

SEAFARERS EDUCATION, TRAINING AND CREWING IN UKRAINE

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Abstract. Ukrainian National Certification Regulations should be amended because of the changes in the higher education structure. The level of training of NU “OMA” graduates meets the requirements of international shipping and crewing companies. This fact explains the interest of world shipping leaders in Ukraine. Changes in maritime education and training system in Ukraine will widen the possibility for Ukrainian officers’ employment.

1 INTRODUCTION

Nowadays, Ukraine is among leaders as for officers’ supplying country to the world maritime labour market. Changes in maritime education and training system in Ukraine will widen the possibility for Ukrainian seafarers to be employed on board vessels entitled to fly the flags of almost all countries, in all basins of the oceans, and contribute to the high prestige of our maritime personnel and enhancement of the positive image of Ukraine.

2 GLOBAL DEMAND FOR SEAFARERS AND THE ROLE OF UKRAINE

According to the information of the United Nations Conference for Trading and Development (UNCTAD) [1] and in accordance with the report of BIMCO/ISF [2] world maritime fleet supplies about 1545000 working places for the seafarers in international shipping. Nearly 51% of positions are for officers, 49 % – for ratings (there was a correlation of 45 % officers to 55 % of ratings). It is the first time in the history when the officers' rate became larger in comparison to ratings. It can be explained by the technology progress and lower demand for hand labour on board. Level of ships’ automation is constantly rising and the shipowners tend to find a balance between the expenditures on upkeep of a qualified crew and losses from insufficient and non-professional maintenance of ships' machinery. Recent years has seen the activation of technological, normative and legal projects which are necessary to bring autonomous and unpiloted vessels into reality. Construction and prototype testing of the first vessel like that is planned to be realized in 2018 [3, 4].

Working onboard is an example of importance of the economy from the scales in shipping. For example, a crew of 14-15 people is required for колона container vessel or a bulk carrier with a gross tonnage of 10000 tones. A vessel which is 10 times larger (100000 tones) doesn't require 10 times more people and can operate well with a crew of 19-20 people. During 2005-2015 a global demand for seafarers increased up to 45% which corresponds to the

increase of world shipping for the same period. The biggest amount of seafarers is provided by China (243635), followed by Philippines (215500), Indonesia (143702), Russian Federation (87061), India (86084) and Ukraine (69000) [2]. There is an analysis concerning the number of seafarers including the officers taking into account the population [5] of the above-mentioned 6 countries which provide the biggest amount of the seafarers for global shipping. As it can be seen from the Table 1, Philippines and Ukraine provide a relatively biggest amount of the seafarers. If taking into account the officers' supply, Ukraine is a leader among the other countries including Philippines. Taking into account the population size, the amounts of money that seafarers working abroad transfer to their countries are much more important for the Philippines and Ukraine than for other major suppliers. In the Philippines amount of money transferred by seafarers amounted to 5.8 billion US dollars in 2015, showing the rise of 5.3 percent compared to 2014 [1].

Table 1: Absolute and relative rates of seafarers' supply to the international labour market considering population

	Country	Population (<i>P</i>) (2017) [5]	Supply of seafarers [2] (<i>SS</i>)	Supply of officers [2] (<i>SO</i>)	<i>SS/P</i> , %	<i>SO/P</i> , %
1	China	1,409,517,397	243,635	101,600	0.017	0.0072
2	Philippines	104,918,090	215,500	72,500	0.205	0.0691
3	Indonesia	263,991,379	143,702	51,237	0.0544	0.0194
4	Russia	143,989,754	97,061	47,972	0.0674	0.0333
5	India	1,339,180,127	86,084	69,908	0.0064	0.0052
6	Ukraine	44,222,947	69,000	39,000	0.156	0.0882

It should be noted that the BIMCO/ISF researches were carried out taking into account information provided by the relevant maritime administrations of the countries and leading shipping and management companies. The received data were corrected. For example, data provided by China and the Philippines were reduced approximately by half, and data provided by Ukraine – by more than three times. For this reason the abovementioned numbers are very approximate. On the ground of the information received from the companies, BIMCO/ISF put China, the Philippines and the Russian Federation at the first place, Ukraine was put at the fourth place, and India was put at the fifth place [2]. Significantly, China is thought to have overtaken the Philippines as the largest single source of seafarers qualified for international trade. However, data from international shipping companies suggests that the extent to which these Chinese seafarers are available for service on foreign-owned ships may be limited, with the Philippines and Russia seen as equally important sources of officers, followed closely by Ukraine and India [2]. It should be pointed out that there is no statistical recording of the number of seafarers in Ukraine. The number of seafarers can be indirectly estimated by the number of certificates of competence issued for officers and certificates of proficiency issued for ratings. According to the State Register of Seafarers' Documents of Ukraine, as of the end

