Developing a World-class Maritime University in Turkey

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1. Executive Summary.

The Turkish Maritime Education Foundation (TUDEV) was established by the Turkish Chamber of Shipping in 1993 with the task of providing financial support to maritime institutions in Turkey with a view to increase their capacity to recruit more cadet officers in response to the identified officer shortages in the shipping industry in Turkey. This was noted to be a unique contribution and a positive intervention by the Chamber by the maritime community in the country. Throughout the 1990s TUDEV generously extended financial support to maritime centres and universities who intended to start maritime courses with the same intention of improving the supply side of the officer education and training.

The Turkish Chamber of Shipping through TUDEV was one of the top two sponsors of International Association of Maritime Universities (IAMU) inaugurate Congress held in Istanbul, Turkey in 1999. An outcome of this sponsorship was the election of Turkey to STW Chairmanship at IMO (2002-2004), the first time in the history of Turkey and IMO. The Chamber therefore not only supported local developments but also had a global vision of maritime education and training (MET). In 1995, the Turkish Chamber of Shipping/TUDEV started its own Training Centre providing MET in Turkey which led to many officers (over 1300 during the period 1993-2003) being trained for the Turkish shipping industry.

A major study was carried out by the Chamber in 2003 to ascertain the need for establishing a maritime university in Turkey. Visits were made to several institutions in Norway, England, Scotland, USA and contacts were established with maritime institutions in Sweden, Finland, Poland, Slovenia, Lithuania, Bulgaria, China, Japan and several other countries. The MET practices in these countries were studied carefully. The review of maritime education and training practices in these countries concluded that the existing provisions in Turkey, while in many aspects are satisfactory and that there are pockets of excellence in several noted practices, overall it was short of what are required and existing maritime institutions needed to rapidly increase their current capacities and improve their provisions to standards expected by international and European awarding, accrediting and licensing authorities.

It was also noted that there have been several research reports which have pointed out that while some countries are applying good practices there are those that need support. A study by (Torkel, 2004) reports that 25% of the world fleet was responsible for more that 50% of shipping accidents around the world. The study notes that the top 25% of the safest ships were involved in just 7% of all accidents. The University of Technology and Science in Norway (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.

The study and the review of MET practices led the Chamber to transform TUDEV into a major maritime University, Turkey's first. Establishing a university in Turkey is a complex process where the university has to be created, in all but name, before the Turkish Higher Education Council would agree to approve it as a university with the risk of not receiving such approval. In developing the university, a rapid prototyping approach was adopted and a team, composed of selected members of the TUDEV Board of Governors and two advisers, was given the task of developing the university. The method was to establish a maritime education and training (MET) institution in partnership with a reputable organisation in the EU in the first instance and then through establishing partnerships with selected awarding, accrediting and licensing bodies develop programmes leading to qualifications and certificates recognised worldwide and in the process gather the necessary resources to deliver them effectively and efficiently. The funding for staff development and research activities was to be sought from national and European as well as international sources through competitive biding.

This proposal summarises how the university was established by TUDEV and its success to date.

2. Rationale for the Project

A glimpse at a map of Turkey shows us that Turkey is a maritime nation. The country is surrounded by water on three sides. Every hour of every day, ships of all types ply the waters in and around our nation. They leave our ports laden with Turkish goods bound for foreign markets, or arrive in our ports with merchandise and materials for our people.

The Turkish fleet is rapidly growing and Turkish ships are becoming highly productive, forming a major cornerstone of our system of commerce, helping guarantee our access to foreign markets for procurement and sale of our manufactured goods. It is pertinent to note that the number of Turkish owned foreign flag ships and number of Turkish seafarers working on foreign flag ships have been increasing rapidly. The increase in maritime transportation activities has led to a greater need for support services to serve and maintain the sectors involved, necessitating the need for more merchant navy officers of all types and ranks as well as marine and maritime business professionals together with marine scientists and technologists (Yucel Akdemir, 2008).

