



European
Commission



Bridging education and business in the blue economy

Best practices and user stories

Manuscript completed in April 2018

Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use that might be made of the following information.

© European Union, 2018

Except cover photo: www.pexels.com/@mali CC0 Licence

Reuse is authorised provided the source is acknowledged.

The reuse policy of European Commission documents is regulated by Decision 2011/833/EU (OJ L 330, 14.12.2011, p. 39).

For any use or reproduction of photos or other material that is not under the EU copyright, permission must be sought directly from the copyright holders.

ISBN 978-92-79-81367-2
doi:10.2771/499215

EUROPEAN COMMISSION

Directorate-General for Maritime Affairs and Fisheries
Directorate A — Maritime Policy and Blue Economy
Unit A1 — Maritime Innovation, Marine Knowledge and Investments

Contact: Alessia Clocchiatti

E-mail: alessia.clocchiatti@ec.europa.eu

European Commission
B-1049 Brussels

Getting in touch with the EU In person

All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: https://europa.eu/european-union/contact_en

On the phone or by email

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696 or
- by email via: https://europa.eu/european-union/contact_en

Finding information about the EU

Online

Information about the European Union in all the official languages of the EU is available on the Europa website at: https://europa.eu/european-union/index_en

EU publications

You can download or order free and priced EU publications at: <https://publications.europa.eu/en/publications>. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see https://europa.eu/european-union/contact_en).

EU law and related documents

For access to legal information from the EU, including all EU law since 1952 in all the official language versions, go to EUR-Lex at: <http://eur-lex.europa.eu>

Open data from the EU

The EU Open Data Portal (<http://data.europa.eu/euodp/en>) provides access to datasets from the EU. Data can be downloaded and reused for free, both for commercial and non-commercial purposes.

The authors would like to thank

The Members of the Informal Expert Group on Skills and Careers Development in the Blue Economy, namely Aimilia Papachristou, Angela Schultz-Zehden, Angelandrov Alma Elena, Avan Antia, Blagovest Belev, Boyko Doychinov, Christina Kontaxi, Claire Caralp, Claudia Vella-Casagrande, David Appletion, Elise Wattrelot, Fidel Echevvaria, Francisco Caparros Alcaraz, François Arbellot-Repaire, Halvor Mortensen, Iain Shepherd, Ian Jenkinson, Jaap Gebraad, Jan Boyesen, John Bostock, Lucía Fraga Lago, Margaret Eleftheriou, Mascha Stroobant, Michael Ekow Manuel, Michael John, Paolo Gualeni, Pauhla McGrance, Pail Gérard, Pawel Szymanski, Phil Monbet, Pierre Erwes, Rui Azevedo, Sarai Blanc, Stefano Spennati, Thomas Rasmussen, Tim Deprez, Vincent Lequenne, Tine Viveka Westerberg, Willi Wittig, and Zacharias Siokourous.

The expert group

The best practices collected in this document come from members of the Informal Expert Group on Skills and Careers Development in the Blue Economy, set up by the Directorate-General for Maritime Affairs and Fisheries (DG MARE) in 2016. The task of the Expert Group is to advise the Commission on matters pertaining to education, training, and skills and career development within the blue economy. As key stakeholders in the sector, their input for closing the skills gap in the Blue Economy in Europe is vital. The document is structured on an Expert Group member basis and readers should feel free to contact relevant experts for further information about these best practices.

Disclaimer

All experts have provided consent for their contact information to be made public. For further information about the best practices in this document please contact the relevant expert.

All views expressed are those of the authors and not necessarily reflect the views of the European Commission

Foreword

In any well-functioning economy, education and industry are two sides of the same coin. The blue economy – comprising the sustainable use of ocean's resources - is no exception: training should reflect the reality of the job market. At the same time industry should be vigilantly passing on new trends so that they are reflected in education.



