

FP7 Brokerage Event Delft

September 23rd 2009

Organised by COREDES, ETNA, Holland Shipbuilding, TNO

Location TNO Building Schoemakerstraat 97, Delft
DELFT, the NETHERLANDS

PROJECT PROFILE SHEETS

FP7 Brokerage Event 3rd Call Surface Transport Delft September 23rd 2009

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PROJECT PROFILE SHEET	
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Research topic	SST.2010.5.1.1. Improved through-life asset management through application of advanced production, retrofit and dismantling processes

Instrument	Collaborative research	X	Coordination & support action
Project title	A dvanced P roduction, R etrofitting, efficient O peration and V alue added Environmentally friendly D ismantling		
Project acronym	APROVED		
Project Objectives	<ul style="list-style-type: none"> • 100% recycling with zero environment effect • Performance enhancing retrofitting for low carbon operation • Advanced, economical eco design-production techniques • Use of innovative and smart materials to improve through life cycle efficiency • Intelligent maintenance and repair for improved efficiency and environmental friendliness. • Integrate the cooperation amongst stakeholders to create cost effective, eco centred asset creation and management 		
Project abstract	<p>The IMO GHG study estimates that a 10-50% carbon emission reduction could be obtained for shipping by application of emerging technology and refining hull design to improve the efficiency of new ships and that 10-50% could be obtained by modifying the operation of existing ships.</p> <p>The design life of most ships is typically 30 years, but they are often operated for longer so many ships being designed today could still be in service in 2050. Infrastructure can have a life many times longer</p> <p>In order to meet the challenges in the areas of the energy and carbon as well as environmental friendliness, the shipping industry needs to develop a strategy incorporating technological and operational advances within through Life cycle. This mean introduction of technological advances including material science, advances in production, retrofitting, operation as well as safe dumsantling in a cost efficient manner .</p> <p>This leads to challenges that every step in through life cycle asset management in shipping require very close cooperation amongst various stake holders to act in a concerted way with a clear well studied strategy that This Project plans to develop.</p>		
• Background			

<ul style="list-style-type: none"> • Work programme: work packages, etc. 	
Estimated budget	5.0 million Euro
Project consortium	shipping and logistic companies and ship operators, Ship Dismantling Yards, waste management centres, shipyards, small boat manufacturers, equipment manufacturers, universities and research centres, classification societies.
<ul style="list-style-type: none"> • Coordinator 	University of Strathclyde
<ul style="list-style-type: none"> • Participants 	

PROJECT PROFILE SHEET		
Submitted by	Name	Osman Turan
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Research topic	SST.2010.6-2. Maritime industry knowledge network	

Instrument	Collaborative research	X	Coordination & support action
Project title	Attracting Training, Retaining and Advancing Crew and Technical workforce for Sustainable Maritime Europe		
Project acronym	ATTRACTS_ME		
Project Objectives	<ul style="list-style-type: none"> • Improve the image and attractiveness of offshore and onshore maritime related careers. • Developed sustainable carer path structure for people to retain them within the industry • Strategy development to improve social status of seafaring career in the eyes of european public • Setting up a network of centres of excellence in maritime transport/logistics training. • Develop Virtual centre and promote e-learning for maritime transport industry professionals focusing on seafarers to support the development of information knowledge and entertainment sharing facilities for seafarers. • Develop Advanced Training framework to answer the needs of increasingly complex and safety driven navigation in European waters • Develop Human centred on board working conditions and welfare structure including seafarers' families. 		
Project abstract	To be provided on the day		
• Background			
• Work programme: work packages, etc.			
Estimated budget	4.0 million Euro		
Project consortium	Maritime education and training centres, shipping and logistic companies and ship operators, human Factor research organisations, Regulatory organisations, Nautical Institutes		



• Coordinator	To be decided
• Participants	



PROJECT PROFILE SHEET		
Submitted by	Name	
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Research topic	ST 2008.1.1-4	

Instrument	Collaborative research	X	Coordination & support action
Project title	Integrated systems for drastically reduction of air emission from ship		
Project acronym			
Project Objectives			
Project abstract			
<ul style="list-style-type: none"> Background 			
<ul style="list-style-type: none"> Work programme: work packages, etc. 	-Fuel treatment pre – in and post combustion -Integrated pollutant removal from exhaust gas (SO _x ,NO _x , P:M; CO ₂) -Cold Ironing in port		
Estimated budget			
Project consortium			
<ul style="list-style-type: none"> Coordinator 	Cons.a.r.		
<ul style="list-style-type: none"> Participants 	Cons.a.r. ISQ Univ. of Salerno		