Ships depend on a framework of shore side activities for their operations. This industry includes companies which own and manage the vessels; ports and terminals where cargo is handled; shipyards for repair; services like marine insurance underwriters, ship chartering firms, law, engineering and research companies; and increasingly today, reliance on marine science and technology including oceanography, hydro-graphics and integrated logistic systems, viz., intermodal systems of trucks and railroads to distribute goods around the country more efficiently and effectively.

The most important resource in a successful merchant fleet and a strong transportation industry - is people, men and women who are intelligent, competent and well-educated.

Many studies highlight the reasons/problems, which cause young people not to choose a seafaring career or leaving the career for land based jobs. The solution to the stated problem requires a concerted radical approach by all corners of the maritime industry. The shipping industry needs to be an Industry of Choice (IOC) for the younger generation and shipping related companies recognised as Employers of Choice (EOC) in order to attract and keep the young generation in the worldwide shipping family (Cahoon and Haugstetter, 2008, sited in Kaptanoglu, 2009). The study also clearly stated that young groups like instant social networking through online web platforms, job flexibility, fast-tracking of their careers and mentoring approach in their working environment instead of the old "authoritarian school" of thinking that prevails in the shipping industry.

Turkey today needs to rely on its own strength and develop world-class shipping business specialist, maritime lawyers, ship designers of the future with good knowledge of materials, telematics, ergonomics and knowing that ships have a long life and will need several times to go through transformation. There is a need for maritime scientists and technologists, and some as leaders in the transportation fields who will meet the challenges of the present and the future.

The unemployment figure for Turkey when the project started in 2004 was reported to be 9.1% and, within this figure, for those with a university degree this rises to 12.6% (Urkmez, 2005). The figures have been similar or worse since then. There are currently acknowledged shortages for merchant navy officers, maritime business professionals and marine scientists and technologists (Ziarati, 2003). The tonnage for world maritime trade (OECD, 2004) was:

- 2001 Year 755.600.000 DWT
- Sept. 2005 883. 900.000 DWT (%18)
- Orders 231.000.000 DWT
- 2010 Forecast 1.100.000.000 DWT

These shortages are expected to increase substantially (BIMCO/ISF, 2005), for instance, the additional number (estimated shortages) of merchant navy officers needed worldwide is 27000 according to BIMCO/ISF (ibid) with possible shortages reaching 46000 officers. Urkmez (2005) relying purely on the number of ship orders and scrap (recycled) numbers estimated the shortage of officer to be around 100000

and those by the Turkish fleet around 5000 by the year 2010. Urkmez (ibid) shortage figures are a great deal closer to Drewry Consultation shortage figure of 83000 for officers as quoted by the President of IMO, Mr Mitropoulus, in 2009. Turkey has a massive surplus of ratings and a shortage of officers, particularly Marine Engineers (OECD, 2003 and 2005). This means that the manpower resources in this sector needs to be corrected by producing more officers and giving opportunities to some Ratings with the potential to receive additional education and training and become officers.

3. Innovative Nature of the project

Part 1 – Setting the scene

It is pertinent to note that IMO has passed the responsibility for delivery and assessment of Merchant Navy education and training to member countries and does not take part, in any shape or form, in the inspection, evaluation or delivery of these programmes (Ziarati, 2003). It is argued that IMO cannot work alone. The EU, governments, and related industries should show the same determination to implement these standards.

The majority of accidents at sea and ports are reported to be mainly due to either disregard for rules or inadequate training or their assessment (ibid). In fact the EU has helped by establishing EMSA (European Maritime Safety Agency) which has commenced monitoring the IMO's standards for training and certification of merchant navy personnel (STCW).