of 2017, the following number of qualification documents with the right to occupy positions on sea-going vessels in accordance with the Manila amendments to the STCW Convention and the STCW Code were issued to Ukrainian seafarers: Master – 9,287, Chief mate – 7,669, Watch officer – 12,701, Chief engineer officer – 9,400, Second engineer officer – 6,876, Watch engineer officer – 11,352, 1st Class electro-technical officer (ETO) – 1,593, 2nd Class ETO – 1,132, 3rd Class ETO – 3,402, Able seafarer deck – 11,170, Ratings forming part of navigational watch – 15,738, Boatswain – 2,667, Able seafarer engine – 6,066, Ratings forming part of an engine-room watch – 10,726, Electro-technical ratings – 2,141. Total number of valid seafarers' certificates issued in Ukraine – 111,920, including: Masters and officers – 63,412, Top officers (management level) – 33,232, Officers (operational level) – 30,180, Ratings (support level) – 48,508, Masters and deck department – 59,232, Engine department – 52,688. Taking into consideration inappreciable national fleet of Ukraine, most of seafarers work in foreign shipping companies. It should be noted that the given data do not include seafarers who occupy service staff positions, such as cook, steward, workers of the hotel department of passenger ships, and others.

On 29 August 2017 published Seafarers' Statistics in the EU [6]. 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. 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). 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 recognized by EU Member States were the Philippines (33,966), Ukraine (23,192), Russian Federation (16,381), India (7,626) and Turkey (6,377).

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. The masters and officers registered with valid EaRs held original CoCs issued by 88 countries. Figure 1 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. It should be noted that the report [6] is the second of research conducted by EMSA. The first report was published in 2016 on the base of the data in STCW-IS by the end of 2014 [7]. As the additional data was collected during the previous year, the possibility to analyze trends for better understanding of maritime labour market in Europe appeared. In the table 2 there is information concerning the number of confirmations of competency certificates issued by the EU for Masters and officers according to the countries where the

original certificates were issued as well as absolute and relative increase of this number. During the year an overall number of registered confirmations increased up to 13 % [6]. Turkey has seen the largest increase of 32 %.

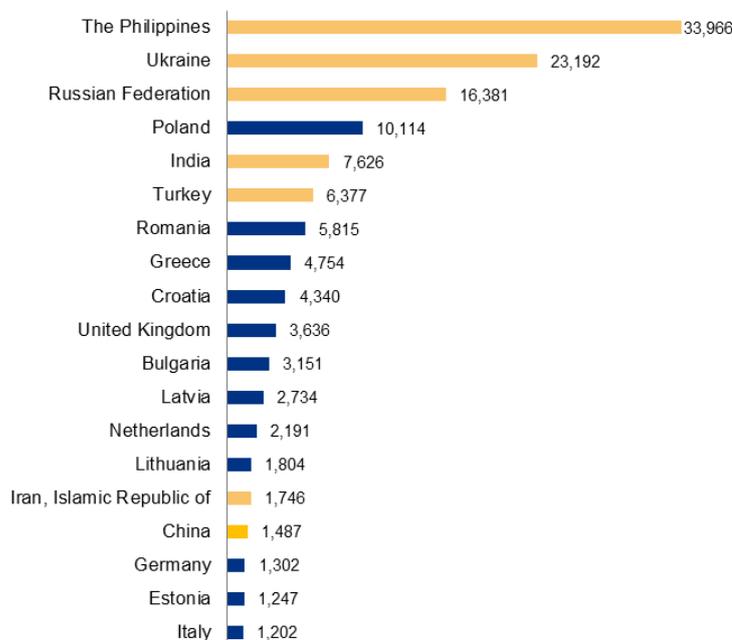


Figure 1: Countries issuing the original CoCs registering more than 0.75% of masters and officers holding valid EaRs

Table 2: Distribution of holders of valid confirmations of competency certificates issued by the EU countries according to the countries where the original certificates were issued