PROJECT PROFILE SHEET			
Submitted by	Name	Radu Voinescu, Gabriela Onofrei	
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Research topic	SST.2010.5.2-4 Competitive continental shipping including port operations		
Instrument	Collaborative research	x	Coordination & support action
Project title	Sea River Vessels with Extremely Reduced Draft, Adapted to Danube Dry Season Operating Conditions		
Project acronym	ERDA		
Project Objectives	<ul style="list-style-type: none"> - Development of new ship and propulsion concept ship type (in several variants of sizes) of sea-river vessels with very large breadth/draft ratio propelled by azimuthally high efficient thrusters, destined to small summer depths on the European Danube Corridor - Effective solutions for ships operating under extreme conditions, such as low water depths present within the river Danube 		
Project abstract	<ul style="list-style-type: none"> - Starting from ship project ideas studied on a successful national research project, and further developing the outputs of InterSHIP, CREATIVE, INBAT projects 		
• Background			
• Work programme: work packages, etc.			
Estimated budget	30 ME		
Project consortium	EURO Yards and partners from Greece, Germany, Poland, Bulgaria, Austria etc		
• Coordinator	To be established		
• Participants	EURO Yards and partners from Greece, Germany, Poland, Bulgaria, Austria etc		

PROJECT PROFILE SHEET		
Submitted by	Name	Prof. Alex Duffy
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Research topic	<i>SST.2010.6-1. Towards improved technology transfers</i>	

Instrument	Collaborative research		Coordination & support action	X
Project title	A Virtual Integration Platform (VIP) for integrating SME information, technology and service providers in the European maritime sector			
Project acronym	EUROVIP			
Project Objectives	<ul style="list-style-type: none"> • Promote the use of valuable research results from previous EU projects by using a collaborative framework (including risk-based design) as a means of fostering innovation to sustain competitiveness in the shipbuilding and shipping sectors. • Enable the VIP as a generalised platform for data and process management with particular emphasis on integrating SME activities in the maritime sector. • Expand the VIP user base to establish the VIP as a European standard via selected benchmark cases to reflect a wide spectrum of life-cycle issues. • Establish an information exchange between leading EU maritime research and academia and SMEs active in the field. 			

<p>Project Abstract: Background</p>	<p>A number of large integrated projects have been funded by the European Commission within both FP5 and FP6 that have aimed to develop distributed solutions within the shipbuilding industry. VRShips-ROPAX was funded within FP5 and aimed to develop a platform to support distributed through-life development of a ROPAX ferry. VIRTUE was an FP6 funded project that integrated distributed virtual basins within a platform that allows a holistic Computational Fluid Dynamics (CFD) analysis of a ship to be undertaken. Finally, SAFEDOR was also an FP6 funded project that allows designers to perform distributed Risk-Based Design (RBD) and simulation of different types of vessels. The projects have a number of commonalities: the users are either organisationally or geographically distributed; a large amount of the design and analysis work requires the use of computers, and the users are expected to collaborate – exchange information, sharing tasks and data. In each case a Virtual Integration Platform (VIP) has been developed, building on and sharing ideas between the projects with the aim of providing collaborative support for efficient and effective integrated working.</p> <p>This project will build upon the significant research already invested in developing the VIP for its actual application in facilitating the integration of SMEs with large industries engaged throughout the life-phases in the maritime sector. It will enable companies with relevant and niche expertise to readily integrate and exchange their best practice (through state of the art modelling, analysis, predictions, etc), information and findings. It will not only enable ready integration but support the rapid configuration of collaborative partnerships, through a repository of registered expertise, to promote the optimum team for maximising competitive performance.</p>
<p>• Work programme : work packages, etc.</p>	<p>The work programme will focus upon delivering the objectives by considering three key work packages: functional (WP1), operational (WP2), and technical support (WP3) with different focus over a three year phased plan.</p> <p>The functional will deliver the legal, contractual, business and financial model of partnership delivery; the operational shall address the infrastructure, management structure and operational processes of delivery; and technical support will provide the delivery of a reliable and robust integration platform. That is, integration delivery needs not only to address technical support but the operation and functionality of the integrated partnership.</p> <p>Whilst all three Work Packages will develop in parallel, particular focus will change in emphasis over the three year period from consolidating and providing robust technical delivery of the platform for initial partners/users, to developing operational processes and means to support rapid and trouble free configuration of new integrated partnerships. Thus, in addition to initial work in functionality and operational processes, the first year will address the consolidation of the best techniques and mechanisms from the previously</p>

