

## IDENTIFYING THE NEEDS OF THE STAKEHOLDERS OF THE BLUE ECONOMY REGARDING THE INCLUSION OF YOUNG PEOPLE IN THE LABOR MARKET

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### ABSTRACT

"Blue Economy" represents a sustainable use of marine resources to ensure economic growth, job growth, an improvement in living standards and the health of marine ecosystems. At European level, there is a lack of correlation between labour demand and supply that highlight poor communication and cooperation between education levels and industry levels. Given the lack of qualified blue-chip workers in the Black Sea and the Eastern Mediterranean region as well as the poor knowledge of career opportunities offered by the maritime sector, it is aimed at supporting strategic sectors, being chosen due to the high potential for innovation and growth such as maritime transport, offshore oil and gas industry, cruise tourism and aquaculture. This research seeks to identify the requirements of the private sector related to human resource in terms of training, technical and behavioural competences, as well as the presentation of the main challenges faced by the workforce. The present study is channelled to facilitate the access of young people to the labour market in the sectors of interest taking into account the demands of potential employers.

**Keywords:** *Blue Economy, maritime transport, offshore oil and gas industry, cruise tourism and marine aquaculture.*

### 1. INTRODUCTION

"Blue Economy" represents a sustainable use of marine resources to ensure economic growth, job growth, an improvement in living standards and the health of marine ecosystems, including activities such as: shipping (over three quarters of international commodities are traded by sea, followed by 2030 to double and by 2050 to be four times higher), fishing (the annual GDP contribution is over 270 billion dollars, sustainable fishing can generate more production, more revenues, contributing to the recovery of stocks), tourism (contributing to the increase of jobs, to economic growth, at present the coastal and small islands are receiving approximately 50 million visitors each year), renewable energy (can play a role vital in economic and social development), waste management (over three-quarters of marine pollution is due to sources their land, so that proper waste management can contribute to the restoration of the aquatic environment), climate change (have a significant effect on coastal erosion, increase in water level, change in currents and chemical composition).

The various sectors of the blue economy are interdependent, relying on infrastructure (distribution networks, ports) and common competences, and depend on the sustainable use of the sea by other partners.

### 2. PRESENTING THE CURRENT SITUATION

Bearing in mind the variety of maritime-dependent economic activities, the EU's "blue economy" is contributing to the growth of the welfare of the European area through the annual creation of over EUR 500 billion in gross added value and over 5 million jobs, so over three quarters of foreign trade and close to half of European-wide trade are made on maritime routes, concentrated mainly over Europe's coastal areas.

According to recent studies, Romania's "blue economy" could generate more than 100,000 jobs per year and an added value of over one billion Euros.

According to the United Nations Food and Agriculture Organization, 50% of fish consumption comes from aquaculture, and by the year 2030 it will reach three quarters. Worldwide, the growth rate of aquaculture is about 5 times higher than the growth rate of the population, with a significant contribution to the Asian side, as more than 90% of the businesses operating in the EU are SMEs which provide about 80000 jobs, as well as fierce competition on the world market, lack of funding, lack of maritime space needed to develop aquaculture and administrative limitations, especially in the granting of licenses. Considering the above, we can notice the significant increase in this sector, the communities in the coastal zones being able to diversify their activities.

Maritime and coastal tourism is among the most important maritime economic activities, accounting for nearly 2% of European-level staff, and it is expected that will register annual growth of 3%. Thus, in cruise tourism, over 150,000 people are employed in Europe, with a turnover of around 15 billion Euros. Taking into account the volume of work and the unfavourable training of the coastal workforce, measures should be taken to improve the level of professional training to acquire the skills needed to increase the market share, to make investments in infrastructure, port installations and mooring capacity, the improvement of tourist offer and measures to reduce the pollution of coastal areas.