This is particularly true for the maritime economy: from brand-new undertakings for renewable energy or biotech to traditional ones for shipping or tourism, sectors are forever evolving. The constant conversation between business and education makes sure that people not only have the right skills for today, but that they are able to adapt and evolve with time.

The economic benefit for employers is obvious. For young people, combining classroom and workplace experience has many advantages: it improves their skills, boosts their motivation and can open doors for them later.

Thanks to good planning, this is being understood in many areas of the Union: this collection of real-life examples shows there are many possible ways to create a competent, innovative and adaptable maritime work force. It is a precious asset and I hope it spurs even more ideas and new initiatives all over Europe – creating a blue economy that delivers job opportunities and the evolving skills we need to fill them.

Karmenu VELLA

Commissioner for Environment,
Maritime Affairs and Fisheries
European Commission

Blagovest Belev

Member of Board, Marine Cluster Bulgaria

b.belev@nvna.eu



In Bulgaria, the Naval Academy based in Varna has a unique relationship with the business sector. The now permanent practice was first established in 1999, when the standard contract for employment of **lecturers** was modified to allow them to take on **part-time jobs in the maritime industry**. Since then, lecturers with a competency for deck officer, ship engineer, or other maritime qualifications have the chance to keep their licenses and practical skills up to date. This also presents a huge benefit for the Academy – the active involvement of lecturers in industry means students are taught by highly educated, well-trained and motivated professionals who transfer their practical skills – which they build up by being at sea for up to 4 months - to their classes.

The process of establishing the practice is two-sided. While the Academy negotiates with the lecturer his or her class schedule, the lecturer negotiates working time on board of ships, and a schedule is agreed upon that is mutually beneficial. Bulgarian labour legislation allows every citizen to have two employment contracts – a basic contract for 8 hours per day, and an additional one for maximum 4 hours a day. This opportunity is well used from both sides.

The success of the practice has led to the Academy extending the scope of the project to other branches of the shipping industry. Today, courses are delivered by experts from the Bulgarian Maritime Authority, Naval Architects from ship repair yards in Varna, Technical Superintendents and Nautical Superintendents in shipping companies and many others. Courses delivered by them include Maritime Law, Environmental Awareness, Chartering Practice, Navigation, Cargo Handling Operations, Ship Manoeuvring, Maritime Meteorology, Ship Construction and more.

Another example is **Marine Cluster Bulgaria (MCB)**, a non-profit organisation established in 2007 in Varna. The genesis of the cluster was related to the country initiative for cluster development. MCD involves SMEs from diverse fields of the maritime industry, business and industrial associations, universities and R&D centres. The organisation consolidates the efforts of all sectors of the maritime economy in Bulgaria and catalyses the creation of favourable conditions for development and enhancement of the competitiveness of the Blue Economy.

One of its first steps was piloted by business needs – a simulator for training of personnel in maritime logistics and transport operations was built at the Technical University of Varna.

Currently, the cluster as a member of the consortium is implementing an EU-funded project. MENTOR aims at closing the skills gap and shortage of qualified professionals in strategic maritime sectors as well as attracting young people to make a career in the blue economy.

Sarai Blanc

Director of Social and Legal Affairs

Sea Europe

sb@seaeurope.eu



SEA Europe supports the exchange and promotion of best practices of cooperation between business and education across Europe. Within the European Skills Council, companies and education providers share best practices and experiences of successful cooperation.

The Institut de Recherche Technologique Jules Verne is dedicated to advanced composites production technology, metal and hybrid structures, and aims to become, within the next ten years, a global technological innovation campus. The institute is active in four main areas: strategic technological development, research projects, training, technology transfer and integration of SME's. The **Jules Verne Manufacturing Valley** consists of a technological cluster of more than 300 companies, a research cluster with more than 1,000 researchers, a campus with more than 2,000 students and covers an area of more than 60,000 m². The Manufacturing Academy is closely cooperating between academic partners and local communities in the region, with educational goals defined by companies. The IRT Jules Verne and its partners are working on the construction of this campus, which will establish a network of education centres charged with providing training which fulfils the demands of industry as well as a mutualised campus dedicated to apprenticeship training, and which is expected to welcome students from the 2018 academic year.

