were younger than 40 years of age;
- 56.46% of those entitled to serve as 'Chief Engineer 3,000 kW' were 50 years old or older;
- 55.33% of those entitled to serve as 'Second Engineer 3,000 kW' were between 25 and 50 years old;
- 63.68% of those entitled to serve as 'OEW' were younger than 35 years of age; and
- 51.45% of those entitled to serve as 'ETO' were 45 years old or older.

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

- the average age for female officers was 33.4 years of age, while that for male officers was 43.9 years of age;
- 79.12% of the female officers were younger than 40 years of age, while the percentage of the male officers in the same age group was only 42.08%;
- the average age of the female officers entitled to serve in the Deck Department was higher than the average of those entitled to serve in the Engine Department.

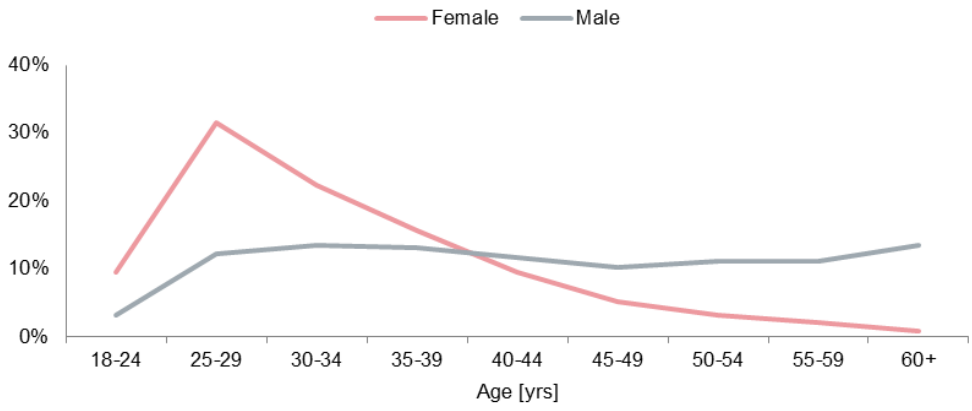


Figure 2-16 Age profile of masters and officers holding valid CoCs per gender

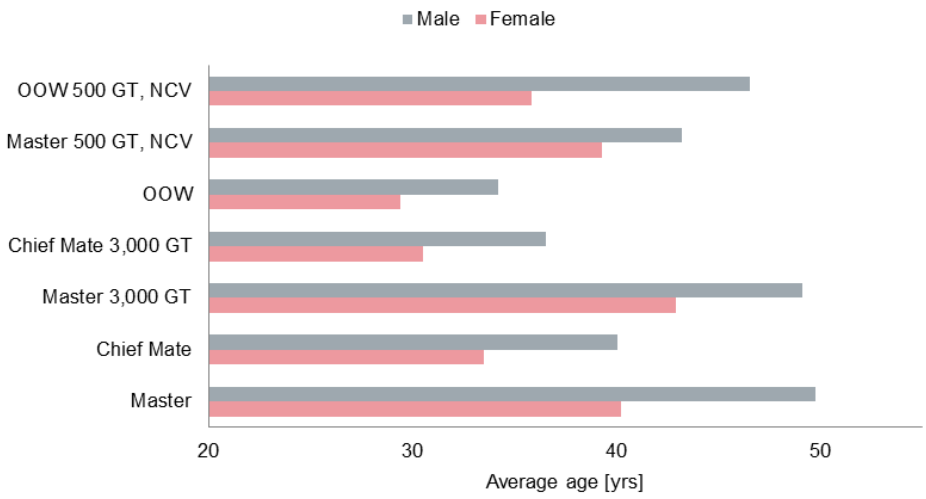


Figure 2-17 Average age of masters and deck officers holding valid CoCs per gender by deck capacity

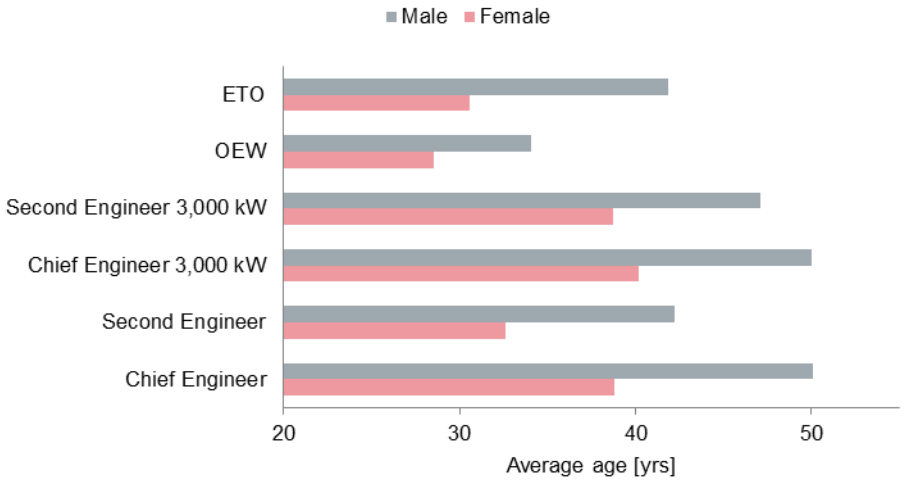


Figure 2-18 Average age of engineer officers holding valid CoCs per gender by engine capacity

2.1.8 Comparison of the results – 2014 / 2015

The total number of masters and officers holding valid CoCs at EU level increased 13% in relation to the 2014 data.

Six EU Member States continued to account for more than 50% of the total number of masters and officers holding valid CoCs. Nevertheless, this percentage decreased from 58.06% to 55.97%. A reduction from 20 to 18 EU Member States registering less than 10,000 masters and officers each was also noticed.

As for the distribution by department, this remained similar to 2014 but the number of masters and officers entitled to serve in the Deck Department was 49% higher than the number of officers entitled to serve in the Engine Department instead of 50% higher as in 2014.

Looking at the Deck Department, it stood out that the number of EU Member States in which more than half of their officers were entitled to serve as ‘Master’ decreased from six to five. Also, in 2015 the number of EU Member States accounting for more than half of the officers entitled to serve as ‘Chief Mate 3,000 GT’ increased from two to three. In addition, there was a reduction from seven to five EU Member States having no officers holding CoCs entitling them to serve exclusively on ships of less than 500 GT engaged on NCV.

It was also noted in the Deck Department that more than three quarters of the total number of officers entitled to serve as 'Master 500 GT, NCV' continued having CoCs issued by France. Nevertheless, the percentage of these officers decreased from 80.29% to 77.15%.

In the Engine Department, the distribution among the capacities remained alike, notwithstanding the fact that the percentage of officers entitled to serve as 'ETO' in relation to the total of those entitled to serve in the Engine Department increased from 4.32% to 5.59%. Also, regarding this capacity, there was a reduction from 13 to 10 EU Member States having no officers holding CoCs entitling them to serve exclusively as 'ETO'. Finally, the number of EU Member States in which more than half of their officers were entitled to serve as 'Chief Engineer' increased from seven to eight.

The number of EU Member States reporting female officers entitled to serve in the Deck Department decreased from seven to six.

With respect to non-EU nationals holding CoCs, grouped by region of origin, nationals from Asia and Oceania were also qualified to serve as ´Master 3,000 GT´ and those from Africa, the Americas and Asia were also qualified to serve as 'ETO', which was not the case in 2014.

In terms of the average age of masters and officers, Greece and Ireland remained the EU Member States whose officers had the lowest average, even though this average age increased (from 33 to 35). Moreover, the number of officers who were 80 years of age or more increased from 42 to 56 officers.

Considering the highest capacity by age group in which masters and deck officers were entitled to serve, there was an increase from 59.69% to 61.12% of those younger than 35 years of age entitled to serve as ´Chief Mate 3,000 GT´ and there was a decrease from 52.02% to 50.64% of those above 45 years old entitled to serve as ´OOW 500 GT, NCV´.

In the case of the highest capacity by age group in which the engineer officers were entitled to serve, there was an increase from 54.60% to 56.46% of those above 50 years of age entitled to serve as ´Chief Engineer 3,000 kW´ and there was a decrease from 56.77% to 51.45% of those above 45 years of age entitled to serve as ´ETO´. In addition, the majority of those entitled to serve as 'Second Engineer 3,000 kW' were younger than 50 years of age while in 2014 they were younger than 45 years of age.

2.2 Masters and officers holding in 2015 valid endorsements attesting the recognition

2.2.1 Total

The total number of masters and officers holding valid EaRs at EU level was 150,601. Out of this number, 0.18% held EaRs entitling them to serve in both the Deck and Engine Departments. In addition, 2.57% of them held more than one EaR issued by different EU Member States.

Reviewing the distribution by group of countries issuing the original CoC, 47,607 masters and officers held original CoCs issued by other EU Member States (26.06% of the total number of masters and officers holding valid CoCs, see section 2.1.1), 102,861 held original CoCs issued by non-EU countries and for 186 officers it was not possible to establish the country issuing the original CoC.

Out of those for whom the country issuing the original CoC was known, 0.04% held CoCs issued by both EU Member States and non-EU countries.

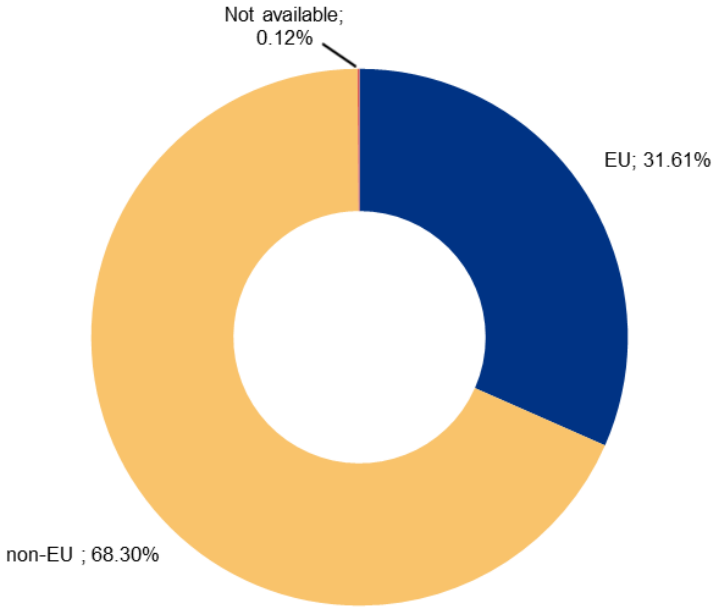


Figure 2-19 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC

2.2.2 Distribution by EU Member State

The distribution of the number of masters and officers holding valid EaRs by EU Member State is presented in Figure 2-20 below. It shows that together, Cyprus and Malta, accounted for 61.62% of the total number of masters and officers holding EaRs at EU level. When adding the valid EaRs issued by the next four prominent EU Member States (Denmark, Luxembourg, the Netherlands and the United Kingdom), the percentage increases to almost 90%.

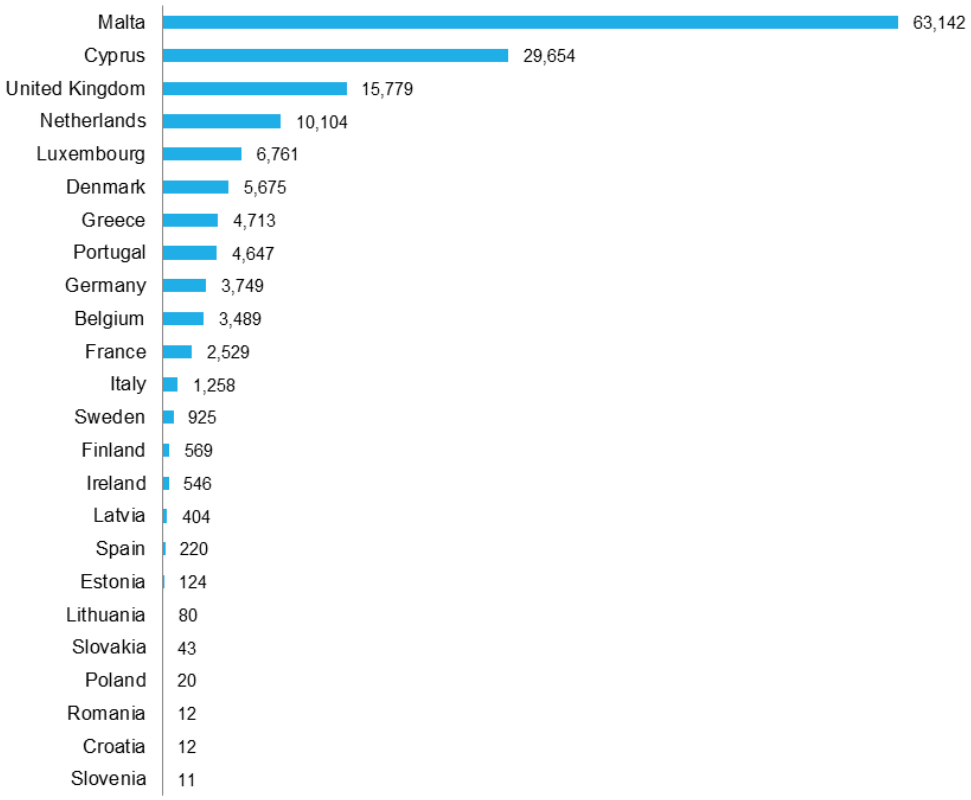


Figure 2-20 Masters and officers holding valid EaRs per EU Member State

The distribution of the masters and officers (holders of original CoCs issued by EU and non-EU countries) holding valid EaRs issued by EU Member States is presented in Figure 2-21 below.