The review of the paragraphs above clearly points to opportunities for establishing a maritime university in Turkey. It was agreed that the university must set its goals, establish where it wants to be in short, medium and long term and to formulate a mission to get there while at the same time continuously seeking excellence in what it does. The term university is derived from the word universe. The vision which was foreseen in developing and maintaining Piri Reis University has been a global one. To this end, the programmes developed should be relevant to the needs of not only Turkey but global needs and requirements. They must be classed as excellent in quality, that is, they should be fit for their purpose, and the fitness must not be assessed by just the organisation itself but by its peers and competitors. Such acclaims can only be achieved through seeking accreditation from the internationally recognised professional and/or chartered institutions. Shipping is global and hence the vision of the maritime university should be global. A university cannot claim excellence by saying so but by entering the premier league and winning prestigious projects and awards. It needs to publish good papers and have a strategy to safeguard the interest of its stakeholders, viz., students, staff, customers of its qualifications (companies employing its graduates and parents who pay the fees), social partners including ship owners, ship operators, shipping associations and shipping unions by offering them the privilege of being seen as equal by world players. It must endeavour to offer maximum opportunities to its students and be sensitive to the requirements of its industry locally. To achieve this, it needs to develop dual programmes with well-known universities and share experiences with them and also share its expertise in research and education to seek funding from external sources with its selected partners. Staff development must be real and, seen to be important and visible. The staff must be encouraged to work with industry and participate in scholarly activities. Cooperation with leading maritime universities and staff and student exchanges should be promoted through seeking funds from external sources particularly through the EU's Leonardo and ERASMUS programmes. A review of where funds are available should be undertaken and opportunities identified.

The new university has to decide if it will be focusing on developing young people for life or for work. Recent research has shown that it is feasible to develop graduates by concentrating on principles of knowledge and exposing them to vocational skills and develop technicians by focusing on vocational skills and exposing them to the principles of a given subject (EUROTECNET, 1995). The University has taken account of the IMO's comprehensive review of STCW (2009) and the EU's Maritime Transport Strategy (2009) to ensure its strategy is in line with international and EU requirements. Many universities in Turkey and indeed elsewhere have a dual purpose by having both graduate and technician programmes hence the reason for rapid prototyping of examples of dual systems existing from models in the EU and Turkey.

Part 2 – Implementing the Strategy

To establish the university, a partnship was created between the Chamber of Shipping and a research centre, Centre for Factories of the Future (C4FF) in the UK. The partnership which is referred to as MarEdu

(Maritime Education partnership) was established to identify, develop and implement solutions to deficiencies in standards of maritime, skill shortages in Turkey, and in European and wider international maritime community (Ziarati, 2006, 2007 and www.maredu.co.uk). It was given the task of developing a strategic roadmap to integrate education, research and knowledge being developed, in order to ensure the development of adequate skills in Turkey and in Europe and, the adequate and timely connection between research and innovation. Based on the identified strategic priorities, the network has developed a model for the creation of collaborative partnerships (www.marifuture.org) in the waterborne sector taking advantage of specific innovation opportunities (EU and national funding) involving many business enterprises, universities and research centres and making the optimal use of national and European funding instruments. The MariFuture network has now identified several challenges as described in its website (see plans in www.marifuture.org). The next challenge is to develop a cooperation programme to consolidate the work of the MariFuture by inviting many of the partners to work on the projects identified in the future map presented in section 9 of this proposal. As summarised in the website the network has been active in:

- Developing tools and services – Good examples of the tools developed are given at www.egmdss.com or www.martel.pro.
- Identifying key competences - Examples of recent work can be found at www.maredu.co.uk, www.surpass.pro, www.ebdig.eu, www.maider.pro. There have been many reports and papers published by TUDEV in learnt maritime societies such as IMLA (International Maritime Lecturers Association), IMEC (International Maritime English Conference), IAMU (International Association of Maritime Universities) and so forth (**Appendix 1**).
- Formulating the strategic agenda and roadmap regarding innovation and education – See section 9 of the proposal.
- Developing a grass-root model for the creation of collaborative partnerships by taking advantage of innovation opportunities and external funding – See www.marifuture.org.

The formation of the new University was possible by establishing a maritime institution first and then developing an effective partnership with a well-respected organisation in the UK (MarEdu through MarTEL, SURPASS, Maider partnerships and so forth). These partnerships were used effectively to set up collaborative arrangements with well-known awarding (BTEC (Business and Technology Education Council)/Edexcel and several universities and colleges in the EU), accrediting (IMarEST and several other institutions) and licensing authorities (MCA and several others) and working closely with international and European bodies such as IMO, EMSA, IMLA, IMEC, IAMU and so forth. The success has led to further successes through the development of first-class proposals for funding from the EU through education and training as well as research and development programmes.