	<p>funded projects into delivering a robust and reliable platform to initial user partners. A SCRUM methodology approach, as used in the VIRTUE project, will be adopted to ensure partner priority driven delivery and evolution on an ongoing project basis. This will be coupled with operational development for supporting technical, bug fixing and training requirements using an appropriate ticketing system and ongoing maintenance. Three basic types of support will be provided to users, to assist with using the VIP, provide technical assistance, and solve problems within an acceptable time frame. Training will be provided to users to support efficient and effective use of the platform.</p> <p>Again, whilst carrying out parallel development in all three WPs, the second year will pay particular attention in developing the functional aspects of integrated partnerships. That is, investigate the different legal and contractual models of a sustainable business and technology delivery. This would develop the actual mechanisms to ensure continued support for the partnership as well facilitating new and dynamically changing integrated partnerships utilising the platform for changing and unforeseen market demands and opportunities. An outcome will be a set of models reflecting the different modes of potential operation. This year will also see robust operational processes to effectively facilitate technical and business delivery. An outcome will be a set of benchmarked cases reflecting different modes of operation that will work in a practical, realistic and best practice way.</p> <p>The final year will continue with the development, enhancement, and delivery of the three WPs for specific partners/users. It will be coupled with the development of means to facilitate and support new and potentially dynamic partnerships, providing a repository of expertise for rapid configuration, realisation and delivery of integrated partnerships to take full advantage of emerging opportunities and exploitation of new technologies. The facility will include a unified search and retrieval mechanism of the available expertise in the partnership repository; a user friendly web based graphical interface with constant feedback for effective and efficient expert guidance or novice use; the design, development and delivery of past design cases as part of an available knowledge base coupled with retrieval and integration mechanisms; and an authorisation and authentication mechanism to provide secure sharing of sensitive information. The final year will form the basis for future integrated partnership engagement on a sustainable and long term basis.</p>
Estimated budget	Circa €800K, covering: staffing, equipment, meeting support, publicity, and marketing.
Project consortium	



<ul style="list-style-type: none"> • Coordinator 	University of Strathclyde – VIP support and developers
<ul style="list-style-type: none"> • Participants 	VIP users - Expert users, technology providers <ul style="list-style-type: none"> • Atkins • HSVA • Marin • SBM • SSPA • Safety at Sea Ltd (and support team) Ship Operators SME Equipment Suppliers SME Service Providers Ship Builders and Ship Repair yards



PROJECT PROFILE SHEET			
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Research topic	SST.2010.5.2-4 Competitive continental shipping including port operations		
Instrument	Collaborative research	x	Coordination & support action
Project title			
Project acronym	EU- SSS		
Project Objectives	<ul style="list-style-type: none"> - Development of a Short Sea Shipping new ship type destined to improve new ship and propulsion concept (in several variants of sizes) - Solutions (market and technological) tailored to obtain the largest possible effect on operational efficiency 		
Project abstract	<ul style="list-style-type: none"> - Starting from ship project ideas studied on a national research project, the project develops complete study for making short-sea and inland shipping more competitive 		
• Background			
• Work programme: work packages, etc.	Level 2- all topics of the Call will be covered <ul style="list-style-type: none"> - Basic design, technical plans of a new ship and concept with highly efficient hull forms, an innovative bulbous bow, innovative stern forms and modular manufacturing technology which allows it to be built in several shipyards simultaneously - Method and tools to support collaborative design - New, low weight materials for insulation - Implementation, application tests/trials and integration on the market - Propulsion concept to increase safety and protect environment - Safe and security management 		
Estimated budget	30 ME		
Project consortium	EURO Yards and partners from Greece, Germany, Poland, Bulgaria, Austria etc		
• Coordinator	To be established		
• Participants	EURO Yards, partners from Greece, Germany, Poland, Bulgaria, Austria etc		

PROJECT PROFILE SHEET		
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Research topic	SST.2010.1.1.1.- Carbon footprint of freight transport	

Instrument	Collaborative research	x	Coordination & support action
Project title			
Project acronym	FREFOOTECH		
Project Objectives	<p>The overall objective of this project is to develop a new monitoring system that will provide environmental information of freight transport emissions from a carbon footprint approach.</p> <p>This system will be validated considering different situations/environment:</p> <ul style="list-style-type: none"> - individual transport modes - integrated intermodal systems - new freight transport concepts (e-freight, port community systems, etc.). <p>Main purposes of this project proposal are:</p> <ul style="list-style-type: none"> - To enable a suitable data collection system for future integration into the information systems/platforms for logistic chain management. - To define a statistical method for providing suitable data to the information systems. - To integrate the data collected for calculating carbon footprint of different transports systems. Carbon footprint calculations will be based on a Life Cycle Assessment approach. - To analyse current logistic systems on a carbon footprint-life cycle approach for future environmental improvements on this sector. - To develop an on-line system for monitoring carbon footprint in freight transport. 		

