



MariFuture is celebrating its success in the Eureka ITEA3 DayTiMe project proposal. This is excellent news as the project is primarily about digital twins and IoT. More details about the outcome of the new proposals will be reported in May 2018 News.

As reported in previous News announcements MariFuture has decided to continue the 'Year of Efficient Ship' in 2018 due to the importance making our members and partners aware of the impact of toxic pollutants from shipping and vast array of means available to us to reduce the level and amount of the emissions from ship to minimum. To this end, we will be continuing our publication of a development paper on the subject ship energy management in the coming months. To support 'The Year of efficient Ship' There several major events during March and April 2018. Notable was three keynote speeches given by the MariFuture Founder, Professor Dr Reza Ziarati at the International Propeller Club on 8<sup>th</sup> March 2018, Genoa, Italy; Johnson Matthey Technology Centre, 19<sup>th</sup> March 2018, Reading, UK and at the MariEMS final conference on 22<sup>nd</sup> March 2018. The following are some memorable photos of these events.



**Figure 1 Energy and Enthusiasm: Professor Reza Ziarati presenting the keynote Speech, MariEMS 'Shipboard Energy Manager', at the International Propellor Club, 8<sup>th</sup> March 2018, Genoa, Italy**

The above lecture was in support of EU funded MariEMS project. A summary of project details and progress is given later in this edition of MariFuture News.



Figure 2 Professor Reza presenting at Johnson Matthey Technology Centre



Figure 3 Mr Markku Mylly, the President of EMSA and Dr Basak Akdemir, the MariEMS Project Partner and Conference Organiser

Project Day time



Industry 4.0 describes an important technological advancement driving automation and data exchange in the manufacturing environment to provide smart production with its efficiency improvements, while setting the requirements and needs for necessary and essential tools to specifically enable the change. In smart production, improvements and adjustments to the production processes can be achieved with effective Internet of Things (IoT) tools that analyse and manage the sensor-collected data using Predictive Maintenance (PdM) techniques. PdM is a right-on-time maintenance strategy designed to determine the condition of in-service equipment to help predicting and deciding when maintenance actions should be performed. Maintenance tasks are performed only when warranted, leading to cost savings over routine or time-based preventive maintenance. The basis for PdM is the Condition-based Maintenance (CBM) concept. CBM techniques are already used in many industrial manufacturing areas, and the techniques include e.g. vibration analysis, lubricant contaminant analysis, and process performance monitoring, using information fusion techniques with multi-parameter measurements.

This project with a consortium of 45 partners, meets the three challenges by deriving requirements from 14 industrial use cases in various industries, ranging from telecommunications to medical systems imaging to automotive assembly lines, and to shipping industry. The project results will be widely disseminated to support digitizing European industry at large, which will benefit from efficient predictive maintenance techniques, with the project partners providing the enabler solutions to the market. The consortium is innovative in combining machine learning, Blockchain, simulations and modelling in order to achieve predictive maintenance. A unique feature of the projects is the integration of 14 industrial use cases in various fields within the same consortium to spread achieved learnings widely in industry.

## **OPTIMUM**

The first face-to-face meeting of this EUREKA ITEA multi-million EUR project took place in Germany on 12-13 March 2018; the next meeting of the project team is being planned.

The proposed project aims to support innovative concepts for engineering, commissioning, control and supervision of smart manufacturing and material handling. It will be in line with European, National and international initiatives towards digital manufacturing, closely related to on-going activities in working groups around the German initiative Industry 4.0. Taking the results from ongoing architectural, component and ontology discussions, OPTIMUM's major goals are: improvement of the aspects of distributed control, adaptation of (I)IoT technologies to real industrial needs, enhancement of control and applications by context and location awareness as well as application design and common-model based 3D engineering and supervision.

There over 20 major industrial partners supporting this project.



