

MariFuture

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A case for seeking support for Strengthening European MARitime Education, Research, and Innovation for FUTURE Competitiveness (MariFuture)

By

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Summary

An opportunity has arisen to seek support from the EC through the Coordination and Support Actions (CSA) FP7 SST.2011.5.2.-1 (Strengthening the European maritime transport sector) for maintaining and further developing the MariFuture Platform. The intention is to build on the success of the MarEdu (www.maredu.co.uk) and FOF (Factories of the Future - www.c4ff.co.uk) models by identifying deficiencies and areas for development in the maritime transport sector and seek innovators from the maritime centres of excellence in Europe to form a consortium to address these needs. The formation of SOS, MarTEL, EGMDS and E-GMDSSVET, SURPASS, M'aider, TRAINS 4Cs I and II, MarEng and MarEng Plus, MarTEL Plus, Sail Ahead, CAPTAINS and UniMET consortium and success so far clearly suggests the method applied works. This paper gives summary information about the objectives of a proposed project under the CSA FP 7 SST.2011.5.2.-1 for further development of the MariFuture.

Introduction

The Maritime Education (MarEdu) Partnership (www.maredu.co.uk) was formed in 2005 to tackle maritime skill deficiencies based on the IMO reports and recent research into skill deficiencies in Europe. The IMO has passed responsibility for the delivery and assessment of Merchant Navy education and training to member countries and does not take part, in any way, in the inspection, evaluation or delivery of these programmes (Ziarati, 2003). The IMO cannot work alone. The EU, governments, and related industries should all show the same determination to implement these standards. Furthermore, the majority of accidents at sea and in ports are reported to be mainly due to either disregard for rules or inadequate training and assessment (ibid). In fact, the EU has helped by establishing EMSA (European Maritime Safety Agency) which has commenced monitoring the IMO standards for training and certification of merchant navy personnel (STCW). Governments have also been active. The formation of the Maritime Industries Leadership Council (MILC) are very similar to efforts in France, Italy and Germany, to name but a few, in reviewing the currently well being of the maritime industry and planning for its future.

Regarding maritime education and training, previous research can be of immense help. The IMO report (MSC, 2006) identified three major deficiencies:

- The STCW code sets the minimum requirements and not the desirable criteria
- There are failures due to automation on board vessels
- There is compelling evidence that deficiencies in English language competence is a cause for concern (Ziarati, 2006)

The IMO has also expressed concerns about shortages of seafarers (particularly officers) in the future. This has been substantiated by BIMCO/ISF (2005) and OECD (2003) reports. There have also been several research reports which have pointed out that while some countries are applying good practices, there are those that need support. Recently, a study by (Torkel, 2004) reported that 25% of the world fleet was responsible for more than 50% of shipping accidents around the world. The study noted that the top 25% of the safest ships were involved in just 7% of all accidents. The University of Technology and Science in Norway (cited in Ziarati, 2003), reports that by improving the quality of the world fleet to the same level as those in the safest 25% category, there might be an overall reduction of 72% in shipping accidents.

This research clearly indicated that it is possible to draw a map of the previous state of affairs and current situation with a view to visualise what is happening, and to develop a future map by identifying the deficiencies one by one. It is evident that there are opportunities to make safe practices accessible to all by forming partnerships and seeking support from industry and funding bodies (Koivisto, Urias and Ziarati, 2009). This may sound a tall order, but it is what exactly a group of maritime organisation did in 2005 by forming a partnership called MarEdu (www.maredu.co.uk) and transforming it into a pan European network of centres of excellence (MariFuture - www.marifuture.org).

With increasing competition from eastern nations such as Japan and Korea, MariFuture believes that it is now more important than ever to harmonise the efforts of industrial, educational, and governmental maritime organisations across Europe in order to safeguard the wellbeing and competitiveness of our industry. Through the creation of collaborative partnerships involving universities, research centres, businesses, and stakeholders from all areas of the maritime transport sector, MariFuture works to ensure that all maritime industrial sectors (such as ship operators, ship builders, and support industries) are properly represented.

MariFuture's network of organisations has a wealth of experience in EU funded research and development in maritime education and training (MET). MariFuture aims to promote innovation in MET, underpinned by appropriate research and development activities, and provide a platform from which concerns and interests regarding education and training in the European maritime industry can be communicated and acted upon.

