



SEVENTH FRAMEWORK PROGRAMME

THEME 7 : Transport (including Aeronautics)

Monitor of European RDI



Project Acronym:

CASMARE

Project Full Title:

Coordination Action to maintain and further develop a Sustainable Maritime Research in Europe

Grant agreement n°:

234252

List of Beneficiaries

Number	Name	Short name	Country	Entering Date	Exit Date
1 coordinator	Community of European Shipyards' Associations	CESA	Belgium	M1	M30
2	European Marine equipment Council	EMEC	Belgium	M1	M30
3	Lloyd's Register (representing EURACS, European Association for Classification Societies)	LR	United Kingdom	M1	M30
4	European Council for Maritime Applied R&D	ECMAR	Belgium	M1	M30
5	Western European Graduate Education in Marine Technology	WEGEMT	Netherlands	M1	M30
6	European Community Shipowners' Associations	ECSA	Belgium	M1	M30
7	ICOMIA (representing EURMIG European Union Recreational Marine Industry Group)	ICOMIA	United Kingdom	M1	M30
8	Europese Binnenvaart Unie	EBU	Belgium	M1	M30

WP 3 - Deliverable D 3.4.1

Title: Monitoring & Assessment of EU RDI results

Due at M10 by EMEC/CESA

Author: Lanfranco Benedetti

Description of the Task:

Task 3.5 Monitoring & Assessment of RDI results (CESA /EMEC)

The purpose is to monitor, assess and evaluate the implementation of the WATERBORNE Research Strategy at EU and National/Regional levels and evaluate the RDI results. (Remark: A complete picture requires access to the needed information from the project managers. Transparency and support of the public funding agencies would be necessary).

This task will develop and implement consistent approaches (including parameters and measurements) to monitor and assess:

- ⇒ the impact of the WATERBORNE Research Strategy documents (highlighting the priorities) on EU and national research programmes by establishing which topics/priorities have been or are being funded;
- ⇒ the progress of the state of the art to be mapped against the WIRM 2007, establishing the state of advance of the implementation of the WSRA.

These results should provide input for the updating of the WATERBORNE Research Strategy documents.

In this task, **CASMARE** will use the data and information gathered within existing networks and / or initiatives (such as MARPOS or MARTEC) and will link up with them.

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1. Introduction

The WATERBORNE TP's strategic documents have been released in very recent years; in year 2005 the VISION 2020 has been issued, in year 2007 first the Strategic Research Agenda (WSRA) and then the Implementation Plan (WIRM) have been issued.

From that point in time 2 activities have been pursued: (1) efforts to map the funded and running research projects against the WIRM have been made by the WATERBORNE TP; (2) initial ideas to drive the future research needs in accordance with the WSRA have been put in place.

This report presents the status of work to identify the coverage of the WIRM research topics by funded projects.

The overall monitoring will be carried out, by CASMARE's partners in three phases in accordance with the DoW:

- (1) REPORT on Monitoring & Assessment of RDI at EU level results Year 1;
- (2) REPORT on Monitoring & Assessment of RDI at national level results Year 2;
- (3) REPORT on Monitoring & Assessment of RDI progress and mapping against the WIRM 2007 results Year 3.

From the previous schedule the mapping against the WIRM is foreseen for Year 3, but nevertheless some elements of this work will be present in all three reports even if in an early stage of coverage.

2. Methodology

The overall methodology used to analyse the research projects will be as follows.

Primarily the investigation will start from Year 2007; this date is directly related to the publication of the WSRA and WIRM that were issued in Year 2007. This choice will cover the research in both FP6 and FP7 programs and again two possible situation are possible:

- (1) The project under investigation is already closed;
- (2) The project under investigation is running.

The access to the related information could be more complete for the first typology and more limited for the second typology unless there is direct access to the project via participation or via a direct relationship with the participants.

In both cases a reasonable project coverage and understanding has been ensured.

In the search criteria not only SST related project have been included, but also all the running projects that can be relevant with respect to the WSRA, or have been completed under other sections of FP7. This approach has significantly enlarged the number of projects to include in the analysis.

For each project that is under FP6 and FP7 funded from Year 2007 the following information is collected and analysed:

1. Project Title;
2. Partners involved;
3. Start and End dates;
4. Funding Instrument;
5. Short Summary of the main objectives;
6. Short summary of findings (if available and clear);
7. Relation with the key priorities of the WATERBORNE TP.

3. Sources of information

The natural choice on where to get information about the research projects is the web. A wide choice of information sources is available on the net from institutional websites to projects websites and company websites.

The principal sources we have used are the following:

1. Transport Research Knowledge Centre (TRKC);
2. CORDIS;
3. MARTEC ERA-Net;
4. Projects web-sites

3.1 Transport Research Knowledge Centre (TRKC)

The TRKC is a project itself funded by the Directorate of Energy and Transport under FP6. The Transport Research Knowledge Centre (TRKC) gives you an overview of research activities at European and national level. A project database of ongoing and completed European and National is available with several levels of information.

On this web-site it is possible to find the final reports for the closed projects and a very short description for the running ones.

3.2 CORDIS

CORDIS is probably the principal source of information. It is run directly from the European Commission and here can found all the official information relative to all research framework programs. For each project is possible to find a short summary with the basic information and fact sheets. Since it is constantly kept updated it is the principal source for the running and "just signed" projects.

3.3 MARTEC ERA-Net

MARTEC is a partnership of 17 European ministries and funding organizations responsible for funding RTD in maritime technologies from 13 countries. All together these countries represent more than ¼ of the gross tonnage (GT) of shipbuilding output in Europe. MARTEC is a legal entity that launches calls for tender and therefore on the MARTEC website there are descriptions of projects related to the calls with some good level of detail present.

3.4 Projects Websites

These sources of information are all different from one to another in terms of facts available, details, objectives and dissemination. However this source of information is a useful complement with respect to the first two

4. List of projects under analysis

In the following the list of projects that have been identified under the criteria specified above (funded from Year 2007) to be analysed in the present report.

4.1 CORDIS WebSite

From the CORDIS website the following have been identified:

1. SUSY

Title: Surfacing system for ship recovery

Research Area: SST.2008.1.2.1. Preventive and emergency interventions to protect marine, coastal and land environments

Start Date: [2009-09-01]

2. SAFEGUARD

Title: Ship evacuation data and scenarios

Research Area: SST-2007-4.1-01 Safety and security by design

Start Date: [2009-04-01]

3. NAVTRONIC

Title: Navigational system for efficient maritime transport

Research Area: SST.2008.5.2.2. Competitive transport operations

Start Date: [2009-10-01]

4. HERCULES-B

Title: Higher-efficiency engine with ultra - low emissions for ships

Research Area: SST-2007-1.1-05 Clean and energy efficient marine diesel power trains

Start Date: [2008-09-01]

5. RISPECT

Title: Risk-based expert system for through life ship structural inspection and maintenance and new-build ship structural design

- Research Area:** SST-2007-5.1-01 Competitive product development,SST-2007-5.1-02 Cost effective manufacturing and maintenance
Start Date: [2008-10-01]
6. EXCITING
Title: Exact geometry simulation for optimized design of vehicles and vessels
Research Area: SST-2007-5.1-01 Competitive product development,SST-2007-1.1-02 Vehicle/vessel and infrastructure technologies for optimal use of energy
Start Date: [2008-10-01]
7. DIVEST
Title: Dismantling of vessels with enhanced safety and technology
Research Area: SST-2007-1.2-02 End of life strategies for vehicles/vessels and infrastructures
Start Date: [2008-08-01]
8. PROMARC
Title: Promoting marine research careers
Research Area: SST-2007-6.0-03 Raising Awareness of potential job opportunities in the Surface Transport sectors
Start Date: [2008-10-01]
9. CORFAT
Title: Cost effective corrosion and fatigue monitoring for transport products
Research Area: SST-2007-1.2-01 The greening of transport-specific industrial processes,SST-2007-5.1-02 Cost effective manufacturing and maintenance
Start Date: [2008-11-01]
10. POSE²IDON
Title: Power optimised ship for environment with electric innovative designs on board
Research Area: SST-2007-1.1-04 Electric *ship* technology
Start Date: [2009-01-01]
11. AZIPILOT
Title: Intuitive operation and pilot training when using marine azimuthing control devices
Research Area: SST-2007-4.1-02 Human physical and behavioral components
Start Date: [2008-11-01]
12. FLOODSTAND
Title: Integrated flooding control and standard for stability and crises management
Research Area: SST-2007-4.1-01 Safety and security by design
Start Date: [2009-03-01]
13. FIREPROOF
Title: Probabilistic framework for onboard fire-safety
Research Area: SST-2007-4.1-01 Safety and security by design
Start Date: [2009-05-15]
14. EXCITING
Title: Exact geometry simulation for optimized design of vehicles and vessels

- Research Area:** SST-2007-5.1-01 Competitive product development, SST-2007-1.1-02 Vehicle/vessel and infrastructure technologies for optimal use of energy
Start Date: [2008-10-01]
15. SECTRONIC
Title: Security system for maritime infrastructures, ports and coastal zones
Research Area: SEC-2007-2.3-04 Small area 24 hours surveillance
Start Date: [2008-02-01]
16. SHOAL
Title: Search and monitoring of Harmful contaminants, other pollutants and leaks in vessels in port using a swarm of robotic fish
Research Area: ICT-2007.2.2 Cognitive systems, interaction, robotics (ICT-2007.2.2)
Start Date: [2009-03-02]
17. NEXTMUSE
Title: Next generation multi-mechanics simulation environment (NextMuSE)
Research Area: ICT-2007.8.0 FET Open
Start Date: [2009-04-01]
18. ERICON-AB
Title: The European polar research icebreaker consortium Aurora Borealis
Research Area: INFRA-2007-2.2-01 Preparatory phase for the projects in the 2006 ESFRI Roadmap
Start Date: [2008-03-01]
19. PRESS4TRANSPORT
Title: Virtual Press Office to improve EU Sustainable Surface Transport research media visibility on a national and regional level
Research Area: SST.2008.6.0.4. Analysis and dissemination of key national and regional transport research results
Start Date: [2009-09-01]
20. MARITIME HEGEMONY
Title: Conflict Management, cross-border relations and the struggle for maritime hegemony in the North Atlantic (XVIth-XVIIth centuries)
Research Area: PEOPLE-2007-2-1.IEF Marie Curie Action: "Intra-European Fellowships for Career Development"
Start Date: [2008-09-01]
21. TECH-CLINIC SST
Title: Setting-up of effective technological clinics to address real knowledge needs of surface transport industry
Research Area: SST-2007-6.0-03 Raising Awareness of potential job opportunities in the Surface Transport sectors
Start Date: [2008-04-01]
22. SKEMA
Title: Sustainable knowledge platform for the european maritime and logistics industry

Research Area: SST-2007.2.2-04 Maritime and logistics co-ordination platform

Start Date: [2008-06-16]

23. PROPS

Title: Promotional platform for short sea shipping and intermodality

Research Area: SST-2007.2.2-03 Promotion of short sea shipping and intermodality

Start Date: [2008-07-01]

24. INTERCONNECT

Title: Interconnection between short and long-distance transport networks

Research Area: TPT-2008.0.0.13 New mobility/organisational schemes: interconnection between short and long-distance transport networks

Start Date: [2009-06-01]

Start Date: [2008-06-01]

25. RISPECT

Title: Risk-based expert system for through life ship structural inspection and maintenance and new-build ship structural design

Research Area: SST-2007-5.1-01 Competitive product development, SST-2007-5.1-02 Cost effective manufacturing and maintenance

Start Date: [2008-10-01]

26. MARPOS

Title: Maritime policy support

Research Area: SST-2007-6.0-05 The "Future maritime policy" and surface transport research

Start Date: [2008-12-01]

27. OPERAMAR

Title: An interoperable approach to the European union maritime security management

Research Area: SEC-2007-7.0-02 European Security Research Networks (incl. for standardisation)

Start Date: [2008-03-01]

28. SECTRONIC

Title: Security system for maritime infrastructures, ports and coastal zones

Research Area: SEC-2007-2.3-04 Small area 24 hours surveillance

Start Date: [2008-02-01]

29. MARITIME SYSTEM

Title: Territorial dynamics of the world maritime system

Research Area: PEOPLE-2007-2-2.ERG Marie Curie Action: "European Reintegration Grants"

Start Date: [2009-01-01]

30. WIMAAS

Title: Wide maritime area airborne surveillance

Research Area: SEC-2007-3.3-02 Surveillance in wide maritime areas through active and passive means

Start Date: [2008-12-01]

31. STARNETREGIO

Title: STARring a trans-regional network of REGIONal research-driven marine clusters

Research Area: REGIONS-2007-1-01 Bringing the benefits of research to SMEs

Start Date: [2008-01-15]

32. AIMS

Title: Advanced impacts evaluation methodology for innovative freight transport solutions

Research Area: TPT-2007-0.0-06 Development of methodology and evaluation of the impact of FP5 and FP6 projects in the field of Transport

Start Date: [2008-09-01]

33. UAN

Title: Underwater acoustic network

Research Area: ICT-SEC-2007.1.7 Critical infrastructure protection

Start Date: [2008-10-01]

34. HYMAR

Title: High efficiency hybrid drive trains for small and medium sized marine craft

Research Area: SST.2008.1.1.2. Electric-hybrid power trains

Start Date: [2009-05-01]

35. SNAPPER

Title: The development of a novel rare-earth magnet based wave power conversion system - Snapper

Research Area: SME-1 Research for SMEs

Start Date: [2009-09-01]

36. EUROFLEETS

Title: Towards an alliance of European research fleets

Research Area: INFRA-2008-1.1.1 Bottom-up approach: Integrating Activities in all scientific and technological fields

Start Date: [2009-09-01]

37. VISIONS-OLYMPICS

Title: VISIONS-OLYMPICS. The next generation products and procedures for vessels and floating structures

Research Area: SST.2008.6.0.3. Encouraging step changes / radical technology changes

Start Date: [2009-09-01]

38. MARINECFD

Title: Development of CFD tools for large *marine* diesel engine applications

Research Area: PEOPLE-2007-4-3.IRG Marie Curie Action: "International Reintegration Grants"

Start Date: [2008-02-07]

39. MABFUEL

Title: Marine algae as biomass for biofuels

Research Area: FP7-PEOPLE-IAPP-2008 Marie Curie Action: "Industry-Academia Partnerships and Pathways"

- Start Date:** [2009-06-01]
40. HIPER
Title: High power electric propulsion: a roadmap for the future
Research Area: SPA-2007-2.2-01 Space technologies, SPA-2007-2.2-02 Space transportation
Start Date: [2008-10-01]
41. DEEPPISHMAN
Title: Management and monitoring of deep-sea fisheries and stocks
Research Area: KBBE-2008-1-4-02 Deep sea fisheries management
Start Date: [2009-04-01]
42. EQUIMAR
Title: Equitable testing and evaluation of marine energy extraction devices in terms of performance, cost and environmental impact
Research Area: ENERGY-2007-2.6-03 Pre-normative research for ocean energy
Start Date: [2008-04-15]
43. 4SEAS
Title: Synergies between science and society for a shared approach to European seas
Research Area: SiS-2007-3.0.3.1 Actions to encourage co-operation and networking between science museums, science centres and/or the organisers of national and regional events, e.g. by creating synergies to conceive and exchange ambitious and interactive exhibitions on Eu
Start Date: [2008-03-01]
44. STAR-NET TRANSPORT
Title: European network to support the sustainable surface transport SMEs
Research Area: SST-2007-6.0-01 Stimulating participation of small and medium size enterprises (SME)
Start Date: [2008-05-01]
45. CORES
Title: Components for ocean renewable energy systems
Research Area: ENERGY-2007-2.6-01 New components and concepts for ocean energy converters
Start Date: [2008-04-01]

4.2 Transport Research Knowledge Centre (TRKC) website

From the TRKC website the following have been identified:

46. HANDLING WAVES - Decision-Support System for Ship Operation in Rough Weather
Projects (Profile)
01/2007 - 12/2009
European (6th RTD Framework Programme)

Mode of transport: Waterborne
Other transport categories: Decision-support tools

47. FLAGSHIP - European Framework for Safe, Efficient and Environmentally Friendly Ship Operations
Projects (Profile)
01/2007 - 06/2010
European (6th RTD Framework Programme)
Mode of transport: Waterborne
Other transport categories: Environmental aspects , Safety and security , Intelligent Transport Systems , Vehicle technology
48. EMDM - European Maritime Data Management
Projects (Profile)
03/2007 - 12/2008
European (6th RTD Framework Programme)
Mode of transport: Waterborne
Other transport categories: Transport management
49. MOSES - MOrtorways of the Sea European Style
Projects (Profile)
06/2007 - 05/2010
European (6th RTD Framework Programme)
Mode of transport: Waterborne
Other transport categories: Economic aspects (key theme) , Efficiency , Integration and policy development , Vehicle technology

4.3 MARTEC ERA-Net WebSite

The following projects have been found on the MARTEC website with the search key of EU projects:

50. BE LOGIC - Benchmarking logistics and co-modality
51. EIRAC II - EIRAC 2008-2010
52. INTEGRITY - Intermodal global door-to-door container supply chain visibility
53. KITVES - Airfoil-based solution for vessel on-board energy production destined to traction and auxiliary services
54. KOMODA - Co-modality - towards optimized integrated chains in freight transport logistics
55. PLATINA - Platform for the implementation of NAIADES
56. RISING - RIS services for improving the integration of inland waterway transports into intermodal

chains

57. SMARTCM - Smart container chain management

58. TELLIBOX - Intelligent megaswapboxes for advanced intermodal freight transport

5. Project Synopsys and Mapping on WSRA and WIRM

In this section all the identified relevant projects will be analysed and for each project the essential information will be provided in a way sufficient to produce a proper mapping against the WATERBORNE strategic documents.