4. TUDEV transformation into Piri Reis University

Uniqueness - There is no university in Turkey which primarily focuses on marine and maritime subject areas or that, for instance, has both Marine Engineering and Navigation Engineering at degree and non-degree levels, or focuses on the one hand, on marine sciences and on the other hand, on maritime business subjects. There is no university in Turkey with students who have the opportunity to be a member of a professional institution with power to award professional qualifications such as Chartered Engineer (CEng). There is no university in Turkey where students would also be able to get a Certificate of Competency from a major licensing authority such as Maritime Coastguard Agency (UK). There is no university in Turkey that can award Marine and Navigation technician diplomas (and degrees through an agreed partnership pathway) of other universities in Europe and worldwide. The Navigation Engineering Programme at TUDEV is the only programme of its kind in the world accredited by an institution with a Royal Charter (IMarEST). It is pertinent to note that more than 75% of the 305 students of the new University opted for a place at the University through their first three choices at the University Entrance Examination which places the University definitely at first place among all Foundation Universities in Turkey which is a success criterion by the Higher Education council of Turkey (YÖK). This clearly means that the Chamber of Shipping has created a new University which has a potential to establish itself as the University of Choice (UoC) for young people who wish to become merchant navy officers. It is pertinent to mention that the Chamber is providing grants to over 50% of the existing students of the university in order to encourage MET education in Turkey and in the World. To represent the views of cadets in Turkey and worldwide at IMO STW 2012 event in Manila, where historic changes to STCW were announced, Piri Reis, TUDEV and

Turkish cadets association Congress organised an international event which took place in May 2010 attracting 572 guests from 5 continents, 42 countries and 70 Universities.

Innovative - The new university is being formed on the success of MarEdu and takes advantage of the synergy between academic excellence and vocational practice. The graduate programmes focus on academic excellence with exposure to vocational and professional practice. The technician programmes focus is on vocational excellence with exposure to academic depth. The BRAEEMS and LEEDS recently accredited the Piri Reis University's newly designed campus as the very first GREEN, environmentally friendly university campus in Turkey. The campus is inline with the IMO's motto of 'clean seas' and is destined to become a Centre of Maritime Excellence in Europe and in the world.

Respected - The programmes have been developed through an international partnership composed of well-known marine and nautical academic and training institutions in Europe as well as several international awarding, accrediting and licensing bodies. The programmes are being further developed through a newly funded EU prestigious Leonardo Pilot project known as UnitMET which is a follow on from the EU funded 'Safety on Sea (SOS) Project led by Turkey (Ziarati, 2006, 2007. Many of the programmes as well as the new university certifications would have double recognition from major awarding bodies including several European universities and colleges such as Glasgow College of Nautical Studies/Strathclyde University (Scotland), Tromso (Norway), Plymouth and De Montfort Universities South Tyneside College, Northumbria University (UK) and internationally bodies such as BTEC. An agreement or a memorandum of understanding (MoU) with many of these universities has already been signed and the Piri Reis University has or is in the process of signing MoU's with some 25 leading MET institutions worldwide.

For instance, the Marine Engineering degree programme is based on Southampton University's programme (UK) as well as the programme with the same title offered by Istanbul Technical University (ITU) in Turkey. The Navigation programme is based on the IMO syllabuses and is in line with Plymouth University's programme (Nautical Science) and again also similar to that offered by ITU. Both programmes are, also in line with Tromso University (Norway) programme, and approved by many universities worldwide (through BTEC/Edexcel). The students who also take the necessary ancillary courses and satisfy the sea service requirements would also be given the opportunity to become a Deck or Engineer Officer. Both programmes are underpinned by several EU funded projects and a number of MSc/MPhil/PhD programmes. Details of these are given at the following website addresses, www.maredu.co.uk and www.c4ff.co.uk. The Programmes at the University will also be accredited and will enjoy the same status as TUDEV's once there has been an output from the University. The list of current programmes is given on the TUDEV and the University's websites www.maredu.co.uk and (www.pirireis.edu.tr). As stated earlier all TUDEV programmes have been developed by investigating the programmes offered by major maritime universities or colleges worldwide. The intention is not to re-invent the wheel but to gather the very best of what is offered elsewhere. The programmes are designed to produce future marine engineer designers, scientists, technologists and leaders of industry, in response to the anticipated shortages for these highly regarded graduates. Many of the TUDEV and the Continuing Education programmes (non-degree/diploma) are primarily vocational in nature with opportunities for students to encounter academic depth and use the various pathways created for them to progress onto higher qualifications.