The review shows that:

- seven EU Member States, namely Cyprus, Greece, Lithuania, Malta, the Netherlands, Poland and Slovakia, registered more masters and officers holding original CoCs issued by non-EU countries than the percentage (68.30%) registered at EU level;
- six EU Member States, namely Croatia, Estonia, Ireland, Italy, Luxembourg and Slovenia registered more masters and officers holding original CoCs issued by EU Member States than those holding CoCs issued by non-EU countries.

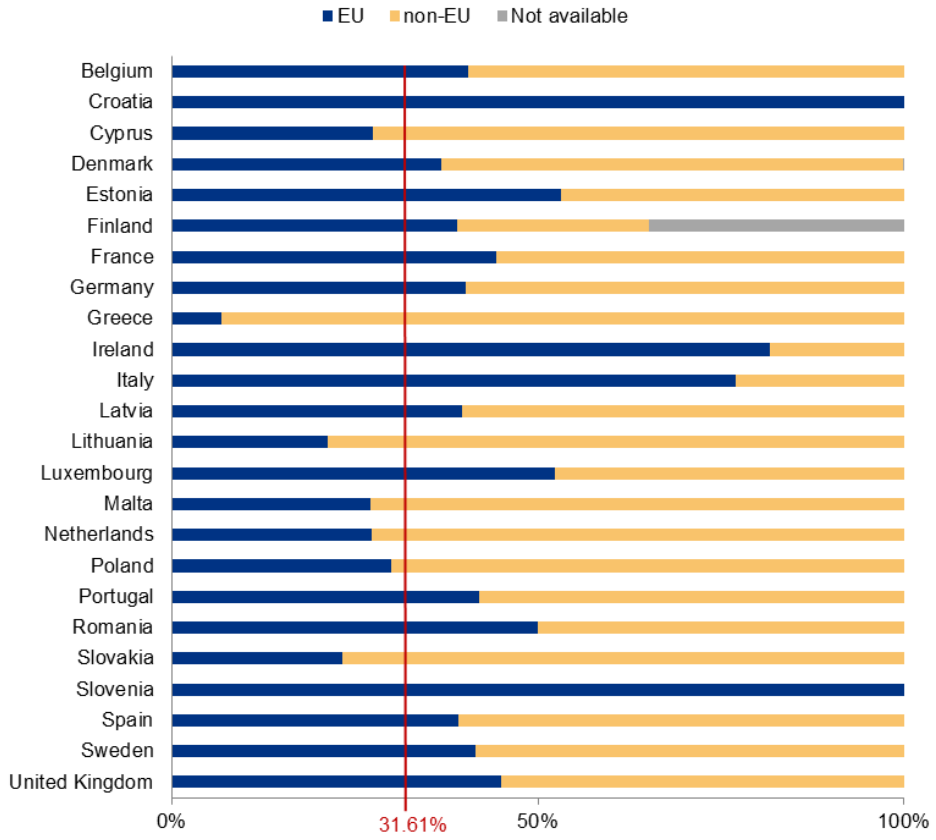


Figure 2-21 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC in each EU Member State

2.2.3 Distribution by countries issuing the original CoCs

The name of the country that issued the original CoC was made available for 150,415 masters and officers based on the data received from the 24 EU Member States that issued EaRs. This represents 99.88% of the total number of officers at EU level holding valid EaRs.

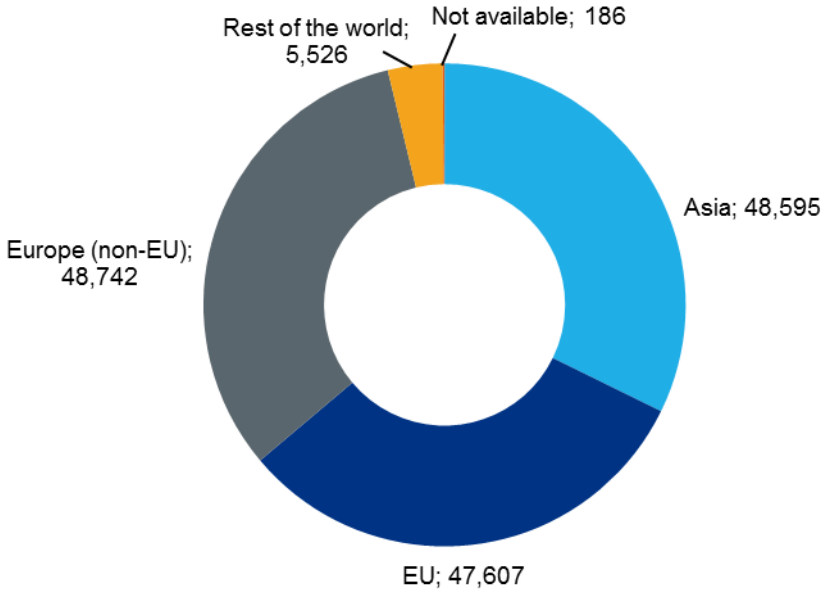


Figure 2-22 Distribution of masters and officers holding valid EaRs by region of the country issuing the original CoC

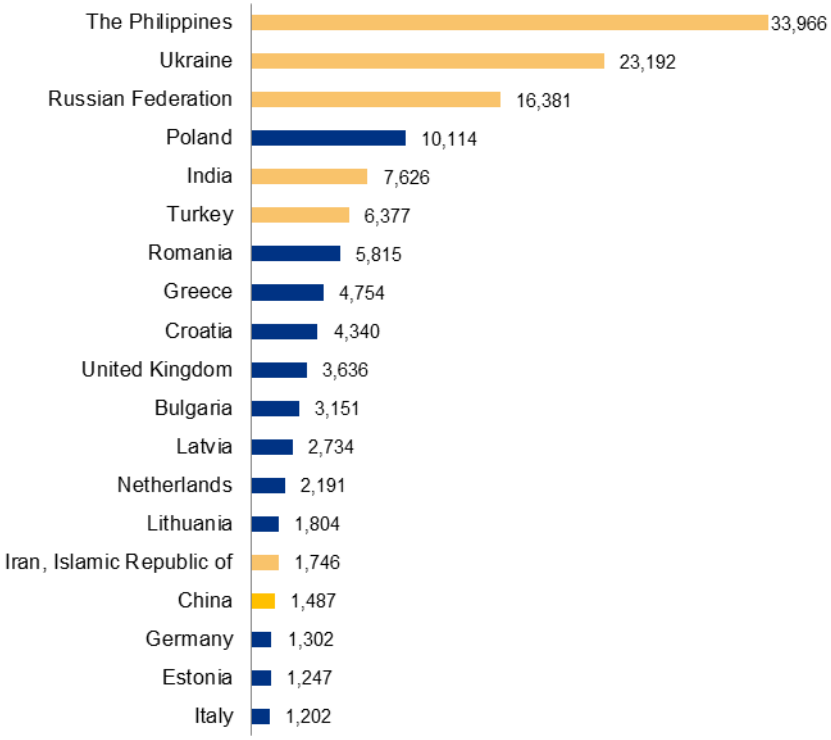


Figure 2-23 Countries issuing the original CoCs registering more than 0.75% of masters and officers holding valid EaRs

The masters and officers registered with valid EaRs held original CoCs issued by 88 countries. Figure 2-23 above identifies 19 countries, of which twelve are EU Member States and seven non-EU countries, which provided 88.36%of the total number of 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

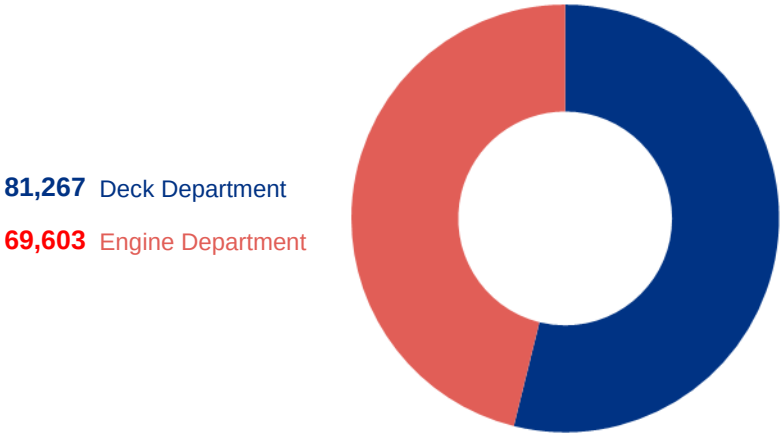


Figure 2-24 Distribution of masters and officers holding valid EaRs by department

The departments in which the holders of EaRs were entitled to serve are presented in Figure 2-24 above. It illustrates that the number of masters and officers entitled to serve in the Deck Department was 17% higher than the number of officers entitled to serve in the Engine Department.

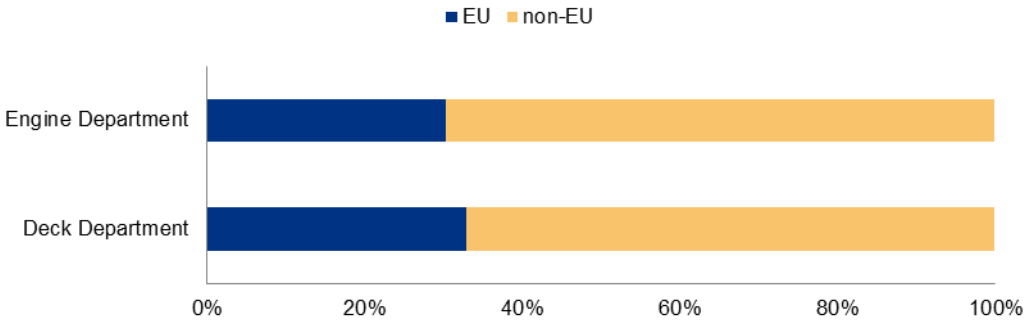


Figure 2-25 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by department

The ratio between the 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 with the general distribution presented in Figure 2-19 above.

2.2.5 Distribution by capacity

There is heterogeneity in the manning regulations adopted by the different EU Member States when naming the capacities. 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 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 2015, 96.32% of them were entitled to serve on ships of 3,000 GT or more. In addition, the data also indicated that 56.20% of the total number of masters and deck officers were entitled to serve at management level on ships of 3,000 GT or more.

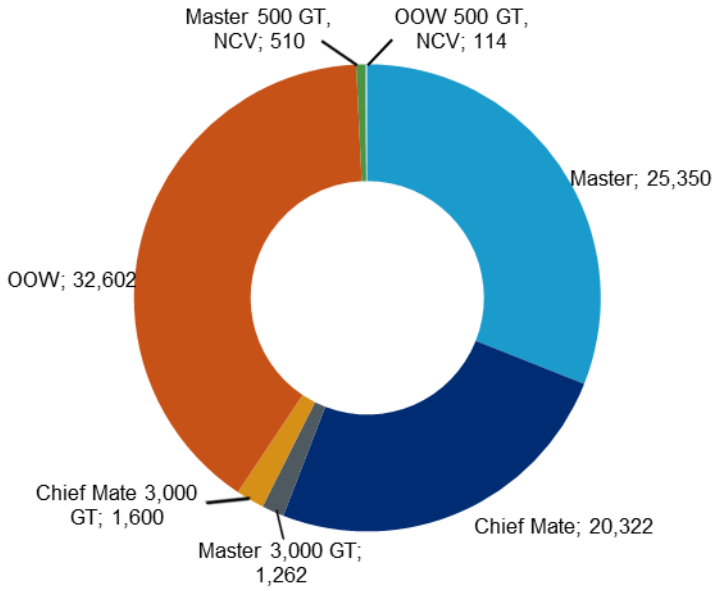


Figure 2-26 Distribution of masters and deck officers holding valid EaRs by deck capacity

The ratio between the officers holding CoCs issued by EU Member States and those holding CoCs issued by non-EU countries was 30% to 70%. Nevertheless, the majority of officers entitled to serve on board ships limited in tonnage or navigation area held CoCs issued by EU Member States (see Figure 2-27 below).