5.1 POSE²IDON

Power optimised ship for environment with electric innovative designs on board

Start date:2009-01-01

End date:2012-12-31

Project Acronym:POSE²IDON

Project status: Execution

Coordinator: BMT DEFENCE SERVICES LIMITED

Duration:48 months

Project Reference:218599

Project cost:21.464.230 EURO

Programme Acronym: FP7-TRANSPORT

Project Funding:10.130.278 EURO

Contract type:Large-scale integrating project

Description:

The electric ship concept offers many benefits; among other aspects it offers flexibility of control and effectiveness of power transmission. But predominantly it enables higher energy conversion efficiency by ensuring that prime movers are effectively loaded at all times and across all operating conditions. This dominating advantage cannot be matched by mechanical transmission systems because gearboxes offer little chance of integrating a high number of prime movers in the restricted space of a ship whereas this integration is straight forward when managed electrically.

Thus the electric ship concept offers reduced emissions through improved efficiency of engine operation but critically it offers significant reduced emissions during the critical phase of entry to littoral water when with speed generally reduced engines in a mechanical systems become very lightly loaded. It is proposed to enhance the electric ship concept so it suits a wider range of vessels than currently. The principal barrier to adoption of the electric ship concept in merchant ships is the size of the equipment. However if size reductions can be achieved then adopting the electric ship concept in a wider range of merchant ships will, as described above, reduce emissions and improve the impact on global warming.

Overall this impact will be significant given the current and anticipated levels of global trade and the proportion to be moved by sea transport. This challenging ambition, to enable the adoption of the electric ship concept in a wider range of merchant ships, will demand the development of new technologies across all of marine electrical engineering:

- High Temperature Superconductivity (HTS): This is a technology that allows smaller principal electrical components and an increase in efficiency.
- Wireless monitoring: This provides simpler internal control communication and enables the adoption of more advanced control regimes

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Power optimised ship for environment with electric innovative designs on board	POSE ² IDON	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.4. Low Emissions Vessels and Waterborne Activities	2.2.4.3 Electric Power and Propulsion Component Design	2 - Low Energy Low Emissions Ship
		Pillar 2 A Competitive European Maritime Industry	2.2.2 – Innovative Marine Equipment and Systems		3 – Autonomous Ship
					5 – Ship for Short Sea
					6 – The Cruise Ship
					7 – Seven Day Ship Design
				8 – Leading Shipbuilding	

5.2 HERCULES – B

Higher-efficiency engine with ultra - low emissions for ships (HERCULES-B)

Clean and energy efficient marine diesel power trains

Coordinator: ULEME E.E.I.G Germany

Project Acronym: HERCULES-B

Project Reference: 217878

Start Date: 2008-09-01

Duration: 36 months

Project Cost: 26.37 million euro

Contract Type: Large-scale integrating project

End Date: 2011-08-31

Project Status: Execution

Project Funding: 15 million euro

Research area: SST-2007-1.1-05

Description:

The project HERCULES-B is the Phase II of the HERCULES programme, conceived in 2002 as a 7-year strategic R&D Plan, to develop the future generation of optimally efficient and clean marine diesel powerplants. The project is the outcome of a joint vision by the two major European engine manufacturer Groups, MAN Diesel and WARTSILA, which together hold 90% of the world's marine engine market. The research objectives in HERCULES-B focus on the drastic reduction of CO₂ emissions from maritime transport, considering the existing and foreseen composition of the world fleet and fuel infrastructure.

The principal aim in HERCULES-B is to reduce fuel consumption of marine diesel engines by 10%, to improve efficiency of marine diesel propulsion systems to a level of more than 60%, and thus reduce CO₂ emissions substantially. An additional concurrent aim is towards ultra low exhaust emissions (70% Reduction of NO_x, 50% Reduction of Particulates) from marine engines by the year 2020. Today diesel propulsion systems power 99% of the world fleet. HERCULES-B targets the development of engines with extreme operational pressure and temperature parameters, considering the thermo-fluid-dynamic and structural design issues, including friction and wear as well as combustion, air charging, electronics and control, so as to achieve the efficiency / CO₂ target.

To achieve the emissions target, combustion and advanced aftertreatment methods will be concurrently developed. To improve the whole powertrain, the interaction of engine with the ship, as well as the use of combined cycles in overall system optimization, will be considered. The project HERCULES-B structure of work comprises 54 subprojects, grouped into 13 Tasks and 7 Workpackages, spanning the complete spectrum of marine diesel engine technology. The project HERCULES-B has a total budget of 25M , a duration of 36 months and a Consortium with 32 participants.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Higher-efficiency engine with ultra - low emissions for ships	HERCULES-B	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.4. Low Emissions Vessels and Waterborne Activities	2.2.4.3 Electric Power and Propulsion Component Design	2 - Low Energy Low Emissions Ship
		Pillar 2 A Competitive European Maritime Industry	2.2.2 – Innovative Marine Equipment and Systems	2.2.2.2 – Prime Movers Development	4 – The Sustainable Recreational Craft
				2.2.2.3. – Next Generation Power and Propulsion Concepts	5 – Ship for Short Sea
					6 – The European Cruise Ship
				8 – Leading Shipbuilding	

5.3 HYMAR

High efficiency hybrid drive trains for small and medium sized marine craft (*HYMAR*)

Coordinator: INTERNATIONAL COUNCIL OF MARINE INDUSTRY ASSOCIATIONS

Project Acronym: *HYMAR*

Project Reference: 233718

Start Date: 2009-05-01

Duration: 36 months

Project Cost: 2.76 million euro

Contract Type: Small or medium-scale focused research project

End Date: 2012-04-30

Project Status: Execution

Project Funding: 2 million euro

Description:

Marine diesel electric and hybrid drive systems have been used in large ships and submarines for many years but have not yet been successfully transferred to smaller craft, despite claims to the contrary. Numerous attempts have been made, some very recent, but all have been sub optimal and most have failed completely. These failures are due to a lack of underpinning research and of certain key components. The project has the following objectives: Zero emissions to air and zero external noise and vibration in port Reduction of overall fuel consumption by 30%, tending to >90% on applications such as long distance sailing boats using regenerative techniques CO2 reduction of >30% in all off design point applications (e.g.fishing boats and small commercial ferries) 50% reduction in HC and NOx.

The market for small hybrid drive systems is tens of thousands of units and the aggregate social and environmental benefits are substantial. A holistic approach will be taken to total energy consumption and production on board. At the centre of the new system will be a comprehensive energy management module which will supervise and control energy flows in and out of a specially designed battery bank. The NMEA 2000 standard will be developed as necessary for the new data formats. Safety issues will be addressed by developing new ISO standards. The following research, development and validation will be carried out: High efficiency, low speed, torque following propeller Rim drive propulsor using an embedded permanent magnet DC (PMDC) motor and contra rotating blades Load following, dynamic PMDC motor and generator controllers High efficiency DC to DC converters High efficiency AC to high voltage DC multi output battery charger Control algorithms for key components. The final deliverables will be a validated hybrid drive system for small craft, a design tool, critical new components including a new propeller, and contributions to NMEA and ISO standards.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
High efficiency hybrid drive trains for small and medium sized marine craft	HYMAR	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.4. Low Emissions Vessels and Waterborne Activities	2.1.4.3 Eco-Ship Systems	2 - Low Energy Low Emissions Ship
		Pillar 2 A Competitive European Maritime Industry	2.2.2 – Innovative Marine Equipment and Systems	2.1.4.4 Minimising Wash, Noise and Vibration	4 – The Sustainable Recreational Craft
			2.2.4 Next Generation Production Processes	2.1.4.5 The Future sustainable Recreational Craft	5 – Ship for Short Sea
				2.2.2.3. – Next Generation Power and Propulsion Concepts	8 – Leading Shipbuilding
				2.2.4.3 Electric Power and Propulsion Component Design	

5.4 PROMARC

Project Acronym: PROMARC

Project Reference: 218590

Start Date: 2008-10-01

Duration: 24 months

Project Cost: 800620.00 euro

Contract Type: Support actions

End Date: 2010-09-30

Project Status: Execution

Project Funding: 644300.00 euro

Coordinator: WEGEMT

Description:

Europe has a strong maritime economy with a high global position. The strength of the European maritime industry is based on its entrepreneurship and ability to innovate. The European maritime companies can only maintain their position to produce innovative products if they can attract highly qualified RTD personnel. In order to remain at the cutting edge of knowledge and technology for green, competitive, safe and secure advanced maritime products and operations not only naval architects, offshore and marine engineers but also marine scientists, marine transport economists and financiers as well as other related science and engineering graduates have to be attracted to undertake research and development in the maritime sector. PROMARC will raise awareness of job opportunities in the marine transport technology sector in Research and Innovative product development through:

- An investigation and analysis of current National and European Union schemes to promote maritime transport sector.
- Investigation and analysis of current and future sector skill shortage and demand
- Creation of promotional materials on the research and innovation career opportunities in the maritime transport sector to be published online and as brochures and pamphlets for distribution by all sector stakeholders
- Activities to promote of marine transport technology sector in schools including site visits, schools visits and interactive internet site.
- Activities to attract graduates to a career in research including academic competitions, thematic workshops and summer schools

It is recognised that there is a severe gender imbalance in the marine technology sector and special efforts will be targeted at female students to encourage them to follow research and innovation careers in the sector.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
High efficiency hybrid drive trains for small and medium sized marine craft	PROMARC	Critical Cross Industry Enablers – Education –ICT- Policy	Horizontal- All	Horizontal- All	Horizontal- All

5.5 SUSY

Project Acronym: SUSY

Project Reference: 234151

Start Date: 2009-09-01

Duration: 36 months

Project Cost: 4.02 million euro

Contract Type: Small or medium-scale focused research project

End Date: 2012-08-31

Project Status: Execution

Project Funding: 2.65 million euro

Description:

The propagation of spillages is one of the biggest environmental problems after a ship disaster. Instead of cleaning the dirty areas the SUSY system will avoid the spillages by stabilizing vessels immediately after an accident. The main goal of the project is the development of well known submarine rescue technology into systems usable for merchant ships in emergency situations. The systems for submarines are based on satellite booster technology with liquid or solid fuel to blow water out of the ballast tanks in very short time to provide additional buoyancy to stop e.g. an uncontrolled diving process.

Combining this technology with air pressure systems and balloon technology to create a multi purpose modular system for ship rescue purposes is the SUSY project target. Therefore the booster technology combined with pressure air technologies has to be adapted to the salvage procedure requirements. In combination with new balloon textiles a secure vessel stabilization process as well as the salvage process will be supported. Different application scenarios / concepts can be envisaged:

- preventive installation of rescue systems on ships with hazardous cargo,
- equipment for coast guard and rescue squads to quickly stabilize capsized ships and
- equipment for teams to lift sunken ships.

The technical challenges for SUSY where research is needed to develop the envisaged systems are - developing a hydro-dynamical and a thermo-dynamical model as basis for a controlled process for the different possible scenarios -developing a safety and secure buoyancy generating system based on liquid, solid fuel and air pressure, -find the right material to cope with the pressure the temperature and the dynamic loads of a rescue scenario -define a life-cycle cost model to assure the design of a low cost modular system -simulate the different scenarios to provide input for the design optimization Finally SUSY will build a prototype to proof the concept in real sea tests.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Surfacing system for ship recovery	SUSY	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.3. The “Crashworthy” vessel	2.1.3.1 Research with Respcet to Collision and Grounding	1 – The Low Risk Ship
			2.1.5 – Enhanced Waterborne Security	2.1.3.2 - Failure Mechanism Research and Modeling	
				2.1.5.1 – Environmental and Economic Maritime Security	

5.6 EXCITING

Project Acronym: *EXCITING*

Project Reference: 218536

Start Date: 2008-10-01

Duration: 36 months

Project Cost: 3.82 million euro

Contract Type: Small or medium-scale focused research project

End Date: 2011-09-30

Project Status: Execution

Project Funding: 2.49 million euro

Description:

This project focuses on computational tools for the optimized design of functional free-form surfaces. Specific applications are ship hulls and propellers in naval engineering and car components, frames, and turbochargers in the automotive and railway transportation industries. The functionality of these products depends on the shape of the surfaces, and even small variations may have significant impact. Our vision is that all computational tools are based on the same exact representation of the geometry.

This will lead to huge benefits for the entire chain of design, simulation, optimization, and life cycle management. For several reasons, an exact representation of the geometry is essential. The errors introduced by approximating the geometry may falsify the simulation results in challenging applications. This becomes even more important if the simulation is to be used as part of an optimization loop for goal-based design. Multi-physics models, such as fluid-structure interfaces, demand for exact interfaces. There exists a great divide between the CAD (Computer Aided Design) approaches for modeling complex geometries and the numerical simulation methods (FEM). The idea of bridging this gap has gained significant momentum by the introduction of isogeometric analysis (IA) by US-based researchers.

The application and extension of IA to core components of vehicles and vessels is especially rewarding since with respect to functional free-form surfaces, the existing simulation and optimization methods are at the limit of their capabilities. The strategic objectives of the proposal are:

- To establish a new class of computational tools for fluid dynamics and solid mechanics, simulations for vehicles and vessels based on IA,
- To achieve seamless integration of CAD and FEM,
- To apply the tools to product design, simulation and optimization of core components of vehicles and vessels.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Exact geometry simulation for optimized design of vehicles and vessels	EXCITING	Pillar 2 - A Competitive European Maritime Industry	2.2.3 – Tools for Accelerated innovation	2.2.3.1 – State of the Art of Design and Analysis Tools	8 – Leading Shipbuilding

5.7 NAVTRONIC

Navigational system for efficient maritime transport

Start date:2009-10-01

End date:2012-09-30

Project Acronym:NAVTRONIC

Project status:Execution

Co-ordinator: Marine & Remote Sensing Solutions Ltd

Duration:36 months

Project Reference:234372

Project cost:5394242 EURO

Project Funding:3577210 EURO

Programme Acronym: [FP7-TRANSPORT](#)

Contract type: Small or medium-scale focused research project

Description

There is a strong interest in the maritime community to optimize sailing time (expected time of arrival), reduce fuel consumption and greenhouse gas emissions and minimize maintenance cost. The objective of this project is to develop a sail planning system to help sea masters optimize these criteria. The proposed solution mimics the current human sail planning process. It will use ship specific data collection and real-time local and remote observations (3D-radar, Earth Observation data, etc.) combined with several state-of-the-art nowcast and forecast numerical models. It will monitor actual ship performance and assimilate this information in the sail plan optimization process.

The access and systematic exploitation of this ground truth information will provide the unique capability of building "system experience", constantly improving the performance of different sub-models used in the sail plan optimizer. This will also reduce the sensitivity to ocean and weather forecast errors. The system will automatically and continuously compute and communicate optimized sail plans to a vessel. All relevant information justifying the results will be sent simultaneously (as for example a storm system, dangerous wave zones, security and other relevant information).

The execution of the Navtronic system requires a central information centre that will be realized for exchanging ship relevant information and providing optimized real-time sail plans. The central information centre will be part of the GRID distributed processing reciprocity.

The Navtronic project is highly end-user driven the largest market players in the maritime community are partners and support the project with human resources, vessels and infrastructures for tests and evaluations.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Navigational system for efficient maritime transport	NAVTRONIC	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.4. Low Emissions Vessels and Waterborne Activities		2 - Low Energy Low Emissions Ship
		Pillar 2 A Competitive European Maritime Industry	2.2.2 – Innovative Marine Equipment and Systems		3 – Autonomous Ship
					5 – Ship for Short Sea
					6 – The Cruise Ship

5.8 PROPS

Start date: 2008-07-01

End date: 2011-06-30

Project Acronym: PROPS

Project status: Execution

Co-ordinator: ALLIANCE OF MARITIME REGIONAL INTERESTS IN EUROPE

Duration: 36 months

Project Reference: 218621

Project cost: 2.46 million euro

Project Funding: 2.31 million euro

Programme Acronym: [FP7-TRANSPORT](#)

Contract type: Co-ordination Action

Description

The PROPS project builds on previous EU and national activities undertaken to promote and develop short sea shipping. In particular, PROPS aims to work closely with the Short Sea Promotion Centres (SPCs) to develop a workable and replicable methodology that will enhance their practical promotion activities in the fields of legislative, technical, and operational actions and to extend their operations to encompass inter-modal and co-modal transport.

The first step will be to identify, from the SPCs, the best practices aimed at improving the integration of short sea shipping with relevant inland logistics chains. Particular attention will be paid to the linkages of key supply chain stakeholders and the removal of bottlenecks. This initial activity will be followed by a comprehensive analysis of the core processes that are, or need to be, carried out by SPCs, both individually and via the SPC European Network, to develop and utilize a business networking approach to enhance the current, practical work of the SPCs. One outcome of this activity will be a set of performance indicators and benchmarks, linked to self-assessment tools and training programmes for the SPCs. Tools will be developed to assist the SPCs improve their performance and their overall integration into European logistics business networks.

For instance, an e-booking system integrator, to improve access to commercial freight booking systems, will be established. Both strategic and tactical support mechanisms will be developed, and learning from past failures will be formalised as a mechanism for improving the work of the SPCs to promote short sea shipping and intermodal transport. A media campaign, run by a large, professional media company will establish and test the campaign in enhancing role of the SPCs and the perception by business of the need to increase the amount of freight transport by short sea shipping as an integral part of logistics supply chains.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Promotional platform for short sea shipping and intermodality	PROPS	Pillar 3 – Manage and Facilitate Growth and Changing Trade Patterns	2.3.2. Interoperability between Modes	2.3.2.1 High Quality and Efficient Intermodal Services	10 – Intelligent Integrated Transport Network
			2.3.4 Intelligent Transportation Technologies and Integrated ICT Solutions	2.3.4.1 Ports Network and Data Exchange	11 – Intermodal Waterways
			2.3.6 Traffic Management Strategies	2.3.4.2 Cargo Logistic management	

5.9 INTERCONNECT

Start date: 2009-06-01

End date: 2011-05-31

Project Acronym: Interconnect

Project status: Execution

Co-ordinator: Edinburgh Napier University

Duration: 24 months

Project Reference: 233846

Project cost: 1.95 Million Euro

Project Funding: 1.49 Million Euro

Programme Type: FP7 – Transport - TPT-2008.0.0.13 New mobility/organisational schemes: interconnection between short and long-distance transport networks

Contract type: Small or medium-scale focused research project

Description

INTERCONNECT is concerned with the role of local and regional connections in the context of growing importance of interregional passenger journeys in the European Union. Poor interconnectivity among different transport networks and among different scales of modal networks might compromise the objectives of integration of the TEN-T network investments and policy measures.

