



Project Development

2015 MariFuture Year of Energy Efficiency

2014 was devoted to safety at sea and Marifuture supported the development of several projects. Project ACTS (www.ecolregs.com) was initiated by C4FF in response to the EU policy for zero collisions and as part of the Marifuture drive to reduce collisions and grounding at sea with a view to examine the COLEREGS, IMO's 'rule of the road', and to try to improve the application of these important rules. Two other projects, one to reduce stress on board ships (project SOS) and one to improve communication on board vessels (Project SeaTALK) were also initiated. All three projects were funded by the EU and are progressing well. 2015 has been designated the Marifuture year of energy efficiency.

The development paper this month is devoted to three new Marifuture proposals, namely, MariEMS, MariLANG and i-SCPOE. These projects are being initiated as result of the IMO and EU's drive to reduce fuel consumption and reduce emissions of harmful pollutants into atmosphere.

The three areas being promoted by IMO and EU are as follows:

1. IMO's support for the IMLA's prepared Maritime English Model Course
2. IMO's attempt in implementing EEDI and SEEMP
3. EU Blue Growth and Environmental Initiatives

Despite the heavy workload in the weeks running up to the proposal submission deadline of 31st March 2015 (SeaTALK and ACTS partner project meetings organised for mid- March and the end of March 2015 respectively as well as the MariePRO project Seminar, organised at the new Centre, organised for mid- March) the above three projects were submitted to the EU by Marifuture for funding under the Erasmus + programme. It is worth noting that the formation of three major consortia, one, for each of the proposed projects, and development of three credible proposals is a major undertaking and for any organisation and for this reason Marifuture would like to thank the C4FF team for working hard, with late evenings for several weeks, to prepare three outstanding proposals doing their utmost to prepare for SeaTALK and MariePRO as well as preparing for ACTS project meeting.

Below are the summaries for each of the proposal submitted, It is worth noting that it is not too late and other MariFuture partners can still request to join these three consortia.

Project MariEMS

Currently there is no standard for the proposed role of the Energy Manager. This project proposes the development of an energy management training specification primarily for the new role of the Energy Manager specifically for the shipping industry to be have a facility to continually improve its energy management on board their ships with the view to save energy, reduce pollution and to improve the overall quality of energy management in these enterprises. The intention is also to encourage shipping companies to seek ISO 50001 certification.

The expectation is to develop a specification and training course to teach the new Energy Managers how to make more efficient use of energy on board and in their interactions with ports in line with the Energy Management System of ISO 50001. This would include how to: set targets and objectives, how to monitor use of energy, and how to assess the effectiveness of proposed arrangements on pilot basis.

Maritime is a transnational sector and it is important to bring in partners which have knowledge of ship types, ship propulsion, ship navigation, energy production, electrical and mechanical parts and circuitry, safety issues, national



certification, accreditation and validation of learning materials, pedagogical aspects of learning and last but by no means least online application.

The MariEMS partners have already developed a series of successful e-learning and e-assessment products (see www.martel.pro, www.egmdss.com) and a number of novel learning packages see www.maritimetraining.pro. Several of these past innovations been acknowledged by the EU as Best in Europe.

The partners intend to transfer the best practices learned from these successful projects and apply them to a new area, the Energy Manager, which is now needed if the IMO's EEDI, SEEMP and EU emission targets are to be realised. As this is a new educational area there is no standard for the energy manager's role and no training materials for it. To this end, the project intends to be the first mover in developing a training specification, online delivery platform and sample training materials for this brand new educational area. These outputs will be made available to EU METs, and will also be presented to the IMO for transformation into a new Model Course for the Energy Manager which could be applied by METs globally.

Project MariLANG

IMO is aware that over 80% of the reported accidents and incidents at sea and in ports are due to human errors (IMO, 2012, Horner, 2014) and over 30% of these accidents are due to linguistic and communications mistakes (Ziarati, 2006, Trekner, 2007, 2010).

Since its inception the IMO has recognized the importance of human resources for the development of the maritime industry. Following the adoption of the revised International Convention on Standards of Training, Certification and Watch keeping for Seafarers (STCW) in 2010 a number of IMO member states suggested that IMO should develop model training courses to assist with the implementation of the Convention and in achieving a more rapid transfer of information and skills regarding new developments in maritime industry and technology. In addition, there was a consensus that a comprehensive set of short model courses in the various fields of maritime training would supplement the instruction provided by maritime academies. Model courses would also allow administrators and technical specialists already employed in maritime administrations, ports and shipping companies to improve their knowledge and skills in certain specialised fields. It interesting that IMO has adopted different set of language requirements for different types and rank of seafarers and has referred to EU MarTEL standards but has added three new categories to MarTEL seafarer classification namely, Electro-Technical Officers, GMDSS radio operators and for personnel providing direct service to passengers in passenger spaces on passenger ships.

Language and communication are fundamental elements of the shipping sector, especially with Maritime English being the language of the sea. The IMO approved the newly revised Model Course 3.17 for Maritime English in January 2015. It is heartening that IMO has adopted MarTEL concept of dividing the language requirements of each type of seafarers. Regarding the new Model Course, this will lead to adaptations and updates of existing academic programmes requiring alignment with the IMO-approved revisions. In devising the course IMO has made references to previous and current EU funded projects such as MarTEL, MarTEL Plus, MarEng and MarEngPlus as well as SeaTALK.