Given the concerns about the security of supply of non-energy raw materials and technological advances in recent times, it is possible to justify the extent of the activities of mining companies to the aquatic environment, with an increase in annual turnover over the next 10 years by 5 billion Euros, European businesses will have to offer high-quality products and services, will need major funding, international water

licensing and energy measures to help protect the environment, as well as development and research activities on extraction techniques.

At European level, there is a lack of correlation between labour demand and supply (high unemployment rates among young people and lack of skills and profiles needed for traditional and emerging sectors) that highlight poor communication and cooperation between education levels and industry levels. In terms of development and research, we need to consider activities such as fishing, transport, tourism that require diversification and innovation to be cost-effective, sustainable, competitive as well as massive capital investment in emerging activities (marine energy from mineral resources, renewable, blue biotechnology).

At the level of the maritime education and training units, measures have been taken to correct this unfavourable gap between labour supply and demand: making connections and exchanges between academies, maritime and logistics institutes and ports; harmonizing functions and competencies for better migration in the region; raising awareness of the maritime professions especially among young people; promoting the development of innovative maritime skills and matching labour supply and demand in the field of multimodal transport service, supply chain and infrastructure.

Due to coastal urbanization, maritime and coastal ecosystems have recently been affected by coastal and marine ecosystems which can lead to long-term un sustainability of maritime and coastal tourism as well as aquaculture, so action such as the development of services and products such as: the creation of artificial ecological reefs, the connection of shore and maritime attractions, cultural itineraries, natural history, sustainable fishing ports, fishing, water and cruise tourism; promoting energy efficiency and adaptation to climate change in coastal settlements, the use of clean energy sources, the application of sustainable consumption patterns and practices; the development of common technical standards related to sustainable marine aquaculture, capacity building, diversification of the sector and the encouragement of maritime transport and ecological port infrastructure for alternative fuels, the development of trans-European transport networks, port connections and maritime highways, infrastructure optimization of interfaces and procedures / operations port.

### 3. RESEARCH OBJECTIVE

Given the lack of qualified blue-chip workers in the Black Sea and the Eastern Mediterranean region as well as the poor knowledge of career opportunities offered by

the maritime sector, it is aimed at supporting strategic sectors, being chosen due to the high potential for innovation and growth such as maritime transport, offshore oil and gas industry, cruise tourism and aquaculture; Creation of a Centre for the Development of Blue Careers that will make communication between education and training institutions, the private sector, research organizations, representatives of civil society in the area of interest and regulatory institutions more effective; as well as attracting graduates to careers in the blue economy sector, dynamic collaboration for the dissemination of skills indispensable for the development of the activity in the field of interest and ultimately the diminution of the unemployment.

This research seeks to identify the requirements of the private sector related to human resource in terms of training, technical and behavioural competences, as well as the presentation of the main challenges faced by the workforce. Thus, the present paper can be considered as a market-based research to identify the needs of the sectors of interest: maritime transport, offshore gas and oil, aquaculture and cruise tourism.

Considering the important role of the training institutions in providing highly qualified human resources according to the market requirements, the research team has chosen as a method of research the establishment of questionnaires targeting the above mentioned sectors and the specific needs. This method has identified the expectations of the business environment regarding the competencies necessary for young people to be absorbed into the labour market.

Prior to the start of the study, the team set up target groups among collaborators of partner institutions. The poll was conducted online in August 2017 between respondents from the south-eastern part of Romania being invited by e-mail, telephone, face to face or social media channels to fill in the questionnaire.

### 4. RESEARCH RESULTS

The information briefly presented below refers to the answers of those who completed the questionnaires drawn up by the project team which refer to the most demanding jobs, most in demand tertiary-education degrees, technical skills required, behavioural competencies, workplace challenges, new technological and / or operational trends by sectors age and sex of someone wishing to enter in the sector.

As Figure 1 shows to the question of currently the 3 most in demand jobs in your sector, more than half of the jobs are intended for: marine engineers, deck officers and technicians (fitters, mechanics).