<ul style="list-style-type: none"> • Work programme : work packages, etc. 	<p>WP1. Development of the statistical model The data need to be collected and transformed into environmental information (CO2 footprint). Available systems and models will be considered in order to adapt and improved the existing ones to the objective. It will be taken into account that the model should provide suitable data for a future on-line data collection system.</p> <ul style="list-style-type: none"> - Samples/case studies - Components/Environment - Interrelations - Data collection (results) <p>WP2. Life cycle perspective/Carbon footprint approach Information coming from wp1 will be integrated considering LC perspective and carbon footprint methods.</p> <p>WP3. Pilot implementation Validation of the method.</p> <p>WP4. Development of an on-line system for monitoring carbon footprint in freight transport: This WP aims in development of an on-line carbon footprint monitoring system which enables environmentally conscious management in freight transport sector.</p> <p>WP5. Dissemination.</p>
<p>Estimated budget</p>	<p>Not defined yet</p>
<p>Project consortium</p>	
<ul style="list-style-type: none"> • Coordinator 	<p>ITENE or other interested entity</p>
<ul style="list-style-type: none"> • Participants 	<p>Partners sought:</p> <ul style="list-style-type: none"> - Transport operators and representatives associations (both public and passenger transportation and freight transportation companies) - Private company for emissions quantification/analysis - Public authorities and policy makers - Energy/Transport Centres of competence - Transport and environment research groups

PROJECT PROFILE SHEET			
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Research topic	SST.2010.5.2-4 Competitive continental shipping including port operations		
Instrument	Collaborative research	x	Coordination & support action
Project title	Intelligent, Adaptive Ecologically Optimised Energy Systems for Small Cruise Vessels		
Project acronym	IAPEOS		
Project Objectives	<ul style="list-style-type: none"> - Development of new integrated, safe and reliable green energy systems for propulsion of small cruisers, based on the alternative usage of with 8 green energy forms, able to be propelled on any weather conditions, based on innovative ecological combustion - Alternative energy sources and fuels to obtain low fuel usage and low emission levels, - Anticipating of forthcoming environmental regulations 		
Project abstract	<ul style="list-style-type: none"> - Starting from collaborative R&D&I projects developed on a studied on a national research grants, which ended with prestigious international awards for innovation 		
• Background			
• Work programme: work packages, etc.			
Estimated budget	30 ME		
Project consortium	Partners from ECMAR, small cruisers market end users from Greece		
• Coordinator	To be established		
• Participants	EURO Yards and partners from Greece, Germany, Poland, Bulgaria, Austria etc		

PROJECT PROFILE SHEET		
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Research topic	ST 2010.1.1-1	

Instrument	Collaborative research	x	Coordination & support action
Project title	Maritime Transport Environmental Parametres		
Project acronym	MARTEP		
Project Objectives	Study on appropriate selection, measurement, monitoring and management of Environmental parameters for shipping – Environmental index for different ship-types and operational profiles		
Project abstract			
• Background			
• Work programme: work packages, etc.			
Estimated budget			
Project consortium			
• Coordinator	Cons.a.r.		
• Participants	Cons.a.r. (Italy) i.s.q. (Portugal)		

PROJECT PROFILE SHEET		
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Research topic	SST.2010.1.1-2 Energy efficiency of ships SST.2010.1.1-4 Advanced after treatment solutions for mitigation of emissions from ships	

Instrument	Collaborative research	X	Coordination & support action
Project title	Advanced diesel fuel reforming technology for maritime applications		
Project acronym	MariRe (Maritime Reformer)		
Project Objectives	Development of power intensive, robust and inexpensive diesel fuel reformer in order to increase efficiency and decrease level of pollution of heavy duty maritime diesel engines		
Project abstract	<p>The Company intends to provide the market with technology of hydrogen-rich gas (syngas, primary H₂-CO mix) production from the wide range of diesel fuels for further fuel enrichment and use in heavy duty diesel (HDD) engines in order to increase fuel consumption efficiency and reduce pollution emissions.</p> <ul style="list-style-type: none"> • The Company meets the industry and society demands for pollution reduction and increase in hydrocarbon utilization efficiency. • The Company offers effective solution which allows retrofit of HDD engines used in maritime and heavy duty vehicle applications without high cost engine replacement through on-board diesel fuel enrichment with the hydrogen-rich gas (syngas). Such retrofit addresses the issue of pollution reduction and fuel efficiency: <ul style="list-style-type: none"> (i) Ships generate at least 3-4% of human-generated global warming gases, but responsible for 15-30% of the world's smog-forming emissions. (ii) Bunker fuel burned by ships is 1,000 times dirtier than highway diesel used by trucks and buses. (i) A single ship coming into harbor produces the smog-forming emissions of 350,000 new cars. (ii) In addition to cargo ships, tankers, tugs, and towboats, diesel powers 94% 		