The proposal addresses the potential for greater efficiency and reduced environmental impact of passenger transport by judicious encouragement of integration, co-operation and, where appropriate, competition in the provision of local connections, paying attention to land, air and maritime modes. Building on the attributes of a well-connected transport system identified in past research and policy documents, as well as on the review of available evidence on the extent and nature of problems affecting local connectivity for longer distance journeys, INTERCONNECT will develop an analytical approach to provide effective recommendations to national and European policy makers.

The applicability of mechanisms for improving interconnectivity between the different network scales and between road, rail, maritime and air passenger modes of transport will be explored through a combination of literature reviews, interviews with key stakeholders and - above all - detailed investigation of selected case studies. The range and applicability of specified solutions, which will be tested in the project case studies, will take into account legal and institutional issues and will make use of policy measures like integrated pricing, and ticketing, improved links and interchanges, infrastructure pricing, strategic planning, information and marketing. While promoting take-up of organisational, administrative and technical best practice and coordination

among policy makers, INTERCONNECT will also make a contribution to the wider use of analytical tools that are appropriate to this field at both European and local level.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Interconnection between short and long-distance transport networks	INTERCONNECT	Pillar 3 – Manage and Facilitate Growth and Changing Trade Patterns	2.3.2. Interoperability between Modes	2.3.2.1 High Quality and Efficient Intermodal Services	10 – Intelligent Integrated Transport Network
			2.3.6 Traffic Management Strategies		

5.10 SECTRONIC

Start date:2008-02-01

End date:2011-01-31

Project Acronym:SECTRONIC

Project status:Execution

Coordinator: Marine & Remote Sensing Solutions Ltd

Duration:36 months

Project Reference:218245

Project cost:7080125 EURO

Project Funding:4496106 EURO

Programme type:FP7 – Security - Small area 24 hours surveillance

Contract type:Collaborative project (generic)

Description

The SECTRONIC initiative addresses observation and protection of critical maritime infrastructures; Passenger and goods transport, Energy supply, and Port infrastructures. All accessible means of observation (offshore, onshore, air, space) of those infrastructures are exchanged via an onshore control centre. The end-users themselves or permitted third-parties can access a composite of infrastructure observations in real-time. The end-users will be able to protect the infrastructure by non-lethal means in the scenario of a security concerned situation.

The proposed system is a 24h small area surveillance system that is designed to be used on any ship, platform, container/oil/gas terminal or harbour. The initiative is an end-users driven R&D activity. The end-users represent the major market player in each of the three infrastructures: Passenger transport, Energy production, Energy transport, Commercial ports and Combined military/commercial ports.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Security system for maritime infrastructures, ports and coastal zones	SECTRONIC	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.5. Enhanced Waterborne Security		

5.11 WIMAAS

Start date:2008-12-01

End date:2011-11-30

Project Acronym:WIMAAS

Project status:Execution

Coordinator Thales Systemes Aeroportes S.A

Duration:36 months

Project Reference:217931

Project cost:4001123 EURO

Project Funding:2737169 EURO

Programme FP7-SECURITY - Surveillance in wide maritime areas through active and passive means

Contract type: Collaborative project (generic)

Description

WIMA²S addresses the Airborne building block of maritime surveillance with the potential for reduced cost of operation, more autonomous and improved efficiency through the introduction of air vehicles with reduced or zero onboard crew. Innovative concepts are required to support the integration of these new vehicles in a future European maritime surveillance system of systems. With 20 million km², the surveillance of the European maritime domain has to be improved, according to the European Council, EC and Agencies such as FRONTEX. The urgent need is to control illegal immigration, but WIMA²S will also contribute to other missions. You cannot control what you do not patrol. Even if cooperation is crucial, Air assets are a unique capability for wide area maritime surveillance because they provide situation awareness over extended areas (endurance, speed and long distance detection), re-direction to areas of interest (threat) and flexible reaction (inspection when needed). WIMA²S will develop concepts and technologies for better operational use at lower costs of: - Maritime Surveillance Manned Airborne Vehicle (MS MAV) including existing Mission Aircraft with zero or reduced onboard tactical crew - Maritime Surveillance Optionally Piloted Vehicles (MS OPV) because regulations will not allow UAVs to fly across European Airspace for years to come. Intermediate solutions are required - Maritime Surveillance Unmanned Airborne Vehicle (MS UAV) because they will become a future key solution Supported by a User Group, WIMA²S consortium will provide tangible results:

- Simulation based on operational scenarios
- Innovative concepts and technologies held by simulation (algorithmic modelling, remote control, sensor data fusion)
- In flight experiment (remote control, crew concept)
- Cost benefit analysis
- Dissemination of results (workshops)
- Roadmap towards the introduction of reduced-crew platforms and UAVs including R&T priorities and future programs.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Security system for maritime infrastructures, ports and coastal zones	SECTRONIC	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.5. Enhanced Waterborne Security		

5.12 CORES

Start date:2008-04-01

End date:2011-03-31

Project Acronym:CORES

Project status:Execution

Coordinator: University College Cork, National University Of Ireland

Duration:36 months

Project Reference:213633

Project cost:4520402 EURO

Project Funding:3449588 EURO

Programme : FP7-ENERGY - New components and concepts for ocean energy converters

Contract type: Small or medium-scale focused research project

Description

Wave Energy Convertors are at an early stage of development. First generation devices have been deployed at the shoreline and normally consist of Oscillating Water Column Systems. In order for these systems to progress towards full commercial realisation they must develop into suited to mass production. This project follows the successful FP6 funding round in which several fixed Oscillating Water Columns Wave Energy Convertors (OWC WECs) were funded at Demonstration level.

These systems are now evolving from fixed to floating devices in deeper water, further offshore. This brings new challenges which this project aims to address. The project will concentrate on the development of new concepts and components for power-take-off, control, moorings, risers, data acquisition and instrumentation based on floating OWC systems. However, the components and concepts developed will have relevance to other floating device types. This project is proposed to run over 3 years. The project brings together a mix of RTD performers and SME s selected from across the European Union for their track records, complementarity and relevant experience.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Components for ocean renewable energy systems	CORES	Pillar 2 – A Competitive European Maritime Industry	2.2.1 Innovative Vessels and Floating Structures		
			2.2.6 Technologies for New and Extended Marine Operations		

5.13 MOSES

Start date:2007-06-01

End date:2010-05-31

Project Acronym:MOSES

Project status:Execution

Coordinator: NORWEGIAN MARINE TECHNOLOGY RESEARCH INSTITUTE

Duration:36 months

Project Reference:38585

Project cost:14079958 EURO

Project Funding:7998822 EURO

Programme:FP6 - Sustainable surface transport, Motorways of the sea (MoS)

Contract type: Integrated Project

Description

The MOSES project treats Sea Motorways as extensions of the land-based TEN-T. The freight carried along the sea motorways is destined to or carried from economic hinterlands across Europe. The sea motorways are key parts of the European logistic supply chains that are themselves part of global logistic supply chains. They are an integral part of the door to door transport chains that establish the functionality of these logistic supply chains.

The efficiency of sea motorways will depend, essentially, on them being highly functional parts of the overall European logistic supply chains and their functionality will depend strongly on the efficiency of the sea to port and port to sea interface and the port to hinterland and hinterland to port interface. The organisational and technological efficiencies of all the elements of the logistic supply chains, and particularly the interfaces indicated above, will be key aspects to be addressed by MOSES.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Motorway of the Sea European Style	MOSES	Pillar 3 – Manage and Facilitate Growth and Changing Trade Patterns	2.3.1 Accelerated Development of New Port and Infrastructure Facilities	2.3.1.1 Planning Tools for Optimal Logistics Chains and Hinterland Connections	10 – Intelligent Integrated Transport Network
			2.2.2 Interoperability Between Modes Operations	2.3.2.1 High Quality and Efficient Intermodal Services	11- Intermodal Waterways
			2.3.3 More Effective Ports and Infrastructure	2.3.3.1 Ship/Shore Systems Integration and Fast Cargo Handling	
			2.3.4 Intelligent Transportation Technologies and Integrated ICT Solutions	2.3.3.3 New Generation Inland Navigation	
			2.3.6 Traffic Management Strategies	2.3.4.1 Ports Network and Data Exchange	
				2.3.4.2 Cargo Logistic Management	

5.14 MOSES I

Start date:2008-10-01

End date:2010-09-30

Project Acronym:MOSES

Project status:Execution

Coordinator: D'APPOLONIA SPA

Duration:24 months

Project Reference:222083

Project cost:1472389 EURO

Project Funding:1045457 EURO

Programme: Sixth Framework Programme - Co-operative Research (all areas of science and technology)

Contract type: Research for SMEs

Description:

More than 4500 total ship losses were recorded worldwide in the period from 1994 to 2002: more than 30% of such incidents are caused by structural problems. Hull stress due to loading, or stresses imparted by wave and adverse weather conditions constitute primary source of risk to all types of ships with a large hull. Bulk carriers, large oil tankers, containers carriers, LNG carriers, and ro-ro are vessel types particularly subject to such type of risks. The concept of MOSES Project is to apply highly knowledge-based methods to achieve control of tensile loads in the whole extension of the ship hull, using temperature compensated laser based optical sensors.

The Project Objectives involve Ship Clustering, Sensors Development, FEM Structural Calculations and Data Conditioning, to grant the applicability to the widest types of ships. Sensor fusion concept is adopted to integrate strain gauges, accelerometers and inclinometers in a common optical-fibre based architecture, capable of providing instantaneous information concerning the dynamic status of the ship. The sensors prove to respect the stringent requirements of the working environment, in terms of ruggedness, reliability, response accuracy, insensibility to Electromagnetic interference and multiplex connection capability.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Innovative continuum multiplex optical sensors hull stress monitoring system, supporting shipping safety and enhancing the control capability over structural ship integrity	MOSES	Pillar 1 - Safe Sustainable and Efficient Waterborne Operations	2.1.2 -Zero Accidents Target	2.1.2.2 -Systems Integration for Safety and Security	1 – The Low Risk Ship
			2.1.3 The Crashworthy Vessel		

5.15 RISPECT

Project Acronym: RISPECT

Project Reference: 218499

Start Date: 2008-10-01

Duration: 36 months

Project Cost: 4.39 million euro

Contract Type: Small or medium-scale focused research project

End Date: 2011-09-30

Project Status: Execution

Project Funding: 3.25 million euro

Description

The primary objective of the RISPECT project is to use ship structural inspection results (coating condition, corrosion, cracks and deformation) along with the calculated expected results to guide future inspections required to achieve a minimum structural reliability. This probabilistic inspection planning is not new but this project takes the method a stage further to use data from large numbers of ships in a central statistical database to contribute to the decision making process for any one ship. This has the effect of combining the traditional Classification Society broad view with the usual probabilistic method that is based on data from one ship only. Secondary objectives of the project are to:

- improve communications between ship owners, managers, inspectors and class,
- use the results as input to new design.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Risk-based expert system for through life ship structural inspection and maintenance and new-build ship structural design	RISPECT	Pillar 2 – A Competitive European Maritime Industry	2.2.4 – Next Generation Production Processes	2.2.4.1 – Leading Edge Integrated Shipbuilding Production	1 – The Low Risk Ship

5.16 EUROFLEETS

Project Acronym: *EUROFLEETS*

Project Reference: 228344

Start Date: 2009-09-01

Duration: 48 months

Project Cost: 8.95 million euro

Contract Type: No contract type

End Date: 2013-08-31

Project Status: Execution

Project Funding: 7.2 million euro

Description

The quality of the infrastructures available for marine research affects directly Europe research performance. So marine research infrastructures are considered as key elements of the European Strategy for Marine Research under development.

A coherent pan-European approach with enhanced partnership in investment, development and usage of fleets, will have a significant impact to better meet the diverse needs of European marine research.

The *EUROFLEETS* process is based on the recommendations of a recent MB-ESF report. It aims at bringing together the European research fleets owners to enhance their coordination and promote the cost-effective use of their facilities.

It will support research services for the monitoring and the sustainable management of the Regional Seas and the Oceans, and will organise a common access to all European scientists on sole condition of scientific excellence. This would enable the EU to reach its ambitious goals about maintaining the ocean biodiversity or understanding climate change.

EUROFLEETS aims at:

- * Working upon common procurement strategy, and build corresponding roadmap on prospective sound bases,
- * Structuring and durably coordinating, through an e-platform, the way that the research vessels are operated and their interoperability capacities,
- * Using more cost efficiently the existing European fleets and associated equipment in the frame of the European research Area,
- * Promoting greener and sustainable research vessel and underwater vehicle operations and design,
- * Providing all European researchers with access to 19 high performing research vessels from 15 different countries,
- * Fostering coordinated and joint development of European fleets, thanks to new interoperable software and underwater vehicle payloads,
- * Developing training and education at sea,
- * Promoting innovative e-access,

* Participating to the European efforts to stay at first rank in the international scientific arena.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Towards an alliance of European research fleets	EUROFLEETS	Pillar 2 – A Competitive European Maritime Industry	2.3.1 – Accelerated Development of New Port & Infrastructure Facilities	2.3.1.2 – Advanced Field Measurement Techniques	12 – Accelerated sustainable Port Development
				2.3.1.3 – Non Intrusive Measurement	

5.17 VISIONS OLYMPICS

Project Acronym: VISIONS-OLYMPICS

Project Reference: 234199

Start Date: 2009-09-01

Duration: 27 months

Project Cost: 696200.00 euro

Contract Type: Support actions

End Date: 2011-11-30

Project Status: Execution

Project Funding: 563525.00 euro

Description

The Concept of VISIONS-OLYMPICS, a Support project targeting call “SST.2008.6.3 Encouraging step changes / radical technology changes in the Surface Transport Sector” focuses on the need to develop innovative maritime products incorporating knowledge, design and manufacturing procedures meeting future market needs and to evaluate their feasibility and analyse the needs for further research and development. VISIONS-OLYMPICS aims to increase the European competitive advantage by tapping into the unspoiled/unbiased creative minds of the young generation. It will:

- Offer out of the box concepts and ideas for the future of European maritime transport,
- Develop these ideas within an environment where purpose driven innovation is cultivated and performed in a risk free environment,
- Build bridges and enhance coordination between EU research networks and strengthen the partnership between research Universities and industry,
- Enhance the skills of future employees in a highly competitive environment,
- Offer targeted dissemination to industry.

VISIONS-OLYMPICS is anticipating this target in two ways.

Students generating the new concepts ideas will be asked to target towards

- increasing market volume,
- increasing European market share,
- minimizing production costs or / and operation costs
- minimizing life cycle cost
- applying paradigms of advanced technologies used successfully in other disciplines to the maritime sector, for achieving the goals described above. This also includes the constitution of interdisciplinary teams providing solutions and training the cross-disciplinary skills transfer.

Thinking in categories of Systems-Solutions and Systems-Optimisation instead of single Products even if the contribution considers just components. This also includes the optimisation of the entire supply chain also covering non maritime parts according to the principle “door to door” transportation.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
The next generation products and procedures for vessels and floating structures	VISIONS OLYMPICS	Critical Industry Enablers – Education –ICT- Policy	Horizontal- All	Horizontal- All	Horizontal- All

5.18 EQUIMAR

Project Acronym: EQUIMAR

Project Reference: 213380

Start Date: 2008-04-15

Duration: 36 months

Project Cost: 5.44 million euro

Contract Type: Small or medium-scale focused research project

End Date: 2011-04-14

Project Status: Execution

Project Funding: 3.99 million euro

Description

EquiMar will deliver a suite of protocols for the equitable evaluation of marine energy converters (based on either tidal or wave energy). These protocols will harmonise testing and evaluation procedures across the wide variety of devices presently available with the aim of accelerating adoption through technology matching and improved understanding of the environmental and economic impacts associated with the deployment of arrays of devices. EquiMar will assess devices through a suite of protocols covering site selection, device engineering design, the scaling up of designs, the deployment of arrays of devices, the environmental impact, in terms of both biological & coastal processes, and economic issues. A series of protocols will be developed through a robust, auditable process and disseminated to the wider community.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Equitable testing and evaluation of marine energy extraction devices in terms of performance, cost and environmental impact	EQUIMAR	Pillar 2 – A Competitive European Maritime Industry	2.3.1 – Accelerated Development of New Port & Infrastructure Facilities	2.3.1.4 – Effects of Climate Change on Waterborne Transport	

5.19 RISING

Project Acronym: RISING

Project Reference: 218589

Start Date: 2009-02-01

Duration: 36 months

Project Cost: 7.5 million euro

Contract Type: Collaborative project (generic)

End Date: 2012-01-31

Project Status: Execution

Project Funding: 5.28 million euro

Description

River Information Services (RIS) are operational in European waterway corridors in a variety of sophistication levels. Their major objective is to collect and distribute river related information in order to support not only public waterways authorities, but also commercial operators in the Inland Waterway Transport (IWT) sector. The use of such information for logistics purposes is still quite under-exploited. RISING will investigate how such information can lead to useful solutions and services supporting complete transport chains involving inland waterways transport.

For this purpose, existing RIS will be equipped with additional intelligent software modules. In addition, transport operators' chain planning, execution and monitoring systems will gain the ability to implement such information into their planning and monitoring processes. On top of improved tracking and tracing capabilities, new concepts, such as Supply Chain Event Management (SCEM), will be used to facilitate automated chain monitoring such that chain managers are informed only when manual intervention is required for cargo to move properly. These new modules and their interaction with systems for chain planning and execution will be implemented according to the framework architecture and mode independent information exchange principles laid out in the Freightwise project. In order to make IWT a part of the co-modal transport chain, this mode must be able to supply at least the same quality services as all other transport modes.