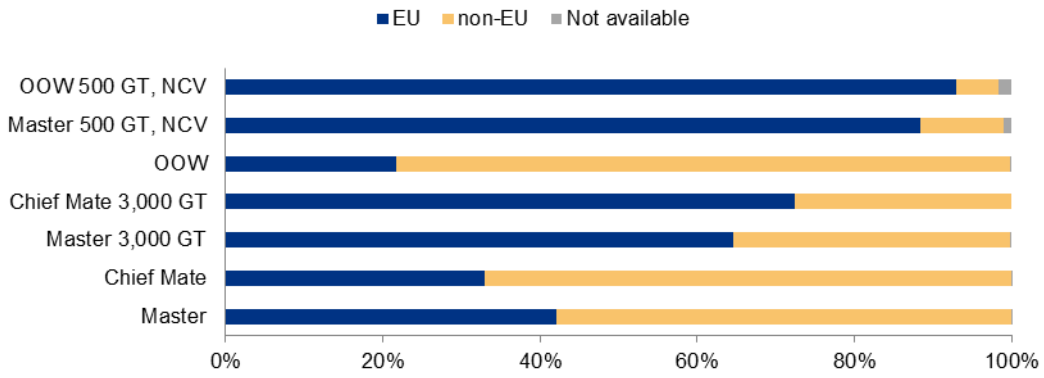


Figure 2-27 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by deck capacity

In addition, the data in Table 2-14 of Appendix B shows that:

- 57.61% of the officers holding valid EaRs entitling them to serve as 'Master 3,000 GT' were registered by three EU Member States, Cyprus (11.73%), Malta (26.07%) and the United Kingdom (19.81%);
- 51.56% of the officers holding valid EaRs entitling them to serve as 'Chief Mate 3,000 GT' were registered by one EU Member State only, namely Malta;
- in six EU Member States, Denmark (55.84%), Finland (62.61%), France (61.23%), Germany (60.25%), Greece (71.41%) and Sweden (55.74%), the majority of the officers holding valid EaRs were entitled to serve as 'OOW';
- 57.25% of the officers holding valid EaRs entitling them to serve as 'Master 500 GT, NCV' were registered by three EU Member States, Belgium (15.29%), Luxembourg (20%) and Malta (21.96%);
- 61.40% of the officers holding valid EaRs entitling them to serve as 'OOW 500 GT, NCV' were registered by three EU Member States, Denmark (30.70%), Finland (12.28%) and Germany (18.42%).

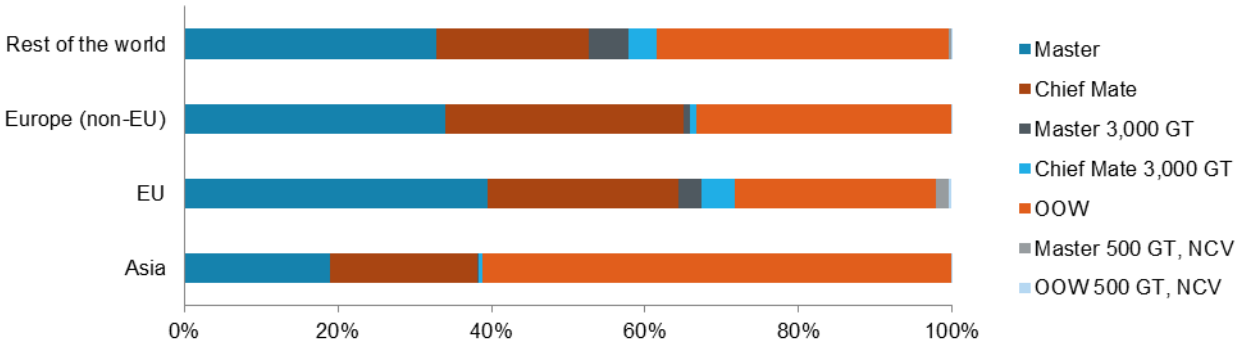


Figure 2-28 Distribution of the deck capacities of masters and deck officers holding valid EaRs by region of the country issuing the original CoC

The majority of the deck officers having the 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, in their majority, held 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, 95.91% of them were entitled to serve on ships of 3,000 kW or more. In addition, the data also indicated that 62.16% of the total number of engineer officers were entitled to serve at management level on ships of 3,000 kW or more.

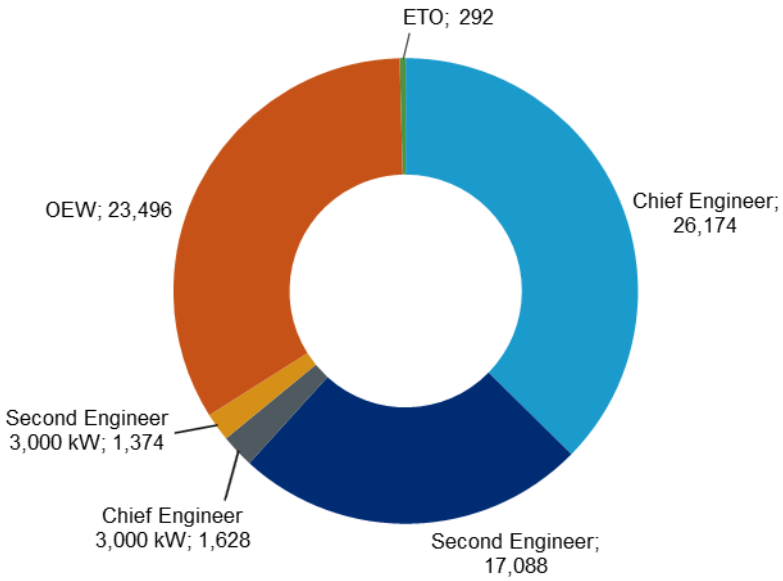


Figure 2-29 Distribution of engineer officers holding valid EaRs by engine capacity

The ratio between the 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 below).

In addition, the data presented in Table 2-13 of Appendix B shows that:

- in seven EU Member States, Estonia (57.38%), Ireland (52.29%), Italy (54.77%), Poland 71.43%), Romania (100%), Slovenia (100%) and Spain (65.15%) the majority of the officers holding valid EaRs were entitled to serve as 'Chief Engineer';
- in one EU Member State, Finland (55.19%), the majority of the officers holding valid EaRs were entitled to serve as 'Second Engineer';

- 60.20% of the officers holding valid EaRs entitling them to serve as 'Chief Engineer 3,000 kW' were registered by three EU Member States, Malta (36.98%), the Netherlands (11.24%) and the United Kingdom (19.98%);
- 52.26% of the officers holding valid EaRs entitling them to serve as 'Second Engineer 3,000 kW' were registered by one EU Member State only, namely Malta;
- in two EU Member States, Croatia (60.00%) and Greece (60.60%), the majority of the officers holding valid EaRs were entitled to serve as 'OEW';
- 59.59% of the officers holding valid EaRs entitling them to serve as 'ETO' were registered by two EU Member States, Luxembourg (16.78%) and Malta (42.81%).

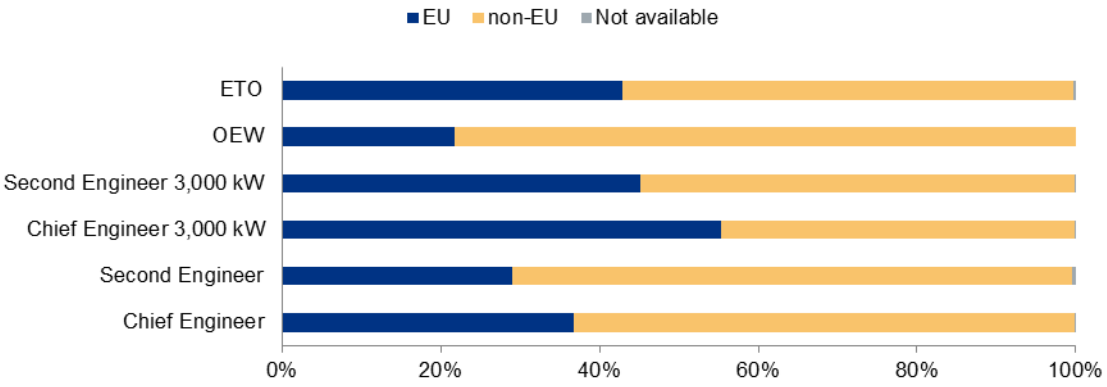


Figure 2-30 Distribution of engineer officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by engine capacity

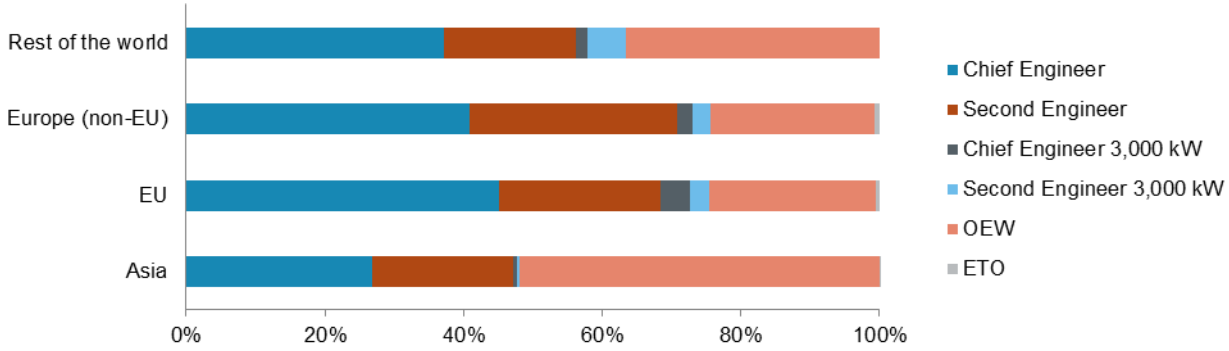


Figure 2-31 Distribution of the engine capacities of engineer officers holding valid EaRs by region of the country issuing the original CoC

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

2.2.6 Gender distribution

The review of the gender distribution of the officers holding valid EaRs was made based on the data provided by 22 EU Member States, which had such data available. Consequently, it was made for 141,742 masters and officers holding valid EaRs that represented 94.12% of the total number at EU level.

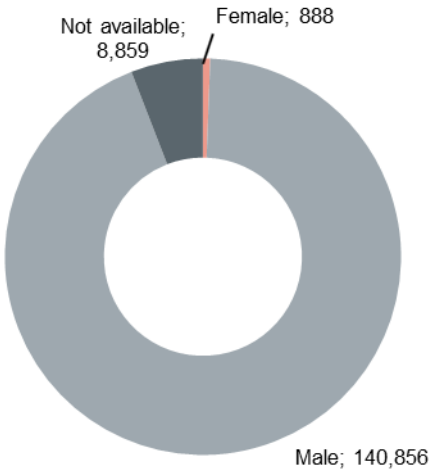


Figure 2-32 Gender distribution of masters and officers holding valid EaRs

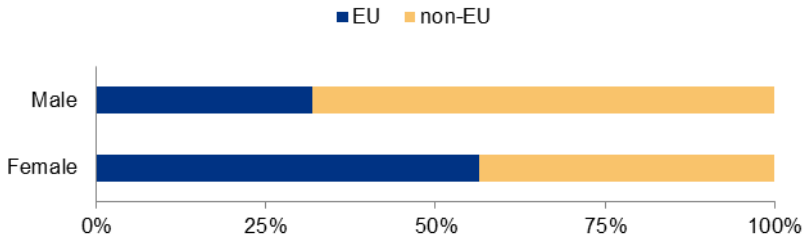


Figure 2-33 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by gender

56.38% of the total number of female officers holding valid EaRs held original CoCs issued by EU Member States, followed by 15.82% who had the original CoCs issued by countries located in the Americas.