The extensive knowledge base generated by partnerships working on projects within the MariFuture platform has and is expected to be shared with the awarding, accrediting, and licensing bodies as well as the policy decision makers in governments and in the European Union. The European Union has supported a number of MariFuture's initiatives and research, and it is hoped that with their support MariFuture can continue to address the needs of education within the maritime industry, and in turn become a key contact point for the EU regarding maritime issues.

MariFuture is about much more than academia within the maritime industry. As well as having strong ties with industrial bodies and large universities, MariFuture also has the support of many language schools and other smaller organisations whose voices are often left unheard. MariFuture is at the forefront of some very exciting research and developments in its field. As a collective group, MariFuture provides a platform from which the smaller organisations within industry can be heard in academia and in the EU. By providing a platform for these voices to be heard, valuable ideas and contributions can be harnessed and transformed into strategies that will give Europe a new competitive edge in the global shipping market.

The MariFuture platform currently includes over fifty active member organisations, many of which are actively involved in many European and EU funded projects. The network consists of a wide range of interested parties from all areas within the waterborne sector (progressive companies, universities, social partners, associations, awarding bodies, accrediting institutions, licensing authorities, government agencies, learnt societies, conferences, and individuals) and possesses the zest and energy to improve maritime education and training through a comprehensive programme of research and development. Projects and initiatives developed by partnerships within the MariFuture platform have been presented to the International Maritime Organisation (IMO) and other important government and industrial bodies.

The following is the list of recent/current projects followed by the list of new project commenced/commencing shortly:

MarEdu's Recent/Current Projects:

- EU Leonardo SOS (Safety on Sea) Project, TR/05/B/P/PP/178 001, 2005
- EU Leonardo TRAIN 4Cs Mobility Project, TR/06/A/F/PL1-132, 2006
- EU Leonardo E-GMDSS Project, SI/06/B/F/PP-176006, 2006
- EU Leonardo MarTEL Project, UK/07/LLP-LdV/TOI-049, 2007
- EU Leonardo TRAIN 4Cs – II Project, 2008-1-TR-LEO01-00681, 2008
- EU Leonardo E-GMDSSVET Project, 142173-LLP-1-2008-1-SI
- EU Leonardo EBDIG Project, UK/09/LLP-LdV/TOI-163_262, 2009
- EU Leonardo MarEng Plus Project (Maritime English Programmes)
- EU Leonardo M'Aider Project, 2009-1-NL1-LEO05-01624, 2009
- EU Leonardo SURPASS Project_2009-1-TR1-LEO05-08652, 2009

MarEdu's New projects

- EU Leonardo SOS (Safety on Sea) Project, TR/05/B/P/PP/178 001, 2005 New Project: UniMET – To consolidate the outcome of the SOS project
- EU Leonardo MarTEL Project, UK/07/LLP-LdV/TOI-049, 2007 New Project MarTEL Plus – To complement the work of MarTEL
- New Project CAPTAINS – To offer a good and affordable simulators for MarTEL, MarTEL Plus, MarEng and MarEng Plus
- New Project Sail Ahead – To provide an opportunity for seafarers to find jobs on shore
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- All projects have led to a new major pan European Network called **MariFuture**. MariFuture will continue the work of partnership, and develop a future map. These are real projects, which have all been secured through hard work against tough competition. The MariFuture members are willing to continue their good work and have constructed this proposal to realise the future map. The network is expected to be involved in a continuous programme of research and development, hence the application for funding.

1.1.2 Main aim and Specific Objectives of the Project

The Marifuture network has identified several challenges as described in European Waterborne Technology Platform's strategic agenda, and the next challenge is develop a programme is to consolidate the work of the MariFuture by inviting many of the MariFuture partners to work on the proposed programme of attracting young people to the seafaring

profession. MariFuture has already laid the foundations for this work to be carried out. Details of the work of the network are available on www.marifuture.org. The network has been active in:

- Developing tools and services to identify the innovation demand of the maritime industries and enterprises and of provide an efficient feedback mechanism towards the relevant stakeholders through international maritime organisation such as IMO, European maritime agencies such as EMSA, appropriate awarding, accrediting and licensing bodies such as several maritime universities, BTEC/Edexcel, IMarEST, and so forth. All tools and services have been developed by experimentation and through actual project work and implementation – See for instance, www.egmdss.com or www.martel.pro.
- Identifying key competences for the waterborne sector and of training needs by working in collaborations with maritime industrial representatives and by involving the leading MET institutions in Europe. Again all work has been carried out through actual projects – see for instance www.martel.pro, www.EGMDSS.com, www.maredu.co.uk, www.surpass.pro, www.ebdig.eu, www.maider.pro. There has been many reports and papers published in learnt maritime societies such as IMLA, IMEC, IAMU.
- The creation of collaborative partnerships in the waterborne sector on specific innovation opportunities, making optimal use of national and European funding instruments.

This proposal is an attempt to supplement and complement the work of the MariFuture network, and is in line with EU's Waterborne Strategic Agenda and roadmap. The overall aim of MariFuture project is to draw a map of the previous state of affairs and current situation with a view to visualise what is happening, and to develop a strategy which will develop, implement, and sustain the knowledge triangle inside the Waterborne Technology Platform.

The main components of the Proposal

The proposal intends to build on the development of it MariFuture network (www.marifuture.org) which has been established with the support of the partners in this proposal. This project is ultimately about five programme of work.

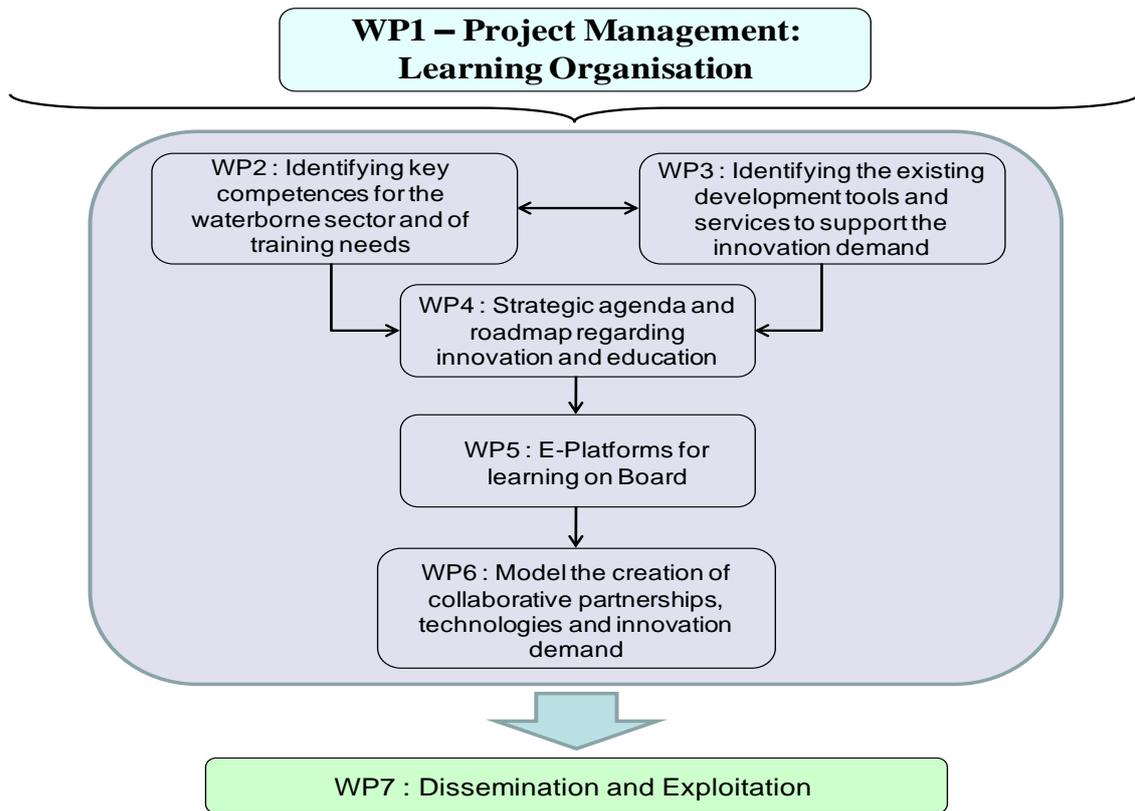


Diagram of Proposal's WPs: The five programmes of work are essentially WPs 2 to 6