Therefore services need to be developed and offered in a harmonised way - harmonised across borders, as well as between different modes. A key results of RISING is a harmonised set of events, messages and services to be offered for providing RIS information to the logistics chain operators using inland waterway transport. RISING will develop the new capabilities by adopting an evolutionary approach enhancing existing systems rather than re-inventing everything from scratch. The results of RISING will be demonstrated in different logistics chains (containers, bulk, steel) in different geographical regions (Danube, Rhine, Scheldt, Elbe/Weser) covering the major European inland waterways based on the existing RIS information available.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
RIS services for improving the integration of inland waterway transports into intermodal chains	RISING	Pillar 3 – Manage and Facilitate Growth and Changing Trade Patterns	2.3.1 – Accelerated Development of New Port & Infrastructure Facilities	2.3.1.1 – Planning Tools for Optimal Logistic Chains & Hinterland Connections	12 – Accelerated sustainable Port Development

5.20 AIMS

Start date: 2008-09-01

End date: 2010-03-01

Project Acronym: AIMS

Project status: Execution

Coordinator: PTV Planung Transport Verkehr AG

Duration: 18 months

Project Reference: 213342

Project cost: 1.090.000 EURO

Programme Acronym: [FP7-TRANSPORT](#)

Project Funding: 1.090.000 EURO

Contract type: Support actions

Description:

AIMS applies an innovative approach to develop a methodology to assess and evaluate research projects related to freight transport supported in FP5 and FP6. Freight transport is a key element for the economy, raising various environmental, social, security or safety issues that are severely increasing, also in the future. Innovation is a key bridging both streams. High investments in freight transport RTD are made, however, various RTD projects have never passed the commercialisation threshold.

AIMS aims to minimize the risks of public or private investments in freight transport RTD. AIMS will identify critical factors of RTD projects through success and failure analysis of previous FP5 and FP6 projects. Based on results coming from the analysis of the past, present and future (notably as seen by Technological Platforms and Advisory councils), AIMS will assess the positive or negative impacts of European research FP and projects in particular in the economic, social and environmental fields. A specific care will be given to depict changes operated by the different Member States and catalysed by EU research programs. Guidelines for current and future FP7 projects will then be produced and recommendations for the definition of new research policy objectives provided.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Advanced impacts evaluation methodology for innovative freight transport solutions	AIMS	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.5. Enhanced Waterborne Security	2.1.5.1 Environmental and Economic Maritime Security	5 – Ship for Short Sea
		Pillar 2 A Competitive European Maritime Industry	2.2.5 –Effective Waterborne Operations		10 – Intelligent Integrated Transport Network
		Pillar 3 Managing and facilitating the growth in transport volumes and the changes in trade patterns	2.3.2 – Interoperability between Modes		11 – Intermodal Waterways
			2.3.4 - Intelligent transportation Technologies and Integrated ICT Solutions		

5.21 HANDLING WAVES

Start date: 2007-01-01

End date: 2010-06-30

Project Acronym: HANDLING WAVES

Project status: Execution

Coordinator: RINA S.P.A.

Duration: 42 months

Project Reference: 31489

Project cost: 2939628 EURO

Programme Acronym: [FP6-SUSTDEV](#)

Project Funding: 1699964 EURO

Contract type: Specific Targeted Research Project

Description: Reliability of the service, in terms of punctuality, operability and availability of the ship, is the attribute that most contribute to the efficiency of waterborne transport. In order to increase the reliability of maritime shipping, several aspects can be addressed. One of which is the performance of the ship that, in turn, depends on both design and operational factors. The aim of the project is to improve ship's performance, addressing those operational factors that are connected to operability and availability of the ship itself. This will be achieved by the development of a decision support system which is able to address these elements and which is conceived for installation on both new constructions and existing ships. It thus addresses the competitiveness of both the EU ship manufacturing sector (new ships) and the EU ship operators (existing ships).

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Decision Support System for Ship Operation in Rough Weather	HANDLING WAVES	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.2.5 - Effective Waterborne Operations	2.2.5.1 – Life Cycle Cost Reductions	1 – The Low Risk Ship
			2.2.3 – Tools for Accelerated Innovation	2.2.3.2 – Technology Base	3 – The Automonos Ship
					5 – Short Sea Operations
					6 – The European Cruise Ship

5.22 KITES

Start date: 2008-10-01

End date: 2011-09-30

Project Acronym: KITES

Project status: Execution

Coordinator: Sequoia Automation SRL

Duration: 36 months

Project Reference: 218691

Project cost: 4.254.055 EURO

Programme Acronym: [FP7-TRANSPORT](#)

Project Funding: 2.955.738 EURO

Contract type: Small or medium-scale focused research project

Description:

The problem that will be the object of the project is the generation of electric energy on vessels. In the troposphere, the wind increases its velocity with the altitude and this velocity is also more constant. KiteVes solution is based on the on-board realisation of a wind-powered generator, capable to harvest the altitude wind and to efficiently convert wind power into electrical power. The kites will be equipped with sensors. The sensors will identify position, orientation and acceleration of each kite. The data will be transmitted to a control unit (placed on the vessel) which pilot motors (also placed on the vessel).

Through a cinematic chain and the two cables, connected to the kites, the motors control the fly of the kites. The motors are equipped with double effect drives, this way the same motors act as power generators. The main concept that lies behind this project is the application of emerging technologies in the field of energy production to the field of surface transport, with the main objective of performing the greening of surface transport itself by the implementation of technologies for an optimal use of energy. The main objective of the KiteVes Project is to provide an innovative solution to the electric energy supplying aboard vessels, available for the following purposes: 1. supplying energy to on board services and auxiliaries; 2. supplying energy for traction purposes on electric motors-powered vessels.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Airfoil-based solution for vessel on-board energy production destined to traction and auxiliary services	KITES	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.2.2 –Innovative Marine Equipment & Systems	2.2.2.1 - More Efficient Propulsion	2 – Low Energy , Low Emissions Ship
				2.2.2.3 – Next generation Power and Propulsion Concepts	
				2.2.4.3 – Electric Power & Propulsion Componet Design	

5.23 MARINE CFD

Start date: 2008-02-07

End date: 2012-02-06

Project Acronym: MARINECFD

Project status: Execution

Coordinator: National Technical University of Athens

Duration: 48 months

Project Reference: 207232

Project cost: 100000 EURO

Programme Acronym: [FP7-TRANSPORT](#)

Project Funding: 100000 EURO

Contract type: International Re-integration Grants (IRG)

Description:

The design of more powerful, fuel-efficient, and environmentally friendly propulsion systems is currently one of the main goals of engine researchers and manufacturers worldwide. State-of-the-art Computational Fluid Dynamics (CFD) methods can be a valuable tool to gain insight into in-cylinder mixing and combustion phenomena, and investigate injection strategies capable of minimizing harmful pollutants from internal combustion engines. The proposed research consists of model development and detailed computational studies of internal combustion engine thermo-chemistry, using state-of-the-art techniques. Emphasis will be placed on large marine diesel engine applications. These studies will be also supported by advanced experiments, performed in parallel by colleagues of the researcher in a number of research institutions worldwide.

Specifically, the following four areas will be studied in the course of the proposed research:

- Modelling of fuel spray atomisation in large marine diesel engines: due to the large size of injectors in marine applications, the governing physics of spray breakup is affected, and thus primary atomisation is characterised by different mechanisms, in comparison with automotive applications. Here, we propose the necessary model development and validation to account for the different physics of spray breakup.
- Modelling of fuel evaporation: existing evaporation models will be further developed to account for multi-component fuels, as well as to include more realistic drop shapes.
- Heat transfer modelling: engine heat transfer modelling often mistreats thermal radiation, which can account for up to 50% of the total heat losses. Here, we propose advanced modelling of thermal radiation, as well as a revisit of the assumptions used in convective heat transfer modelling.
- Application of the tools developed to the modelling of simultaneous injection of fuel and water, for engine emissions reduction without compromising fuel economy.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Development of CFD tools for large marine diesel engine applications	MARINECFD	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.2.2 - Innovative Marine Equipment & Systems	2.2.2.1 - More Efficient Propulsion	2 – Low Energy, Low Emissions Ship
			2.2.3 – Tools for Accelerated Innovation	2.2.2.2 – Prime Mover Development	
				2.2.3.1 – State of the Art design and Analysis Tools	

5.24 UAN

Start date: 2008-10-01

End date: 2011-09-30

Project Acronym: UAN

Project status: Execution

Coordinator: CINTAL - Centro Investigacao Tecnologica do Algarve

Duration: 36 months

Project Reference: 225669

Project cost: 4.200.000 EURO

Programme Acronym: [FP7-TRANSPORT](#)

Project Funding: 2.950.000 EURO

Contract type: No contract type (?)

Description:

The UAN project aims at conceiving, developing and testing at sea an innovative and operational concept for integrating in a unique system submerged, surface and aerial sensors with the objective of protecting critical infrastructures, such as off-shore platforms and energy plants. The security of such economically vital infrastructures requires an integrated approach involving underwater and land/air sensors and actuators for surveillance, monitoring and deterrence. In particular, UAN focuses on a security oriented underwater wireless network infrastructure, realized by hydro-acoustic communication. The UAN concept is to gather environmental information during the acoustic transmission and use it to predict the acoustic propagation conditions and the optimal obtainable performance at any given time. This information is used in the communication system for precise tuning.

This tuning will take place at two different levels:

i) by improving the basic point-to-point connection, by introducing physical and geometric constraints in the channel equalization and optimization process of the communication settings ii) at the macro network configuration level by adapting node geometric configuration to the acoustic propagation conditions predicted from the environmental observations.

This can be done in depth or in range by moving nodes placed on AUVs either to increase the point-to-point communication capacity or by serving as relay nodes to more distant, and at that time, inaccessible fixed nodes. This is a rather new approach that requires a better understanding of the acoustic propagation physics as well as a capacity to include that knowledge into technologically advanced communications modules and algorithms for underwater communications. The UAN project builds on a multidisciplinary consortium of technologically advanced industries, field experienced university labs and governmental agencies, thus grouping the required knowledge and experience.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Underwater acoustic network	UAN	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.5 –Enhanced Waterborne Security	2.1.5.1 - Environmental & Economic Maritime Security	

5.25 SNAPPER

Start date: 2009-09-01

End date: 2011-08-31

Project Acronym: SNAPPER

Project status: Execution

Coordinator: New and Renewable Energy Centre, UK

Duration: 24 months

Project Reference: 232099

Project cost: 1.320.000 EURO

Programme Acronym: [FP7-TRANSPORT](#)

Project Funding: 982.620 EURO

Contract type: Research for SMEs

Description:

The concept is a step change in enabling cost effective marine energy renewable capture. It is the development a novel low cost, high efficiency linear generator for marine wave energy extraction, (Snapper). Initially embedded within Point Absorbers and then transferable to other marine energy type capture devices, both wave and tidal, with energy efficiency of the generator of between 75%-80%. The primary advantage of the Snapper technology extending it beyond the state of the art is its ability to act as a magnetic gearing system. This leads to a significant reduction of the mass of the materials needed within the electrical generator, especially rare earth magnets. This will result in a cost saving, based on the raw materials from over 40k to under 7k for a 175KW electrical machine. This will enable a step change in the economic potential for the conversion of wave energy into electricity. To achieve this the technological objectives are: 1) To provide a low friction interface; a coefficient of friction (of not greater than 0.2%) between the translator and the stator with a design lifetime of 20 years operation, 2) To achieve a robustness of design according to six sigma criteria, 3) To achieve environmental protection of the development against marine environments; up to a depth of 60m (6 BAR), wave loading (25 year storm event), salinity (3.5%), anticorrosion (5 year) and biofouling (5 year); and, 4) ensuring that the development is intrinsically environmentally benign. We will also ensure that the system is grid compatible i.e. can be connected to an electrical distribution grid.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
The development of a novel rare-earth magnet based wave power conversion system - Snapper	SNAPPER	Pillar 2 A Competitive European Maritime Industry	2.2.2 - Innovative Marine Equipment & Systems		

5.26 MARPOS

MARitime POLicy Support

Start date: 2008-12-01

End date: 2010-11-30

Project Acronym: MARPOS

Project status: Execution

Coordinator: National Technical University of Athens

Duration: 24 months

Project Reference: 218522

Project cost: 479820.00 EURO

Contract type: Support Action

Description:

This proposal aims at maximizing the benefits and inputs from Transport research into the Maritime Policy of the Commission, as expressed by the current Green Paper on Maritime Policy and other documents and initiatives. It addresses the issue by consolidating and synthesizing the results of Maritime Transport research in the past two FPs, and by exposing and analyzing the so called Transport related items of the Green Paper of the EC on Maritime Policy. For these elements the project will present the Transport research results as produced by a number of Maritime Transport research projects in FP 5&6.

This work tries to correlate, expose and further pronounce the positive inputs that the results of the Transport research programme can have in making the future Maritime Policy of the Union more effective, more compatible with the aims of a sustainable marine environment and ecosystem, and better serving the development objectives and aspirations of the maritime regions and peoples. The project looks also in detail in the reverse direction, in a way compatible with the requirements of the current Transport programme, the future needs and priorities for EU funded Transport research in the Maritime Transport sector so as to better serve the realization of the objectives of the general Maritime Transport Policy. Finally, a substantial part of the work is devoted to dissemination and networking actions in selected regions of the EU.

These activities will include workshops, a major Conference in Brussels and other internet based dissemination activities. The aim is to present to various experts, administrators, and policy makers across EU the contents of the Commission's Maritime Policy emphasizing on the Transport related elements, presenting the project results and recommendations regarding future Transport research themes & priorities, and taking useful feedback in all aspects of the project's work so as to be able to finalize its results and recommendations.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Maritime Policy Support	MARPOS	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.5 – Enhanced Waterborne Security	2.1.5 – Environmental and Economic maritime Security	5 – Short Sea Operations
		Pillar 2 - A Competitive European Maritime Industry	2.2.5 – Effective Waterborne Operations	2.2.3.2 – Technology Base	10 – Intelligent Integrated Transport Network
		Pillar 3 - Managing and facilitating the growth in transport volumes and the changes in trade patterns	2.3.1 – Accelerated Development of New Port & Infrastructure Facilities	2.3.1.1 – Planning Tools for Optimal Logistic Chains	11 – Intermodal Waterways
			2.3.2 – Interoperability between Modes	2.3.2.1 – High Quality and Efficient Inter-Modal Services	
			2.3.3 – More Effective Ports and Infrastructure	2.3.3 – Ship/Shore Systems Integration & Fast Cargo Handling	
			2.3.4 – Intelligent transportation Technologies and Integrated ICT Solutions	2.3.4.1 – Ports Network & Data Exchange	
				2.3.4.2 – Cargo Logistic Management	

5.27 SHOAL

Start date: 2009-03-02

End date: 2012-03-01

Project Acronym: SHOAL

Project status: Execution

Coordinator: BMT GROUP LIMITED

Duration: 36 months

Project Reference: 231646

Project cost: 4227770 EURO

Programme Acronym: FP7-ICT

Project Funding: 2750000 EURO

Contract type: Collaborative project (generic)

Description:

Objective: We have identified a cutting-edge method for monitoring pollution in ports as specified in EU Directive 2005/35. This monitoring process is currently costing approximately 350 million Euros per year in the EU. SHOAL will develop a shoal of robotic fish to analyse contaminants in water and produce a real-time map of which pollutants are in the water, in what concentrations and where these are on a 3D map of the port.

SHOAL will use advanced swarm intelligence techniques to control the robots, utilising hybrid particle swarm/ant colony optimisation techniques in order to coordinate the group efficiently and adapt quickly to changes in the environment. This will benefit not only monitoring operations in ports across the EU, but also lead to important advances in robotics, chemical analysis, underwater communications and robot intelligence. At present there are no fully autonomous systems for monitoring pollution in ports. SHOAL is innovative in that it can analyse chemicals not only on the surface of the water (e.g. oil) but also those that are dissolved in the water (e.g. nitrates). This will allow the fish to find pollution from agriculture as well as leaks from vessels in a port.

SHOAL will build robot fish which will function independently and as part of a larger group to analyse and monitor pollution in a port. These robotic fish will be equipped with chemical sensors to find pollutants in the water and modems to create an ad hoc network for communication within the swarm. This will allow the shoal of robot fish to build up a broad map of the pollutants moving through the port in real time whilst adapting naturally to changes in environmental conditions in the port. Beyond this, due to the design of the robots, they will be able to search underwater rather than simply on the surface, meaning that if a leak is still occurring they will be able to isolate it even if it originates underwater (for example from the hull of a ship or an underwater pipeline).

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Search and monitoring of Harmful contaminants, other pollutants and leaks in vessels in port using a swarm of robotic fish	SHOAL	2.1 Safe, Sustainable and Efficient Waterborne Operations	2.1.5 Enhanced Waterborne Security	2.1.5.1 Environmental and Economic Maritime Security	10 Intelligent Integrated Transport Network
		Critical Enablers	ICT	2.3.5.2 Improved Understanding of the Potential Impact of Development	11 Intermodal Waterways
		2.3 Research Topics to Manage & Facilitate the Growth & Changing Trade Patterns	2.3.1 Accelerated Development of New Port & Infrastructure Facilities	2.3.1.2 Advanced Field Measurement Techniques	12. Sustainable Accelerated Port Development

5.28 NextMuSE

Start date: 2009-04-01

End date: 2012-03-31

Project Acronym: NextMuSE

Project status: Execution

Coordinator: Ecole Centrale Nantes, Nantes, France

Duration: 36 months

Project Reference: 42576

Project cost: 2488388 EURO

Programme Acronym: [FP7-ICT](#)

Project Funding: 1800100 EURO

Contract type: Specific Targeted Research Project (STREP)

Description:

The objective of NextMuSE is to initiate a paradigm shift in the technology of Computational Fluid Dynamics (CFD) and Computational Multi-Mechanics (CMM) simulation software which is used to model physical processes in research and technology development across a range of industries. NextMuSE relies on a mesh-free method, Smoothed Particle Hydrodynamics (SPH), which is fundamentally different from conventional techniques and can overcome their shortcomings. The NextMuSE paradigm is defined by two characteristics:

- accurate robust multi-mechanics modelling in applications where traditional methods fail (e.g. simultaneous fluid and solid mechanics in a ship under extreme wave loading).
- an immersive, interactive user interface (ICARUS) to allow the user-engineer to manage and partially automate the extremely complex inputs and outputs of such multi-mechanics simulations.