2.2.7 Distribution by nationality

The data made available by those 24 EU Member States issuing EaRs showed that the officers holding valid EaRs were nationals of 128 countries and the distribution of these countries on 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 41.3 years. Reviewing the average age per country issuing the original CoCs, the average age of officers holding CoCs issued by the EU Member States was 43.3 while of those holding original CoCs issued by non-EU countries was 40.4.

Considering the ratio between the officers holding valid EaRs of CoCs issued by the EU Member States and those holding valid EaRs of CoCs issued by non-EU countries (31.61% to 68.30%), the distribution by age groups shows a deviation for the 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 below.

The data in Table 2-17 of Appendix B and in Figure 2-36 below shows that:

- the number of those entitled to serve in the Engine Department was similar throughout the age groups which was not the case with the deck officers;
- 55.10% of the officers holding valid EARs in the Deck Department were younger than 40 years of age;
- the number of engineer officers was higher than the number of deck officers for all age groups over 45 years of age.

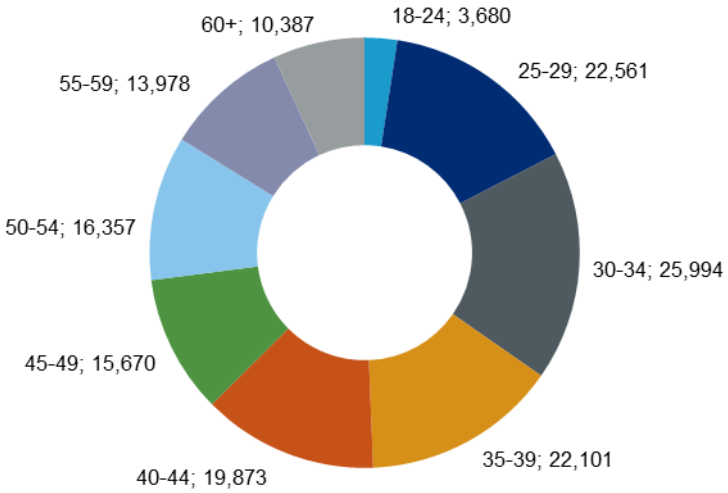


Figure 2-34 Age distribution of masters and officers holding valid EaRs

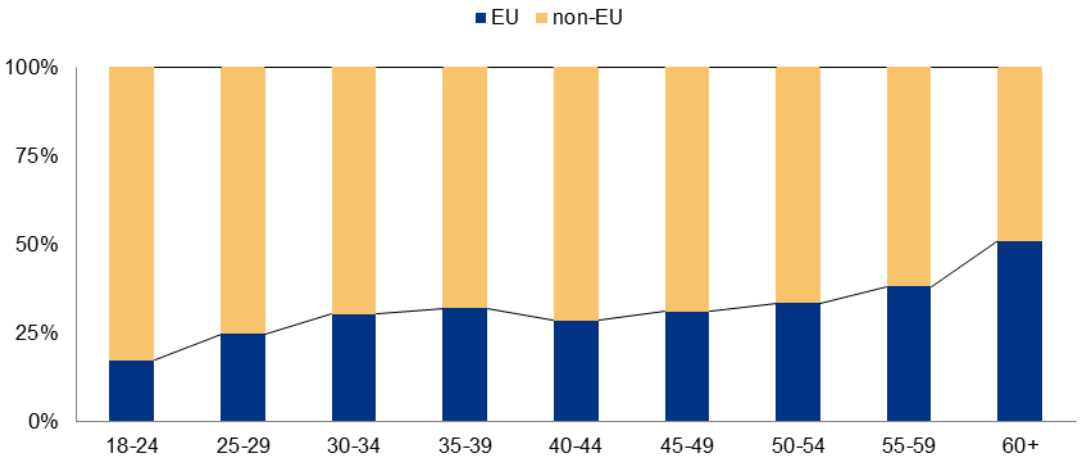


Figure 2-35 Distribution of masters and officers holding valid EaRs by EU and non-EU countries issuing the original CoC and by age group

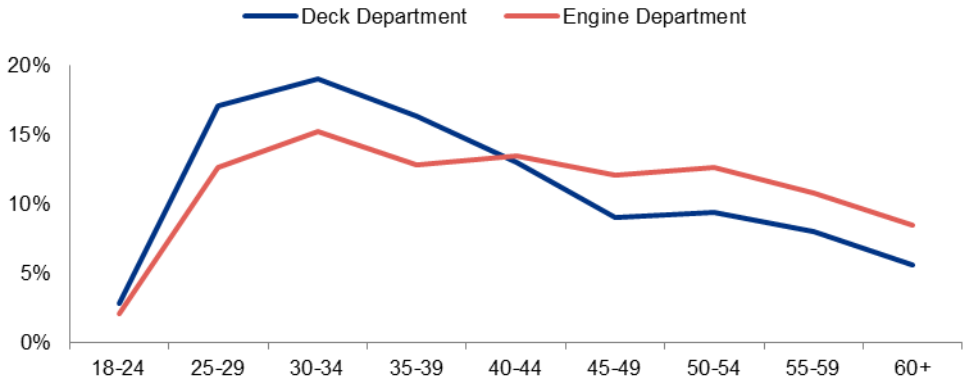


Figure 2-36 Age profile of masters and officers holding valid EaRs per department

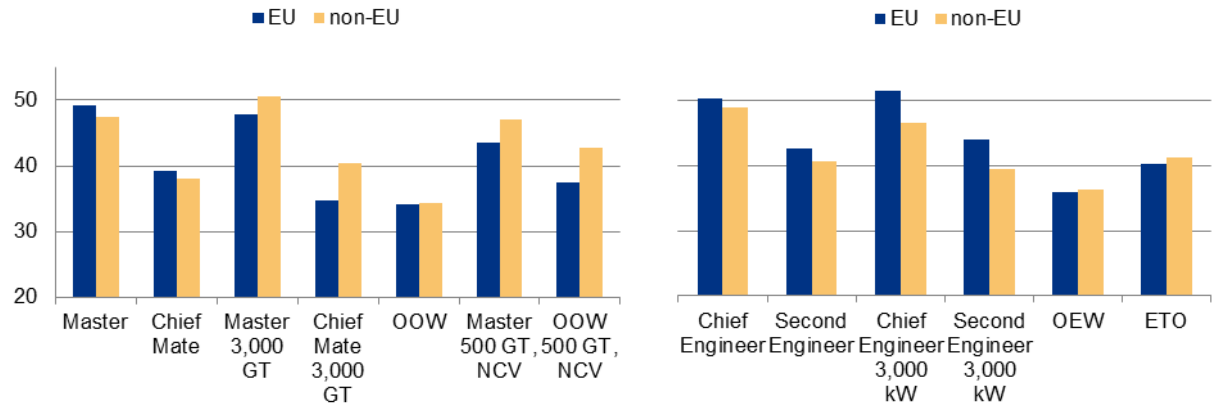


Figure 2-37 Average age of officers holding valid EaRs per EU and non-EU countries issuing the original CoC by capacity

The data in the graphs presented in Figure 2-37 shows that, the average age of the officers holding valid EaRs at management level was higher for those holding original CoCs issued by the EU Member States, except when holding management level capacities limited in terms of gross tonnage.

2.2.9 Comparison of the results – 2014 / 2015

The total number of masters and officers holding valid EaRs at EU level increased 19% in relation to the 2014 data.

Although the distribution by group of countries issuing the original CoC (EU / non-EU) was similar to 2014 the number of masters and officers holding original CoCs by other EU Member States increased from 24.71% to 26.06% of the total number of masters and officers holding valid CoCs at EU level.

Six EU Member States continued to account for more than three quarters of the total number of masters and officers holding valid EaRs, though the percentage they represented slightly decreased from 88.26% to 87.06%.

Regarding the distribution by countries issuing the original CoCs, 19 continued registering more than 0.75% of masters and officers holding valid EaRs. However, when grouping these countries by EU and non-EU countries issuing the original CoC there was an increase from 11 to 12 EU Member States and a decrease from eight to seven non-EU countries.

In addition, there was an increase from six to seven in the number of EU Member States that registered more masters and officers holding original CoCs issued by non-EU countries than the percentage registered at EU level (68.30%).

In relation to the Deck Department, more than half of the officers entitled to serve as ‘Chief Mate 3,000 GT’ had EaRs issued by only one EU Member State instead of two and those entitled to serve as ‘OOW 500 GT, NCV’ had them issued by three EU Member States instead of two. Regarding the Engine Department, there was an increase from one to two EU Member States in which more than 50% of their engineer officers were entitled to serve as ‘OEW’, and more than half of the officers entitled to serve as ‘Second Engineer 3,000 kW’ had EaRs issued by only one EU Member State instead of two.

Regarding the total number of female officers holding valid EaRs, there was an increase from 52.69% to 56.38% of those holding original CoCs issued by EU Member States. A decrease from 18.76% to 15.82% for female officers who held original CoCs issued by countries located in the Americas was observed. Nevertheless, this region remained the second region with more percentage of female officers holding valid EaRs.

2.3 Masters and officers available to serve on board EU Member State flagged vessels in 2015

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

Figure 2-38 Masters and officers holding valid CoCs and EaRs in 2015 per EU Member State

It should be noted that six EU Member States, namely Belgium, Cyprus, Luxembourg, Malta, the Netherlands and Portugal had more masters and officers holding valid EaRs than holding valid CoCs.

2.3.1 Total

The total number of masters and officers available to serve on board EU Member State flagged vessels was 285,523, distributed as presented in Figure 2-39 below. This number considered the total of masters and officers holding valid CoCs and the number of masters and officers holding valid EaRs of CoCs issued by non-EU countries.

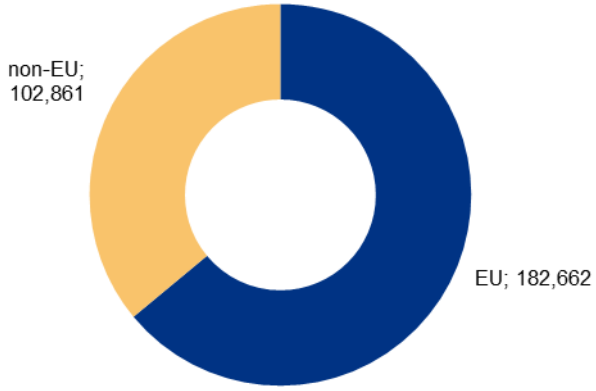


Figure 2-39 Distribution of masters and officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC

2.3.2 Distribution by department

Figure 2-40 below 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.

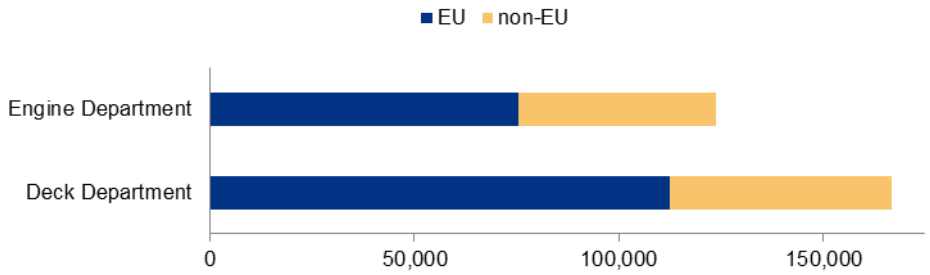


Figure 2-40 Distribution of masters and officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by department

In total, the number of masters and officers available to serve in the Deck Department (167,005) was 35% higher than the number of officers available to serve in the Engine Department (123,951). 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 13%.

In both 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 by them 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 officers was established by counting each person in his/her highest capacity.