In Lithuania, the "Baltic Valley" Association was established in order to coordinate research, academic and business activities within the "**Integrated Science, Studies and Business Centre (Valley) for the Lithuanian maritime sector**". The founders of the association are public scientific and academic institutions and business entities. The Marine Valley Programme is aimed at creating a cluster of maritime, knowledge-based economy by consolidating the existing potential and promoting integration of maritime research, academic studies and businesses.

Claudia Vella Casagrande

Director of Social, Legal and Fiscal Affairs, ECSA

Vellacasagrande@ecsa.eu



The European Community Shipowners' Associations (ECSA), founded in 1965, is the trade association that represents the interests of national shipowners' associations of the EU Member States and Norway. European shipowners control 40% of the global commercial fleet, contribute 140 billion to the EU GDP and provide 2.1 million Europeans with careers both onboard and ashore. ECSA is since 1999 recognised European Social Dialogue partner in the Sectoral Social Dialogue Committee for Maritime transport and represents the shipowners' interests in the dialogue with its counterpart, European Transport Workers' Federation, ETF."

In the context of the evaluation of the **European Shipping Week** (which took place between 27 February and 3 March 2017) and the declaration of the year 2017 as the "Maritime year", the need for increased investment in training and skills development in the shipping sector is more pressing than ever. This is also confirmed by the European Commission in its Implementation Report of the Mid-term Review of the EU Maritime Transport Strategy 2018. Therefore ECSA and ETF have this aspect in their work programme, have also jointly submitted a request to the European Commission to **extend the Blueprint for Sectoral Cooperation on skills to the shipping sector** and thereafter submitted a project proposal for a pan European partnership together with a consortium of partners from the educational entities, national authorities, the recognised European social partners from the maritime shipping and maritime technology sectors and national representatives of shipowners and seafarers.

ECSA considers it essential that businesses and providers of education cooperate closely. Specialist providers of education and training must develop the practical and transversal skills (including "people skills") of their students and apprentices to ensure that they are equipped with the competencies that maximise their employability and marketability. To this end employers need to ensure that education providers and policy makers are fully apprised of their requirements. ECSA is aware of numerous initiatives under which, for example, school pupils are offered work experience on board ships and knowledge of the maritime industry is brought into school curricula. With regard to vocational qualifications, business and educational partnerships exist at national level with the aim of ensuring that trainee seafarers meet - and in most cases exceed - the standards of training mandated in international conventions.

For example, the Danish Shipowners' Association's **Blue Denmark Campaign** is an initiative to increase recruitment within "Blue Denmark" (Det Blå Danmark). It comprises Danish shipping companies, ports, shipyards, maritime service providers, maritime equipment suppliers, regulatory authorities and organisations, educational institutions, research institutions and universities. It is a coordinated and targeted industry campaign aimed to raise awareness of the maritime industry and its job opportunities and educational programmes. It seeks to increase the number of qualified applicants that match the industry specific recruitment needs.

Tim Deprez

Coordinator Graduate International Training in Marine Sciences, Ghent University

tim.deprez@ugent.be



This best practice includes the setup of the **IMBRSea Master program**. Organised by eight universities in seven EU countries, this is a program that could serve as a model for future possibilities. For a first integrated semester all universities come together and agree on the content and final competences of all study modules. As such students receive exactly the same formation and skills, regardless of where they follow the training. Furthermore, specialization modules can be easily added and removed based upon the changing needs of the job market. These modules corresponding to 18 ECTS can be offered by the most fitting partners. A common interdisciplinary work format is created for all students in the program and agreed by all the universities participating for Internship, Thesis work, Data Management, Communication, Interdisciplinary Joint School and an annual symposium with workshops and job market.