	<p>of all freight shipments, 85% of all public transit buses, two-thirds of all farm equipment, and all heavy construction equipment.</p> <ul style="list-style-type: none"> • Maritime industry operates at 3-5% net margin, with fuel accounting for about 1/3 of total operating costs. 5% increase in fuel combustion efficiency leads to 30-50% increase in net margin. • NEQLab Research BV has successfully engineered and tested its second generation reformer prototypes working on gaseous and liquid fuels at atmospheric pressure and has started the development of industrial prototypes of diesel fuel reformers.
<ul style="list-style-type: none"> • Work programme: work packages, etc. 	<ol style="list-style-type: none"> i. Implementation of high throughput diesel fuel evaporation system ii. Implementation of advanced soot self-cleaning subsystem and heat recuperation iii. Design of a fully integrated device and testing in working conditions iv. Establishing strategic partnership with a maritime engineering company and/or HDD developers and producers in order to develop, market and service client-specific solutions.
Estimated budget	EUR 4 mln
Project consortium	
<ul style="list-style-type: none"> • Coordinator 	NEQLab Research BV
<ul style="list-style-type: none"> • Participants 	NEQLab Research BV, other participants to be found among universities, maritime engineering companies, and/or HDD developers and producers

PROJECT PROFILE SHEET		
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Research topic	The use of coal gasification and gas hydrates as alternative fuels for Solid Oxide Fuel Cell propelled vessels	

Instrument	Collaborative research	<input checked="" type="checkbox"/>	Coordination & support action
Project title			
Project acronym			
Project Objectives			
Project abstract	Coal has been the main fuel of ships for the era of steamships. However, with the advent of diesel engines and high-pressure steam turbines, it has been replaced by oil-derived fuels.		
• Background	<p>The depletion of crude oil reserves in the near future, as well as environmental considerations has resulted in searches for alternative fuels. A new era in ship propulsion is imminent with the development of fuel cell technologies. Therefore, research for fuels to be used in fuel cells is under progress. One proposal is for the revivation of coal, after being gasified to release a carbon monoxide and hydrogen rich gas that is being useable in solid oxide fuel cells (SOFC's). The other is the natural gas, which can be used in high-pressure gas tanks or being stored as gas hydrates.</p> <p>This research proposed is for the study of those two alternatives for ship propulsion.</p>		
• Work programme: work packages, etc.			
Estimated budget			
Project consortium			
• Coordinator			
• Participants			

PROJECT PROFILE SHEET		
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Research topic	SST.2010.5.2-4 Competitive continental shipping including port operations	

Instrument	Collaborative research	X	Coordination & support action
Project title	Pusher-Barge Systems in Europe		
Project acronym	PUSHBASE		
Project Objectives	Facilitate the usage of pusher-barge systems in Europe.		
Project abstract	Pusher-barge systems (PBSs) are of current use for short-sea shipping in North America; they are considered there as the most economical mode of bulk transport. They are not so used in Europe. The aim of the project is to investigate the reasons of this situation. Two questions will be addressed:		
• Background	<ul style="list-style-type: none"> - What are the differences between North America and Europe? - What are the barriers to the use of PBSs in Europe? 		
• Work programme: work packages, etc.	Each WP will investigate in its field the North American and the European situations, will compare them and, if relevant, will propose actions to facilitate the usage of PBSs in Europe: WP1: Market/Economics WP2: Regulation/Safety/Environment/Legal issues WP3: Engineering (ATB vs. ITB)/Technical standardization WP4: Operation/Infrastructures/Information management /Business organization (fleet)		
Estimated budget			
Project consortium			
• Coordinator	University of Southampton		
• Participants			

PROJECT PROFILE SHEET		
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Research topic	Wireless medical aid	

Instrument	Collaborative research	Coordination & support action
Project title	Medical application for Sysmart wireless communication and tracking system	
Project acronym	Sysmart Medic	
Project Objectives	Being able to offer shore based specialised medical aid for ships at sea	
Project abstract	Accidents on board vessels without trauma specialists.	
• Background		
• Work programme: work packages, etc.	Based on the existing Sysmart wireless communication and tracking system a module can be added that allows shore based medical aid and intervention	
Estimated budget	1 million Euro over 3 years	
Project consortium	Open	
• Coordinator		
• Participants		

PROJECT PROFILE SHEET		
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Research topic	SST.2010.6.1 Towards improved technology transfer	

Instrument	Collaborative research	Coordination & support action	X
Project title	Improving the Access of Small Shipyards in the New Build and Repair Sector to available Technologies and Research Results		
Project acronym	TBD		
Project Objectives	<ul style="list-style-type: none"> - improve information of small shipyards on available technologies and research results; - foster the application of “foot-on-ground” technologies in the industry; - improve the network between research actors, experts and the industry to support a sustainable exchange of information and a wider application of research results in the industry; - select critical technologies from the perspective of the industry; - conduct workshops and create show cases how the business can be improved by implementing “comparatively cheap” technologies and research results in the smaller yards. 		
Project abstract	<ul style="list-style-type: none"> - small shipyards in the new building and repair sector have specific technological needs; - those shipyards usually have limited access to research results and available technologies; - the research capacities and financial resources of these “small companies” is limited, therefore they need help by the research community and leading industry actors; - the project will use the infrastructure provided by ECMAR (European research centres) and CESA (COREDES Working Group of Small Shipyards and the SMR Group); 		
• Background			