IMO states that ([http://www.marifuture.org/Reports/Development-Papers/IMO New Model Course Maritime English.pdf](http://www.marifuture.org/Reports/Development-Papers/IMO_New_Model_Course_Maritime_English.pdf)) because educational systems and the cultural backgrounds of trainees in maritime subjects vary considerably from country to country, the model course material has been designed to identify the basic entry requirements and there are no mechanisms for controlling the variation of the output from such courses. To remove the acknowledged variation this proposal aims to develop a new set of assessment standards for the IMO's revised Model Course 3.17 for Maritime English and include the three new categories of seafarers into the existing standards (Electro-Technical Officers, GMDSS radio operators and for personnel providing direct service to passengers in passenger spaces on passenger ships). The project will use the



results of recent EU-funded projects to produce a combined learning and assessment package with clear sign posts to existing materials available Europe-wide.

The project will develop an e-learning and e-assessment package for up-skilling seafarers and one that will grow in importance as e-learning becomes more widely implemented now that the IMO has recognised its validity in the recent IMO 2010 STCW amendments.

The new assessment standards will not only be in-line with the new model course 3.17 Maritime English, but be linked with the Common European Framework of Reference for Languages (CEFR).

Setting common standards for assessment with training programmes directly linked to the CEFR, ECVET compliant, will ensure students and seafarers can learn and work throughout Europe, through the application of common content and assessment. This will help seafarers to be mobile, and have a greater access to job opportunities and career progression across Europe and the world. A number of studies (OECD, 2010, European Commission, 2011 and BIMCO, 2005, 2010), have demonstrated there is an imbalance of seafarers in different EU countries. With the language of the sea being English, this imbalance could be addressed through the development of a new set of assessment standards for Maritime English.

Project i-SCOPE

MariFuture is of the view that we need more than preparing projects to the EU for funding piece-by-piece. What is required is empowering all concerned to come up with new ideas and transform these ideas into more projects and help the EU companies to become more competitive and in the process leaner, more environmentally conscious and try to help EU meet its stated economic as well as its emission targets.

Recent economic crisis and global competition has posed several challenges for European companies. One of the key challenges is to fight against low cost competition from the East. The only way by which European companies can address these challenges is via Innovation. By looking at the importance of innovation, many larger organisations have already made significant efforts to systematise and normalise their innovation processes. However, Small and Medium sized Enterprises (SMEs) are still lacking behind in implementing innovation in their daily practices.

In a presentation Jean-David Malo (*head of unit - SMEs, Financial Instruments and State Aid, DG Research and Innovation*) stated that inadequate access to finance (additionality of public support), inadequate access to skills/knowledge (innovation management capacity), weaknesses in networking and cooperation with external partners (open innovation)¹ (¹ http://ec.europa.eu/research/sme-techweb/pdf/h2020_Mar-2014_event/H2020_SMESupport_Overview_Final.pdf) are key barriers in the SMEs innovation growth.

No doubt the European Commission (EC) has made significant efforts to support SMEs to enhance their innovation capacity by introducing a number of funding schemes. But there is still a need to look outside the box and find other sources for innovation. Recent findings of an Innovation survey carried out by the UK Government *Department for Business Innovation and Skills* in 2013 stated that institutions (such as universities or other higher education institutes) are one of the sources of information for innovation. In many publications going back to EU's first network of innovative project (Eurotecnet) Ziarati (Chair of C4FF, and Eurotecnet director of Factories of the Future Project) in 1994 suggested that business-academia collaboration could help SMEs to enhance their capacity to innovate and become more competitive (EU People and Technology, 1995).

Europe has a world class university system, which adds a major contribution to the wider economy from producing skilled graduates and generating ground-breaking internationally recognised research. According to the latest



research on the impact of the higher education sector on the UK economy, UK higher education sector generated over £73 billion of output in 2011-12 and contributed 2.8% of UK GDP in year 2011.

For most HEI – even those with cutting-edge research – partnering with industry does not come naturally. Most European academics are not engaged at all in collaborations with industry and only few cooperate with business to a high degree, according to a May 2010 study of European university-business cooperation (REF). A survey conducted in 2014 by *TNS Political & Social at the request of the European Commission*, revealed that 82% of total participant companies didn't get any contribution from universities or research institutions in their innovation activities. And when European universities do form partnerships with industry, too often the potential for synergy is thwarted by failures of communication. Recent research and inquiries addressing Business-University collaboration have found that differences across industry sectors and across higher education institutions mean there is no single model of effective collaboration, and few generally applicable solutions to the barriers that challenge interaction ^{2,3} (² See, for example: the [Wilson review](#), February 2012, [Government response to the Wilson review](#), June 2012, [Lambert review](#) carried out by Sir Richard Lambert for the National Centre for Universities and Business, 2003, [Witty review](#), October 2013, carried out by Sir Andrew Witty for BIS, Science and Technology Committee, [Bridging the valley of death: improving the commercialisation of research](#), Eighth Report of Session 2012-13, HC 348, and [Insights from international benchmarking of the UK science and innovation system](#), BIS, January 2014 6 and ³ See, for example, NCUB, [Connecting with the Ivory Tower: Business Perspectives on Knowledge Exchange in the UK](#), November 2013).

In order to fill this gap, the proposed programme of research proposes the conception of a collaborative cloud based platform that implements a new methodology to support higher education institutions to collaborate with businesses across Europe in a systematic and organised way. The cloud based platform will support companies to manage and implement the complex innovation processes by taking advantage of universities' research and technological knowledge and expertises in a systematic way, by enabling an open multi-agent focused innovation (i.e. HEI/business focused innovation).

The project aims to create an effective framework to support business-academia collaboration with number of tools and services. By bringing businesses and Higher Education Institution (HEI) together, European companies can benefit by accessing cutting-edge research, high-tech infrastructure and highly skilled people, while universities will get an opportunity to develop their applied research and demonstrate the impact of their work. The broader aim of the project includes designing the methodology in such a way that would make the Knowledge Triangle work by linking Businesses, Research & Technology and Higher Education institutions.

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