The objectives will be achieved through 7 work packages.

1. Key enhancements of core SPH algorithms.
2. Adapted physical modelling of fluids: turbulence, multiphase flow.
3. Modelling of fluid-structure interaction.
4. High-performance computing: highly efficient scalable algorithms for very large simulations.
5. Development of an immersive and highly visual simulation/design environment to interact with the technology.
6. Realistic representative applications in the marine, energy and biomedical industries.
7. Dissemination, communication and exploitation.

This project will remove technology roadblocks and enable an enhanced and extended role for ICT and HPC in socio-economically important engineering RTD and innovation sectors (including energy, healthcare and transport). Although there are challenging scientific bottlenecks, risk is managed and minimised through the design of the work plan and the selection of the consortium.

The risk is balanced by the potential reward for this project, which is a proof-of-concept for a paradigm shift which will open the way for advanced immersive HPC simulation tools, seamlessly integrated into the RTD process for the most challenging engineering problems.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Next generation Multi-mechanics Simulation Environment	NEXTMUSE	Critical Enablers	Education	2.2.3.1 Tools for Design and Analysis	Seven Day Ship Design
		Pilar 2: A competitive European Waterborne Industry;	2.2.3 Tools for Accelerated Innovation		Leading Shipbuilding

5.29 MARITIME SYSTEM

Start date: 2009-01-01

End date: 2011-12-31

Project Acronym: MARITIME SYSTEM

Project status: Execution

Coordinator: CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS)

Duration: 36 months

Project Reference: 230972

Project cost: 45000 EURO

Programme Acronym: FP7-PEOPLE

Project Funding: 45000 EURO

Contract type: European Re-integration Grants (ERG)

Description:

Objective: This research project aims at analyzing the relationships between maritime transport and regional development. It proposes an innovative approach based on the graph analysis of the world maritime system based on two types of data. First, a global database on vessel movements (Lloyd's 1996 and 2006) is analysed with TULIP software in order to better understand how ports are situated and performing relatively in the network. Second, classic socio-economical indicators on ports' urban and regional environments are collected from existing databases and integrated with the new maritime indicators. In the end, we can expect two types of results.

First, to learn more about the interdependence of port performance and regional performance, and to see how this relation varies over time and across regions of the world. Second, to provide interested parties with new indicators of port performance (e.g. for port authorities) and regional port dynamics (e.g. in Europe, in relation with regional integration policies and shortsea shipping, motorways of the sea). In terms of academic outcomes, this would be the first attempt to elucidate the multi-level organization of maritime transport in relation to regional development on a world scale, and to contribute to the current wave of research on multi-level networks in geography where air transport analysis remains dominant as opposed to the lack of studies on ports and maritime transport.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Territorial dynamics of the world maritime system	MARITIME SYSTEM	2.3 Manage & Facilitate Growth and Changing Trade Patterns	2.3.2 Interoperability between Modes	2.3.2.4 Intermodality of Transport	Intelligent Integrated Transport Network
					Intermodal Waterways

5.30 MABFUEL

Start date: 2009-06-01

End date: 2013-05-31

Project Acronym: MABFUEL

Project status: Execution

Coordinator: DAITHI O'MURCHU MARINE RESEARCH STATION LTD

Duration: 48 months

Project Reference: 230598

Project cost: 1430841 EURO

Programme Acronym: FP7-PEOPLE

Project Funding: 1430841 EURO

Contract type: Industry-Academia Partnerships and Pathways (IAPP)

Description:

Objective: Currently most research into efficient algal-oil production is being carried out by the private sector, but if predictions from small scale production experiments are realized then using algae to produce biodiesel may be the only viable method by which to produce enough bio-fuel to replace current world petrol/diesel usage. Micro-algae in particular have much faster growth-rates than terrestrial crops. The yield of oil from algae is estimated to be from between 19,000 to 75,000 litres per acre, per year; this is 7 to 31 times greater than the next best crop, oil of palm. As terrestrial contributions are greatly limited by the finite area of land available under any culture method, it is essential that the potential of the marine environment as a source of biomass for bio-fuel production is realized.

The group intends to facilitate a multi-disciplinary research programme through the recruitment of experienced researchers aimed at the acquisition of new knowledge and skills in the production of biofuels from native seaweed and cultured micro-algae. The project will identify the native seaweed and cultured micro-algal processes with the most potential for fuel production, the best time and technique to harvest seaweed and the culture methodologies for micro-algae along with an economic and environmental appraisal which will identify the size of the farm required and the feasibility of a commercial size operation. This will provide the physical (biomass product) and the intellectual (methodology for production and extraction) tools to enable the bio-fuel sector to base its business on the most suitable and profitable process.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Marine algae as biomass for biofuels	MABFUEL	2.1 Research Topics for Safe, Sustainable & Efficient Waterborne Operations	2.1.4 Low Emissions Vessels and Waterborne Activities	2.1.4.2 Fuel Supply and Fuel Systems	5 - Ship for short sea
					6 - The Cruise Ship
					4 - The Sustainable Recreational Craft

5.31 4SEAS

Start date: 2008-03-01

End date: 2010-02-28

Project Acronym: 4SEAS

Project status: Execution

Coordinator: ISTITUZIONE MUSEI DEL MARE E DELLA NAVIGAZIONE

Duration: 24 months

Project Reference: 217766

Project cost: 512894 EURO

Programme Acronym: FP7-SIS

Project Funding: 439085 EURO

Contract type: Coordination (or networking) actions

Description:

Objective: More than 70% of the globe is covered by water, and Europe itself is bordered by four different water basins (the Atlantic Ocean/North Sea, the Mediterranean Sea, the Baltic Sea and the Black Sea) which have been shaping and influencing the European cultural, social and economic heritage since the ancient times. Seas are the paradigm of cross-cutting approaches to knowledge and life. Oceans are appealing and fascinating which make them ideal tools for engaging and communicating with the public at large (irrespective of its age) even on otherwise complex, distant and themes. 4SEAS comes by a consortium mainly composed of science museums/aquariums and research centres located on the coasts of the 4 different European basins. Partners will act as single modules within a European network based on ITC technologies.

4SEAS will address all of the above through the following actions:

- direct engagement of the public at large following a bottom-up approach to science communication;
- selection of marine-related topics to be addressed by each partner taking into account both a shared/European and a specific/regional approach;
- cooperation between science centres and science museums/aquariums to develop each topic and set up interactive exhibitions;
- large use of ITC technologies to ensure connectivity in the network and open to the widest audience;
- museum exhibitions and marine-oriented external events planned and made available directly or on the web.

4SEAS aims are:

- to ensure visibility and dissemination of research results to the civil society;
- to enable the public to express its views and concerns about science;
- to promote science to the young;
- to strengthen the European citizens sense of participation in Europe through their direct involvement;

- to develop a European awareness of the marine environment, cultural and technological aspects included;
- to promote the regional approach within a broader context of European dimension.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Synergies between science and society for a shared approach to European seas	4SEAS	Critical Enablers	Education	-	-
			ICT		
			Policy		

5.32 TELLIBOX

Start date: 2008-04-01

End date: 2011-03-31

Project Acronym: TELLIBOX

Project status: Execution

Coordinator: RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

Duration: 36 months

Project Reference: 217856

Project cost: 4366534 EURO

Programme Acronym: FP7-TRANSPORT

Project Funding: 3099665 EURO

Contract type: Small or medium-scale focused research project

Description:

Objective: Faced with a trend towards increasing freight transport, a global market that is constantly growing and the need for a resource-saving transport system, it is mandatory that European transport policy shifts the balance between all transport systems. 'Intelligent MegaSwapBoxes for Advanced Intermodal Freight Transport (TelliBox) as an all-purpose loading unit will actively promote the EU's objectives of achieving intermodal integration and operational optimisation.

By drawing together the ideas and contributions of freight forwarders, manufacturers and scientists, the scientific aim is to achieve an all-purpose, intermodal loading unit that is applicable to transport via road, rail, short sea and inland shipping. The advantages of containers and semitrailers will be combined by a MegaSwapBox. Challenges facing the development are that the MegaSwapBox has to - be trimodal, - be stackable and applicable for handling from the top, - use existing low floor wagons for rail transport, - provide an adaptable chassis for road transport, - have an optimised cargo volume of 100m³ with an internal height of 3m, - have loading facilities from three sides (completely openable doors), - offer improved safety features against pilferage.

Within six decisive project steps, an interdisciplinary European consortium will realise three optimised and certified prototypes which will be tested on an intermodal European corridor (PL-D-NL-UK). TelliBox will achieve its objectives by combining new materials with innovative and intelligent constructions. A complementary bundle of scientific evaluation methods and profitability calculations will reduce project risk, and the integration of all interest groups will ensure that the MegaSwapBox is accepted. The project TelliBox seeks to successfully introduce the MegaSwapBox onto the market with a view to encouraging the standardisation of new loading units in the long run.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Intelligent megaswapboxes for advanced intermodal freight transport	TELLIBOX	Pillar 3 - Manage & Facilitate Growth and Changing Trade Patterns	2.3.2 Interoperability between Modes	2.3.2.5 High Quality and Efficient Intermodal Services	10 Intelligent Integrated Transport Network
				2.3.4.2 Cargo Logistic Management	11 Intermodal Waterways
				2.3.3.1 Ship/Shore Systems Integration	12 Sustainable Accelerated Port Development

5.33 DIVEST

Start date:	2008-08-01
End date:	2011-08-01
Project Acronym:	DIVEST
Project status:	Execution
Coordinator:	V.Navy
Duration:	36 months
Project Reference:	218695
Project cost:	3.364.885 EURO
Programme Acronym:	FP7-TRANSPORT
Project Funding:	2.442.568 EURO
Contract type:	Large-scale integrating project
Project website:	www.divest-project.eu

Description:

Policy-makers are in dire need of up-to-date objective scientific data to support their decision making as applied to ship dismantling. The objective of the Project is to “define an integrated risk and economic framework” applicable to the optimisation of ship dismantling activities and infrastructure, from a social, economic and environmental point of view. The framework will apply across the life cycle of a ship and it will be developed using risk-based and economic modelling/value-based analysis. Particular emphasis will be on the dismantling value and competence chain. Implementation steps:

1. Selection of the risk and economic analysis process that best fits the needs and constraints of the dismantling process;
2. Validation of the applicability of selected methods by case studies, with emphasis on dynamic combination of technical, environmental and human factors;
3. Organization of the research output into a database to support risk management and decision-making;

The subjects of concern that have been identified for the call will be addressed as follows:

1. A process to answer safety concerns linked to ‘ecological processes for clean and safe dismantling & clean and safe disposal’
2. An analysis of ships, infrastructure, personnel, with focus on the dynamic interfaces between them, to support research on ‘vessels and infrastructure end of life analysis addressing industrial, ecological and economic criteria’
3. Economic analysis of the main risk drivers of identified ship/infrastructure/process combinations to answer questions on the cost effectiveness of ship recycling.

The Project team involves partners from India. It will also play an active part in technology transfer and the betterment of human and environmental conditions in Asian countries through a dissemination and training program.

The main deliverables:

1. Validated risk and economic models
2. Policy recommendations on the optimum dismantling facility and process
3. Knowledge-exchange platform.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Dismantling of Vessels with Enhanced Safety and Technology	DIVEST	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.1 Implementing Goal/Risk Based Frameworks for Cost Efficient safety	2.1.1.2 Goal Based Regulations and Approval	1- Low Risk Ship
			2.2.1 Innovative Marine Equipment and Systems	2.2.1.4 Lifecycle Philosophy	

5.34 CORFART

Start Date:	2008-11-01
End Date:	2012-04-30
Project Acronym:	CORFAT
Project status:	Execution
Coordinator:	TUV AUSTRIA SERVICES GMBH
Duration:	42 months
Project Reference:	218637
Project Cost:	4.190.000 euro
Programme Acronym:	FP7-TRANSPORT
Project Funding:	2.820.000 euro
Contract type:	Small or medium-scale focused research project
Project website:	www.divest-project.eu
Research area:	The greening of transport-specific industrial processes, SST-2007-1.2-01 Cost effective manufacturing and maintenance SST-2007-5.1-02

Description:

Corrosion damages and fatigue cracks are the main causes for structural failures of all surface transport products like ships, road tankers and railway tank cars. Examples are catastrophic ship accidents with a tremendous pollution of the maritime environment or fatal explosions during the use of transport vehicles. Although evolving defects have to be identified in time to enable appropriate repair, preventive maintenance activities are usually carried out on time driven basis. As example transport products for cargo like crude oil and pressurised gases have to be taken out of service for visual inspection and sub-sequent non-destructive tests (NDT). Findings have to be repaired later on. This procedure is time consuming and expensive, especially the lost service time decreases the competitiveness of the European transport industry. Despite this high effort the risk of not detecting the onset of a defect is still implied in this maintenance process and thus failure within the next service period may occur. The proposed maintenance process is based on monitoring the status of the structural integrity in terms of developing fatigue cracks and active corrosion using the Acoustic Emission (AE) technology. It is proven, that AE detects active cracks, and based on the results of EU-funded project corrosion detection of ship (EVG1-CT-2002-00067), it is evident, that AE is able to detect and evaluate active corrosion.

By the application of AE sensors permanently on pre-determined hot spots of ships and tank cars the conventional maintenance and inspection can be replaced by a cost effective and condition based detection of defects and their follow-up in time. The result of the project shall be an overall strategy for the maintenance and inspection, including the necessary AE-equipment for the different transport products. Reasonable follow-up NDT methods will be validated. By the on-line measurement the method increases also the safety of all transport products.

Mapping on Strategic Documents:

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Cost effective corrosion and fatigue monitoring for transport products	CORFAT	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.1 Implementing Goal/Risk Based Frameworks for Cost Efficient safety	2.1.1.3 Risk Based Ship and Ship System Design	3 – Autonomous Ship
		Pillar 2 A Competitive European Maritime Industry	2.1.2 Towards the Zero Accidents Target	2.1.2.2 Systems Integration for Safety and Security	
			2.2.1 Innovative Vessels and Floating Structure	2.2.1.3 Future Advanced Hull Structures	
			2.2.2 Innovative Marine Equipment and Systems	2.2.1.4 Lifecycle Philosophy	
			2.2.4 Next Generation Production Processes	2.2.4.6 Innovative Materials and Systems	

5.35 AZIPILOT

Project Acronym:	AZIPILOT
Project Reference:	217818
Start Date:	2008-11-01
Duration:	36 months
Coordinator:	UNIVERSITY OF NEWCASTLE UPON TYNE
Project Cost:	1.34 million euro
Contract Type:	Coordination (or networking) actions
End Date:	2011-10-31
Project Status:	Execution
Project Funding:	1.2 million euro
Research area:	Human physical and behavioural components (SST-2007-4.1-02)

Description:

The aim is to improve by policy and design, the safety and security of ships by taking into account the man-machine interface and the training of maritime pilots; specifically when operating ships equipped with azimuthing control devices. From the thrusters on smaller, but numerous, harbour support vessels through to the pod-drives on cruise ships and ocean going liners, azimuthing control has rapidly established itself in the maritime industry. But while the industry has risen to meet the demand, this rapid evolution has not allowed sufficient time for the propagation of knowledge throughout the different disciplines. Though the various sectors of the industry each have their own expertise, a lack of communication is both restricting progress and compromising safety and security; in addition, much work is being repeated unnecessarily.

To address this problem, the project will provide a forum for technical review and cross-disciplinary discussion between the key industry sectors; specifically:

- The specialist in HYDRODYNAMIC MODELLING and testing, both theoretical and experimental, and expert in the understanding of azimuthing control and propulsion devices.
- The designers and manufacturers of MARINE SIMULATION software, hardware and physical models that are used for the training of marine pilots. Including, the designers, human factors specialists and manufactures of automation and control systems, joystick systems and graphical user interfaces.
- The MARITIME TRAINING facilities using both numerical and physical simulation tool and specialist in the theory and practice of human factors (physical and behavioural components) and specialist in the training of bridge-crews and pilots.
- Practitioners in OPERATIONAL PRACTICE including maritime pilots, ship operators/managers, pilot association and end users. And including, Maritime Authorities and Regulators specifically interested in policy and regulation.

Mapping on Strategic Documents:

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Intuitive operation and pilot training when using marine azimuthing control devices	AZIPILOT	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.2 Towards the Zero Accidents Target	2.1.2.1 Systems Integration for Safety and Security	1- Low rRisk Ship
			2.1.5 Enhanced Waterborne Security	2.1.5.1 Environmental and Economical Maritime Security	

5.36 SECTRONIC

Project Acronym:	SECTRONIC
Project Reference:	218245
Start Date:	2008-02-01
Duration:	36 months
Coordinator:	MARINE & REMOTE SENSING SOLUTIONS LTD
Project Cost:	7.08 million euro
Contract Type:	Collaborative project (generic)
End Date:	2011-01-31
Project Status:	Execution
Project Funding:	4.5 million euro
Research area:	Small area 24 hours surveillance (SEC-2007-2.3-04)

Description:

The SECTRONIC initiative addresses observation and protection of critical maritime infrastructures; Passenger and goods transport, Energy supply, and Port infrastructures. All accessible means of observation (offshore, onshore, air, space) of those infrastructures are exchanged via an onshore control centre. The end-users themselves or permitted third-parties can access a composite of infrastructure observations in real-time. The end-users will be able to protect the infrastructure by non-lethal means in the scenario of a security concerned situation.

The proposed system is a 24h small area surveillance system that is designed to be used on any ship, platform, container/oil/gas terminal or harbour. The initiative is an end-users driven R&D activity. The end-users represent the major market player in each of the three infrastructures: Passenger transport, Energy production, Energy transport, Commercial ports and Combined military/commercial ports.