<ul style="list-style-type: none"> • Work programme: work packages, etc. 	<p>TBD A questionnaire is currently circulated among the small shipyards to define in detail their needs.</p>
<p>Estimated budget</p>	<p>About 1 M€</p>
<p>Project consortium</p>	<p>The proposal is intended to be submitted under the “patronage” of ECMAR (know-how suppliers) and COREDES (small industry). Experts for selected key technology areas as well as national contact points will be selected using the ECMAR infrastructure. Small shipyards will be represented by their national industry associations which will act as contact to the industry and multipliers, to reach as much as possible industry actors. CMT intends to coordinate the proposal.</p> <p>Note: NO partners will be directly implemented. Please use your national associations represented in CESA (if you are industry) or ECMAR (if you are a research or know-how provider) or contact directly CMT if you are interested to participate.</p>
<ul style="list-style-type: none"> • Coordinator 	<p>Center of Maritime Technologies e.V. For COREDES and ECMAR</p>
<ul style="list-style-type: none"> • Participants 	<p>ECMAR, COREDES (CESA) National industry associations Selected know-how providers depending on the areas to be defined.</p>

PROJECT PROFILE SHEET		
Submitted by	Name	Doug Beare
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Research topic	Vectors of changes in marine life, impact on economic sectors Call: FP7-OCEAN-2010	

Instrument	Collaborative project (large scale integrating project)			
Project title	Vectors of changes in marine life, impact on economic sectors			
Project acronym	VCOS			
Project Objectives	Simultaneously study the interactions between marine ecosystems and economies.			
Project Abstract: • Background	<p>Marine environments are under major global threats and subject to many changes. However, the mechanisms inducing these changes in particular changes in marinelife are poorly understood and quantified. It is crucial to better understand and assess, in an integrated way, the interaction between changes in marine life and European marine and maritime economic sectors. Research shall contribute to formulating feasible adaptive management strategies for the EU.</p> <p>The project will include consideration of human induced changes on marine life, including impact from transport, energy devices, exploitation of living resources, discharges, together with environmental changes (including climate changes). The focus will be on outbreaks of invasive or indigenous species, changes in distribution of population of marine organisms such as fish populations, on the vectors of changes and the impacts of these changes on biodiversity and related maritime economic sectors. Research should consider the present situation and investigate future scenarios for adaptation and mitigation considering the introduction of new technologies and structures, such as new ballast water practices, ocean and off-shore wind energy devices, new fishing strategies and new policies needs.</p> <p>The project will improve the understanding of the mechanisms causing outbreaks of indigenous species e.g. jellyfish, the spread of invasive species caused by transport or via other transfer vectors, changes in fish distribution and productivity (including exploited species) at population and community level, caused by environmental and human-induced changes. It will quantify the impact of these changes on the ecosystem and identify the trends on ecosystem structures (e.g. biodiversity) and function (e.g. food chain). It will also provide data and tools to relevant stakeholders within the environmental, policy and economic spheres e.g. for exploitation of offshore devices, transport and fisheries.</p>			

	<p>Moreover, the project will evaluate the social and economic consequences of changes in the marine ecosystems, market and non-market impacts including public perception and engagement, risk and vulnerability for related sectors (public health, tourism, transport, fisheries and aquaculture, ocean and off-shore wind energy devices, etc). When appropriate, the project should consider forthcoming strategies such as the IMO Convention on ballast water management. It will also investigate feasibility of additional management measures if necessary to address changes in the marine environment in cooperation with stakeholders, considering forthcoming requirements, policies and regulations such as the EU Maritime Policy, EU Marine Strategy, Common Fisheries Policy, IMO conventions.</p> <p>The project should maximise its impact by addressing several ocean and sea areas bordering the EU and when appropriate building upon existing work. A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.</p> <p>Funding scheme: Collaborative project (large-scale integrating project)</p> <p>Additional eligibility criteria: The requested EC contribution shall not exceed EUR 12 500 000.</p> <p>Expected impact:</p> <ul style="list-style-type: none"> ▪ Improved knowledge on the impact of human induced and environmental changes on marine life and economic activities in several ocean and sea areas bordering the EU; ▪ Quantification of the impact of changes in marine life (invasive species, outbreak, changes in marine organisms populations such as fish populations) on biodiversity and related economic sectors (tourism, fisheries and aquaculture, transport, energy), including public perception; ▪ Providing scientific foundation for feasible, sustainable management measures supporting policies and possible related technologies; ▪ Contributing to sustainable management of marine ecosystems and activities.
<ul style="list-style-type: none"> • Work programme: work packages, etc. 	<p>VECTORS: Vectors of Change in Oceans and Seas Marine Life, Impact on Economic Sectors. Draft 10/10/2009</p> <p><u>WP1- PRESSURES OF CHANGE</u></p> <p>WP1.1. Indirect – Leader: xx WP1.2. Direct – Leader: xx</p> <p>Objectives</p> <ul style="list-style-type: none"> • <i>To identify, prioritise and quantify direct and indirect pressures of change in European/ Regional Seas.</i> • <i>To use the above to develop scenarios for remaining WP's to address</i>