The **Marine Training Portal** is a platform that is frequently used by students, trainers, etc. for several purposes. More and more initiatives and organisations use the platform to organize their training related activities. Elements that can serve as good practice are the training catalogue, the internship catalogue and the services that are provided to training organizers.

Fidel Echevarria

Professor, University of Cadiz, Spain

fidel.echevarria@uca.es



The university set up CEIMAR (Campus of Excellence of the Sea), a cluster of 14 research institutions with three main axis dealing with a) teaching and talent attraction, b) research and development, with emphasis on applied science closed to the production structures, and c) divulgation, marine literacy and communication to the society.

In the field of knowledge transfer, CEIMAR has continuously helped enhance the relationship between science, technology and business, through different types of programmes. The creation of the **Platform for the Blue Economy** in March 2015 has been particularly significant, made up of business associations, large businesses, SMEs, technology centres and port authorities. Another significant milestone has been the incorporation of important businesses (ENDESA, Telefónica, Banco de Santander, CEPSA...) to the CEIMAR Foundation board, with SMEs represented by the presence of the Andalusian Confederation of Entrepreneurs (CEA).

The creation of the **Naval Maritime Cluster** is also significant, whose immediate objectives include boosting advanced production of the vessel's construction process. A call for business innovation projects has also been launched. Another initiative key in enhancement efforts has been the *Industrial Doctoral Thesis Programme*, cofounded by businesses, that has opened new R&I lines developed in collaboration with the businesses themselves. Seven pre-doctoral industry contracts have been funded by CEIMAR. Finally CEIMAR has launched several meetings in "**Knowledge transfer days**" - workshops with companies and other activities with stakeholders in the blue economy field.

Three more fundamental milestones have been: (1) the start of the construction of the **Business Transfer Centre** for CEIMAR to provide services and carry out research oriented towards the innovation needs of the marine-maritime and shipbuilding productive sector; (2) the creation of an **Advanced Production Centre** for the shipbuilding industry that CEI-MAR participates in; (3) boosting entrepreneurship and the creation of innovative TBCs, with **17 new Spin Offs** having been constituted over the life span of the Campus.

Find out more at:

<http://www.campusdelmar.com/en/innovation/>

Jaap Gebraad

Board Secretary, Foundation STC-Group

gebraad@stc-r.nl



STC Group, a worldwide operating educational and research institution for the shipping, logistics, transport and process industries, is a key player in achieving business and education cooperation in the blue economy.

Currently, a project is conducted in the area of Blue Careers to strengthen the connection between the field of work and the educational field, by creating the concept of **hybrid lecturers** for secondary vocational education and training. A hybrid lecturer is working 2 days a week for a company, and three days a week for a secondary vocational education and training institute.

Another example is the fact that for the field of inland navigation, a strategy for **harmonised education and training at a European level** has been laid down, in which competencies have been laid down in a legislative proposal which is currently debated in the EU Parliament.

In addition, at institutional level, we have installed many years ago **sectoral skills councils**, in which the industry, education and training institute(s) as well as competent authorities meet on a regular basis to identify skills needs, to discuss the number of vacant apprenticeship places, etc.

Ian Jenkinson

*Head of Maritime and Mechanical
Engineering, Liverpool John Moores
University*



i.d.jenkinson@ljmu.ac.uk

In the '**Maritime-Super-Skills**' project employers, education, and training providers are working together to map and develop a complete pipeline of skills progression (from Level 3 to Level 7) based on the apprenticeship model of education and work based learning. These skills will support and deliver the Liverpool City Regions ambitions for improving the productivity of its maritime cluster, but also spill-over into contributing to the skills challenges of other key sectors. Specifically, the project is aimed at creating high-level apprenticeship standards, in a number of occupations, which have been identified by employers as being essential to future growth within the Maritime sector. Some examples of those highlighted so far include: Marine Technical Superintendent, Marine Surveyor, Port & Coastal Engineer, Ship Operations Manager and Harbour Master.