**Figure 4** Professor Ziarati , flanked by Dr Anja Fischer, OPTIMU Project Manager, and Dr Basak Akdemir, BAU, and members of the OPTIMUM project at their kick-off meeting, Wetter, Germany

## UniBus

The project is progressing well. The project started in September 2017 and had its first partner meeting in Istanbul Turkey in November 2017. The next meeting of the project partners is planned for the 26-27 April in London. The project intends to improve the quality and relevance of higher education through the creation of opportunities for the two worlds of academia and business to come together



particularly regionally. The HEIs and VET providers should be centres of excellence in what they teach and to do this they must develop all staff and prepare their students for the world of work. They must work with and support businesses, for which they are preparing the young people as future employees and customers of the businesses' products and services. It has to be realised that the interests which business has in wishing to establish or improve links with academia are different from those of the academia, and may not always be compatible. The educationalists can aspire to be altruistic; business people can only afford to be altruistic when they have made more than enough money for the maintenance and development of their businesses. This is not a moral judgement – it is a pragmatic one. Academia needs the industry to support it in the development of its programmes so that they can identify and respond to the needs of industry and commerce. It needs industry to seek funds to progressively develop its laboratories, and it needs industry to develop its staff members. Industry needs academia to improve the quality of its employees, present and future; it needs academia for technological progress useful to business, and to better the management of its business; it needs academia for the formation of its future customers, and so of demands for its products and services (Ziarati, 2016).

With regard to the horizontal priorities the projects aims to promote open and innovative education, mainly for adult and young people, embedded in the digital era in the cloud environment. The intention is to develop basic and transversal skills such as entrepreneurship and digital skills so that students could support industry in the challenges it is facing, looking at what is already being done well and should therefore be further developed or supported; and what is being done not well enough, or badly, and therefore needs to be changed, stopped, or replaced by something new. It is also to create new things. A depository of student projects and industry's suggestions for projects could help both industry and academia and this is one area which they can build their future collaborations. The project is expected to be concluded in August 2020.

### **Career Comeback Support Program for Women (CCSP-W)**

In the Career Comeback Support program for Women (CCSP-W) project, the aim is to increase the awareness of contemporary business environment for unemployed women who had work experience previously, and also encouraging them to get back into the workforce by providing an Online and mobile platforms as well as its relevant curriculum. In this project, there are three objectives:

- 1) All types of job opportunities that would allow women to have flexibility and ease them return to work life will be allocated in a single platform. This part of study will assist with the career-planning phase of women to see available options for them in detail so that they can allocate types of jobs based on their interests and skills;
- 2) Those potential entrepreneur women who would like to run their own business will be assisted by networking and knowledge base tools that are going to be provided. Correspondingly, this study aims to introduce funding opportunities that are available to entrepreneurs in general and also specific to women to re-enter the workforce;
- 3) An Online platform in their own languages with a mobile platform will be provided to women returnees to adapt them to the social business era considering possible opportunities and necessities in the new business world



The project started in September 2016. There have happened 3 PMs in Istanbul, Kenilworth and Paris and the Partners are preparing for the 4th PM in Poland in May. Everything is progressing smoothly as specified in the project proposal.

## **IMLA 2017**

A new paper on MariEMS is being prepared for presentation at the next IMLA Conference in Philippines. MariFuture presented two papers at the IAMU 2017. The first paper related to Avoiding Collision at Sea – Pareto Analysis and was presented early in the opening day of the conference on 11 October 2017. The second paper, Maritime Ship Efficiency Energy Management was presented on 13<sup>th</sup> conference early in the morning. Both papers were well received. Several participants expressed interest to work with the Marifuture partners in initiating new proposals. More information on these developments will be given in May 2018 news.

Professor Ziarati, C4FF, with support from the MariEMS partners presented a lecture at the Johnson Matthey Technology Centre on 15<sup>th</sup> February 2018. The lecture highlighted the importance of digital twinning in product development and maintenance. The lecture summary is presented as the February 2018 Article on MariFuture.

## **ACTS Plus**

The first partner meeting for this newly approved project took place on 17-19 November 2016 in Istanbul. The second meeting took place on 30-31 March 2017 in Croatia. The third meeting took place in Varna, Bulgaria on 11-12 October 2017 at the same time as the IAMU conference. The next meeting of the partners will take place on 18-19 April 2018 in Spain. The ACTS Plus paper prepared by Professor Ziarati and partners was presented at IAMU by Professor Ziarati, Capt. Mohavic (UoR) and Capt. King (SSU) after the keynote speech by the Rector of NVNA.

The new ACTS project, ACTS Plus is based on the Pareto analysis carried out as a part of the recently concluded ACTs project. The Pareto analysis showed that some of the COLREGs rules are more complicated than others and that there are situations where a number of rules apply. The paper argues the importance of continuing the ACTs project both according to the plans for its post-funding period and also by preparing a new proposal for EU funding (ACTS Plus). It is worth pointing out that as a result of the new paper a proposal was prepared by some the partners and submitted to the UK national agency.