2.3.3.1 Distribution by deck capacity

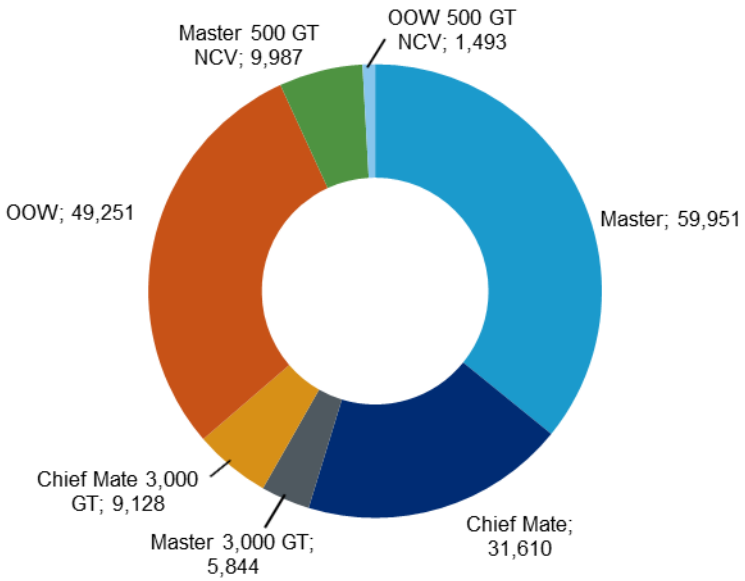


Figure 2-41 Distribution of masters and deck officers available to serve on board EU Member State flagged vessels by deck capacity

The information in Figure 2-41 shows that 54.83% 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 officers holding CoCs issued by EU Member States and those holding CoCs issued by non-EU countries was 64% to 36% for the Deck Department, it changed significantly for 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 more than 50% were holders of CoCs issued by non-EU countries. This is presented in Figure 2-42 below.

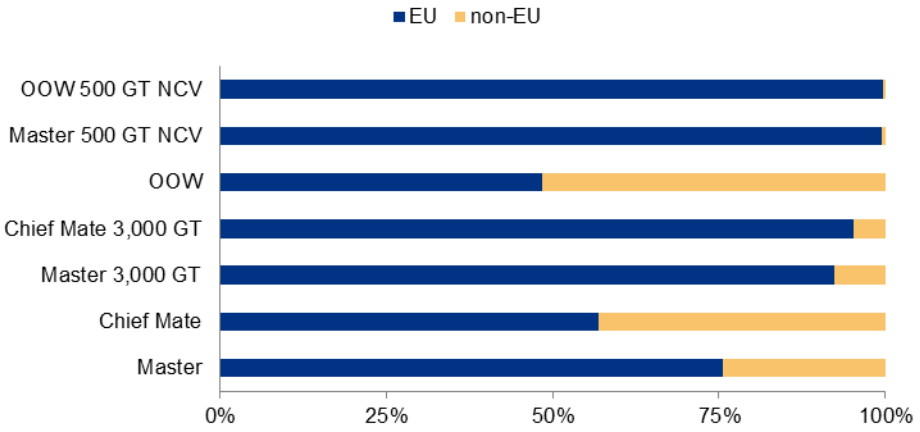


Figure 2-42 Distribution of masters and deck officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by deck capacity

2.3.3.2 Distribution by engine capacity

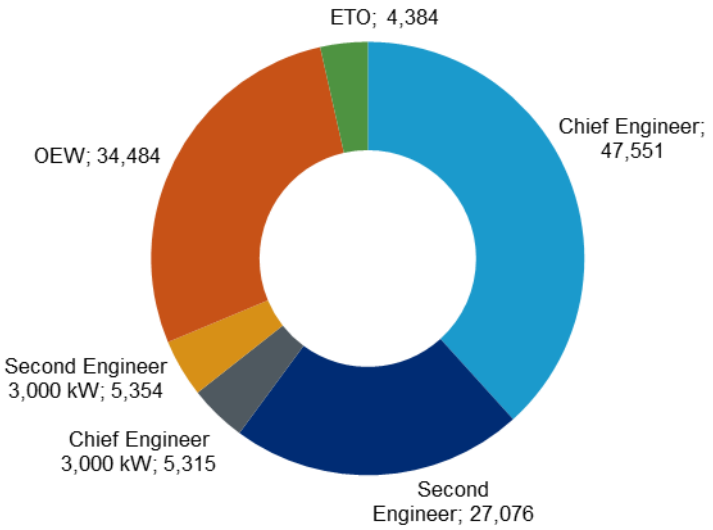


Figure 2-43 Distribution of available officers in the Engine Department

The information in Figure 2-43 shows that 60.21% of the engineer officers were entitled to serve at management level on ships powered by a main propulsion machinery of 3,000 kW propulsion power or more.

Although the ratio between the officers holding CoCs issued by EU Member States and those holding CoCs issued by non-EU countries was 64% to 36% for the Engine Department, 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. In the case of those entitled to serve as OEW more than 50% were holders of CoCs issued by non-EU countries. This is illustrated in Figure 2-44 below.

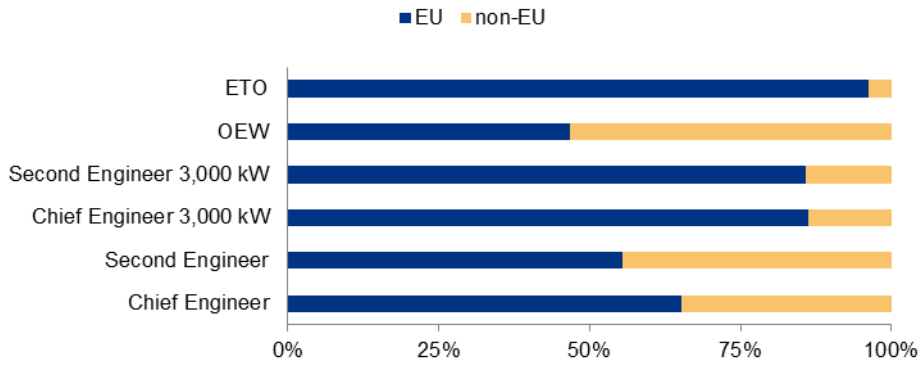


Figure 2-44 Distribution of engineer officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by engine capacity

2.3.4 Gender distribution

The review on gender distribution of masters and officers available to serve on board EU Member State flagged vessels was made based on data provided by the 25 EU Member States, which had it available. Consequently, it was made for 250,647 masters and officers representing 87.79% of the total number of those available to serve on board EU Member State flagged vessels.

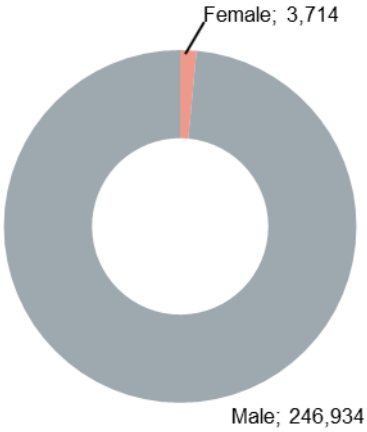


Figure 2-45 Gender distribution of masters and officers available to serve on board EU Member State flagged vessels

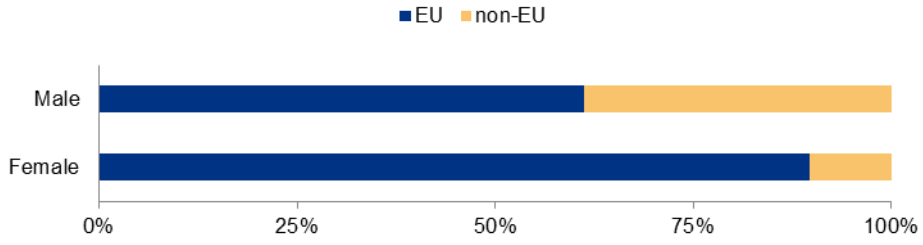


Figure 2-46 Distribution of masters and officers available to serve on board EU Member State flagged vessels by EU and non-EU countries issuing the original CoC and by gender

The officers for whom the gender was known were predominantly males. Female officers represented 1.48% of the total number of officers available, with 89.61% of them holding CoCs issued by the EU Member States.

Within the total number of officers holding valid CoCs issued by EU Member States and available to serve on board EU Member State flagged vessels female officers represented 2.15% of their total while for CoCs issued by non-EU countries they represented 0.40% of their total.

2.3.5 Distribution by nationality

The review of the data made available by the 27 EU Member States indicated that information on nationality was available for 281,242 masters and officers, representing 98.50% of the total number of officers available to serve on board EU Member State flagged vessels. It also showed that the officers were nationals of 146 countries, with the distribution by region as presented in Figure 2-47 below.

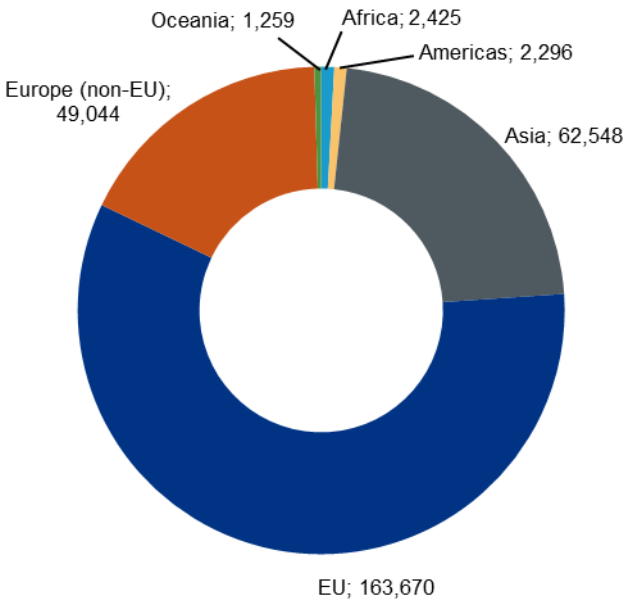


Figure 2-47 Nationality distribution of masters and officers available to serve on board EU Member State flagged vessels by geographical region according to nationality

The data in Figure 2-48 below identifies the 21 countries whose nationals represented 89.36% of the total number of masters and officers available to serve on board EU Member State flagged vessels.

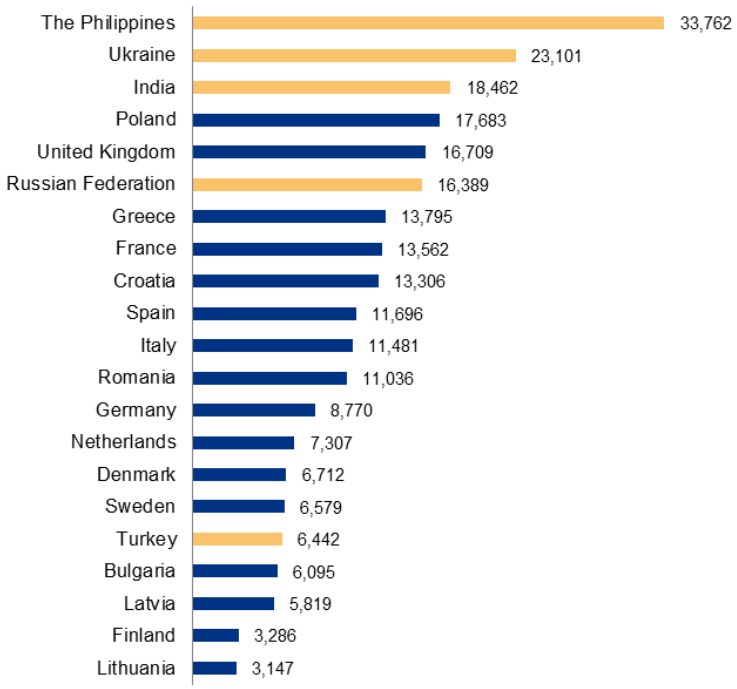


Figure 2-48 Countries whose nationals represented more than 0.75% of the total number of masters and officers available to serve on board EU Member State flagged vessels

2.3.6 Age distribution

The average age of masters and officers available to serve on board EU Member State flagged vessels was 42.6 years.

The average age of officers holding CoCs issued by the EU Member States was 43.9 years while for those holding original CoCs issued by non-EU countries was 40.4 years.