The Maritime SuperSkills Project facilitates an employer-led, formal process together with the Institute for Apprenticeships (IFA) in the UK, in order to bring forward robust apprenticeship standards that are capable of being rolled out at a national level. To date the role of Marine Technical Superintendent has been successfully taken through the first approval stage towards setting the standards for the occupation. The project team are working closely with national companies such as Stena and Svitzer, as well as local SMEs in the maritime sector in areas such a towage and marine engineering. This is an excellent opportunity for SME employers to take advantage of government funding, to, for example upskill their workforce, and/or recruit higher and degree-level apprentices. It also affords opportunities for the larger, levy-paying organisations to utilise up to 10% of their levy payments for the training of apprentices within those companies that are in their supply chain, or with whom they share a common purpose.

Lucia Fraga Lago

*Head of Training Department, Technology
Centre of the Sea - CETMAR Foundation,
Spain*



lfraga@cetmar.org

The **Maritime Alliance for Fostering the European Blue Economy through a Marine Technology Skills Strategy (MATES)** aim to develop a skills strategy that addresses the main drivers of change to the maritime industry, in particular shipbuilding and offshore renewable energy, which are strongly linked and require new capacities to succeed in an increasingly digital, green and knowledge driven economy. The dissemination of marine sciences will complement the sectoral approach, as a transversal line of action. The project, co-funded by the Erasmus + program of the European Union, will embed the industrial perspective in ocean literacy initiatives, spreading an updated image for the maritime technologies in the blue economy, with a convincing message that the sector has a high-tech future with a long-term positive perspective.

Partnership will be based in all major European sea-basins, including the outermost region of Azores. CETMAR Foundation, as an interim organisation between research, education, training organisations, administrations and industry, will be responsible for the coordination of the 17 partners from 8 countries. The practical approach of the project is guaranteed, as 50% of the partnership is represented by the Industry; four Universities from different countries provide a balanced representation of the academic partners; and regional and local administrations with competences on Education and Training, Research and Technology are also represented in the Partnership. The complementarities of the profiles and their position in relation to skills needs and delivery is relevant to ensure an efficient implementation of the work, but also to harness the future sustainability of the network and its long term commitment towards the strategy.

MATES will be able to validate some of the actions and priorities suggested by the skills strategy through the setup of several practical experiences planned to touch the ground and test the MATES concepts on digital skills, green skills, mobility, innovation management, curricula development and ocean literacy. A solid dissemination and outreach plan will increase the attractiveness of the maritime technologies sectors and careers and ensure the future adoption of the strategy.

The whole complex of the project activities and expected results will demonstrate the project's commitment and contribution to the European added values, in particular: Networking with relevant projects, initiatives, interested organisations and experts, creating a facilitating environment for addressing the demand for new skills and professions, fostering mutual learning and harmonisation in (and beyond) Europe, capitalizing on a number of past and on-going complementary initiatives, also at European scale, and on the collaboration background of the partnership.

Michael Ekow Manuel

World Maritime University

mem@wmu.se



The World Maritime University (WMU) in Malmö, Sweden, is a postgraduate maritime university founded by the International Maritime Organization (IMO), a specialized agency of the United Nations. Established by an IMO Assembly Resolution in 1983, the aim of WMU is to further enhance the achievement of objectives and goals of IMO member states through education, research, and capacity building to ensure safe, secure, and efficient shipping on clean oceans.

In 2017, the University launched a new **Ocean Institute**. The institute will be formally inaugurated in May 2018. The Ocean Institute is a concrete response to the UN Sustainable Development Goals, and in particular Goal 14 that commits governments to 'conserve and sustainably use the oceans, seas, and marine resources for sustainable development'. It is intended to be the independent focal point for ocean-science-policy-law-industry interface acting as a convener and convergence point, where policy-makers, the scientific community, regulators, industry actors, academics, and representatives of civil society meet to discuss how best to manage and use ocean spaces and their resources for the sustainable development of present and future generations, supported by evidence-based research, educational programs and capacity building. Research outputs of the Institute will enhance capacity of all stakeholders to implement legal requirements and policies. A special emphasis is being placed on working closely with the IMO and other relevant UN organisations, including UNESCO.