	<p>WP1.1 Drivers and policies with <i>indirect</i> ecological impact To determine current activity and future trends in:</p> <ul style="list-style-type: none"> • Energy demands <ul style="list-style-type: none"> – Mitigation of greenhouse gas accumulation – Driving the introduction of new technologies • Economic <ul style="list-style-type: none"> – shipping, leisure and recreation, food • Changes in policy <ul style="list-style-type: none"> – EU Maritime Policy – EU Marine Strategy – EU CFP – IMO Convention on ballast water management – Water Directive – Others? • Interactions between multiple policies and drivers <p>WP1.2 Indirect and direct <i>vectors</i> with <i>direct</i> ecological impact To determine current activity and future trends in:</p> <ul style="list-style-type: none"> • Climate change (including extreme events) • Ocean acidification • Resource exploitation • Pollution and discharges and hypoxia • Introduction of new offshore renewable energy technologies (wind farming, wave, tidal) • Introduction of new ballast water technologies and practices • Maritime transport • Interactions between multiple uses and sectors <p>TASKS <i>WP1 is envisaged to be largely a desktop review exercise with a workshop for all project partners to be completed rapidly after the start of the project. Through review of existing understanding, especially from previous EU projects ELME, KNOWSEAS, SPICOSA and SESAME...</i></p> <ul style="list-style-type: none"> • <i>Identify current patterns of each of the drivers, policies and vectors</i> • <i>Identify how these are changing and what they are likely to be in 5, 10 and 20 years (horizon scanning for future scenarios)</i> • <i>Identify how do/will they interact</i> • <i>Identify the pathways or mechanisms through which they are likely to impact upon marine ecosystems</i> • <i>Including global, trans-European and European regional seas (case study areas) components</i> • <i>Prioritisation and quantification of important European/case study issues to be addressed in remaining WPs</i> • <i>Develop scenarios for remaining WP's to address</i>
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	<p>WP2- MECHANISMS OF CHANGE Integrating Leaders: WP2.1. Invasive Species WP2.2. Species Outbreaks WP2.3. Distributions and Productivity WP2.4. Biodiversity and Function</p> <p>Objective</p> <ul style="list-style-type: none"> To identify the generic mechanisms of changes in invasive species, indigenous species outbreaks, species distribution and productivity, biodiversity and ecosystem functioning trends in European Seas <p>TASKS <i>Through empirical observation, including meta-analysis, field programmes if required (unless included in WP3) and modelling:</i></p> <ul style="list-style-type: none"> <i>Derive generic understanding of processes to identify ecological mechanisms or pathways (processes?) by which changes occur including changes in stability (resistance/resilience) to disturbance</i> <i>Determine synergistic and antagonistic effects among vectors to identify linkages and interactions between changes caused by different vectors</i> <i>Identify possible generic indicators that adverse changes are underway</i> <i>Identify generic mitigating mechanisms – what needs be done to reverse the processes or restore ecosystems</i> <p>WP3- SOCIO-ECONOMIC IMPLICATIONS Integrating Leaders: WP3.1 Ecosystem Services WP3.2 Bioeconomic modelling WP3.3 Societal Governance</p> <p>Objective</p> <ul style="list-style-type: none"> To comprehensively identify social and economic implications of multiple human activities including ecosystem impacts <p>TASKS <i>This WP will address both generic (trans-European) and regional seas, carry out stakeholder analysis and a range of economic, bio-economic modelling and social science approaches to</i></p> <ul style="list-style-type: none"> <i>Identify the social and economic implications of individual and multiple human activities</i> <i>Identify economic and social implications of current and future ecosystem and fisheries changes identified in WP2, 4 and 5</i> <i>Identify social and economic implications and pathways for mitigation/adaptation</i> <p>PML propose to quantify and model changes in value ecosystem services (monetary and non-monetary) for all goods and services subject to change from the Vectors, drivers and policies with the aim of producing appropriate production functions WUR (Rolf Groeneveld) proposes to carry out Stochastic Dynamic modelling which may fit as a sub WP here?</p>
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	<p>WP4- REGIONAL SEAS IMPACTS – Integrating Leaders: WP4.1. Western Mediterranean WP4.2. North Sea WP4.3. Baltic Sea</p> <p>Objective</p> <ul style="list-style-type: none"> • To identify Regional seas specific impacts through understanding of the current and future trends in vectors, drivers and policies (WP1) and through understanding of the mechanisms of change (WP2) and the socio-economic implications (WP3) <p>TASKS <i>Through meta-analysis, systematic analysis, field observations:</i></p> <ul style="list-style-type: none"> • <i>Combine understanding of current and future trends in vectors, drivers and policies of WP1 with understanding of mechanisms of change of WP2 and apply to specific marine sub regions¹ to understand how and where changes of concern have arisen</i> • <i>Identify linkages and interactions between changes and between drivers in the selected marine sub-regions</i> • <i>Identify existing and possible routes for mitigation</i> <p>WP5- FUTURE IMPACTS OF CHANGE – Integrating Leaders: WP5.1. Ecosystem futures WP5.2. Economic futures WP5.3. Social implications</p> <p>Objective</p> <ul style="list-style-type: none"> • To forecast environmental, social and economic changes that are likely to arise 5, 10 and 20 years into the future as a result of different vectors, drivers and policies <p>TASKS <i>This WP will be driven by scenarios (from WP1), improved understanding of mechanisms of change (WP2), socio-economic implications (WP3) real ecological impacts (WP4) to forecast changes that may occur (5, 10, 20 year). It will be carried out through ecosystem modelling e.g. building on the outputs of MEECE, coupled with economic modelling (including the goods and services approach and fisheries bio economics) taking into account social implications. The approach is likely to follow a generic model framework for integrated assessment such as the agent based ecosystem-level management strategy evaluation modelling framework (InVitro) which has been specifically designed to consider multiple use management questions for the marine environment.</i></p> <ul style="list-style-type: none"> • <i>Forecast the economic, societal and environmental implications under current trends of vectors, drivers and policies</i> • <i>Forecast how these implications might change under different scenarios of adaptation and mitigation of human activities.</i>
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¹ As defined in Article 4 of Marine Strategy Framework Directive