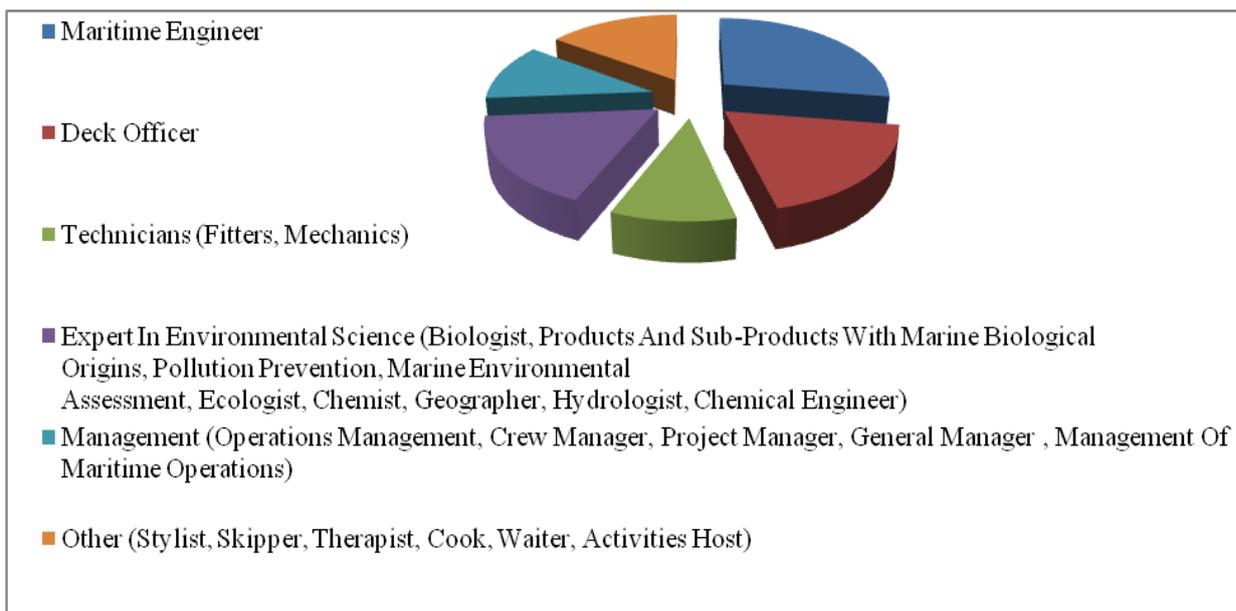
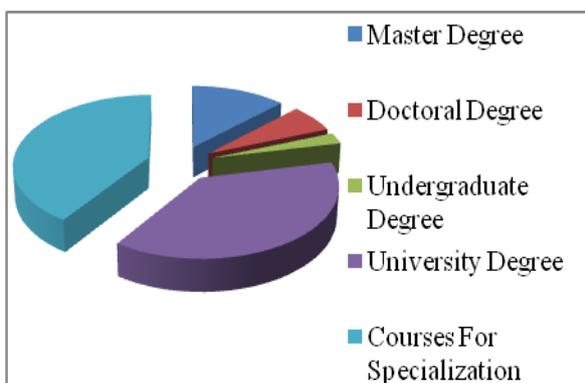


Figure 1 Distribution of respondents per "Demand jobs"



To the question of the level of training of the human resource most respondents need staff with university studies in areas of interest such as Mechanical engineering, Software / IT specialist, Nautical Institute, Welding engineering, and specialization courses such as: operators of pleasure craft, Cooking Courses, Physiotherapy courses, Wellness courses, marine policy and policy making, biochemistry focused on bioactive substances with marine origin etc.