The work of the Institute will augment the existing **postgraduate (MSc) course in Ocean Sustainability, Governance and Management**. This course/specialization is one of seven courses offered by the University in the maritime and ocean domains. The MSc courses run for 14 months, starting in September each year and are funded via fellowships from international donors and governments, as well as self-funded students. The university also offers PhD programs in the ocean and maritime domains. Each year, approximately 50 countries are represented by the incoming MSc class. WMU's 4654 alumni are from 167 countries and occupy senior oceans and maritime administrative and decision-making positions in their countries. Given the nature of the oceans, the University believes that this global approach significantly enhances the dialogue and knowledge about ocean sustainability.

The World Maritime University (with partners) has also commenced the building up of a **Maritime Training Database (MarTID)** to track best practices in maritime training. The database will be informed with data from annual surveys. MarTID is intended to bridge the gap in knowledge about how global shipping interests, actually deliver and assess training and how such training relates/is complimentary to the STCW.

Find out more at:

<http://wmu.se/news/world-maritime-university-and-nippon-foundation-launch-new-ocean-institute>

www.martid.org

<http://wmu.se/news/wmu-signs-mou-marine-learning-systems-and-new-wave-media-global-survey>

Philippe Monbet

*Deputy Director – Sea Innovation Cluster/Pole
Mer Bretagne Atlantique, France*

Philippe.monbet@polemer-ba.com



Nowadays, skills needed in the shipbuilding industry are becoming more and scarcer, as this sector requires specific competencies that are usually acquired through a long period of time. Furthermore, maintaining operational conditions, as well as having a high-capacity of modernisation (e.g. ship conversion) is essential for industrial players. A highly qualified workforce is therefore a real asset for these actors in the shipbuilding sector, but also for regions, regarding the attractiveness of the market.

In this context, following the initiative of the Naval Group and Brittany Region, in partnership with the French Navy, the industry (CMN, STX, Piriou), the regions (Normandy; Nouvelle Aquitaine and Pays de Loire) and a number of French ministries (Education, Research, Transportation) founded **the 'Naval Campus'** in November 2017.

The Naval Campus has four overarching objectives. Firstly, it aims to promote jobs and careers in the shipbuilding industry through diversity, richness, modernity and digitalisation. Secondly, the Campus is developing new training courses dedicated to the shipbuilding industry, for all professional levels, ranging from technician to executive. Thirdly, the initiative gathers key industrial players to ensure that new trainings will fulfil the needs from industry. And finally, the Naval Campus has the ambitious objective to promote itself at the international level.

Halvor Mortensen

Project Leader VAL FoU, Norway

hmortensen@val.vgs.no



IPS is a project running for 5 years aiming to recruit youngsters (aged 14-16) to marine education at upper secondary level. The project is a cooperation between the aquaculture industry, secondary schools, primary schools and local marine training offices. Activities include marine "girls only" camps, fishery camps, marine seminars connecting the industry to pupils, visits to marine companies and camps for young founders working with marine related issues.

In the project primary schools, secondary schools and the marine industry cooperate in terms of study trips, visits to schools and work experience exchanges. One of the activities in IPS involves processing industry partners making seafood together with pupils at public schools. During these food sessions, they are going through the whole value chain from collecting the fish from a boat or a processing plant to serve dishes to other pupils and teachers at their schools.

A '**Blue Newton-room**' is about to be established in the region Ytre Namdal in Norway, dedicated to increase youngsters' (age 6-18) interest in natural science. The idea behind the Newton-room is to let the participants see, experience, taste and work with and explore relevant issues connected to the blue industry.

Furthermore, marine and maritime companies systematically offer short time (1-3 weeks) summertime jobs to young people (age 15-18) where they get relevant work experience. This often leads to these youngsters choose a blue education, and/or become a trainee and employee at the companies involved.