	<p>WP6- SYNTHESIS, GOVERNANCE AND POLICY</p> <p>Objectives</p> <ul style="list-style-type: none"> • <i>To identify issues of governance that will progress towards mitigation and adaptation</i> • <i>To synthesise findings into policy recommendations and decision support tools to deliver information that will enable:</i> <ul style="list-style-type: none"> – <i>Better integration of marine policy (including economic, social and ecological considerations) across all sectors (public health, tourism, transport, fisheries, ocean and offshore energy devices)</i> – <i>More adaptive policy responses as part of the Ecosystem Approach</i> – <i>Better understanding of the links between processes and outcomes</i> <p>TASKS</p> <p><i>This WP will focus at the generic (trans-European) scale? It's format will be driven by the views and inputs of stakeholders, especially policy makers, assimilated throughout the project via a reference user group.</i></p> <ul style="list-style-type: none"> • <i>Assimilate views of key stakeholders on the policy implications of the project results and the most appropriate format of synthesis of the results and development of decision support tools that will make the results accessible and practically useful to them.</i> <p>WP7- KNOWLEDGE EXCHANGE</p> <p>TASKS</p> <ul style="list-style-type: none"> • <i>Identify, attract and engage a reference user group of key stakeholders committed throughout the lifetime of the project to facilitate regular dissemination of results and feedback on their relevance and utility</i> <p><i>Stakeholders include:</i></p> <ul style="list-style-type: none"> – <i>Policy makers</i> – <i>Maritime shipping</i> – <i>Energy industry and technology developers</i> – <i>NGOs</i> – <i>Fisheries representatives</i> – <i>Recreation and tourism users</i> – <i>Public health bodies</i> – <i>Members of the public</i> <ul style="list-style-type: none"> • <i>Many other outreach and knowledge exchange activities</i> <p>WP8- DATA MANAGEMENT – Leaders: WP9- CONSORTIUM MANAGEMENT</p>
Estimated budget	12 million euros
Project consortium	
• Coordinator	Manuel Barange, Plymouth Marine Laboratory, UK
• Participants	

PROJECT PROFILE SHEET		
Submitted by	Name	BURGERS Ignas
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Research topic	Anti piracy measurements	

Instrument	Collaborative research	Coordination & support action
Project title	Secure handling of VTOL	
Project acronym	VTOL Aid	
Project Objectives	Being able to offer secure automatic or manual take off, landing, securing and handling of helicopters and drone's	
Project abstract	Over the horizon observation of vessel' or platform environment.	
• Background		
• Work programme: work packages, etc.	Automatic, (or manual), take of and landing aid based on a movable securing device for light/medium VTOL's	
Estimated budget	2 million Euro over 3 years	
Project consortium	Open	
• Coordinator		
• Participants		