Figure 2 Distribution of respondents per "Demand tertiary-education degrees"

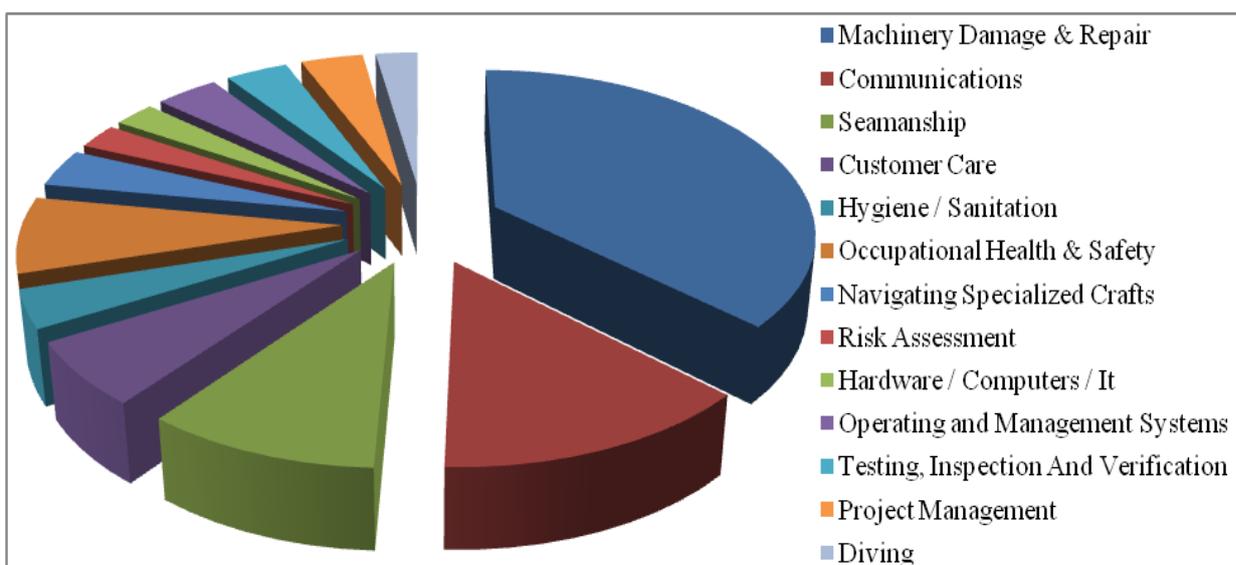


Figure 3 Distribution of respondents per "Technical skills required"

From the point of view of technical abilities, these are the knowledge and skills necessary to accomplish the

practical tasks, being the most important for the jobs, requiring training and experience to acquire them, often

referring to scientific, mechanical, mathematical tasks etc. According to figure 3, most of the interviewees believe that the main technical skills that a person would

want to enter in the sector are Machinery Damage & Repair followed by Communications and Seamanship.

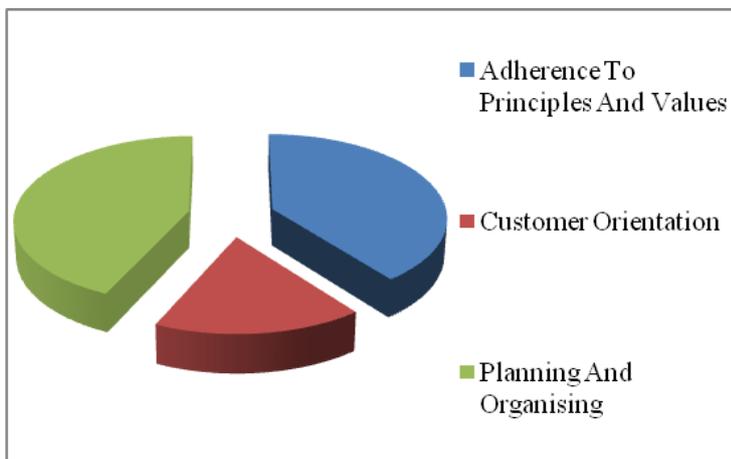


Figure 4 Distribution of respondents per "Behavioural competencies required"

Most people interviewed believe that the main behavioural competencies that a person wishing to engage in is a major concern: maritime transports,

offshore oil and gas, cruise tourism and aquaculture is Adherence to Principles and Values, Customer Orientation, Planning and Organizing.