Country	At the end of 2014	At the end of 2015	Growth	Growth, %
Philippines	28,874	33,966	5,092	17.6
Ukraine	19,363	23,192	3,829	19.8
Russian Federation	13,645	16,381	2,736	20.0
Poland	8,739	10,114	1,377	15.6
India	6,401	7,626	1,225	19.1
Turkey	4,830	6,377	1,547	32.0

2. THE EDUCATION AND CERTIFICATION SEAFARERS' SYSTEM

The education and certification Seafarers' system in Ukraine is in compliance with the requirements of the STCW Code and STCW Convention including the Manila Amendments. In particular, the training programs, implementing the standards of operation and management level competence of the new edition of the STCW Code, are realized in maritime educational

institutions since 2012 [8]. The specialists' training in the seagoing specialties in compliance with the requirements of the STCW Code and STCW Convention in Ukraine is conducted by 7 higher educational establishments (including their branches). Table 3 provides information on the number of students enrolled in 2017 for the first year of study for different educational levels (Junior Specialist, Bachelor and Master) in educational institutions of Ukraine for the specialties (programmes) leading to the obtaining of the certificate of competence in accordance with the STCW Convention. Nowadays Ukraine is in the "white list" of the International Maritime Organization of countries, which completely fulfill the requirements of the STCW Code and Convention. The memoranda of the seafarers' Diplomas (Certificates) recognition were signed by 53 member states of the International Maritime Organization in compliance with the Regulation I/10 of the STCW Convention. Besides, the Seafarers' Training and Certification System in Ukraine is approved by the European Commission on the ground of the periodical inspection results, conducted by the European Maritime Safety Agency (EMSA) against the requirements of the relevant Directive of the European Parliament and European Union Council. The last inspection was held in April 2018. Currently, the conclusion has not yet been provided to the Maritime administration of Ukraine. The Seafarers' Training and Certification is supported by the Ministry of Education and Science of Ukraine (implementation of the training programs, providing achievements of necessary competence standards), Ministry of Health of Ukraine (medical certification) and Ministry of Infrastructure of Ukraine, which functions as a Maritime administration of Ukraine. Ukrainian Seafarers' Training and Education System can be characterized by the obligatory educational degree obtained as a result of successful completion of the formal educational program. This degree allows getting a specific diploma (Certificate of Competency), which gives the right to occupy the officer position on a vessel. There are special rules in Ukraine defining the procedure of rank awarding to the seafarers. Nowadays the powers to approve these rules are given to the Ministry of Infrastructure of Ukraine. According to these rules, a corresponding degree of higher education is an essential condition to obtain the Diplomas (Certificates of Competency), which meet the operation and management level of the STCW Code. The programs of higher maritime education provide realization of the Model Courses of IMO and include an indispensable practical training as the obligatory component [8]. The programs of maritime education combine such components which lead to necessary professional skills as well as the components, providing knowledge and understanding of corresponding sciences, principles of equipment operation and technological processes, development of cognitive skills. As a result, a high level of the Ukrainian seafarers' competence is achieved and the skills of situation awareness and decision making in unforeseen situations and restricted resources conditions are formed.

Accordingly, the officers' training is conducted at higher maritime educational institutions. The training is based on the state and industry-specific standards of the higher education, which are formed in compliance with all the requirements of STCW Convention and STCW Code. Nowadays, the Bachelor Degree is the "basic" higher education degree in Ukraine, which allows the graduates to "obtain the Certificates of Competency" of the STCW Code operation level and join the next higher education cycle, and develop the officer career to the STCW Code management level.

Table 3: The number of students enrolled in 2017 for the first year of study for different educational levels in educational institutions of Ukraine for the programmes leading to the obtaining of the certificate of competence

№	Educational Institution	Educational level			Total
		Junior Specialist	Bachelor	Master	
1	National University “Odessa Maritime Academy” (Odessa, Mariupol, Izmail)	574	1260	160	1994
2	Odessa National Maritime University (Odessa)	-	353	120	473
3	Odessa Maritime College of Fish Industry (Odessa)	471	-	-	471
4	Kherson State Maritime Academy (Kherson)	671	820	340	1831
5	Kherson Maritime College of Fish Industry (Kherson)	251	-	-	251
6	State University of Infrastructure and Technologies (Kyiv)	-	263	75	338
7	Admiral Makarov National University of Shipbuilding (Mykolaiv)	-	22		22
Total in Ukraine		1967	2718	695	5380