Mapping on Strategic Documents:

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Security system for maritime infrastructures, ports and coastal zones.	SECTRONIC	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.5 Enhanced Waterborne Security	2.1.5.1 Environmental and Economical Maritime Security	

5.37 SKEMA

Project Acronym:	SKEMA
Project Reference:	218565
Coordinator:	ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS- RESEARCH CENTER
Start Date:	2008-06-16
Duration:	36 months
Project Cost:	2.34 million euro
Contract Type:	Coordination (or networking) actions
End Date:	2011-06-15
Project Status:	Execution
Project Funding:	2.2 million euro
Research area:	Maritime and logistics co-ordination platform (SST-2007.2.2-04)

Description:

SKEMA aims to establish a Sustainable Knowledge Platform to be used by policy makers and stakeholder groups in the European Maritime and Logistics Industry. The SKEMA Knowledge Platform will contain a Knowledge Base that will be populated by Consolidation Studies and associated Periodic Studies and outputs from Thematic Activities addressing key challenges for the European maritime transport and logistics industry. In essence SKEMA will gather dispersed and unstructured information and will convert it into valuable knowledge. The SKEMA Knowledge Platform will become a key source of knowledge for European maritime transport and logistics stakeholders and will stimulate the development of a growing network of users representing business and public organisations who will contribute to its sustainable development.

Mapping on Strategic Documents:

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Sustainable knowledge platform for the European maritime and logistics industry	SKEMA	Pillar 2 A Competitive European Maritime Industry	2.2.3 Tools for Accelerated Innovation	2.2.3.2 Technology Base	

5.38 STAR NET TRANSPORT

Project Acronym:	STAR-NET TRANSPORT
Project Reference:	218605
Coordinator:	INOVAMAIS - SERVICOS DE CONSULTADORIA EM INOVACAO TECNOLOGICA S.A.
Start Date:	2008-05-01
Duration:	30 months
Project Cost:	1.12 million euro
Contract Type:	Support actions
End Date:	2010-10-31
Project Status:	Execution
Project Funding:	923720.00 euro
Research area:	Stimulating participation of small and medium size enterprises (SME) SST-2007-6.0-01

Description:

The strategic objective of the Star-Net transport is to increase the participation of surface transport-related SMEs in the surface transport programme. The aim of the Star-Net transport project is to be the first step towards the formation and development of a consolidated structure for support of SMEs in Europe for participation in Sustainable Surface Transport activities, building on the knowledge, tools and services developed within some of the most relevant FP6-SUSTDEV support actions over the recent years (SURFACE NET, TranSMEs, AUTOIN, EURO-TRANS and HUN-POL-TRANS) and in future FP7-SST-SSAs projects.

In this way the Star-Net transport project will build on 3 interconnected structures: Star-Net transport Central Unit - The Star-Net project is built around a core group of service providers that gathers 4 experienced organisations in providing support services within the Sustainable Surface Transport field and that are currently coordinating successful SSAs (SURFACE NET, TranSMEs, AUTOIN, EURO-TRANS and HUN-POL-TRANS) for the provision of services and/or development of tools for European organisations in order to enhance their participation in Sustainable Surface Transport activities; Star-Net transport Regional Nodes - a network of 17 local nodes, that will benefit from the core group services in order to develop and enhance the competences and skills in order to provide continuous support to organisations in their country. Star-Net transport Advisory Council a network of European key players that will disseminate and promote the project activities in political level, facilitating communication with the ETPs, future coordinators of FP7-SST-SSAs proposals will be invited for this group.

Mapping on Strategic Documents:

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
European network to support the sustainable surface transport SMEs	STAR-NET TRANSPORT	Pillar 3 Growth and Infrastructure	2.3.2 Interoperability Between Modes	2.3.2.1 High Quality and Efficient Inter-Model Services	
			2.3.3 More Effective Ports and Infrastructure	2.3.3.1 Ship/Shore Systems Integration and Fast Cargo Handling	

5.39 BE LOGIC

Project Acronym:	BE LOGIC
Project Reference:	218694
Coordinator:	ECORYS NEDERLAND B.V.
Start Date:	2008-09-01
Duration:	30 months
Project Cost:	2.75 million euro
Contract Type:	Collaborative project (generic)
End Date:	2011-02-28
Project Status:	Execution
Project Funding:	2 million euro
Research area:	Benchmarking logistics (SST-2007.2.1-02)

Description:

Efficient use of transport modes and resources requires understanding the options and alternatives and being able to make the right logistics choices. Benchmarking is an instrument which can help to answer this question. Differences in the performance of various modes within the transport sector of a given country, and between the transport systems of different countries, imply that there is a significant potential for improvement.

Ongoing technological advances and changes in economic and institutional approaches ensure that this potential is constantly evolving. The transportation sector is influenced and moulded by ongoing economic, environmental and political (usually in the form of public finances) pressures to realise its potential for improvement. BE LOGIC project vision In our opinion, the major improvement potential in logistics performance is among small and medium sized enterprises (SMEs), including shippers with relative small transport volumes. Therefore, the focus in BE LOGIC lies on applying the logistics benchmark methodology on SME's.

Key objectives of BE LOGIC

- Improve the efficiency within and across different modes of transport
- Support the development of a quality logistics system

Derived objectives and research questions:

- Develop a methodology to assess transport logistics performance in quantitative terms at different levels in Europe and globally
- Applying the benchmark methodology to assess logistics and intermodal policies of Member States and other countries - and to assess transport logistics choices and performance from shippers/LSP - and to assess transport logistics performance from transshipment points
- Examine existing quality standards (e.g. ISO, CEN) for transport logistics
- Consider the need for new quality standards for transport logistics

Our approach includes 3 viewpoints:

- Viewpoint from the policy maker

- Viewpoint from transport chains
- Viewpoint from transshipment points

Mapping on Strategic Documents:

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Benchmarking logistics and co-modality	BE LOGIC	Pillar 2 A Competitive European Maritime Industry	2.3.2 Interoperability Between Modes	2.3.2.1 High Quality and Efficient Inter-Model Services	
		Pillar 3 Growth and Infrastructure	2.3.3 More Effective Ports and Infrastructure	2.3.3.1 Ship/Shore Systems Integration and Fast Cargo Handling	

5.40 SAFEGUARD

Start date:	2009-04-01
End date:	2012-03-31
Project Acronym:	SAFEGUARD
Project status:	Execution
Coordinator:	CALDEIRA-SARAIVA Fernando, BMT Group Limited
Duration:	36 months
Project Reference:	218493
Project cost:	3.56 million euro
Programme Acronym:	FP7-TRANSPORT SST-2007-4.1-0.1 (Safety and Security by Design)
Project Funding:	2.1 Milion EURO
Contract type:	Small or medium-scale focused research project

Description:

The collection of human performance data in full-scale ship trials is vital for the calibration and validation of ship based evacuation models. The IMO Fire Protection Sub-Committee in their modification of MSC circ 1033 at the FP51 meeting in February 2007 invited member governments to provide, further information on additional scenarios for evacuation analysis and full scale data to be used for validation and calibration purposes of the draft revised interim guideline. For several decades, computer simulation models have been used to simulate the evacuation of people from buildings and aircraft, which have enabled an improved appreciation of the safety issues involved in a variety of fire and evacuation scenarios. The use of such models has enabled a much more detailed understanding of the underlying processes involved in such activities, allowing designers, engineers and safety managers to appreciate the problems that may arise and then combat them through the measures at their disposal. The models that have appeared over the past two decades have marked the evolution of evacuation models from the first generation “hydraulic” and second generation “ball-bearing” models to the current generation of behavioural models with adaptive capabilities. Today, over 40 different evacuation models for aircraft, buildings, trains and ships exist. While each model is very different, they all share common approaches in the way they represent the geometry (i.e. the configuration of the structure), the population and its behaviour. These three constituent components are pivotal in defining the nature of an evacuation model. However, more extensive sea trials are needed to cover:

1. Additional response time data for different types of ships such as :
 - a. Ferries with predominately passengers without berths;
 - b. Ferries with a mixture of passengers with and without berths;
 - c. Cruise ships.
2. More granular data using special RFID equipment and videos

3. Pre-warnings data via implementing series of trials with a range of pre-warnings the extent of which will be based on both the independent Ethics Committees and the shipowners' permission.

The purpose of SAFEGUARD is to address this requirement by providing:

- (a) full-scale data for calibration and validation of ship based evacuation models and
- (b) propose and investigate additional benchmark scenarios to be used in certification analysis.
- (c) The results of both of these tasks will be reported to IMO for possible incorporation into future modifications of the MSC Circ 1033.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Ship Evacuation Data and Scenarios	SAFEGUARD	Pillar 1 – Safe sustainable and efficient waterborne transport	2.1.1 Goal Based / Risk Based Frameworks for Cost Efficient Safety	2.1.1.1 Implementing Risk Based Regulation and Approval	1 – The low Risk Ship
		Pillar 2 – Competitive European waterborne Industry	2.1.2 The zero Accidents Target	2.1.1.2 Implementing Risk Based Design	6- The European Cruise Ship
			2.2.1 Innovative Vessels and Floating Structures	2.1.2.2 New Systems and Procedures for Safe Waterborne Operations	7 – The seven day ship design
				2.1.2.3 Enhanced Vessel Operations under Severe Conditions	11-Intelligent Integrated Transport network
					2.2.1.2 BESST: Breakthrough in European Shipping & Shipbuilding Technology for Cruise & RoPax

5.41 RISPECT

Start date: 2008-10-01

End date: 2011-09-30

Project Acronym: RISPECT

Project status: Execution

Coordinador: Prof. Nigel Baltrop and Mr. Gregory Martin (University of Strathclyde, UK)

Duration: 36 months

Project Reference: 218499

Project cost: 4.39 million euro

Programme Acronym: [FP7-TRANSPORT](#) SST-2007-5.1-01 Competitive product development, SST-2007-5.1-02 Cost effective manufacturing and maintenance

Project Funding: 3.25 million euro

Contract type: Small or medium-scale focused research project

Description:

Structural failures of ships are, relative to onshore structures, very common and these contribute to the personal risk levels of mariners, and high pollution and economic costs.

Ships operate in a severely corroding and (metal) fatiguing environment that reduces the strength of the ship structure which can only be kept safe by regular inspection and repair of paint coatings, excessively corroded plate and fatigue cracks. Present inspection planning, and feedback to design, is based on long term experience with usually no account taken of the needs of any specific ship. Reliability or Risk-based methods, applied in other industries, are not applicable to this problem of using information from large numbers of ships to improve the inspection planning of any given ship.

The primary objective of the RISPECT project is to use ship structural inspection results (coating condition, corrosion, cracks and deformation) along with the calculated expected results to guide future inspections required to achieve a minimum structural reliability. This probabilistic inspection planning is not new but this project takes the method a stage further to use data from large numbers of ships in a central statistical database to contribute to the decision making process for any one ship. This has the effect of combining the traditional Classification Society broad view with the usual probabilistic method that is based on data from one ship only.

Hence, this project will develop and demonstrate an improved decision making method, based on a combination of experience-based and first-principles, statistical analysis, for safe, cost-effective structural inspection, repair and design rule improvement of existing ships. Within the proposed primary methodology the experience base will be handled statistically but, in parallel, the classification society experience will also be tapped, using an expert system approach, to try and provide a 'common-sense' check on the purely statistical analysis and warn users of possible shortcomings in the method's predictions.

This will lead to improved justification of important decisions, better inspections, more important

defects being found and repaired, better initial design, fewer pollution incidents and the saving of lives. In addition the project will provide better interfaces between ship manager, owner, class, regulatory authority and repair yard in order to improve the efficiency of structural data management and (selective) distribution.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Risk-based expert system for through life ship structural inspection and maintenance and new-build ship structural design	RISPECT	Pillar 1 – Safe, sustainable and efficient waterborne transport	2.1.1 Implementing Goal/Risk Based Frameworks for Cost Efficient Safety	2.1.1.2 Risk based ship and ship system design	1-The low Risk Ship
		Pillar 2- A competitive European Waterborne Industry	2.2.1 Innovative Vessels and Floating Structures	2.2.1.3 Future Advanced Hull Structures	7 – The seven day ship design
		Critical enablers	2.2.3 Tools for Accelerated Innovation	2.2.1.4 Life Cycle Philosophy	8 – Leading shipbuilding
			2.2.4 Effective Waterborne Operations	2.2.3.1 State of the Art Design and Analysis Tools	11-Intelligent Integrated Transport network
			ICT	2.2.5.1Automated Ship Operations and Life-Cycle Cost Reductions	

5.42 FLOODSTAND

Start date: 2009-03-01

End date: 2012-02-29

Project Acronym: FLOODSTAND

Project status: Execution

Coordinator: TEKNILLINEN KORKEAKOULU

Duration: 36 months

Project Reference: 218532

Project cost: 4324617 EURO

Programme Acronym: [FP7-TRANSPORT](#)

Project Funding: 2999840 EURO

Contract type: Small or medium-scale focused research project

Description:

The size of new passenger ships is continuously increasing. Bigger size offers bigger opportunities and economics of scale, but when a bigger ship accommodates more passengers there may be a higher risk, if evacuation is needed. Thus, new approaches have to be used and further developed in order to have the flooding under control if the watertight integrity of the ship is lost.

In the worst case, all flooding accidents may lead to the capsizing or sinking of the ship within a highly variable time frame. The need to ensure safe return to port or at least sufficient time for abandonment will form major challenge in ship design.

However, the assessment of the available time and the evacuation decision are not easy tasks. This process is complicated and there is a notable lack of data. Thus, guidelines and methods to tackle these problems must be developed. New tools are required in order to increase the designers' and operators' possibilities to reliably evaluate the ship's capability to survive in flooding accidents.

This project sets to derive most of the missing data for validation of time-domain numerical tools for assessment of ship survivability and to develop a standard for a comprehensive measure of damaged ship stability, as a means of addressing systematically, rationally and effectively the risk of flooding.

Unlike any current regulations the envisaged standard will reflect the stochastic nature of the damaged ship stability in waves. It will be based on first-principles modelling and thus it will reflect the nature of foundering as a process comprising loss of either (or both), flotation and stability, but also and more importantly ultimate loss of human life. Since risk-based, the standard will form a basis for decision support.

It is expected that by explicit disclosure of the risks associated with ship flooding and thus addressed from early design to operation, the safety level can be raised substantially from levels of current legislation.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Integrated flooding control and standard for stability and crises management	FLOOD STAND	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.1 Implementing Goal Based / Risk Based Frameworks for Cost Efficient Safety	2.1.1.1 Goal Based Regulations and Approval	1 – Low Risk Ship
			2.1.2 The “Zero Accidents” Target	2.1.1.2 Risk based ship and ship system design	6 – The European Cruise Ship

5.43 ERICON-AB

Start date: 2008-03-01

End date: 2012-02-29

Project Acronym: ERICON-AB

Project status: Execution

Coordinator: FONDATION EUROPEENNE DE LA SCIENCE

Duration: 48 months

Project Reference: 211796

Project cost: 5283880 EURO

Programme Acronym: [FP7-INFRASTRUCTURES](#)

Project Funding: 4498243 EURO

Contract type: Integrating Activities / e-Infrastructures / Preparatory phase

Description:

The ERICON-AB project will generate the strategic, legal, financial and organizational frameworks required from National Governments and the European Commission to commit financial resources to the construction and running of the European Polar Research Icebreaker AURORA BOREALIS. Scientific management frameworks will be assessed including mechanisms to handle dedicated large-scale multi-year or special mission specific research programmes.

The strategic integration of the facility into the fabric of the European Research Area shall be achieved by connecting the national research priorities and the demand of ship time of the stakeholder countries with a European level facility. The relevance of the facility in promoting science and technology cooperation with EU strategic partner countries such as the Russian Federation will be specifically analysed. Deliverables will focus on moving the project from the preparatory phase to the construction phase by addressing key barriers especially in relation to engineering financial models that allow the mixed participation of EU member states and Non-EU partner countries. Consortium partners and legal experts will develop the legal/political frameworks for joint ownership and operation of a multi-country research facility.

A dedicated legal implementation structure for managing and operating the AURORA BOREALIS will be proposed and its connection with other existing research assets such as Polar Stations, air support and supporting satellite assets will be analysed. The final deliverables of this project will be concerned with reaching a decision point and agreement with nations ready to move forward with the construction phase. It is anticipated that a series of natural decision points for agencies/governments to pass on their individual degree of integration into the project will be programmed in to the ERICON - AB Stakeholder councils meetings.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
The European polar research icebreaker consortium Aurora Borealis	ERICON-AB	Pillar 2 A Competitive European Maritime Industry	2.2.4 Next Generation Production Processes	2.1.2.4 Operation in Ice Infested Waters	9 – Energy Transport in Extreme Conditions
			2.3.2 Interoperability between Modes		

5.44 EIRAC II

Start date: 2008-06-01

End date: 2010-11-30

Project Acronym: EIRAC II

Project status: Execution

Coordinator: CONSORZIO PER LA RICERCA E LO SVILUPPO DI TECNOLOGIE PER IL TRASPORTO INNOVATIVO

Duration: 30 months

Project Reference: 218693

Project cost: 1.39 million euro

Programme Acronym: [FP7-TRANSPORT](#) SST-2007-2.1-01 Vehicle/vessels and infrastructure concepts for intermodal freight transport

Project Funding: 1.1 Milion EURO

Contract type: Coordination (or networking) actions

Description:

On May 3rd, 2005, more than 50 CEOs and Managing Directors from large Intermodal businesses launched the European Intermodal Research Advisory Council (EIRAC). EIRAC determined that a Strategic Intermodal Research Agenda 2020 (SIRA) for Intermodal Transport and its Implementation Plan (IP) were needed, being the instruments to direct European and national resources to targeted research. The SIRA has been published on December 14th, 2005, whilst the IP has been published on December 12th, 2006. EIRAC has been very successful in its first two years of activities being acknowledged by the European Commission as a major source of expertise and a reliable entity to deal with. The value of the EIRAC SIRA and IP has been recognised by different Directorates General of the European Commission, and it is considered as a primary source of valuable input to the workprogrammes of FP7.