5. The Impact on Turkish Chamber of Shipping and its Business Community - Measurable Outcomes

The impact has been substantial. During its formation phase of the TUDEV some 1300 officers were trained. The cadets who enrolled after 2004 were given the opportunity for dual qualifications, diplomas and/or licenses, jointly from UK colleges and universities and the respective licensing authorities. Over 200 have obtained their UK HNDs to date, all using the Merchant Navy Training Board sea training portfolios and some obtained or are obtaining their National Vocational Qualification (NVQs) or Scottish Vocational Qualification (SVQs) and several have been given the UK MCA's Notice of Eligibility (NoE) for the UK's Certificate of Competency (CoC). Last year one of the cadets was awarded MCA's CoC and was given an Officer of Watch certificate by MCA, a certificate which is recognised by many countries worldwide. Some 20 cadets concluded their Post-HND at Glasgow College of Nautical Studies (through the EU funded TRAIN 4Cs Project) and 7 Cadets enrolled onto the final year of the Plymouth University's

BSc (Hons) in Nautical Science (Merchant Shipping) and 4 so far have received their Honours degrees and three are expected to conclude their studies this year.

The focus of the project has been primarily on staff development through seeking support from the EU to develop consortia for joint programme and resource developments either to underpin or to support a given programme and/or its delivery. The staff development programmes so far have involved over 185 visits to other partner centres and attendance at major maritime conferences and scholarly events - See EU final projects report (copies available if requested). There are some 10 PhD programmes so far and several new ones are being formulated with companies and universities in Turkey and in the EU. Through joint staff development programmes, as part of the EU funded projects, the education and training needs of industry are being addressed in real terms – Please note the recent and current EU funded projects in section 9.

The shortages to some extent have been overcome by recruiting over 250 cadets each year in the past few years. Considering that the total number of cadets by all other maritime institutions in Turkey was 220 in 2005, recruiting some 250 cadets in 2005 alone was a major undertaking. Many of the cadets now work on Turkish owned and foreign flags and, some on American, British, Italian and other well respected flags. All graduates are employed with average salaries above those given to high level officials and to top graduates from other universities in Turkey. Considering the graduate unemployment in Turkey in the last few years has been over 12%, the Chamber's achievement should be considered commendable. TUDEV's new and first University, Piri Reis, has already been active in addressing the officer shortages in Turkey by staging a project to train non-merchant navy graduates from 8 MET institutions and centres in Turkey who could take additional training and become Officers of Watch. The project is ongoing and has made a financial contribution in excess of 1 .1 Million Euros to the University in its first year of being introduced.

The publications of research work and recent TUDEV successes in the EU funded projects have led to many maritime companies becoming involved; for instance, the new MRM (Marine Resource Management) course which is the replacement of Bridge Team/Resource Management Course (mandatory as from January 2012) was delivered in Turkey through the EU funded SURPASS project (www.surpass.pro) and some 12 companies and representatives from maritime institutions attended the course. The course was delivered by a maritime university partner (Satakunta, Finland) on behalf of the Swedish P and I Club in October 2010. This is part of the staff development programme for personnel in maritime academia and industry, a programme which so far has delivered well over 50 short training courses. The pathways for up-grading a qualification, up-dating a given skill and receiving qualifications recognised worldwide have now all been proven and validated. Turkey is now in the White Flag and the negotiations/discussions with organisations such as Rightship are bearing fruit helping to up-grade the Turkish flag in the near future to those enjoyed by leading flags internationally.