Identification of the Key Competences for the Waterborne Sector and of Training Needs

The proposal intends to continue and consolidate the work of the current network MariFuture network, and develop a pan-European strategy to identify the deficiencies in Maritime Education and Training (MET) that, if remedied, will raise the awareness of young people and minorities (e.g. female personnel) in the shipping profession so that the best quality personnel will be attracted and retained. The strategy pillars will be based on investigating issues related with the supply and demand of seafarers, identifying gaps in the current standards of professional development as well as employment conditions and regulation, issues that raise the awareness of European society, and promoting the importance of shipping and the seafarers. This will include the review of the recent and current projects funded by the EU such as SOS, MarTEL and recent papers and research presented in the MariFuture website and other sources – see reference section.

Identification of the Existing Development Tools and Services to Support the Innovation Demand

The key objective of WP3 is related to gathering all the existing European maritime project outcomes with a view to develop tools and services to support the innovation demand. The tool will be validated by developing and applying a pan-European strategy that will generate awareness and interest in becoming involved with maritime research and education. The tool will also be used to specifically consider innovations and innovation demands for attracting young people to the maritime profession. The consideration of the maritime image is intentional and is used to both to test the identification process and tests the tool and services developed in this connection. This strategy to improve the image of the profession will be multidimensional in the sense that it will attempt to attract male and especially female seafaring personnel from all levels and backgrounds of the society, namely

school level education, college and maritime university via utilisation of a media based marketing campaign. The WP will take into consideration the results of the previous projects and the existing projects, such as MariFuture's existing and current project networks: SOS (www.c4ff.co.uk, www.maredu.co.uk), MarTEL (www.martel.pro), SURPASS (www.surpass.pro), M'AIDER (www.maider.pro) and so forth, in intended development of future map for maritime education and training. New funded projects such as UniMET, Sail Ahead, CAPTAINS, and MarTEL Plus will be the basis of the development of the future map (www.marifuture.org). The network and all projects were developed with support or by this proposal's partners.

Development of a Strategic Agenda and Roadmap Regarding Innovation and Education

The overall objective of WP4 will be to develop the vision and strategy related with the development of a maritime industry knowledge, research, and innovation network. It is suggested that the network would promote the development of a goal-based framework for the safe manning of ships, addressing the issue of fatigue and adequate watch conditions at international and EU level in the first place. It is also suggested that the WP would address strategic directions concerning the demand for training and education in the future, as well as the strategic plans for attracting the best and retaining people in the shipping profession. The package will learn from the outcome of the previous EU funded projects including the national initiative such as the UK's MILC (Maritime Industries Leadership Council). The current pilot to identify, innovation in the sector in research, education (MariFuture's existing project networks will be used as the basis for developing an agenda. See www.marifuture.org.

Development of Novel Information Technology for Interaction with Innovators and Maritime Organisations

The partners in this proposal have, in several EU fund projects (www.egmdss.com and www.martel.pro), already developed innovative on-line platforms, information interchange, and demonstrator e-learning and e-assessment systems. The partners won EU awards and praise for these efforts and invited to the EU this November (2011). The partners have also developed a new search facility as part of a major UK TSB (Ifor, 2007-10: no: H0254E). The search system is capable of searching the WWW and able to gather or deliver information to all maritime entities and individuals and identify and interact with innovators, education organisations and research teams. In this proposal, we intend to develop an IT system for our MariFuture network and use the search engine to investigate and review the development of existing good practices and areas of concern following surveys related with onboard living and working conditions as well as duration of onboard duties as basis for testing the system. The concept of developing a tool around a given and identified need is considered novel by the partners and highly efficient use of our resources. It is envisaged that this work will provide conclusive suggestions for improving working conditions on board the ships. It will also validate and implement proposed solutions for improving working and living conditions. The outcome of the recently concluded EU funded projects on on-Board training (TRAIN 4Cs I and II) will be included in the intended investigation.