The EIRAC work will be continued in the next years, aiming at the following objectives:

- Stimulate the main public stakeholders and market players in the Intermodal and Logistics domain to invest into research
- Strengthen the potential of research results to be endorsed and used by the market;
- Provide the assessment of these results, both before and after the execution of research, including the financial conditions needed to ensure the full exploitation of the innovation;
- Ensure that its work is communicated in a professional way to the non-EIRAC members or International Parties, so that they also can benefit from the work;
- Foster the participation of industrial SMEs in innovating and changing their mindset;
- Stimulate the implementation of indications contained in the Implementation Plan into national programmes of research, including the identification of needs for breakthrough technologies;
- Enhance the opportunities to participate to or observe EIRAC work;
- Stimulate the creation of Intermodal Advisory Councils or Technology Platforms at national level

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
EIRAC 2008-2010	EIRAC II	Pillar 3 Managing and facilitating the growth in transport volumes and the changes in trade patterns	2.3.2 Interoperability between modes	2.3.2.1. High Quality and efficient intermodal services (Cooperation and liabilities between transport operators)	11 Intermodal Waterways
			2.5.3 Understanding the environmental Impact of infrastructure building and dredging	2.3.5.1 Determination of real baseline conditions against which the effect of infrastructure development may be measured (Pan European 'state of the art' review of knowledge and on-going research on the effects and impact....)	12 Accelerated sustainable Port Development



5.45 INTEGRITY

Start date: 2008-06-01

End date: 2011-05-31

Project Acronym: INTEGRITY

Project status: Execution

Coordinator: INSTITUT FUER SEEVERKEHRSWIRTSCHAFT UND LOGISTIK

Duration: 36 months

Project Reference: 218588

Project cost: 10.84 Milion EURO

Programme Acronym: [FP7-TRANSPORT](#)

Project Funding: 6.5 million euro

Contract type: Large-scale integrating project

Description:

Main challenges facing today's international intermodal door to door container transport system are logistics efficiency and security which may lead to contradictory business strategies. However, a safe, secure and efficient intermodal transport system is a common goal of all the participants in the supply chain.

INTEGRITY will reconcile these challenges and link all elements of the supply chain through accurate, reliable, timely, value adding tracking and status data thus enhancing trade facilitation through the use of high quality, neutral, sophisticated equipment, including scanning equipment in ocean ports, whilst remaining accessible to all eligible stakeholders, large and small. INTEGRITY will develop procedures and technologies allowing for supply chain visibility, security and predictability. Based on consensus, the project partners (3PLs, cargo owners, logistics companies, research organisations, Customs Authorities, technology companies, IT developers, (inland) terminal operators) will guarantee a successful implementation in a real environment. INTEGRITY will validate targeted and verifiable benefits through real operational business and customs operations in door to door supply chains in the major trade corridor of China to the EU via the ports of Yantian, Rotterdam and Felixstowe, using all modes of transports within the EU to various destinations.

INTEGRITY is embedded into international initiatives e.g. from World Customs Organization (WCO), EU/China Customs project supported by DG TAXUD, e-Customs project, Freight Logistics Action Plan of DG TREN and to intermodal initiatives like EIRAC. It will also be combined with the AEO concept and scanning/monitoring technology and



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will support the trust but verify approach. INTEGRITY will raise the standard for door-to-door container chains by providing high quality and integrity information. Its validation and demonstration will verify the benefits for all current and future, big or small players.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Intermodal global door-to-door container supply chain visibility (INTEGRITY)	INTEGRITY	Pillar 2 A Competitive European Maritime Industry	2.2.5 Effective waterborne Operations	2.2.5.1 Automated ship operations and Lifecycle cost reductions (Integrated satellite data links for ship monitoring and cargo operations)	10 intelligent integrated transport network
		Pillar 3 Managing and facilitating the growth in transport volumes and the changes in trade patterns	2.3.1 Accelerated development of new port and infrastructure facilities	2.3.1.1. Planning tools for optimal logistic chains & Hinterland connections	12 Accelerated sustainable port development
			2.3.2 Interoperability between modes	2.3.2.1 High Quality and efficient intermodal services	11 Intermodal Waterways
			2.3.3. More effective ports and infrastructure	2.3.3.1 ship-shore systems integration and fast cargo handling	10 intelligent integrated transport network
			2.3.4 Intelligent transportation technologies and integrated ICT solutions	2.3.4.1 Ports network and dataexchange	12 Accelerated sustainable port development
				2.3.4.1 Cargo logistics managment	10 intelligent integrated transport network

5.46 SMART_CM

Start date: 2008-08-01

End date: 2011-07-31

Project Acronym: SMART_CM

Project status: Execution

Coordinator: CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS

Duration: 36 months

Project Reference: 218547

Project cost: 10.26 million euro

Programme Acronym: [FP7-TRANSPORT](#)

Project Funding: 6.5 million euro

Contract type: Large-scale integrating project

Description:

SMART_CM aims to do advanced technology implementation and research in order to overhaul the complete container door-to-door transport chain so that it is more efficient, secure, market driven, and competitive. It systematically analyses current processes and systems, produces new innovative concepts for processes and technologies, and demonstrates all these in a set of 2 world scale Demonstrators covering 4 supply chain corridors. Its view, analyses, and recommendations fall in the following four areas thus ensuring a fully comprehensive coverage of the call subject:

- Innovation / Technology
- Commercial / market issues
- Business / organisational issues
- Legal / Security issues

The SmartCM project objectives may be summarized as following:

- Stimulate interoperable B2B co-operation in door-to-door container transport security.
- Develop compliant application of B2B and B2A container security data solutions with international Customs operations.
- Develop a neutral approach and service platform for secure and interoperable data communications.
- Define added value services and chain visibility enabling techniques for fulfilling operational requirements of the actors
- Develop prototypes of advanced applications in global container management, such dynamic scheduling at the containers



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- Assess large applicability of the above-mentioned project solutions by considering costs and benefits
- Analyze existing business models in global container chain management and operation and study e-managing business models
- Contribute to standards development for advancing of interoperability of technologies
SMART-CM involves all type of actors and big global players in the container trade today, such as: K&N, DHL, COSCO, PSA and DPW, as well as SMEs, and International Organizations that are world players in setting standards, promoting Intermodal Transport or Container registration, and security

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Smart container chain management	SMART_CM	Pillar 2 - A Competitive European Maritime Industry	2.2.5 Effective waterborne Operations	2.2.5.1 Automated ship operations and Lifecycle cost reductions (Integrated satellite data links for ship monitoring and cargo operations)	10 intelligent integrated transport network
		Pillar 3 Managing and facilitating the growth in transport volumes and the changes in trade patterns	2.3.1 Accelerated development of new port and infrastructure facilities	2.3.1.1. Planning tools for optimal logistic chains & Hinterland connections	12 Accelerated sustainable port development
			2.3.2 Interoperability between modes	2.3.2.1 High Quality and efficient intermodal services	11 Intermodal Waterways
			2.3.3. More effective ports and infrastructure	2.3.3.1 ship-shore systems integration and fast cargo handling	
			2.3.4 Intelligent transportation technologies and integrated ICT solutions	2.3.4.1 Ports network and dataexchange	
			2.3.4.1 Cargo logistics managment		

5.47 OPERAMAR

Start date: 2008-01-03

End date: 2009-05-31

Project Acronym: OPERAMAR

Project status: Completed

Coordinator: Thales Underwater Systems SAS

Duration: 15 months

Project Reference: 218045

Project cost: €669,132

Programme Acronym: SEC-2007-7.0-02 European Security Research Networks

Project Funding: €669,134

Contract type: Coordination (or networking) actions

Description:

OPERAMAR is meant to provide the foundations for pan-European Maritime Security Awareness by addressing the insufficient interoperability of European and national assets with a view to generating unified data models for seamless exchange and contributing to address the discrepancies of the behavioural, organisational, and cultural issues. It is today recognized, that effective management of Maritime Security activities by the EU requires the capability to collect and fuse available data into a common and comprehensive picture to be shared as appropriate among the organizations of participating Member States.

However, the achievement of this capability is hampered by the fragmentation affecting the Maritime Security domain in the EU, i.e.:

- at national level, the various missions dealing with Maritime Security are the responsibility of a wide range of sectoral organizations;
- the EU still lacks a coordinating framework for Maritime Security which could maximise synergy with Maritime Safety initiatives

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
An interoperable approach to the European Union maritime security management	OPERAMAR	Pillar 1 – Safe Sustainable and Efficient Waterborne Operations	2.1.5. Enhanced Waterborne security	3.1.3 Political framework – joint initiatives and level playing field	
		Implementation strategy	3.1 Critical enablers		



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5.48 STARNETREGIO

Start date: 2008-01-15

End date: 2010-14-07

Project Acronym: STARNETREGIO

Project status: Started

Coordinator: CONSORZIO PER L'AREA DI RICERCA SCIENTIFICA E TECNOLOGICA DI TRIESTE

Duration: 30 months

Project Reference: 204961

Project cost: € 981,696

Programme Acronym: REGIONS-2007-1-01 Bringing the benefits of research to SMEs

Project Funding: € 799,297

Contract type: Support actions

Description:

The competitive advantage of the EU in the maritime industry sector has to be sustained and depends mainly on the sector's performance, its flexibility and continuation of competitiveness. In this regard, shipbuilding and port equipment are important and strategic industry in a number of EU member states and for the European Community as a whole. RTD investment for boosting the sector is needed and has to focus on the development of critical and dynamic technologies both for products and production processes, helping the maritime industry compete successfully in global markets and benefit from the exploitation of the so called "motorways of the sea".

The STARNETregio project has been conceived to increase the overall capacity of regional players in the regions Friuli Venezia Giulia (Italy), Slovenia and the County of Rijeka (Croatia) to invest in RTD and carry out research activities concerning the marine industry, in specific the shipbuilding and port equipment, intended to strengthen and develop the sector.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Starring a trans-regional network of regional research-driven marine clusters	STARNETREGIO	Implementation strategy	3.1 Critical enablers	3.1.1 Human resources, education and training	

5.49 DEEP FISHMAN

Start date: 2009-04-01

End date: 2012

Project Acronym: DEEPFISHMAN

Project status: Started

Coordinator: INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER (IFREMER)

Duration: months

Project Reference: 227390

Project cost: € 3.77M

Programme Acronym: KBBE-2008-1-4-02 Deep sea fisheries management

Project Funding: € 2.92M

Contract type: Small or medium-scale focused research project

Description:

Deepwater fisheries pose particular difficulties for management. Target species are difficult to assess with high levels of uncertainty, they are generally vulnerable to overfishing and sustainable levels of exploitation are low. Ecosystems are impacted by fishing due to the removal of target species, by catch of numerous fish and other organisms and the crushing of benthos such as e.g. cold water coral and large sponges. However, the impact of fishing on the deepwater ecosystem in general is poorly quantified. DEEPFISHMAN will develop a range of strategy options for the management of deepwater fisheries in the NE Atlantic that will take account of these factors. Firstly, the aim will be to identify new and more effective assessment methods, reference points, control rules and management strategies to be used in the short term, making better use of available data. Secondly, a reliable long-term framework will be developed for which additional data needs will be specified in order to fill current information gaps to achieve reliable long-term management requirements. This work will be developed by examining a range of case studies selected to reflect the different types of deepwater fishery found in the NE Atlantic. In addition two case studies outside the NE Atlantic are selected to give a wider perception of the management and monitoring of deepwater fisheries elsewhere in the world. For each case study current problems with assessment or management will be identified and new methods will be developed and tested. Recommendations for future methods and approaches will be made. The socio-economic profile and projected impact of the management strategy options as applied both through a short- and long-term framework will be examined for selected fisheries. In this way the project outputs will aim to provide robust guidelines for deepwater fisheries management suitable for adoption within the Common Fishery policy. The work will involve an ICPC country.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Management and monitoring of deep-sea fisheries and stocks	DEEPFISHMAN	3.1 Critical enablers	3.1.3 Political framework - Joint initiatives and level playing field		

5.50 PLATINA

Start date: 2008-06-01

End date: 2012-05-30

Project Acronym: PLATINA

Project status: Started

Coordinator: VIA DONAU

Duration: 48 months

Project Reference:

Project cost: €

Programme Acronym: FP7-SST Sustainable Surface Transport

Project Funding: € 8.35M

Contract type:

Description:

The Plantina consortium is a platform for the implementation of the EU NAIADES action programme and it is funded with 8.35 M € under the FP 7 Programme. The project, which is coordinated by via donau runs from June 2008 until May 2012. PLATINA is aiming to promote and strengthen an environment-friendly waterway transport in Europe in 5 areas: Markets, Fleet, Jobs & Skills, Image and Infrastructure.

The ICPDR has a small input into Sub-work Package 5.1 “Technical support for European IWT infrastructure development plan” and is coordinating Sub-work Package 5.3 “Interdisciplinary dialogue on sustainable waterway management”, executed together with Boku university, via donau and Inland Navigation Europe (INE).

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Platform for the implementation of NAIADES	PLATINA	2.3 Manage and facilitate growth and changing trade patterns	2.3.1 Accelerated Development of New Port and Infrastructure Facilities	2.3.4.4 ports network and data exchange	
		3.1 Critical enablers	2.3.3 More effective ports and infrastructure		
			3.1.1 Human resources, education and training		



5.51 PRESS4TRANSPORT

Project Acronym: PRESS4TRANSPORT

Project Reference: 234258

Start Date: 2009-09-01

Duration: 24 months

Project Cost: 740247.00 euro

Contract Type: Support actions SST.2008.6.0.4.

End Date: 2011-08-31

Project Status: Execution

Project Funding: 740247.00 euro

Description:

The aim of PRESS4TRANSPORT (Virtual Press Office to improve EU Sustainable Surface Transport research media visibility on a national and regional level) is to promote sustainable surface transport research results on a national and regional level by employing an innovative dissemination methodology with a new powerful tool capable of enhancing and maximizing the media visibility of the SST results and products achieved and the research carried out.

PRESS4TRANSPORT will collect, structure and most importantly make accessible and visible key national and regional RTD results via an user-friendly, low-maintenance online platform which serves as both a complementary tool to the Transport Knowledge Research Centre (TKRC) and an unique added-value VPO service to strengthen the use of already available and upcoming research results to promote towards a wide audience. The initial target of transport research projects to be disseminated is defined as: Sustainable surface transport mobility, Freight transport (road and rail), Maritime/Waterborne transport.

The main idea of PRESS4TRANSPORT is to fill a gap of communication capabilities by the projects for a correct and truly visible dissemination of the results achieved. A group of professional journalists will operate behind the Virtual Press Office and transform the inputs received by the consortia on their communication needs into professional press releases. The definitive goal of PRESS4TRANSPORT is thus to help national and regional SST RTD project consortia, to communicate their research results through mainstream European media.

With a consortium balanced in SST research, media and industrial expertise as well as a full European geographical reach, PRESS4TRANSPORT s ultimate aim is to get the correct and effective message of sustainable surface transport research across to the relevant stakeholders and contribute to promoting safer, greener and smarter SST systems for the benefit of all of Europe.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Virtual Press Office to improve EU Sustainable Surface Transport research media visibility on a national and regional level	PRESS4TRANSPORT	3.1 Critical enablers			

5.52 MARITIME HEGEMONY

NOT-PERTINENT

5.53 TECH CLINIC SST

Project Acronym: TECH-CLINIC SST

Project Reference: 217980

Start Date: 2008-04-01

Duration: 19 months

Project Cost: 530174.00 euro

Contract Type: Support actions

End Date: 2009-10-31

Project Status: Completed

Project Funding: 365029.00 euro

Description:

TECH-CLINIC SST proposal is aimed at implementing Commissioner Potocnick's vision of the Knowledge Triangle, based on research/innovation/education, by targeting Education and young generations. The expected impact is to have young man and woman highly qualified attracted by surface transport research when time comes to direct their career and identification job opportunities at the service of European Industries in surface transport. European Surface Transport Industrial leadership relies on competency, know-how, and collaboration. Faced with such a urgent need, TECH-CLINIC SST project proposes in this way to enrol a pioneer way of communication and stimulating campaigns on Surface Transport Research results by targeting for the first time young people, focused on all major research priority lines defined for surface transport: greening, corridors and urban mobility, safety and security, competitiveness, by involving the major stakeholders from industry, academia and society.

The 18 months project will therefore map Surface Transport Industry knowledge needs on Human skills and competencies in meeting their research and innovation needs, in rail, road and waterborne (WP1); it follows the creation of Technological Clinics by meeting Industry and young people to stimulate their cooperation at an early stage before they step in work market (WP2); that should be implemented by multicultural and multi-sciences "Cafes Scientifiques" (WP3); Dissemination will play key role throughout all Work Packages of the project, being extension of such campaign to other than the consortium partners, will be assured at the end of the project, supported by an impact assessment (WP4). Visibility of Surface Transport Research Projects results, taken from FPs, will be at the core of the information supplied to young people. By using an integrated approach to Surface Transport as a system; being rail, road, maritime, freight and passengers from vehicle to user and infrastructure.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Setting-up of effective technological clinics to address real knowledge needs of surface transport industry	TECH-CLINIC SST	Critical Cross Industry Enablers – Education –ICT- Policy	Horizontal- All	Horizontal- All	Horizontal- All

5.54 European Maritime Data Management

Project Acronym: EMDM

Project Reference: NA

Start Date: 2007-03

Duration: 12 months

Project Cost: NA

Contract Type: FP6-SUSTDEV - Sustainable Development, Global Change and Ecosystems - Priority Thematic Area 6 (PTA6)

End Date: 2008-4

Project Status: Completed

Project Funding: NA

Description:

The EMDM project responds to the challenge of safe and secure maritime transport development in Europe as part of an intermodal system. The safety of maritime transport would be improved by a better knowledge and analysis of incidents and accidents.

EMDM aims to study and develop new applications, functionalities and proposals for specifications and standards for enhanced, interactive VDRs (Voyage Data Recorders) and electronic logbooks.

The project aims to provide a better and more objective analysis of the causes of incidents and accidents in European waters, enabling maritime safety to be improved.

EMDM's methodology involves studying the needs of the maritime community, including discussions within a high level group of stakeholders, leading to the development of draft standards on VDRs and Electronic logbooks. The stakeholders include most of the EU Member States and equipment manufacturers.