This new ACTS project is led by Southampton Solent University (SSU) and coordinated by C4FF. The project started officially on 1<sup>st</sup> October 2016 and is expected to be concluded in March 2019.

## **MariEMS**

The MariEMS final Conference took place in 22<sup>nd</sup> March 2018 in Istanbul. The event was very successful and it was reported that some 60 people took place in proceedings. The keynote speeches were given by Professor Ziarati, Chairman of C4FF, Mr Markku Mylly, the President of EMSA and Dr Sualp Urkmez, the CEO of Adiks Ship Yard and Furtran.



Keynote Presentations:



Figure 5. Professor Reza Ziarati, Chairman, C4FF and Founder, MariFuture giving the keynote speech at the MariEMS Conference, 22<sup>nd</sup> March 2018, Istanbul, Turkey



Figure 6. Mr Markku Mylly; President of EMSA presenting at the MariEMS conference, 22<sup>nd</sup> March 2018, Istanbul, Turkey



**Figure 7 Dr Sualp Urkmez, President of Turk Deniz Egitim Vakfi (TUDEV) presenting at the MariEMS Conference, 22<sup>nd</sup> March 2018, Istanbul, Turkey**

It was reported that all Chapters (excluding 13 and 14) have been reviewed and revised and texts borrowed from the IMO TTT course has been highlighted in the MariEMS 36 chapters which were based on the 8 modules of the IMO TTT course. As reported earlier the 36 chapters were disassembled and reassembled by combining several topic areas and transformed into 14 new chapters. Partners were asked to review these chapters and comment on the changes necessary. Partners were also given tasks to prepare summaries for each of the chapters assigned to them and also prepare some quizzes. The summaries and quizzes are primarily for updating seafarers on ship energy efficiency subject matters and the 14 chapters have more demanding questions that are intended for cadet ship energy education and training. The more demanding question concerns for instance calculating EEDI for new ships and EEOI for existing ships in the market place.

The course manual now includes a course of nominal 60 hours for cadets and a 3 to 5 days course for updating existing seafarers. Both options in the course manual are now ECVET compliant. The draft MoUs were finalised and signed between two of collaborating institutions for ECVET compliance.

The process of seeking accreditation from a major internationally recognised professional institution with Royal Charter has also started. The accreditation documents consisting of the course manual and the sample quality manual for it together with the quality manuals of the maritime universities involved plus teaching/training staff CVs were sent to IMarEST as advised by them. It is pertinent to note that the maritime universities are recognised awarding bodies in themselves. The course was piloted in Spain as reported earlier and the outcome was successful.

Two papers have already been written and one presented at the prestigious International Association of Maritime Universities. The second one is expected to be presented at the International Maritime





Lecturers Association (IMLA). A further journal paper on technical aspects of the project. Some 20 papers already published by MariFuture on various chapters of MariEMS learning material see for example ([http://www.marifuture.org/Reports/Development-Papers/ADP\\_03\\_2018\\_MARIFUTURE.pdf](http://www.marifuture.org/Reports/Development-Papers/ADP_03_2018_MARIFUTURE.pdf)). Some of these publications have lead to new papers, articles and provided material for presentation at the multiplier events and new proposals.

MariEMS partners have held several presentations to date and intend to participate in the EU Maritime Day and the IMO Congress in the near future.

### **MariLANG Project**

The fifth partner meeting of MariLANG took place in Kenilworth the UK on 5-6 March 2018.

The fourth partner meeting of MariLANG was held in Slovenia on 23-24 June, 2017.

The MariLANG project intends to develop a Maritime English training programme based on the EU funded SeaTALK learning materials and the EU funded MarTEL assessments, both of which are compliant with the IMO Maritime English Model (3.17). It is worth mentioning that partners from both SeaTALK and MarTEL were involved in the 2015 revision of the IMO Maritime English Model Course through the International Maritime Lecturers Association (IMLA). The funding of MariLANG is very good news as it will complete the process started with MarTEL establishing a Maritime English assessment system, followed by SeaTALK seeking material for it, in conclusion MariLANG will develop an actual training programme for Maritime English which will include the three new categories defined in the revised model course: Electro-Technical Officers, GMDSS radio operators, and Personnel providing direct service to passengers in passenger spaces on passenger ships.

The 4<sup>th</sup> training sessions is scheduled for June 2018 at SSU, Southampton, UK.

A summary of all the projects can be found in [www.marifuture.org](http://www.marifuture.org). For further information about MariFuture please refer to the MariFuture website.

Dr Martin Ziarati