A Model the Creation of Collaborative Partnerships, Technologies and Innovation Demand

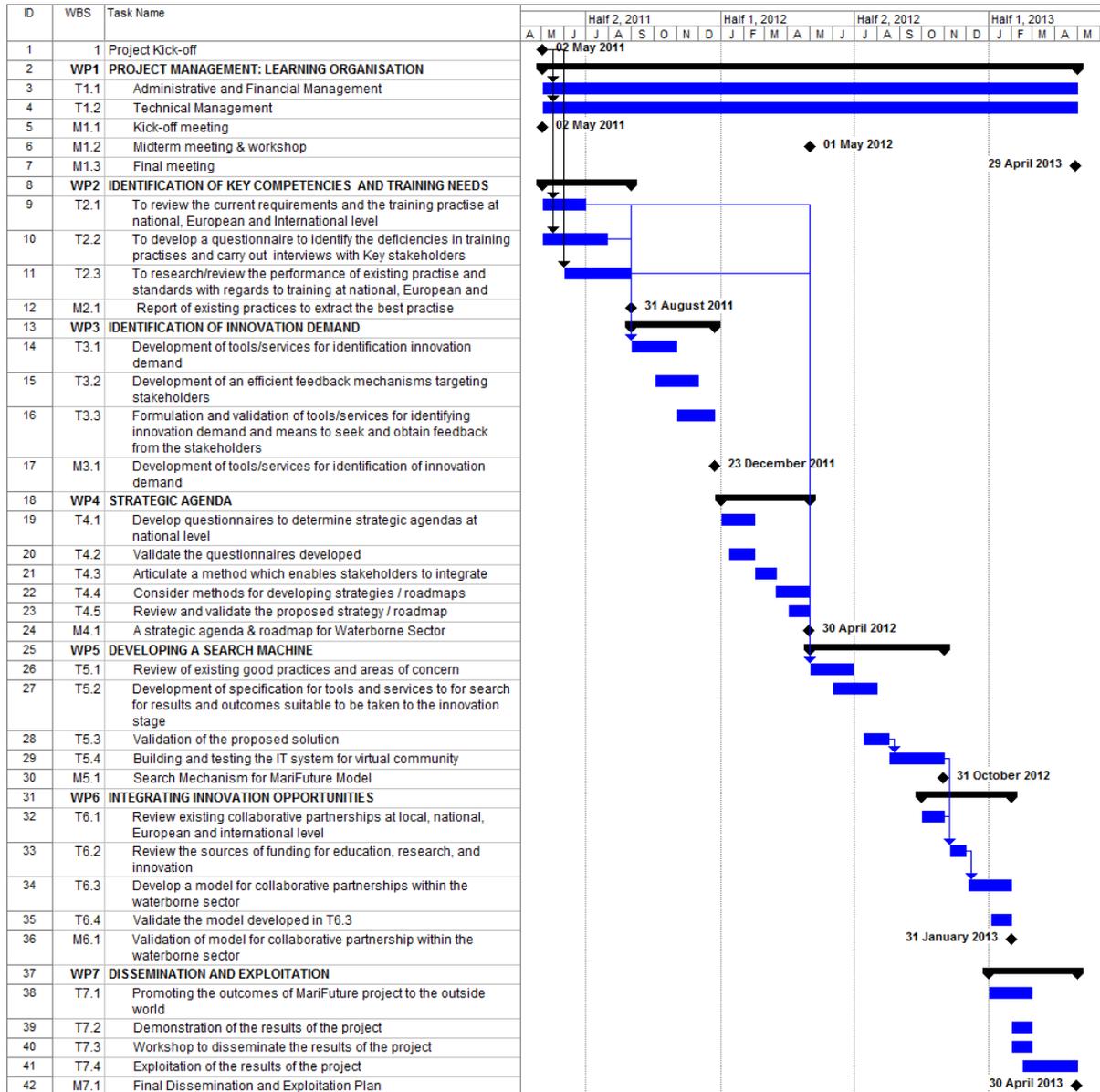
The MariFuture is a model which can be considered for further development. It is grass-roots network for collaboration between innovators in maritime research and education organisations and individuals. Any person or organisation involved in an EU or nationally funded project can join. To develop the model further, the programme of work in this proposal will apply and refine training methods and methodologies to seafarers and

shorebased technical personnel. The package will take advantage of existing e-learning and e-assessment platforms developed and evaluated through EU funded MarTEL (www.martel.pro) and EGMDSS (www.egmdss.com) projects.