3 THE SYSTEM OF UPGRADING AND REFRESHING TRAINING

The important constituent elements for ensuring high competency of Ukrainian masters and officers are mandatory periodical approved refresh and updated courses. System of upgrading courses is regulated by the Provisions for the Procedure of conferring of ranks on officers of seagoing ships. The national requirements stipulate the compulsory completion of such courses not less than once in five years and before obtaining next level Certificate of competency or a certificate endorsement. Work of State Competency Assessment Commissions is provided by the Inspectorate for Training and Certification of Seafarers of the Ministry of Infrastructure of Ukraine. This Inspectorate also ensures seafarers' register and one of its functions is inspection of seafarers' documents. We should mention that the function of general management and control over seafarers' training and certification in Ukraine is carried out by the State Service of Ukraine for Transport Safety. There are 36 training centers including those which form a part of educational institutions providing different kinds of training and upgrading courses in Ukraine approved by the Maritime Administration.

4 THE SYSTEM OF CERTIFICATION OF SEAFARERS

Nowadays, the Certificates of Competency are issued by the Harbour Masters offices on the basis of the Protocols provided by the State Qualification Commission established by the Inspectorate for Training and Certification of Seafarers. National Certification Regulations should be amended as a result of the changes in the higher education structure. New

Regulations should provide, as before, the overall structure of seafarers' training and certification based on the higher maritime educational establishments, and opportunity for the officers to acquire new competences and corresponding new qualifications gradually. Most likely, future Regulations will not consider the Master Degree obligatory for getting Certificate of Competency of the STCW Code management level. At the same time, the officers' essential learning outcomes and competency level can't be achieved in the frames of the Bachelor program, which leads to the Certificate of Competency at the operation level.

5 THE SYSTEM OF SEAFARERS' EMPLOYMENT AND COOPERATION OF THE MARITIME EDUCATIONAL ESTABLISHMENTS WITH SHIPPING INDUSTRY

Over the past decades experience of maritime education development and seafarers' training in Ukraine showed that Ukrainian seafarers, first of all officers, successfully competed on international labour market. The attractiveness of maritime profession for young people has been increasing, the number of Ukrainian seafarers at world shipping fleet is rising, higher educational establishments and training centers have been developing and service market on seafarers' crewing has been expanding. Such dynamics of development has been possible now due to the cooperation of shipping companies, crewing companies and agencies with educational establishments. Companies that provide employment services for seafarers can start work only after obtaining a license. Ministry of Social Policy of Ukraine, on behalf of the State, issued licenses to more than 350 companies and other business entities.

Many foreign companies with long-term programs for Ukrainian seafarers on board their vessels invest significant funds into personnel training with the help of their own "cadets programs", giving sponsor support to maritime training institutions, creating their own training centers. The most active companies on the Ukrainian market in this direction are: V.Ships, MSC, OSM, Anglo-Eastern, BSM, Columbia Shipmanagement, Marlow Shipmanagement, Stolt-Nielsen Transportation, MOL, K-Line, etc. In the framework of cadets programs together with training institutions they select cadets in compliance with the company's requirements (knowledge of English, professional training, necessary certificates), organize planning and control over complying with on-board training programs. Companies cover all expenses connected with on-board training. It should be emphasized that almost all companies have their representative offices in a large number of maritime countries of the world. The level of training of our graduates meets the requirements of our partners. This fact explains the interest of international shipping leaders in Ukraine.

7 CONCLUSIONS

Taking into account all above-mentioned we consider the following as the perspectives of development:

1. Promoting an integrated approach to maritime affairs, good governance and exchange of best practices in the use of the marine space;
2. Promoting sustainable development of coastal regions and maritime industries as a generator of economic growth and employment, including through the exchange of best practices;

3. Promoting strategic alliances between maritime industries, services and scientific institutions specializing in marine and maritime research, including the building of cross-sectoral maritime clusters;

4. Endeavoring to improve maritime safety and security measures and to enhance cross-border and cross-sectoral maritime surveillance to address the increasing risks related to intensive maritime traffic, operational discharges of vessels, maritime accidents and illegal activities at sea;

5. Support of cadets' on-board training by all interested parties including companies, IMEC and other organizations, maritime administrations, International Maritime Organization, reconstruction and maintenance of training vessels;

6. Motivation of professors and instructors of educational establishments from the side of the companies, providing opportunities of working at sea and at educational institutions including internships and cadets' training supervision.

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