

Overview of Waterborne Topics in 5th Call

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Projects Involve Partners

- ✓ For Collaborative Projects & Coordination & Support Actions (Coordinating):
 - Three independent legal entities from three different Member States or Associated States

- ✓ For CSA (Supporting):
 - One legal entity



Maximum funding rates

- ✓ Research and technological activities: – 50% of eligible costs except for:
 - Public bodies: – 75%
 - Secondary and higher education establishments: – 75%
 - Research organisations (non-profit): – 75%
 - SMEs: – 75%

- ✓ Demonstration activities: – 50% of eligible costs

- ✓ Coordination and support actions – 100% (+7% Indirect)

Funding Schemes

- **Collaborative projects (CP)**
 - to develop new knowledge, new technology, products, demonstration activities
 - Small or medium-scale focused research actions (**CP-FP**),
 - Large-scale integrating projects (**CP-IP**)

- **Coordination and support actions (CSA)**
 - aimed at coordinating or supporting research activities and policies (networking, exchanges, coordination of funded projects, studies, conferences, etc)
 - Coordination Actions (**CA**),
 - Specific Support Actions (**SSA**)

[Described in The Workprogramme](#)

Topic Categories

- Topics are classified in two levels of categories according to the degree of specification of the topic descriptions: **Level 1** (generic) and **Level 2** (specific).
 - Note: There is no direct relation between budget allocation and either topic levels or the funding schemes.
- **Level 1** are technology driven and enable technology synergies and transfer between transport modes.
 - Proposals may be approached with some degree of flexibility, by addressing only part of topic content or only one surface transport mode.
- **Level 2**
 - Refer to well identified industrial, policy and socio-economic matters.
 - Mission driven; explicit in their formulation.
 - Proposals addressing a Level 2 topic will cover it entirely.

SST.2012.1.1-1. Assessment and mitigation of noise impacts of the maritime transport on the marine environment (coordinated topic within the framework of the ‘Ocean of Tomorrow’) - Level 2 - CP-FP

Content and scope:

- Research will focus on an accurate description of cavitation noise and on mitigation measures to reduce noise (constraint: maintain fuel efficiency of ships)
- Development of radiated sound prediction tools; _ Development of cost-effective measurement tools/techniques for selective detection of cavitation effects on noise signature;
- Development of tools for the prediction of the « noise footprint » of commercial ships (including cruise ships), linking underwater noise characteristics to AIS (Automatic Identification Systems);
- Development of mitigation measures to reduce the noise footprint of ships without reducing the fuel efficiency of ships;
- Development of design guidelines and tools for the development phase.

Expected impact:

- The work will aim at supporting the requirements of Directive 2008/56/EC (Marine Strategy Framework Directive) and related Decision on criteria for Good Environmental Status, in particular with regard to Descriptor 11 (assessment, monitoring and mapping of underwater noise linked to maritime transport). Innovative exploitable technologies and processes will be proposed as mitigation measures and take into account the relevant noise characteristics for the marine environment, having regard for measures under article 13 of the MSFD.
- Background information to be found on http://ec.europa.eu/environment/water/marine/directive_en.htm

SST.2012.1.1-2. Support to the development of joint programming in marine and maritime research to address cross-cutting sea-related challenges (coordinated topic within the framework of the ‘Ocean of Tomorrow’) - Level 2 - CSA-SA

Content and scope:

- The JPI that would address the healthy and productive seas and oceans would seek to support the sustainable development of the maritime economy with cross-cutting research related to marine resources and maritime activities (including transport), as well as the environmental status of the seas and climate change impact.
- Adoption of effective and efficient methods of collaboration, such as those proposed in the context of the 2010 version of the European-level voluntary guidelines on Framework Conditions, as adopted by the GPC on 11 November 2010;
- Facilitation of the establishment of the management structure and procedures;
- The development of the Strategic Research Agenda based on a mapping and analysis of the state of the art in this field (including important existing initiatives such as BONUS, SEASERA, MARIFISH, MARTEC and other marine related ERANETs), as well as possible preliminary implementation actions.

Expected impact:

- Establishment of effective governing structures for JPI on healthy and productive seas and oceans.
- Development of a coherent strategic research and innovation agenda for JPI on healthy and productive seas and oceans, taking into account EU 2020 objectives.
- Better governance of EU marine and maritime research in support of the European maritime economy and related policies.
- Background information to be found on

http://ec.europa.eu/research/era/areas/programming/joint_programming_en.htm

SST.2012.2.2-1. Innovative fleet for efficient logistics chain - Level 1 - CP-FP

Content and scope:

- Research will focus on new eco-friendly ship concepts – including tug-barge systems, allowing for efficient cargo handling and on infrastructure.
- Development and validation of novel ship types (low fuel consumption, low emissions, durable and easy to maintain hull structure, shallow waters, etc.)
- Development of novel cargo ship and/or ferry concepts based on modularisation and standardisation of components. Development of ship cargo variants to address different geographic areas (e.g. Rhine, Danube)
- Development of new integrated, safe and reliable energy systems for propulsion and auxiliary services. Innovative integral management concepts and alternative energy sources and fuels will be considered for low fuel usage and low emissions
- Investigation of the possibilities for modernisation of waterways with respect to the hydrodynamics of the shipping while preserving the natural environment and landscape and to the existing infrastructure, including the exploitation of intelligent transport services
- Development of new river port infrastructure concepts adapted to novel ship types and multimodal activities, in particular for the Danube region.