Dissemination and Exploitation

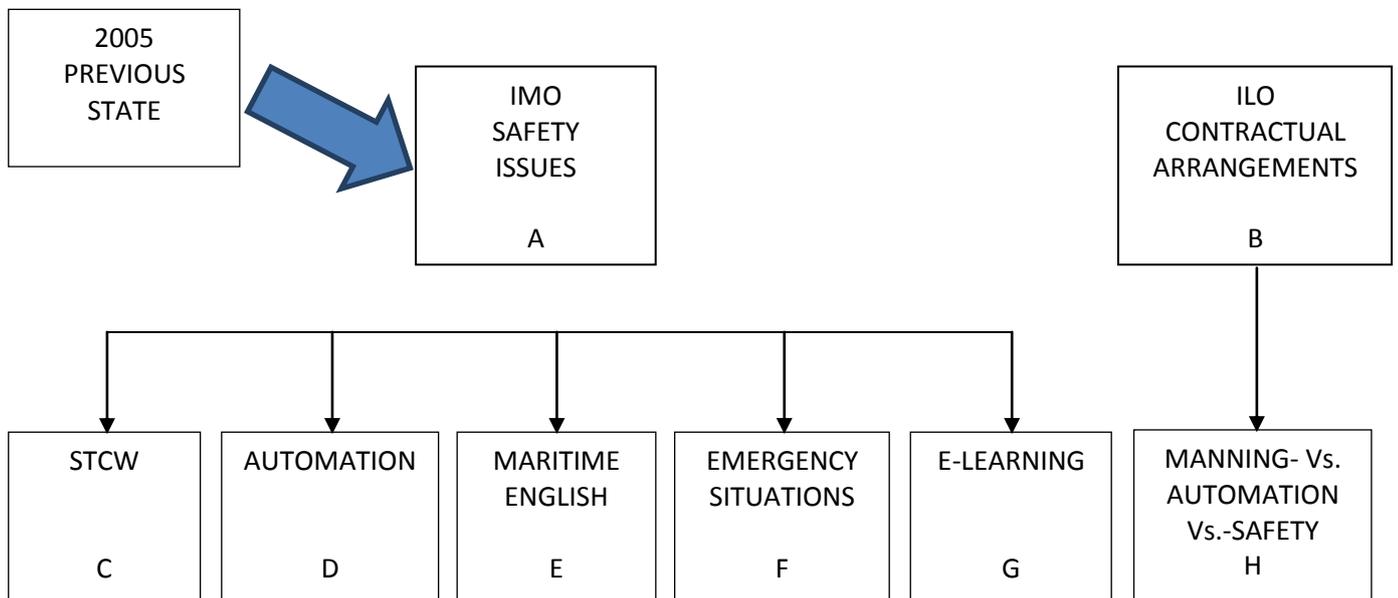
The work package will involve dissemination of the results of MariFuture which requires an integrated approach on the project level, since the results of the work packages are not isolated solutions but need to fit in the structure of MariFuture. It is recognized that dissemination needs to be a part of every single work package. This activity is designed to coordinate dissemination and exploitation on the project level.

The Gantt chart for the project



This map launched as MarEdu (www.maredu.co.uk) in 2005:

MariFuture Previous State - Map



- A- Accidents and incidents due human factors are increasing (Ziarati, 2006, 2007)
Accidents and incidents due automation factors increasing (IMO/MSC, MCA, 2006)
- B- Manning On Board Vessel vs. Concerns (ILO, 2008)

Actions taken by MariFuture partners 2005-2010:

- C- Identification of STCW deficiencies and development of complete programmes for Marine Engineering Officers and Deck Officers, which are recognised worldwide and developed in collaboration with leading national and European awarding accrediting and licensing authorities.

Projects developed:

- EU funded SOS programmes (2005-07)
- EU funded TRAIN 4Cs I and II (2008-2010)

- D- Review of accidents and incidents at sea due to automation failures. The maritime industry continues to express concerns about engine stops (SAS, 2010). Development of an E-learning course in automation.