TUDEV is a major centre of European Maritime Education and training research and development with one of the largest number of EU funded projects. TUDEV works with leading maritime projects with many centres and organisations throughout Europe helping to remedy deficiencies and developing new solutions. All programmes are ECTS rated and students with HNDs have the right to enrol on the final year of relevant programmes in EU Universities and several major countries in the world. Written agreements exist with several universities in the UK. TUDEV is undergoing its transformation into Piri Reis University. The University has already been very active and has been advising the Ministry of Transport, Under-secretariat for Maritime Affairs (UMA), Ministry of Education, Higher Education Council (YÖK), Inter-universities Council and other universities starting new MET disciplines. The University assisted UMA in devising a number of Laws and directives. The University is currently supporting UMA with a funded EU project worth 2.1 million EUR. This project is allocated to UMA to carry out postgraduate studies for graduates with a maritime background. The University through its ERASMUS Charter (extended) intends to commence staff and student exchanges with other maritime institutions as has been the case with EU funded Leonardo TRAIN 4Cs projects.

6. Recent/Current Projects – 2005-2010: - A Formidable Record Achievement

Section 9 summarises all the projects. Each completed project has a final report which has some 150 pages, reporting on its development and achievements of its aims and realisation of its deliverables. It would not be possible to list all the deliverables but if a copy of the reports on the outcomes for the completed projects

is requested these will be sent. It is suffice to say that all completed projects have been given high grades and the products developed have received commendations from the EU and other organisations partially funding the projects. The success has led to several new funded projects. Summaries of recent and current EU funded projects are incorporated in MariFuture Map in Section 9.

New EU projects – 2010-2013 - There are several new projects (See Section 9). These and the existing ones are real projects all secured through hard work against tough competition. The MarEdu partners are willing to continue their good work and have proposed several proposals within the newly formed MariFuture platform to realise the inrended Future map. The network is expected to be involved in a countinuous programme of research.

7. Relevance to/in the Target Category

The project is unconventional in that there are not that many chambers that decide on developing their own university and doing it by applying unconventional techniques of setting up a small business to develop the foundation components of a university and seeking funds through competitive bidding at national, European and international areas. The proposal could have been presented under the 'Corporate Responsibility Project' as it has created new business to provided training and technical development opportunities for its members and organisations in its sector. It could have also been submitted as an 'International Project' as it has been based on several consortia working on real projects, the chances of success in getting approval for a project from the EU is often between 5 and 10 % hence the need to prepare high quality proposals and partnerships. It is pleasing to note that many of the projects include partners from all over the world with significant involvement of neighbouring Greece, Bulgaria, and with leading Maritime universities such as IMO World Maritime University, Satakunta of Finland, Szczecin of Poland, Strathclyde and Plymouth universities of the UK and so forth.