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

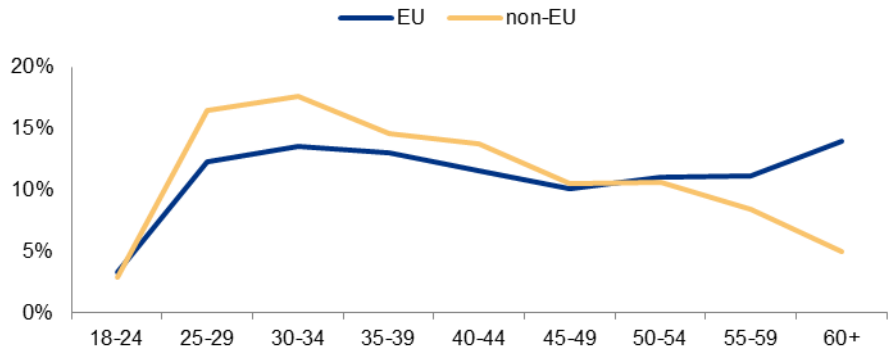


Figure 2-49 Age profile of masters and officers available to serve on board EU Member State flagged vessels per EU and non-EU countries issuing the original CoC

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

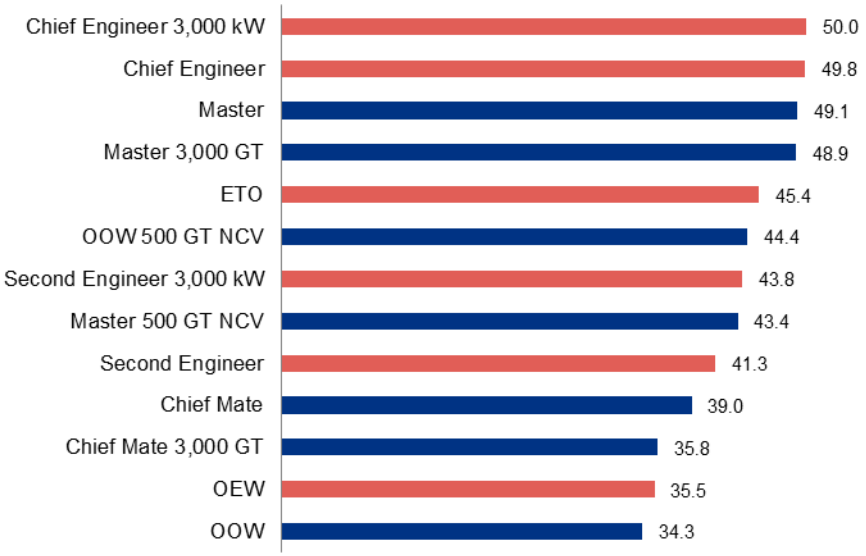


Figure 2-50 Average age of masters and officers available to serve on board EU Member State flagged vessels per deck and engine capacities

In the capacities of Master, Chief Mate, Chief Engineer, Second Engineer and OEW there was a variation ranging between 1 and 2 years in the average age of those holding CoCs issued by EU Member States and non-EU countries. With the exception of the OEW, the highest average age was found in holders of CoCs issued by EU Member States.

In the case of OOW, the average age was similar irrespectively of whether the country issuing the CoC is an EU Member State or not.

2.3.7 Comparison of the results – 2014 / 2015

The total number of masters and officers available to serve on board EU Member State flagged vessels increased 15% in relation to the 2014 data.

In the case of masters and officers holding CoCs issued by non-EU countries the percentage increased from 34.93% to 36.03%, while it decreased from 65.07% to 63.97% for those holding CoCs issued by EU Member States.

The number of masters and officers entitled to serve in the Deck Department was 35% higher than the number of those entitled to serve in the Engine Department, instead of 36% as it was shown in the 2014 report. Nevertheless, the distribution of the total number of masters and officers by department remained similar. This percentage changes depending on whether the CoCs were issued by EU Member States or non-EU countries. In the first case it decreased 1% as referred in section 2.1.8 while in the second case it remained unchanged.

Regarding the Engine Department, although more than three quarters of the officers entitled to serve on board ships limited in propulsion power or as 'ETO' continued to hold CoCs issued by EU Member States, the percentage of these officers in relation to their total (EU and non-EU) decreased in line with the variation referred above between those holding original CoCs issued by EU Member States and those holding CoCs issued by non-EU countries.

It can also be noted that there was a reduction from 23 to 21 in terms of the number of 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.

2.4 Ratings holding valid certificates of proficiency (CoP) in 2015

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 submitted voluntarily by 15 EU Member States.

2.4.1 Total

The total number of ratings holding valid CoPs in 2015 in the 15 EU Member States reporting such data was 73,539 with 8.06% of them entitled to serve in both the Deck and the Engine Departments.

2.4.2 Distribution by EU Member State

The data presented in Figure 2-51 below shows that among them, five EU Member States, namely France, Germany, Poland, Spain and Sweden, registered 60.57% of the total number of ratings holding valid CoPs.

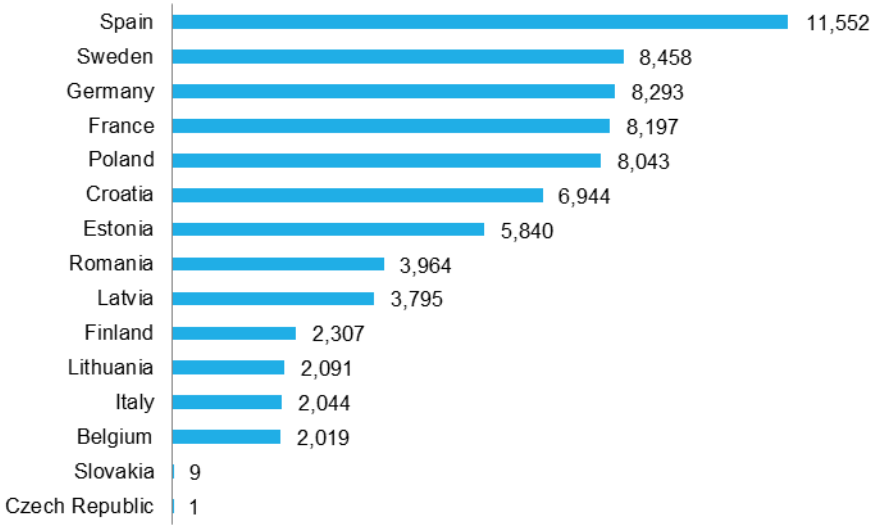


Figure 2-51 Ratings holding valid CoPs per EU Member State

2.4.3 Distribution by department

The distribution by department on which the ratings were entitled to serve is presented in Figure 2-52 below. It shows that the number of ratings entitled to serve in the Deck Department (Chapter II of the STCW Convention) was 96% higher than the number of ratings entitled to serve in the Engine Department (Chapter III of the STCW Convention). It identifies that 8.91% of them reported as being qualified under 'Alternative Certification' held CoPs issued under Chapter VII of the STCW Convention.

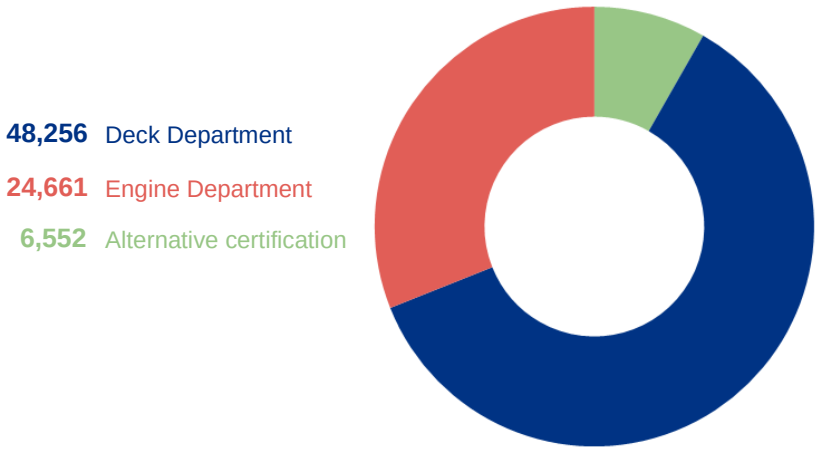


Figure 2-52 Distribution of ratings holding valid CoPs by department

2.4.4 Distribution by capacity

The distribution of the 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 2015 was in the middle of the transitional period for their implementation a detailed review on capacities assigned to ratings was considered unnecessary at this stage.

2.4.5 Gender distribution

The review of the gender distribution was made based on the data provided by the 14 EU Member States, which had it available. Consequently, it covered 65,497 ratings representing 89.06% of the total number of ratings holding valid CoPs.

It shows that the ratings holding valid CoCs were predominantly males. 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% ± 0.17%.

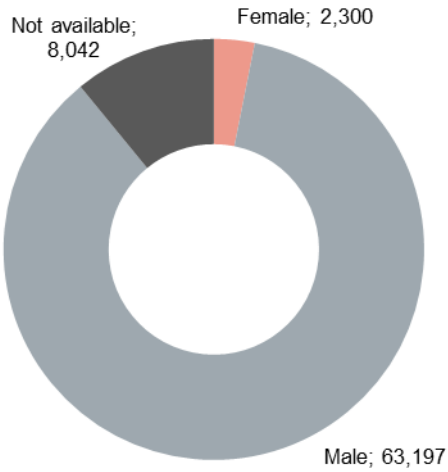


Figure 2-53 Gender distribution of ratings holding valid CoPs

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 102 countries (27 EU Member States and 75 Non-EU countries). 95.04% were nationals from the same 15 EU Member States that provided the data.

2.4.7 Age distribution

The average age of ratings holding valid CoPs was 41.2 years. Except for the 25-29 year age group, all other groups had a similar number of seafarers (percentages between 9.40% and 11.69%). The average age for female ratings was 34.0 years, while that for male ratings was 42.6 years. 74.39% of the female ratings were younger than 40 years of age, while the percentage of male ratings in the same age group was 44.77%.

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

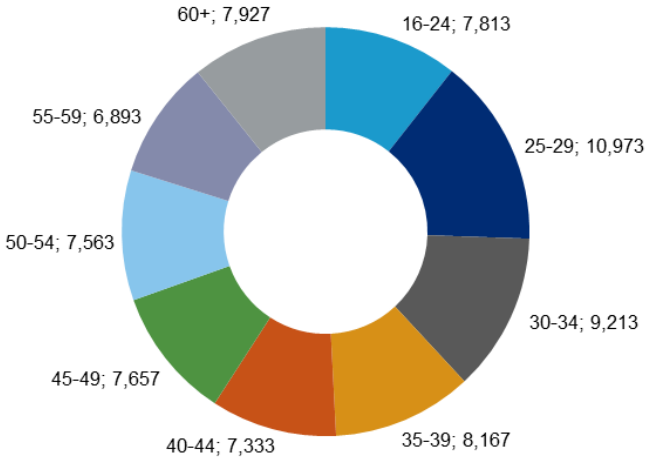


Figure 2-54 Age distribution of ratings holding valid CoPs

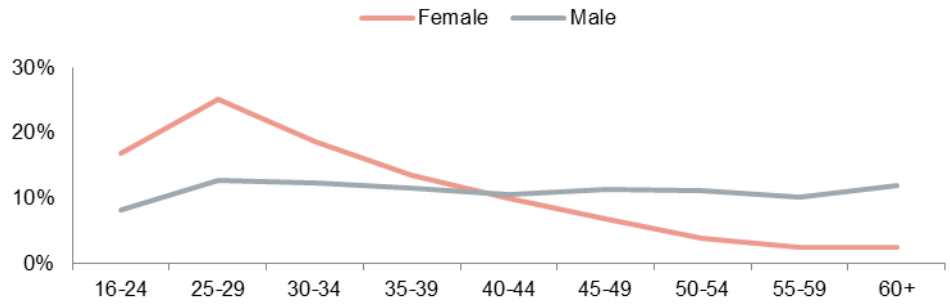


Figure 2-55 Age profile of ratings holding valid CoPs per gender

2.4.8 Comparison of the results – 2014 / 2015

There was an increase from 14 to 15 in the number of EU Member States that submitted voluntarily data on CoPs for ratings.

The total number of ratings holding valid CoPs increased 12% in relation to the 2014 data even without considering the new EU Member State which provided data for the first time.

While in 2014, more than half of the ratings had CoPs issued by four EU Member States, in 2015 they had CoPs issued by five EU Member States.

The number of ratings entitled to serve in the Deck Department was 96% higher than the number of ratings entitled to serve in the Engine Department, instead of 98% higher as presented in the 2014 review. Nevertheless, the distribution of the total number of ratings by department remained similar.

The data which had gender available decreased from 90.50% to 89.06% of the total number of ratings holding CoPs. However, the gender distribution was similar to that presented in 2014.