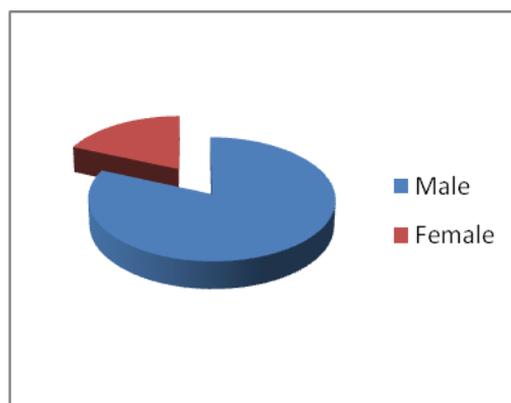
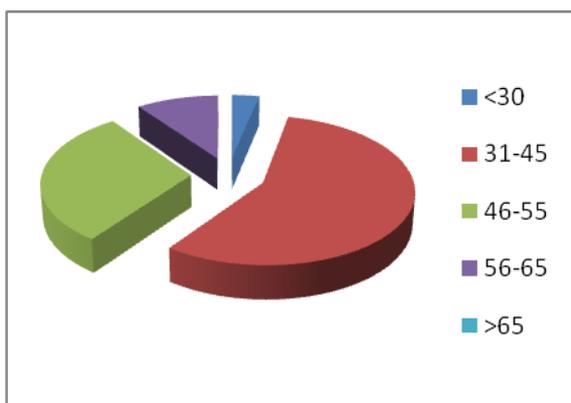


Figure 5 Distribution of respondents per "age and gender of employees"

Thus, the present study is channeled to facilitate the access of young people to the labor market in the sectors of interest: maritime transport, cruise tourism, marine

aquaculture and the offshore oil and gas industry, taking into account the demands of potential employers.

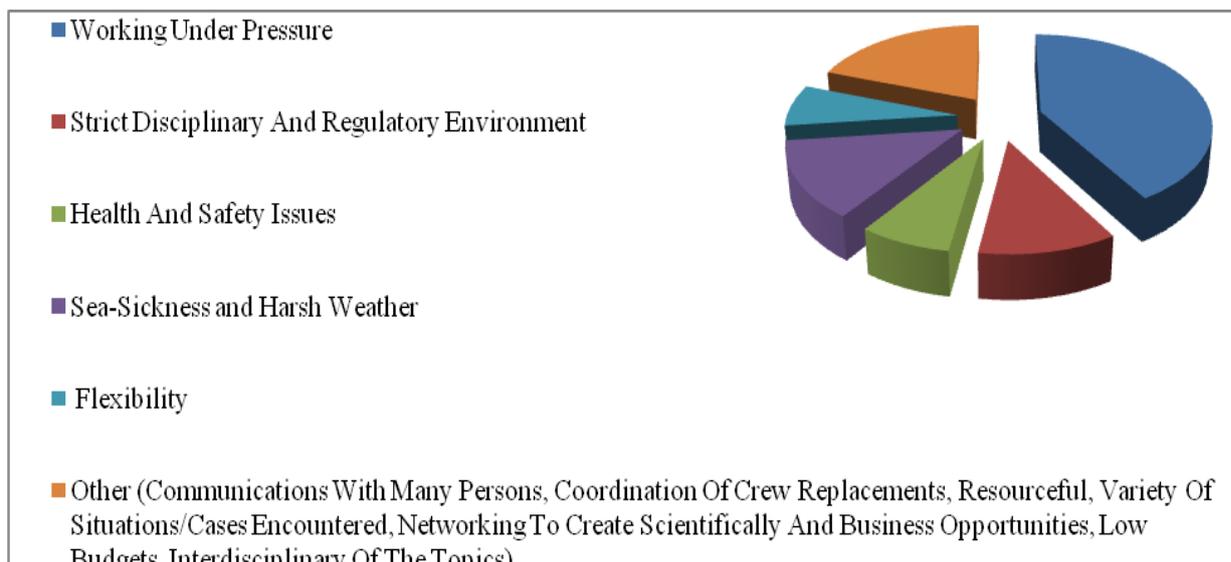


Figure 6 Distribution of respondents per “Workplace challenges”