Zacharias Siokouros

President, Maritime Institute of Eastern Mediterranean

zacharias.siokouros@marinem.org



The Maritime Institute facilitated the establishment in 2016 of the first of its kind Cyprus Maritime Academy; providing both STCW Certification and Academic BSc; with the active engagement of the local shipping industry.

The Institute also created **MENTOR**, an EU funded project, which aims at the setting up of the Blue Career Centre for the Eastern Mediterranean Sea and Black Sea. This will act as a regional platform, which will actively promote dialogue between business stakeholders, education and training institutions, research organisations, regulators, the civil society, as well as the EU and the Union for the Mediterranean.

This Centre will act as a facilitator of synergies and mediator of change, by fostering cooperation between these stakeholders in jointly developing and carrying out measures to close the skill gap, tackle unemployment and make "blue careers" more attractive to the young people of the area. In other words, by supporting activities that will increase employability in key Blue sectors of the region, namely the ones of Maritime Transport (shipping, ports, ship-repairs and shipbuilding), Cruise and Nautical tourism, Aquaculture and Offshore Oil and Gas, the Blue Career Centre will provide prospects for young jobseekers in the above sectors, while supporting businesses in finding the right staff with proper qualifications. In this way, the Centre will respond to the major concerns and challenges that the marine and maritime sectors face, the skills gap and the shortage of qualified professionals.

MaRITeC-X is an ambitious project that has been granted funding from the European Commission under the HORIZON2020 Programme, call H2020-WIDESPREAD-2016-2017 and more specifically for the topic WIDESPREAD-04-2017 - Teaming Phase 1. The project's main objective is the creation of a Centre of Excellence in Cyprus that will foster scientific and business excellence in - the crucial for Cyprus - Marine and Maritime sectors, including the - rapidly emerging - Offshore Energy sector. The Centre will be aligned with the overall Smart Specialization Strategy for Cyprus (S³Cy) and the European priorities on specific pillars with competitive advantages to the Cypriot economy. In this context, it will promote partnerships and synergies between top institutions and businesses, active in the fields of research, technology and innovation for the Blue Economy, thus contributing to the transfer of knowledge, the development, application and dissemination of cutting-edge technologies, the exchange of best practices and the development of a critical mass of infrastructure and human capital in the Eastern Mediterranean region.

Mascha Stroobant, Anna Mori

Coordinator and Manager Education and Training Area, DLTM – Ligurian Cluster for Marine/Maritime Technologies



Mascha.stroobant@dltm.it anna.mori@dltm.it

Blue Template – Blue Tech Partnership Education is an Erasmus Plus program and Action Ka201 Strategic Partnership, Development of Innovation. The project aims to boost cooperation between schools, companies, research centres, teachers and students, through lessons simultaneously shared in three different countries (Italy, France and Spain) by exporting the Italian model of work-based learning traineeships, adding the international component and hence virtually widening the class borders. The project is an opportunity for companies to find partners in R&D and training projects. Learning contents have been defined by considering the requirements of similar territories, characterised by economical activities related to port logistics, environmental protection and national navies. The regions and cities involved in the project are Liguria – La Spezia, PACA – Toulon, Catalonia and Murcia – Cartagena and Barcelona.

The project's main objectives are to improve the quality of the learning activities and European education, by combining excellence and attractiveness with greater opportunities for everybody, including less advantaged pupils. Furthermore, the project aims to create learning activities more respondent to the job market requirements, tighter relations with companies, improve basic and soft skills (like entrepreneurship, social, civil, intercultural and language skills, critical thinking and digital skills), and ensure the strategic and integrated use of IT.

The **International School of Maritime Technology** is a pilot project operating on two different levels: national/regional and international. The School's activities are designed for graduated, doctoral candidates, company employees and secondary school students. Different types of activities are offered, including annual seminar programs in cooperation with universities, R&D and companies; higher education activities designed in cooperation with industry and advisors (MSc, specialisation courses, research grants, PhD, high-apprenticeships, summer/winter schools), and training activities providing for international exchanges (research grants, Erasmus for Entrepreneurs, visiting professors and traineeships).