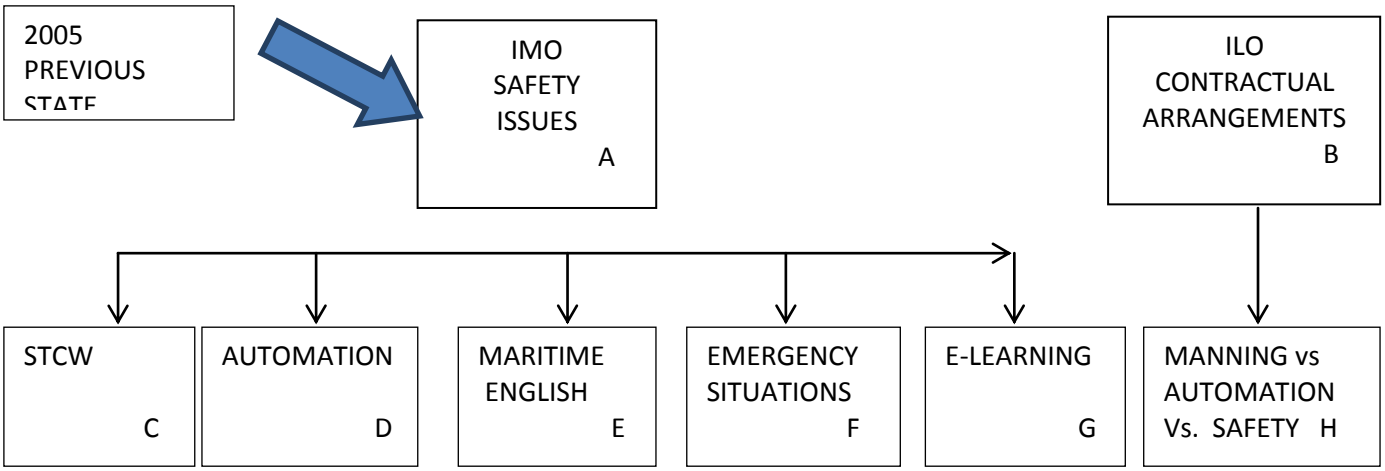
8. Portability of the Project

There is no reason as to why the project as a whole or each element of it cannot be replicated by any other chamber in the world. Formation of MarEdu (www.maredu.co.uk) can be replicated with ease and similar programmes and products could be developed by other chambers or their member organisations. In any case a copy of the project CDs containing the outcome of the completed projects would be sent to members of the WCC and their respective chambers for review and use. Several papers published recently by IMLA on TUDEV's MET models (Demirel and Mehta, 2009 and Albayrak and Ziarati, 2010 and Ziarati, 2010) elucidate the transportability of the strategy and the components of the main elements of TUDEV approach.

9. Valorisation (Dissemination and Exploitation)

The papers, articles displayed in various project websites are a clear indication of the success of the valorisation policy and plans developed within the project – see for instance www.martel.pro, www.surpass.pro and so forth. The launch of the GMDSS e-learning platform (www.egmdss/com) has had an important impact Europe-wide; this is because the platform is now being adopted or adapted for application in several EU funded projects. The MarTEL e-assessment platform has created a great deal of interest and the outcome of several other funded projects have led to major multi-million Euro projects in several countries in Europe (see for instance the funded research projects presented in TUDEV"s partner's website www.c4ff.co.uk . There are also two prestigious funded projects with several UK based companies co-funded by Technology Strategy Board of the UK Government. The valorisation included the future plans/maps. These maps were launched as part of MarEdu formation (www.maredu.co.uk) in 2005:

MariFuture Map – Previous State



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 recognised worldwide and developed in collaborations with leading national and European awarding accrediting and licensing authorities (for details refer to www.maredu.co.uk and www.c4ff.co.uk). The projects developed:
- EU funded SOS programmes (2005-07), TR/05/B/P/PP/178 001, 2005, Value 350000 €.
- EU funded TRAIN 4Cs I and II (2008-2010), TR/06/A/F/PL1-132, 2006, Value 1150000 and 85000 € respectively.

D- Review of accidents and incidents at sea due to automation failures - industry continues to express concerns about engine stops (SAS, 2010) and development of an e-learning course in automation (www.surpass.pro). Project developed:
EU funded SURPASS (2009-10), 2009-1-TR1-LEO05-08652, 2009, Value 281000 €.

E- Concerns about communications failures (IMO (MSC, MCA, 2006, Ziarati, 2006) and development of standards for maritime English (www.martel.pro). Project developed:
- EU funded MarTEL (2007-09), UK/07/LLP-LdV/TOI-049, 2007, Value 410000 €.

F- IMO and industry's concerns (Ziarati, 2007) about emergency situations - development of an e-learning course in emergency situations (www.maider.pro). Project developed:
- EU funded Mai'der (2009-11), 2009-1-NL1-LEO05-01624, 2009, Value 395000 €:

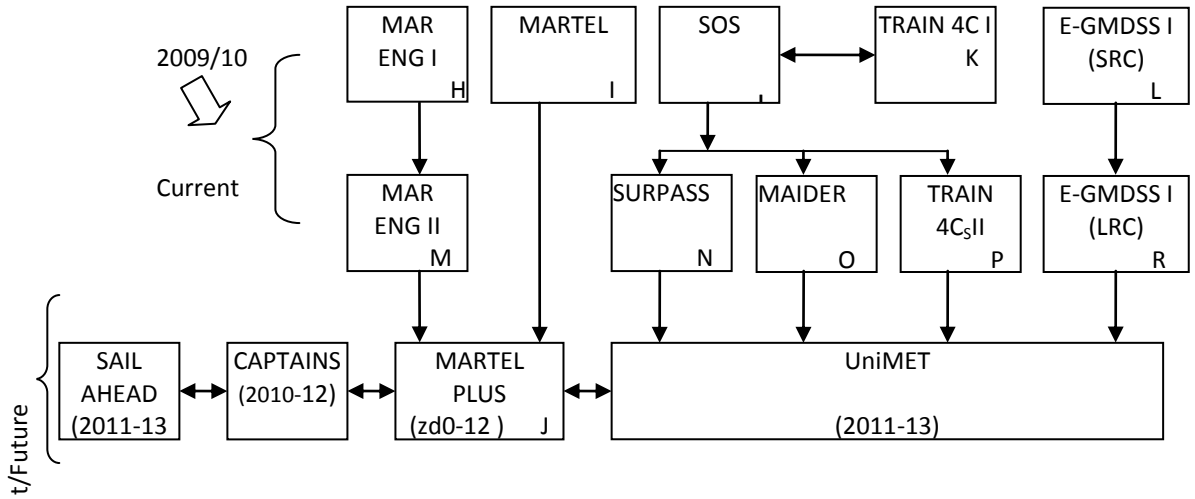
G- To develop e-platforms for e-learning and EGMDSS certification (www.egmdss.com) . Projects developed:
- EU funded EGMDSS e-learning platform, SI/06/B/F/PP-176006, 2006, Value 395000 €:
- EU funded EGMDSS-VET e-learning platform, 142173-LLP-1-2008-1-SI, Value 390000 €.

Also the EU funded Leonardo EBDIG Project, UK/09/LLP-LdV/TOI-163_262, 2009, Value 400000 €. This project was developed to create the EU first platform for Small craft design with emphasis on sustainability, ergonomics and telmatics with a the intention of transferring knowledge and skills from other sectors particulalry auto industries. For more details please refer to www.ebdig.eu.

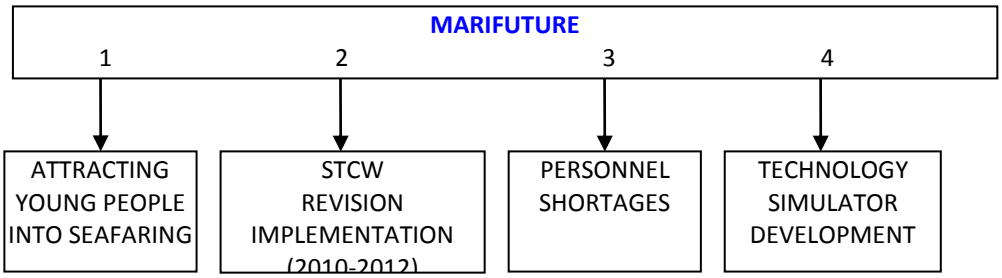
Newly Approved EU Funded Projects:

SAIL AHEAD - To provide opportunities for captains to find job onshore. Value 385000 EUR.
CAPTAINS - To develop novel content and tools for Maritime English – www.captains.pro. Value 390000 EUR.
MarTEL Plus – To develop Maritime Standards for Ratings, www.martel.pro. Value 400000 EUR.
UniMET - To build on the success of SOS and TRAIN 4Cs Projects to reduce variability in MET, Value 400000 www.unimet.pro (Under construction).

MariFuture Map - Current State



MariFuture Map - Future State



Conclusions

1. The strategic plan for establishment of University was achieved with over 30 refereed papers and articles.
2. The Existing and Current State Maps were implemented in full and with commendation by EU.
3. The Future Map infrastructure developed and proposals being prepared – see www.marifuture.pro

11. References – References to projects can be obtained from the project websites

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