At the workplace challenges in your sector, almost half of the responses received from employers were working under pressure followed by strict disciplinary and regulatory environment, sea-sickness and harsh weather.

From the point of view of the future evolution of the sector in which respondents are interviewed, the vast majority of respondents believe that automation is the main trend for the next 10 years, followed by autonomous ships, new fabrication technologies, new vessels design and technologies.

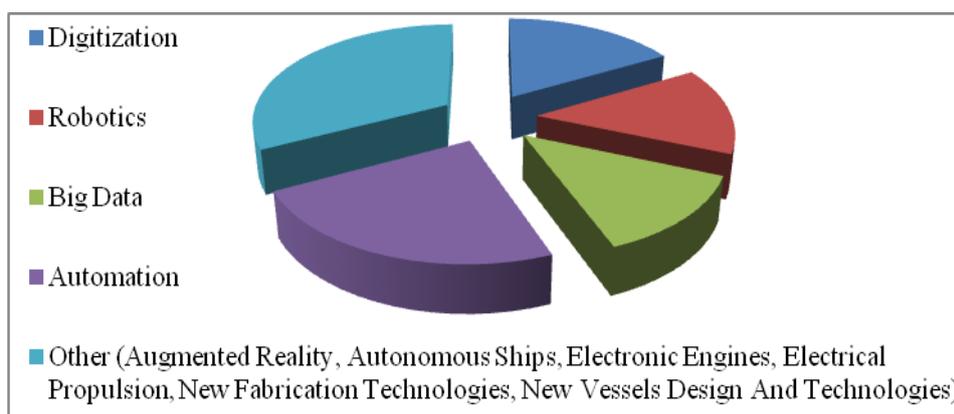


Figure 7 Distribution of respondents per “new technological and/or operational trends”

### 5. CONCLUSIONS

For the future, we need to keep in mind the increasing need for natural resources, technological progress, demographic change, increased underdeveloped economies, so that emerging sectors will provide many jobs, while established activities will be in the category of important employers.

Almost all sectors of the economy face problems that affect growth due to lack of qualified staff and difficult access to finance, so that the blue economy member states to overcome these shortcomings are organized into maritime clusters consisting of small suppliers, large industrial sectors, educational institutions facilitating communication between members, research and education being centred on the needs of local industry, and the private sector better

understands the evolutions of the current and future market.

As a first step, the project team sought to identify the skills gaps needed for future employees, especially young people, and their deficient impact on innovation, competitiveness and growth in the blue economy. Thus, stakeholders, industry, education providers, certification bodies, standardization, social partners, employment services and governments can provide us with new developments and trends, present and emerging needs in preparing future employees it needs the blue economy with the aim of eliminating non-conformities related to competencies, increasing attractiveness for these sectors and implicitly reducing unemployment.

The results of the survey - or materialized in business responses from the four sectors of interest: maritime transports, offshore oil and gas, cruise tourism

and aquaculture that have allowed us to compare industry stakeholders' views and identify skills gaps and know thoughts on competencies required for careers in various segments of the marine industry, that the project team will focus on throughout the project.

## 6. ACKNOWLEDGMENT

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## 7. DISCLAIMER

The information, documentation and figures in this study are written by the MENTOR project consortium under Grant Agreement EASME/EMFF/2016/1.2.1.2/06/SI2.749365-MENTOR and do not necessarily reflect the views of the European Commission. The European Commission is not liable for any use that may be made of the information contained herein.

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