Implementation:

- Business plan and/or financial plans for bringing new vessels type to the market or upgrading or building infrastructure should be an integral part of the proposal. Will be considered as an asset: participation of SMEs, articulation of the project to existing initiatives supported by structural funds in the Danube region or other initiatives.

Expected impact:

- The work will constitute a step change in technology compared with existing solutions and support the full integration of the EU waterborne transport into the EU transport and logistics chain.
- Background information to be found on http://ec.europa.eu/transport/inland/index_en.htm

SST.2012.4.1-1. Human element factors in shipping safety - Level 1 - CP-FP

Content and scope:

- Multi-disciplinary, human centred design optimisation
- Goal setting approaches for future application of complex human-centred systems _ Significance of management options and organisational factors
- Novel concepts for integrating human performance and physical capabilities with advanced technical means in risk-based inspection approaches
- Operation, maintenance and intelligent evacuation concepts

Implementation:

- The consortium will take appropriate measures to ensure that methodologies and technologies developed in other transport or industrial sectors are taken into account. Cooperation with other sectors should be envisaged. Pre- normative activities should be included in the proposal.

Expected impact:

- Improvement of safety of the maritime transport through new systems and concepts.
- Background information to be found on <http://www.imo.org/OurWork/HumanElement/VisionPrinciplesGoals/Pages/Default.aspx>

SST.2012.4.1-2. Safety of ships in Arctic conditions - Level 2 - CSA-CA

Content and scope:

- Identification of gaps regarding safety measures (construction, equipment, operations);
- Comparative analysis of the various ice-strengthening class capabilities and strengths, in view of standards coordination;
- Development of long-distance fleet management for reliable, safe and sustainable navigation through Arctic waters;
- Development of uniform training standards for ice navigation, in view of the development of training standards;
- Analysis of the salvage capacities and future needs;
- Analysis of preparedness and response capacities to avoid accidents and oil spills;
- Analysis of communication infrastructures in the Arctic and weather, sea-ice and wave forecast and information to sailors, including the use of Galileo and/or other innovative search and rescue services.

Implementation:

- Consortia are encouraged to include participants from the Arctic States concerned, including Canada, USA and Russia as well as Classification Societies

Expected impact:

- The action will contribute to the implementation and assessment of the Polar Code and of Arctic navigation and to the development of international best practices.
- Background information to be found on <http://www.imo.org/ourwork/safety/safetytopics/pages/polarshippingsafety.aspx>

SST.2012.5.2-3. Innovative structural and outfitting materials for ships - Level 1 - CP-FP

Content and scope:

- Development of new cost-effective lightweight materials, including the assessment of safety performance
- Development of new steel material
- Development of new coating materials, including nanotechnology for marine applications, to reduce costs in new building, maintenance and repair
- Development of combination techniques for dissimilar materials in ship structures and super-structures, taking into account recycling and disposal
- Development of innovative processes that maximise material capabilities while minimising costs
- Assessment of long-term degradation of new materials and joints under various loading conditions

Implementation:

- Inclusion of SMEs and at least one Classification Society is considered vital and will be assessed under the 'implementation' criterion. A business plan in view of market take-up will be provided. Research must build and go beyond the large body of research already undertaken in this area.

Expected impact:

- Research will contribute to the competitiveness of the shipbuilding industries, in particular of SMEs. New materials will contribute to a significant reduction of operation costs and life-cycle costs.
- Background information to be found on http://ec.europa.eu/research/industrial_technologies/materials-research-in-the-fp_en.html

SST.2012.5.2-5. E-guided vessels: the ‘autonomous’ ship - Level 2 - CP-FP

Content and scope:

- Development of e-maritime applications for autonomous operations, including integration with improved safe wireless ship-shore communication links.
- The evaluation of the feasibility and reliability of combined use of shore/satellite communication in view of autonomous operations.
- The development of concepts, methods and means for autonomous optimisation of the ship’s performance and operations (e.g. energy consumption, environmental issues, near land and port operation and manoeuvring).
- The design of new ship functions systems for increased autonomy (for system and functions necessary for monitoring, data collection, data transfer and onboard system maintenance). Safety and legal issues will be considered.
- The assessment of the proposed products and services, in legal (liability), safety and economic terms.
- The development and validation of cost-effective concepts for predictive maintenance approaches.
- The development and validation of concepts and systems for autonomous vessels in navigation channels aimed for short-sea shipping.

Implementation:

- Proposals should include a convincing implementation plan. Pre-normative research should be included. New solutions to increase ship autonomy should consider the legal implementation of such solutions, in particular the liability aspects.

Expected impact:

- The development of new solutions will improve the competitiveness of operations. Project results are expected also to contribute to energy saving and reduction of emissions.
- Background information to be found on http://ec.europa.eu/transport/maritime/e-maritime_en.htm

DG MOVE

- Towards the implementation of the NAIADES Action Areas
- E-Maritime in support of compliance management
- Deadline 1 March 2012

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<https://ktn.innovateuk.org/web/surface-transport>