Appendix A Data on masters and officers holding valid CoCs in 2015

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	298	0	0	0	0	0	0	0	868	0	0	0	0	0	0	0
Deck	1529	2973	1118	29	5846	4770	1341	6766	8174	1981	11628	7266	18	392	7467	1498	3661	142	5589	10452	486	6080	4528	268	44	18580
Engine	707	3113	1166	51	2893	2492	1159	4727	4284	1370	4094	6098	38	236	4257	1420	3100	26	3582	10259	321	4961	2042	194	40	12894
Total[5]	**2235**	**6083**	**2282**	**80**	**8659**	**6971**	**2497**	**11492**	**11697**	**3336**	**13552**	**13350**	**56**	**628**	**11444**	**2917**	**6759**	**168**	**7572**	**20700**	**807**	**11039**	**6441**	**460**	**83**	**31448**

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	636	1524	975	22	3668	2385	563	1825	2132	1115	1777	2889	5	103	3365	548	1402	64	2259	4905	201	2024	1982	112	13	8806
Chief Mate	154	583	104	2	792	300	370	1920	983	241	520	1251	1	137	714	552	858	13	545	2144	98	1478	803	35	7	3393
Master 3,000 GT	14	22	2	0	92	213	17	137	2130	130	371	551	7	4	921	2	94	3	335	0	28	7	165	20	0	136
Chief Mate 3,000 GT	18	11	1	0	3	320	29	2739	1516	10	199	214	0	12	82	14	74	0	1479	188	15	17	1431	11	1	306
OOW	425	821	34	5	1156	683	295	1	1413	481	1010	1767	5	128	2184	349	1139	62	161	3169	123	2543	104	79	23	5654
Master 500 GT, NCV	195	12	2	0	104	215	53	144	0	4	7663	411	0	8	168	33	77	0	578	0	8	11	21	9	0	222
OOW 500 GT, NCV	87	0	0	0	31	654	14	0	0	0	88	185	0	0	33	0	17	0	232	46	13	0	22	2	0	63
TOTAL	**1529**	**2973**	**1118**	**29**	**5846**	**4770**	**1341**	**6766**	**8174**	**1981**	**11628**	**7266**	**18**	**392**	**7467**	**1498**	**3661**	**142**	**5589**	**10452**	**486**	**6080**	**4528**	**268**	**44**	**18580**

[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	IT	LT	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK
Chief Engineer	262	1198	833	29	2001	1103	593	1287	1555	799	1309	2081	30	43	2384	578	1350	0	1400	3969	116	1891	1138	83	7	4981
Second Engineer	60	562	69	3	388	358	325	1125	200	452	805	1437	0	65	823	478	917	8	881	1751	33	1218	391	51	5	2602
Chief Eng. 3,000 kW	51	46	0	1	36	266	0	93	1251	6	538	639	6	5	519	0	133	0	170	408	20	1	21	23	0	355
Second Eng. 3,000 kW	7	41	0	0	1	47	30	135	899	1	132	176	0	99	52	37	72	0	461	1257	21	3	15	9	0	1105
OEW	327	708	264	2	451	495	192	1904	379	71	1310	1359	2	13	479	250	431	18	670	969	131	1378	477	26	25	3760
Electro-technical Officer	0	558	0	16	16	223	19	183	0	41	0	406	0	11	0	77	197	0	0	1905	0	470	0	2	3	91
TOTAL	**707**	**3113**	**1166**	**51**	**2893**	**2492**	**1159**	**4727**	**4284**	**1370**	**4094**	**6098**	**38**	**236**	**4257**	**1420**	**3100**	**26**	**3582**	**10259**	**321**	**4961**	**2042**	**194**	**40**	**12894**

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	76	12	4	0	374	206	20	312	581	143	534	12	0	18	121	10	42	9	not available		29	93	247	5	0	480
Male	2159	6071	2278	80	8285	6765	2477	11180	11116	3193	13018	13338	56	610	11323	2907	6717	159	not available		778	10946	6194	455	83	30968
TOTAL	**2235**	**6083**	**2282**	**80**	**8659**	**6971**	**2497**	**11492**	**11697**	**3336**	**13552**	**13350**	**56**	**628**	**11444**	**2917**	**6759**	**168**			**807**	**11039**	**6441**	**460**	**83**	**31448**

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	100	2	3	0	1	4	0	0	19	1	52	36	0	36	0	0	0	0	7	49	0	0	0	0	0	741	**1051**
Americas	30	0	0	0	3	3	0	0	23	1	5	4	0	1	4	0	1	0	4	0	0	0	1	0	0	165	**245**
Asia	28	0	1	0	0	2	0	0	1	1	1	22	0	13	0	1	0	0	3	4	0	0	0	0	0	13499	**13576**
Europe (non-EU)	4	4	0	0	47	151	412	0	5	4	4	13	0	0	0	61	313	0	8	25	0	23	13	2	0	23	**1112**
Oceania	0	0	2	0	4	2	0	0	0	0	0	1	0	3	2	0	1	0	1	2	0	0	0	0	0	180	**198**
TOTAL	**162**	**6**	**6**	**0**	**55**	**162**	**412**	**0**	**48**	**7**	**62**	**76**	**0**	**53**	**6**	**62**	**315**	**0**	**23**	**80**	**0**	**23**	**14**	**2**	**0**	**14608**	**16182**

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	4	0	0	168	63	40	1025	151	87	699	297	0	65	499	117	159	17	736	200	5	189	84	4	5	1325
25≤age<30	282	604	19	0	1164	581	260	3017	832	334	1824	1319	0	166	1571	378	800	41	1069	1865	70	1905	599	35	18	3693
30≤age<35	323	733	42	1	1262	699	360	2649	1193	441	2007	1752	0	156	1277	378	999	16	866	2750	86	1679	691	51	13	4429
35≤age<40	228	889	22	2	898	714	207	1768	1823	441	1898	2204	0	89	1233	286	884	13	844	2541	83	1580	720	51	8	4384
40≤age<45	251	977	16	3	665	754	255	798	1755	390	2002	1726	1	39	1272	254	836	9	940	2163	90	1311	717	43	4	3819
45≤age<50	249	781	30	5	712	847	256	562	1557	348	1774	1429	2	42	1242	289	622	1	909	1714	66	1425	716	44	3	2802
50≤age<55	339	716	230	9	761	955	371	737	1797	385	1565	1580	10	25	1377	433	821	8	847	2358	98	1152	655	56	9	2933
55≤age<60	258	640	630	20	940	909	346	608	1568	365	1200	1335	18	27	1461	421	877	21	638	2798	111	1074	712	72	9	3388
age≥60	238	739	1293	40	2089	1449	402	328	1021	545	583	1708	25	19	1512	361	761	42	723	4311	198	724	1547	104	14	4675
TOTAL	**2235**	**6083**	**2282**	**80**	**8659**	**6971**	**2497**	**11492**	**11697**	**3336**	**13552**	**13350**	**56**	**628**	**11444**	**2917**	**6759**	**168**	**7572**	**20700**	**807**	**11039**	**6441**	**460**	**83**	**31448**

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	394	424	148	77	40	45	22	14	2	**1166**
Deck Department	4005	14993	16359	15289	13141	11124	12038	11771	13846	**112566**
Engine Department	2614	8616	9515	9257	8449	7744	8547	8941	11810	**75493**
TOTAL[6]	**6006**	**22439**	**24841**	**23793**	**21082**	**18418**	**20210**	**20428**	**25445**	**182662**

[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	5	389	2991	6435	6710	5528	6595	7307	9335	**45295**
Chief Mate	59	2539	5360	3283	1768	1150	1209	1232	1396	**17996**
Master 3,000 GT	1	104	324	642	806	934	1020	786	784	**5401**
Chief Mate 3,000 GT	1208	2765	1336	802	562	495	531	417	570	**8686**
OOW	2213	8107	5030	2802	1569	1316	1101	919	757	**23814**
Master 500 GT, NCV	417	937	1162	1195	1557	1515	1397	962	791	**9933**
OOW 500 GT, NCV	102	155	165	141	171	191	192	156	214	**1487**
TOTAL	**4005**	**14993**	**16359**	**15289**	**13141**	**11124**	**12038**	**11771**	**13846**	**112566**

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	240	1764	3958	4393	4097	4644	5033	6880	**31014**
Second Engineer	321	1867	3369	2264	1553	1296	1334	1313	1690	**15007**
Chief Eng. 3,000 kW	3	85	282	459	519	649	815	794	981	**4587**
Second Eng. 3,000 kW	195	644	520	431	469	481	527	641	692	**4600**
OEW	1998	5213	3034	1731	1096	880	777	685	675	**16089**
Electro-technical Officer	92	569	550	416	421	345	455	477	893	**4218**
TOTAL	**2614**	**8616**	**9515**	**9257**	**8449**	**7744**	**8547**	**8941**	**11810**	**75493**

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	317	1051	743	522	315	172	109	72	27	**3328**
Male	4753	18457	20488	19890	17667	15630	16906	16928	20389	**151108**
Not available	936	2931	3610	3381	3100	2616	3195	3428	5029	**28226**
TOTAL	**6006**	**22439**	**24841**	**23793**	**21082**	**18418**	**20210**	**20428**	**25445**	**182662**

Appendix B Data on masters and officers holding valid EaRs in 2015

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	1416	8158	1507	2096	66	322	86	222	1120	12	446	971	17	3537	160	17135	2755	6	1948	6	384	11	10	7094
non-EU country	2076	21497	2243	3584	58	4392	134	149	1410	0	100	290	63	3227	244	46007	7371	14	2699	6	542	0	33	8685
Not available	0	0	0	4	0	0	0	198	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL[7]	**3489**	**29654**	**3749**	**5675**	**124**	**4713**	**220**	**569**	**2529**	**12**	**546**	**1258**	**80**	**6761**	**404**	**63142**	**10104**	**20**	**4647**	**12**	**925**	**11**	**43**	**15779**

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

	Deck Department		Engine Department		Total[8]
Country issuing the original CoC	Numbers	Percentage	Numbers	Percentage	Numbers
EU Member State	26744	56.18%	21095	44.31%	**47607**
non-EU country	54439	52.92%	48458	47.11%	**102861**
Not available	107	57.53%	80	43.01%	**186**
TOTAL[12]	**81267**	**53.96%**	**69603**	**46.22%**	**150601**

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	545	5947	641	1009	35	391	86	86	294	2	114	339	15	1253	64	10590	1606	5	946	4	112	2	3	2770
Second Engineer	425	3249	473	635	11	489	18	133	244	0	54	20	16	751	37	7279	1152	0	505	0	86	0	3	1940
Chief Eng. 3,000 kW	103	132	17	29	1	0	4	4	27	0	26	158	4	121	23	602	183	0	10	0	17	0	3	195
Second Eng. 3,000 kW	32	150	3	27	1	0	0	1	8	0	1	5	2	62	6	718	59	0	7	0	2	0	2	296
OEW	566	4286	741	1533	13	1352	24	30	528	3	18	99	7	664	30	9880	1235	2	484	0	181	0	7	2172
Electro-technical Officer	6	0	5	0	0	0	0	1	33	0	5	0	0	49	0	125	48	0	0	0	1	0	0	19
TOTAL	**1674**	**13761**	**1880**	**3225**	**61**	**2231**	**132**	**241**	**1134**	**5**	**218**	**619**	**44**	**2896**	**160**	**29194**	**4273**	**7**	**1952**	**4**	**398**	**2**	**18**	**7391**

[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

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	592	6100	190	418	18	121	41	70	162	5	90	171	11	1487	87	11827	1179	12	1076	1	120	2	9	1889
Chief Mate	379	3555	466	566	9	590	14	27	361	1	85	113	12	1039	64	7892	2139	0	672	1	69	2	7	2702
Master 3,000 GT	69	148	20	6	10	0	1	7	11	0	27	123	4	139	19	329	53	0	7	0	35	4	2	250
Chief Mate 3,000 GT	82	196	24	16	3	1	9	1	6	0	14	3	1	110	8	825	38	0	28	0	5	1	0	238
OOW	609	5898	1158	1376	18	1778	17	206	856	1	112	202	8	1079	65	12956	2420	1	912	4	296	0	7	3326
Master 500 GT, NCV	78	3	44	48	5	0	5	16	1	0	0	45	0	102	1	112	22	0	0	2	5	0	0	22
OOW 500 GT, NCV	12	1	21	35	0	0	1	14	2	0	0	0	0	7	0	10	3	0	0	0	1	0	0	8
TOTAL	**1821**	**15897**	**1922**	**2464**	**63**	**2490**	**88**	**329**	**1398**	**7**	**328**	**657**	**36**	**3956**	**244**	**33951**	**5845**	**13**	**2695**	**8**	**531**	**9**	**25**	**8434**