The project also offers technical training and educational programs customised for companies; theoretical-practical training with the cooperation of companies for seminaries; expert witness and company visits; specific actions for adult people training; intermediation and counselling activities for traineeships and placements. Lastly, it aims to develop innovative vocational training activities in the blue economy for secondary school students with the support of professors, R&D centres, companies and universities.

Tine Viveka Westerberg

Manager, University College of Southeast Norway

tvw@hbv.no



Students of the maritime bachelor programs at the University College of Southeast Norway are offered a possibility of doing a placement abroad during their fifth semester of study. **International practical training** is a working period abroad. Acquiring work experience abroad can be a significant asset to a student. Work experience gained abroad enhances not only the students' independence and flexibility, but also their communication and foreign language skills, and contributes to their personal and academic development. A placement will increase the students' graduate employment opportunities, give them an opportunity to build a network of professional relationships and an opportunity to put knowledge into practice.

The placement must be a full-time activity, and will be equal to 30 credits (one semester of study). The students will be enrolled as students at USN and will have to complete the tasks described in the course description to be given a passing grade for the placement. This offer is only given to students with an above-average grade point average; in addition, they must have been actively participating in their studies and undergo an interview with the faculty management. The placement is unpaid, but if it is undertaken in Europe, the students might be eligible for an Erasmus+ scholarship.

Employers who recruit skilled international students will benefit from a student's work contributions and from their latest theoretical knowledge. It gives the employer access to talent at low cost to support relevant projects/initiatives. With motivated, high-quality students, organisations can improve their domestic and international competitiveness. It is also a good way to develop a cost-effective graduate recruitment program, and branding the companies among a larger student group. By hosting a student, companies create an opportunity to exchange experiences with a skilled student and to learn about different practices in the field of your organisation. The benefits of taking in a student can lie in providing the staff with a challenging work environment and affording them new perspectives, in addition to giving the current staff an opportunity to offer leadership/people management opportunities. What is more, the company could provide an excellent international opportunity for a highly qualified, motivated, and creative student.

Noémie Wouters

Blue Growth Liaison Officer Ghent University

Noemie.wouters@ugent.be



The **Blue Growth Summer School** is a second example of Ghent University's best practice in the field of blue economy. This initiative is being organised on a yearly basis for Master and PhD students jointly with young professionals. It enjoys financial support from the Flemish Government. The industry is also a proud sponsor: a multinational dredging company DEME that diversified its business in other blue growth domains provides financial support and lectures. Representatives of a blue growth business cluster Flanders' Maritime Cluster and a blue energy port 'Renewable Energy Base Ostend' also kindly participate.

The two week programme is structured in a maritime and a marine module and the majority is taught by experts of Ghent University. The first module covers blue energy, coastal engineering including building-with-nature. The second focusses on sustainable ecosystem services and benefits, aquaculture, multi-use platforms and marine spatial planning.

The interaction with young professionals and the industry creates career perspectives and job opportunities for the students that have proven successful.

The innovation lies in its multidisciplinary and the emphasis on business beyond fundamental sciences. We provide business development lectures in, for example, blue energy and aquaculture. Finally, blue growth entrepreneurs take to the stage to share their hurdles and success stories of launching their blue innovations on the market.

To our knowledge, the Blue Growth Summer School is worldwide a rare initiative that covers the broad variety of topics that blue growth encompasses in a triple helix setting.

It unites engineers, bio-engineers and marine scientists from across the world for one common goal: sustainable blue growth.

Finally, a unique recognition was that for the first time in 2017 the European Commission sent collaborators to attend specific lectures and a high-level EU representative addressed and inspired the participants during their graduation at the end of the course.



Publications Office

ISBN 978-92-79-81367-2
doi:10.2771/499215