The study includes the following:

- specific studies on the potential use of electronic logbooks, assessment of VDR's application for automatic control, development of new concept obtained from exploitation of the registered VDR data;
- the development of low acquisition and exploitation cost VDRs and specific interfaces for retrofitting VDRs on existing ships;
- development of new VDR functionalities with interactive links to existing systems such as the electronic logbook, the AIS (Automatic Identification System) or other security devices. These functionalities include remote access to VDRs, structural stress monitoring, coupling of VDRs to the garbage logbooks, and wireless fittings of VDRs on ships.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
European Maritime Data Management	EMDM	Pillar 1 - Safe Sustainable and efficient Waterborne operations	2.1.5 – Enhanced Waterborne security	2.1.5.1 Environmental and Economic Maritime Security	1-Low Risk Ship

5.55 KOMODA

Project Acronym: KOMODA

Project Reference: 213881

Start Date: 2008-01-01

Duration: 24 months

Project Cost: 1.25 million euro

Contract Type: Small or medium-scale focused research project

End Date: 2009-12-31

Project Status: Execution

Project Funding: 1.02 million euro

Description:

The KOMODA proposal is presented as an answer to the research objectives launched by call TPT 2007.2 concerning the optimization of the logistics chain through co-modality. More precisely, KOMODA's objective is to produce a roadmap, with associated action plans, to nurture an integrated e-Logistics platform by and between modes of freight transport across Europe. Such platform must comply with a series of basic requirements: has to be based in open standards, usable by any concern, able to communicate freely between existing applications and allow the integration of legacy systems and future development.

Several of such IT logistics platforms are currently in use, but mostly consist of private company applications not connected and not even compatible. For such developments, KOMODA will identify the industry requirements in terms of organization of the logistic chain and technical specifications of the integrated information system. Opportunities and obstacles affecting the future implementation of the e-Logistics integrated platform will be identified, resulting in the development of recommendations to empower the former and minimize the later. KOMODA will follow a bottom-up approach, with a strong involvement of freight industry stakeholders.

The work will include a wide Delphi survey amongst the logistics chain stakeholders to obtain a comprehensive picture of available e-logistics applications used in transport operations, their sources, availability, functionality and use by companies. A desk research on transport and technical requirements will complement such exercise. Obstacles and opportunities will be identified for finally developing a structured and coherent action plan for innovation and change leading towards an integrated e-logistics system Europe-wide.

Mapping on Strategic Documents

Project Title	Acronym	Waterborne Vision Pillar	SRA Priority	WIRM Research Topic	WIRM Exploitation Outcomes
Co-modality - towards optimised integrated chains in freight transport logistics	KOMODA	Pillar 3 – Manage & Facilitate Growth and Changing Trade Patterns	2.3.2 Interoperability between Modes	2.3.2.1 High Quality and Efficient Inter-Modal Services	Intelligent Integrated Transport Network
			2.3.4 – Intelligent Transportation Technologies and Integrated ICT Solutions	2.3.4.1 Ports and Network Data Exchange	Intermodal Waterways

6. Projects Mapping on WSRA and WIRM

Projects mapped onto the Research Priorities of the Waterborne Vision Pillars	POSE ² IDON	HERCULES - B	HYMAR	PROMARC	SUSY	EXCITING	NAVTRONIC	PROPS	INTERCONNECT	SECTRONIC	WIMAAS	CORES	MOSES	MOSES I
Safe, Sustainable and efficient Waterborne Operations														
Implementing Goal/Risk Based Frameworks														
The Zero Accidents Target														
The Crashworthy Vessel														
Low Emissions vessels and Waterborne Activities														
Enhanced waterborne Security														
A Competitive European maritime Industry														
Innovative Vessels and Floating Structures														
Innovative Marine Equipment and Systems														
Tools for accelerated Innovation														
Next generation Production Processes														
Effective Waterborne Operations														
New and Extended Marine Operations														
Manage & Facilitate Growth and Changing Trade Patterns														
Development of New Port and Infrastructure														
Interoperability Between Modes														
More Effective Ports and Infrastructure														
Intelligent transportation technologies														
Infrastructure Building and Dredging														
Traffic Management Studies														
Critical Enablers														
Education														
ICT														
Policy														

Projects mapped onto the WIRM Exploitation Outcomes	POSE ² IDON	HERCULES - B	HYMAR	PROMARC	SUSY	EXCITING	NAVTRONIC	PROPS	INTERCONNECT	SECTRONIC	WIMAAS	CORES	MOSES	MOSES I
Low Risk Ship														
Low Energy, Low Emissions Ship														
Autonomous Ship														
The Sustainable Recreation Craft														
Future Ship Designs for Short Sea Operation														
The European Cruise Ship														
Seven Day Ship Design														
Leading Shipbuilding Technology														
Energy Transport in Extreme Conditions														
Intelligent Integrated Transport Network														
Intermodal Waterways														
Accelerated Sustainable Port Development														
Horizontal - All														

....CONTINUE.....

Projects mapped onto the Research Priorities of the Waterborne Vision Pillars	RISPECT	EUROFLEETS	VISION OLYMPICS	EQUIMAR	RISING	AIMS	HANDLING WAVES	KITES	MARINE CFD	UAN	SNAPPER	MARPOS	SHOAL	NextMuSE
Safe, Sustainable and efficient Waterborne Operations														
Implementing Goal/Risk Based Frameworks	█													
The Zero Accidents Target														
The Crashworthy Vessel														
Low Emissions vessels and Waterborne Activities									█					
Enhanced waterborne Security										█			█	
A Competitive European maritime Industry														
Innovative Vessels and Floating Structures														
Innovative Marine Equipment and Systems								█	█		█		█	
Tools for accelerated Innovation									█					█
Next generation Production Processes	█													
Effective Waterborne Operations							█							
New and Extended Marine Operations													█	
Manage & Facilitate Growth and Changing Trade Patterns														
Development of New Port and Infrastructure		█	█	█	█									
Interoperability Between Modes														
More Effective Ports and Infrastructure		█											█	
Intelligent transportation technologies													█	
Infrastructure Building and Dredging													█	
Traffic Management Studies														
Critical Enablers														
Education			█											█
ICT													█	
Policy						█						█	█	

Projects mapped onto the WIRM Exploitation Outcomes	RISPECT	EUROFLEETS	VISIONS OLYMPICS	EQUIMAR	RISING	AIMS	HANDLING WAVES	KITES	MARINE CFD	UAN	SNAPPER	MARPOS	SHOAL	NextMuSE
Low Risk Ship	■						■							
Low Energy, Low Emissions Ship								■	■					■
Autonomous Ship							■							
The Sustainable Recreation Craft														
Future Ship Designs for Short Sea Operation							■							■
The European Cruise Ship							■							■
Seven Day Ship Design														■
Leading Shipbuilding Technology														■
Energy Transport in Extreme Conditions														
Intelligent Integrated Transport Network													■	
Intermodal Waterways					■								■	
Accelerated Sustainable Port Development		■											■	
Horizontal - All			■			■						■		

... CONTINUE...

Projects mapped onto the Research Priorities of the Waterborne Vision Pillars	MABFUEL	4SEAS	TELLIBOX	DIVEST	CORFART	AZIPLLOT	SECTRONIC	SKEMA	STAR-NET TRANSPORT	BE LOGIC	SAFEGUARD	RISPECT	FLOODSTAND	ERICON-AB
Safe, Sustainable and efficient Waterborne Operations														
Implementing Goal/Risk Based Frameworks				■	■						■	■	■	
The Zero Accidents Target					■	■					■		■	
The Crashworthy Vessel														
Low Emissions vessels and Waterborne Activities	■													
Enhanced waterborne Security						■	■							
A Competitive European maritime Industry														
Innovative Vessels and Floating Structures				■	■								■	
Innovative Marine Equipment and Systems			■	■	■									
Tools for accelerated Innovation								■				■		
Next generation Production Processes					■									■
Effective Waterborne Operations			■											
New and Extended Marine Operations	■		■											
Manage & Facilitate Growth and Changing Trade Patterns														
Development of New Port and Infrastructure														
Interoperability Between Modes			■						■	■				
More Effective Ports and Infrastructure									■	■				
Intelligent transportation technologies			■											
Infrastructure Building and Dredging														
Traffic Management Studies			■											
Critical Enablers														
Education		■		■		■		■	■					
ICT		■			■						■	■	■	■
Policy		■		■	■	■				■	■		■	■

Projects mapped onto the WIRM Exploitation Outcomes	MABFUEL	4SEAS	TELLIBOX	DIVEST	CORFART	AZIPLLOT	SECTRONIC	SKEMA	STAR-NET TRANSPORT	BE LOGIC	SAFEGUARD	RISPECT	FLOODSTAND	ERICON-AB
Low Risk Ship														
Low Energy, Low Emissions Ship														
Autonomous Ship														
The Sustainable Recreation Craft														
Future Ship Designs for Short Sea Operation														
The European Cruise Ship														
Seven Day Ship Design														
Leading Shipbuilding Technology														
Energy Transport in Extreme Conditions														
Intelligent Integrated Transport Network														
Intermodal Waterways														
Accelerated Sustainable Port Development														
Horizontal - All														

...CONTINUE...

Projects mapped onto the Research Priorities of the Waterborne Vision Pillars		INTEGRITY	SMART_CM	OPERAMAR	STARNETREGIO	DEEPFISHMAN	PLATINA	MARITIME SYSTEM	PRESS4	TRANSPORT	TECH CLINIC SST	EMDM	KOMODA		
Safe, Sustainable and efficient Waterborne Operations															
Implementing Goal/Risk Based Frameworks															
The Zero Accidents Target															
The Crashworthy Vessel															
Low Emissions vessels and Waterborne Activities															
Enhanced waterborne Security															
A Competitive European maritime Industry															
Innovative Vessels and Floating Structures															
Innovative Marine Equipment and Systems															
Tools for accelerated Innovation															
Next generation Production Processes															
Effective Waterborne Operations															
New and Extended Marine Operations															
Manage & Facilitate Growth and Changing Trade Patterns															
Development of New Port and Infrastructure															
Interoperability Between Modes															
More Effective Ports and Infrastructure															
Intelligent transportation technologies															
Infrastructure Building and Dredging															
Traffic Management Studies															
Critical Enablers															
Education															
ICT															
Policy															

Projects mapped onto the WIRM Exploitation Outcomes		INTEGRITY	SMART_CM	OPERAMAR	STARNETREGIO	DEEPFISHMAN	PLATINA	MARITIME SYSTEM	PRESS4 TRANSPORT	TECH CLINIC SST	EMDM	KOMODA		
Low Risk Ship														
Low Energy, Low Emissions Ship														
Autonomous Ship														
The Sustainable Recreation Craft														
Future Ship Designs for Short Sea Operation														
The European Cruise Ship														
Seven Day Ship Design														
Leading Shipbuilding Technology														
Energy Transport in Extreme Conditions														
Intelligent Integrated Transport Network														
Intermodal Waterways														
Accelerated Sustainable Port Development														
Horizontal - All														

7. Conclusions

In the following analysis only the projects related to SST (41 projects) are taken into consideration. Based on previous results can be made:

Projects mapped onto the Research Priorities of the Waterborne Vision Pillars	Total Occurrences for all the analyzed projects
Implementing Goal/Risk Based Frameworks	6
The Zero Accidents Target	5
The Crashworthy Vessel	1
Low Emissions vessels and Waterborne Activities	6
Enhanced waterborne Security	9
Innovative Vessels and Floating Structures	4
Innovative Marine Equipment and Systems	11
Tools for accelerated Innovation	6
Next generation Production Processes	3
Effective Waterborne Operations	5
New and Extended Marine Operations	4
Development of New Port and Infrastructure	7
Interoperability Between Modes	11
More Effective Ports and Infrastructure	8
Intelligent transportation technologies	7
Infrastructure Building and Dredging	1
Traffic Management Studies	4
Education	11
ICT	7
Policy	16

Projects mapped onto the WIRM Exploitation Outcomes	Number of Occurrences
Low Risk Ship	8
Low Energy, Low Emissions Ship	5
Autonomous Ship	4
The Sustainable Recreation Craft	2
Future Ship Designs for Short Sea Operation	5
The European Cruise Ship	6
Seven Day Ship Design	3
Leading Shipbuilding Technology	4
Energy Transport in Extreme Conditions	0
Intelligent Integrated Transport Network	5
Intermodal Waterways	4
Accelerated Sustainable Port Development	1
Horizontal - All	3

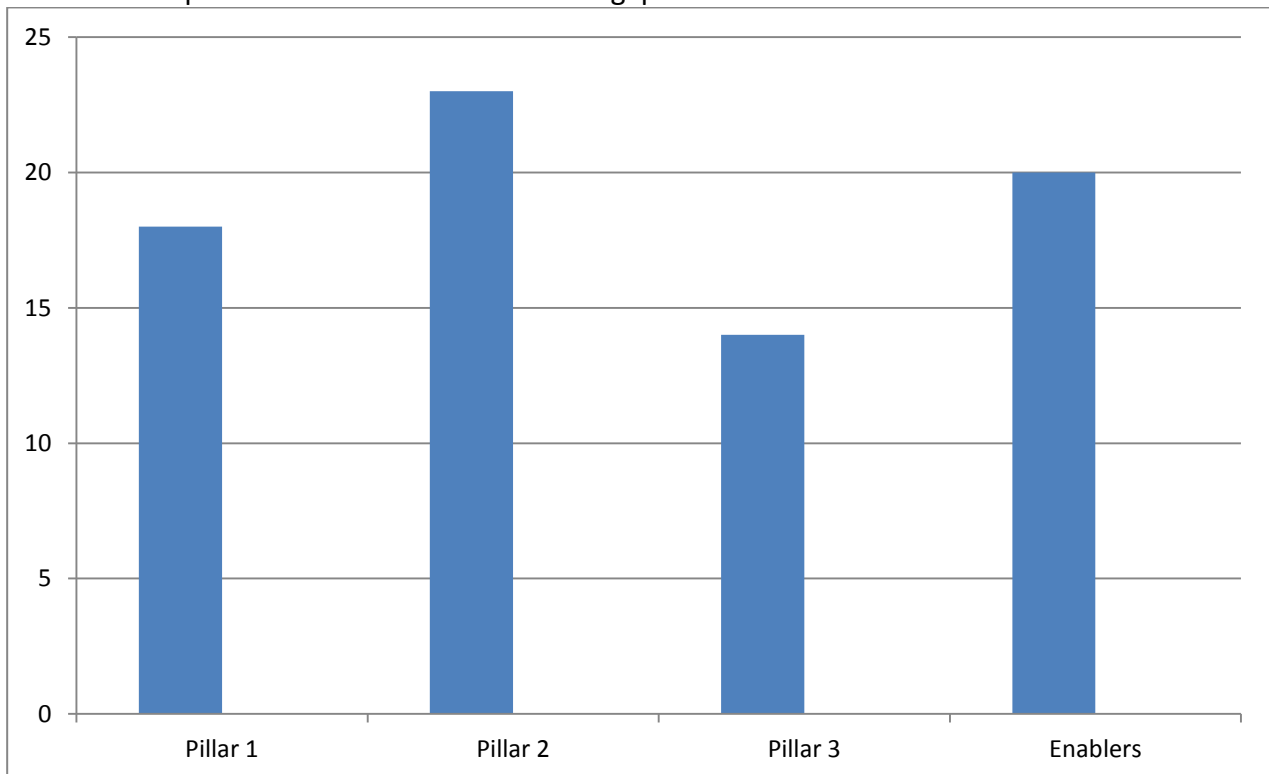
A general good balance is shown among the SRA priorities and also respect to the WIRM outcomes. This equilibrium reflects in some way, the European market typology. Probably just below the average we have three SRA priorities: Innovative Vessels and Floating Structures, Next generation Production Processes and New and Extended marine Operations that also according to the analysis done in the deliverable “Review of Waterborne’s Scope” will rise of importance in the next future.

Probably a too excessive number of projects that have within the primary goals the Education, Policy and ICT have been funded; this categories (Critical Enablers) are indeed 34 out of 55 analyzed projects representing the 61% of the total number and even though not all those 34 projects have as primary scope of the previous Critical Enables the number seems to be in any case excessive.

A suggestion could be made to focus the extremely limited resources towards scientific and technological focused research projects.

WATERBORNE PILLAR	TOTAL OCCURENCES	%
Safe, Sustainable and efficient Waterborne operations	18	24
A competitive European maritime industry	23	30
Manage & Facilitate growth and changing trade patterns	14	19
Enablers	20	27
TOTAL	75	

The WATERBORNE Pillar 3 is the one with less occurrences (19% of the total) and might need an increase of topics in the next calls to close the gap with the other WATERBORNE Pillars.



Total Number of Projects taken into consideration from year 2007
(year in which the WIRM has been published):

41

Projects Not Related to any WIRM Exploitation Outcomes:

6 (1.4%)

Projects not related to any SRA Priorities:

2 (0.05%)

The general structure of the WATERBORNE's strategic documents seems to be reliable in linking SRA priorities and WIRM outcomes; the same structure is reflected in the projects proposals. A further fine tuning is suggested to take into account the discrepancies so far to verify if these are due to a poor structure or (more probably) to generic outcomes or to a new and not foreseen needs and consequently outcomes.

The previous analysis shows that a re-tuning of the WIRM outcomes is appropriate to take into account for example the logistic or the regional systems.

The following projects are funded under SST tackling also maritime issues but their collocation under the WSRA (research priorities) appears difficult.

SKEMA (2009 – SST - Logistic), **STAR-NET-TRANSPORT** (2009 – SST - Net in Transport), **BE LOGIC** (2008 – SST – Logistic), **STARNETREGIO**, **PLATINA** (2009 – SST – Inland), **PRESS4TRANSPORT** (2009 – SST – CSA Virtual Press Office), **TECH CLINIC SST** (2008 – SST- CSA on Youngest).

Total number of projects	Type of Instrument (*)		
	> 4M€ (IP-CP)	< 4M€ (FRP-STREP-IAPP-CP)	CSA
41	12	17	12

(*) IP: Integrated Project; FRP: Focused Research Project; CSA: Coordination/Support Action

This last table shows the sub division among the several available instruments.

The <4M€ projects are clearly the most numerous but again a reasonable balancing among the several instruments is achieved over the analyzed period (2007-2010).

8. Bibliography

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