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[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	
Austria	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Belgium	0	20	10	2	0	4	2	0	102	0	0	0	0	476	0	44	155	0	0	0	0	0	8	**814**
Bulgaria	202	303	94	19	0	27	0	0	100	0	3	109	0	62	0	1763	53	0	106	1	1	0	463	**3151**
Croatia	388	475	39	90	0	0	5	1	52	0	0	109	0	822	0	1396	368	0	96	3	0	6	1	681	**4340**
Cyprus	0	0	0	0	0	58	0	0	0	0	0	0	0	0	0	429	0	0	1	0	0	0	0	0	**488**
Czech Republic	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	4	0	0	3	0	0	0	0	0	**10**
Denmark*	2	38	5	0	0	0	0	1	1	0	2	0	0	3	3	80	49	0	0	0	49	0	0	45	**276**
Estonia	4	236	25	34	0	0	0	175	3	0	3	13	9	16	125	204	210	0	25	0	5	0	0	217	**1247**
Finland	0	18	3	6	43	2	0	0	0	0	0	0	0	5	1	46	29	0	2	0	256	0	0	21	**413**
France	28	40	2	2	0	0	5	0	0	0	0	18	0	455	0	99	17	0	0	0	2	0	0	85	**749**
Germany	1	179	0	16	3	0	26	2	4	0	0	54	0	181	1	403	144	4	214	0	0	0	0	100	**1302**
Greece	3	1274	1	1	1	0	0	0	1	0	6	0	0	3	0	3369	23	0	30	0	6	0	0	41	**4754**
Hungary	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	2	0	0	0	0	0	**12**

[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	
Iceland	0	2	5	7	12	0	2	0	0	0	0	0	1	1	0	0	0	12	0	0	2	0	0	4	**48**
Ireland	0	34	1	8	0	0	0	0	0	0	0	0	0	6	0	31	16	0	2	0	0	0	0	326	**415**
Italy	2	114	4	1	0	1	3	1	4	0	0	0	0	19	0	376	14	0	72	0	1	5	0	602	**1202**
Latvia	35	445	50	131	13	3	0	3	78	0	3	24	8	63	0	851	355	1	118	0	19	0	0	731	**2734**
Lithuania	25	418	108	57	3	0	14	0	29	0	35	11	0	209	20	303	265	1	109	0	3	0	2	489	**1804**
Malta	0	2	2	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	2	0	0	0	0	9	**18**
Netherlands	452	558	136	38	0	0	6	7	11	5	1	0	0	449	3	433	0	0	8	2	4	0	0	118	**2191**
Norway	0	175	2	27	0	0	1	5	9	0	0	0	0	3	0	405	21	0	2	0	31	0	0	200	**878**
Poland	59	2619	810	437	0	19	2	5	117	0	340	37	0	345	5	2853	246	0	579	0	29	0	6	2039	**10114**
Portugal	1	8	2	8	0	0	5	0	0	0	0	0	0	2	0	80	5	0	0	0	0	0	0	16	**126**
Romania	71	437	182	290	0	196	1	0	529	0	0	371	0	204	1	2398	276	0	332	0	4	0	0	828	**5815**
Slovakia	0	3	3	0	0	0	0	0	0	0	0	0	0	1	0	7	0	0	7	0	0	0	0	0	**21**
Slovenia	2	54	1	1	0	0	12	0	3	7	0	31	0	14	0	55	13	0	11	0	0	0	1	28	**199**
Spain	11	147	6	7	0	9	0	0	5	0	0	5	0	36	0	434	44	0	176	0	1	0	0	173	**1032**
Sweden	1	88	11	388	1	0	1	26	2	0	0	0	0	3	1	118	16	0	2	0	0	0	0	84	**736**
United Kingdom	109	650	10	559	2	3	4	1	79	0	53	189	0	170	0	1394	389	0	51	0	5	0	0	0	**3636**

*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[10]
	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	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Argentina	75	18	1	9	0	0	7	0	0	0	0	1	0	10	0	0	0	0	6	0	0	0	0	0	**127**
Australia	38	191	3	58	14	0	0	0	6	0	0	0	0	136	0	286	116	0	0	0	0	0	0	187	**1010**
Azerbaijan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	464	0	0	0	0	0	0	0	0	**464**
Bangladesh	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**13**

[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	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	
Brazil	0	281	0	183	0	0	0	0	12	0	0	3	0	25	0	0	10	0	18	0	0	0	0	73	**591**
Canada	3	23	0	14	0	12	0	0	1	0	1	0	0	4	0	100	13	0	2	0	0	0	0	110	**279**
Cape Verde	0	6	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	31	0	0	0	0	6	0	0	0	0	0	0	23	0	0	0	0	1	0	0	0	0	0	**61**
China	0	206	5	3	0	0	0	0	0	0	0	0	0	0	0	455	51	0	8	0	0	0	0	767	**1487**
Cuba	0	58	0	0	0	0	99	0	0	0	0	0	0	0	0	176	0	0	84	0	0	0	0	0	**416**
Egypt	2	174	1	1	0	0	0	0	0	0	0	0	0	52	0	689	0	0	28	0	0	0	0	0	**946**
Ethiopia	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**
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	0	118	0	0	0	30	0	0	0	0	0	0	1	0	0	357	0	0	4	0	0	0	0	0	**510**
Ghana	0	85	0	0	0	0	0	0	0	0	0	0	0	27	0	7	0	0	2	0	0	0	0	0	**121**
Hong Kong	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	6	**19**
India	283	939	5	1113	1	34	0	0	179	0	0	252	0	160	0	3336	75	0	40	0	0	0	0	1271	**7626**
Indonesia	14	384	0	0	0	14	0	0	6	0	0	8	0	84	0	236	320	0	54	0	0	0	0	0	**1118**
Iran, Islamic Republic of	1	479	0	0	0	0	0	0	0	0	0	0	0	0	0	1260	0	0	0	0	0	0	0	8	**1746**
Israel	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	49	0	0	0	0	0	0	0	0	**79**
Jamaica	50	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	26	**82**
Japan	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	**5**
Jordan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79	0	0	0	0	0	0	0	0	**79**
Korea, Republic of	0	38	0	0	0	0	0	0	0	0	0	0	0	0	0	255	0	0	0	0	0	0	0	14	**307**
Lebanon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	0	0	0	0	0	0	0	0	**41**
Madagascar	0	0	0	0	0	0	0	0	55	0	0	0	0	61	0	0	0	0	0	0	0	0	0	0	**115**
Malaysia	1	27	0	0	0	0	0	0	8	0	0	0	0	4	0	0	0	0	0	0	0	0	0	9	**49**
Mexico	1	28	0	0	0	0	6	0	0	0	0	0	0	8	0	0	0	0	4	0	0	0	0	0	**47**
Montenegro	0	263	18	0	0	17	0	0	0	0	0	0	0	40	0	343	0	0	0	0	0	0	1	200	**849**
Morocco	0	41	0	0	0	0	0	0	37	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	**97**
Myanmar	0	136	26	0	0	0	0	0	1	0	0	0	0	24	0	302	0	0	101	0	0	0	0	121	**707**
New Zealand	8	82	0	31	8	0	0	0	2	0	0	0	0	34	0	106	68	0	3	0	0	0	0	160	**491**
Pakistan	0	76	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	**100**
Peru	1	56	1	0	0	0	11	0	0	0	0	0	0	0	0	141	0	0	122	0	0	0	0	0	**332**

Country issuing the original CoC	EU Member State issuing the EaR																							Total[10]
	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	345	4273	389	152	22	0	0	16	14	0	50	25	52	569	185	6678	2452	0	516	0	2	0	2	1120	**16381**
Senegal	0	0	0	0	0	0	0	0	19	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	**28**
Serbia	0	1	1	0	0	7	0	0	0	0	0	0	0	0	0	5	0	0	1	0	0	0	0	5	**19**
Singapore	8	88	0	184	0	0	0	0	7	0	0	1	0	15	0	164	16	0	3	0	0	0	0	93	**576**
South Africa	33	51	0	8	0	0	0	0	0	0	0	0	0	21	0	0	1	0	1	0	0	0	0	149	**235**
Sri Lanka	3	143	13	0	0	0	0	0	0	0	0	0	0	6	0	211	0	0	31	0	0	0	0	94	**496**
The Philippines	253	7043	1273	1399	0	3661	0	125	708	0	36	0	0	517	0	13806	2285	1	654	6	506	0	0	2120	**33966**
Tunisia	0	0	0	0	0	0	0	0	18	0	0	0	0	23	0	5	0	0	0	0	0	0	0	0	**46**
Turkey	0	6	4	0	0	0	0	1	0	0	0	0	0	21	0	6291	4	0	48	0	0	0	3	0	**6377**
Ukraine	935	5689	494	380	1	614	0	2	269	0	13	0	9	1240	59	9604	1907	1	966	0	0	0	27	1817	**23192**
United States	14	13	1	20	0	0	0	0	0	0	0	0	0	7	0	58	0	0	0	0	0	0	0	108	**220**
Uruguay	0	11	0	0	0	0	2	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	**35**
Vietnam	0	94	0	0	0	0	0	0	2	0	0	0	0	6	0	38	41	0	0	0	0	0	0	0	**181**

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	2251	13836	15455	13238	10548	7323	7602	6517	4497	**81267**
Engine	1434	8796	10589	8906	9348	8369	8786	7478	5897	**69603**
TOTAL[11]	**3680**	**22561**	**25994**	**22101**	**19873**	**15670**	**16357**	**13978**	**10387**	**150601**

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	2	116	1322	3123	4077	3954	4894	4615	4071	**26174**
Second Engineer	47	1438	4175	2986	2539	1987	1748	1245	923	**17088**
Chief Eng. 3,000 kW	0	38	134	192	207	223	269	229	336	**1628**
Second Eng. 3,000 kW	15	204	297	171	149	146	136	145	111	**1374**
OEW	1367	7016	4703	2471	2398	2070	1758	1258	455	**23496**

[11] 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	8	36	59	40	38	40	31	25	15	**292**
TOTAL	**1434**	**8796**	**10589**	**8906**	**9348**	**8369**	**8786**	**7478**	**5897**	**69603**

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	144	1770	3817	4274	3543	4429	4062	3306	**25350**
Chief Mate	64	2503	5893	4372	2915	1729	1332	959	555	**20322**
Master 3,000 GT	0	17	93	164	172	208	220	187	201	**1262**
Chief Mate 3,000 GT	62	475	383	195	130	104	103	93	55	**1600**
OOW	2115	10707	7375	4680	3018	1690	1485	1180	352	**32602**
Master 500 GT, NCV	3	30	62	96	85	78	67	56	33	**510**
OOW 500 GT, NCV	3	35	22	11	10	12	13	4	4	**114**
TOTAL	**2251**	**13836**	**15455**	**13238**	**10548**	**7323**	**7602**	**6517**	**4497**	**81267**

Table 2-20 Age distribution of officers holding EaRs by gender group[12]

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	57	373	218	109	53	32	26	13	7	**888**
Male	3073	20472	24098	20678	18677	14860	15494	13411	10093	**140856**
TOTAL	**3130**	**20845**	**24316**	**20787**	**18730**	**14890**	**15520**	**13424**	**10100**	**141742**

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	1307	7545	8355	7799	7717	4874	4585	4355	2058	**48595**
EU	632	5577	7848	7053	5639	4842	5435	5308	5273	**47607**
Europe (non-EU)	1594	8492	8820	6607	5936	5373	5690	3740	2490	**48742**
Rest of the World	147	941	950	635	564	561	624	556	548	**5526**
TOTAL	**3680**	**22561**	**25994**	**22101**	**19873**	**15670**	**16357**	**13978**	**10387**	**150601**

[12] Poland and the Netherlands not included

Appendix C Data on ratings holding valid CoPs in 2015

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	0	2786	0	378	34	2	0	179	1342	693	1767	440	0
Rating forming part of a navigational watch	1133	0	3087	1395	9295	296	6720	4159	1394	1471	1505	5509	404	6062	3
Able seafarer engine	0	0	0	117	0	274	26	0	0	1	445	147	1	2064	0
Rating forming part of an engineering watch	500	0	829	2666	3992	208	3357	2054	692	469	784	2518	1933	83	6
Electro-technical rating	0	0	13	29	0	98	0	1126	0	1	20	98	218	309	0
TOTAL[13]	**2019**	**1**	**8293**	**5840**	**11552**	**2307**	**8197**	**6944**	**2044**	**2091**	**3795**	**8043**	**3964**	**8458**	**9**

[13] 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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