Project developed:

- EU funded SURPASS (2009-10)

- E- Concerns about communications failures (IMO (MSC, MCA, 2006, Ziarati, 2006). Development of standards for maritime English.

Project developed:

- EU funded MarTEL (2007-09)

F- IMO and industry's concerns (Ziarati, 2007) about emergency situations. Development of an e-learning course in emergency situations.

Project developed:

- EU funded M'aider (2009-11)

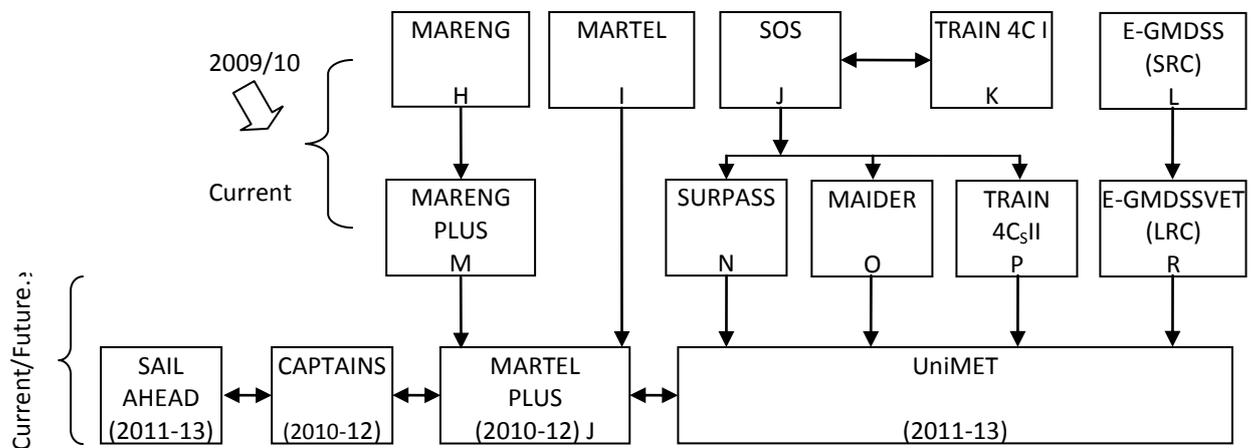
G- EU's and industry's interest in the development of e-learning as a means of updating the skills of seafarers.

Projects developed:

- EU funded EGMDS generic e-learning platform (2006-08).
- EU funded EGMDS-VET e-learning platform (2008-10).

MariFuture Current Projects

MariFuture Current State – Map



New Projects Approved:

SAIL AHEAD - To provide opportunities for Captains to find jobs onshore.

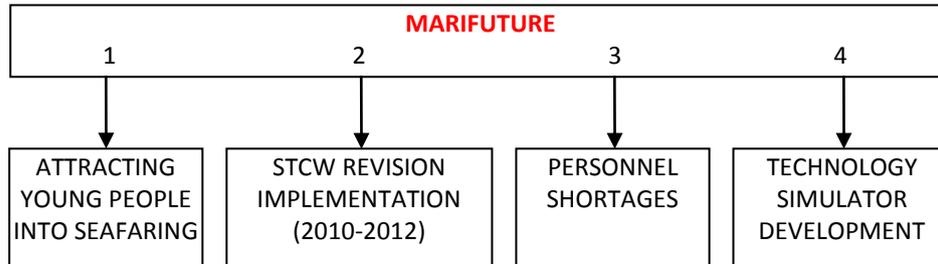
CAPTAINS - To develop content and scenarios for MarTEL Plus Maritime English standards

MarTEL Plus – To develop similar Maritime English standards for Ratings

UniMET - To build on the success of SOS and TRAIN 4Cs projects in reducing variability in maritime education and training

MariFuture Future Projects

MariFuture Future State - Map



Summary Actions:

Immediate Action

The development of the MariFuture Platform, the continued implementation of planned developments, and the successful completion of current and new projects.

Short Term Challenges

The implementation of IMO STCW revisions (Manila 2010). Making provisions for improved on board conditions and manning of ships.

Medium/Long Term Challenges

Addressing officer shortages, and improving opportunities for ratings. Implementing technology developments to reduce accidents at sea.