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# Press release

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## New European research project ADAM4EVE started

The kick off meeting of the project Adaptive and smart materials and structures for more efficient vessels (ADAM4EVE) has taken place in Hamburg, Germany on January 16th and 17th, 2013.

Materials and structures are called adaptive if they can change certain properties in a predictable manner due to the forces acting on them (passive) or by means of built-in actuators (active). These materials and structures are referred to as smart if they provide best performance when operation circumstances change. The project ADAM4EVE focuses on the development and assessment of application of such materials and structures in the shipbuilding industry.

The types of materials and structures that would be focused in ADAM4EVE are

- adaptable ship hull structures for optimised hydrodynamic properties depending on varying cruise speed,
- adaptive materials for noise and vibration damping of ship engines to avoid induction of vibrations into the ship hull and
- adaptive outfitting materials that improve ships' serviceability and safety.

Technical developments in the project are structured in three groups:

- Materials and structures development: Based on available research results and known applications from other industries, adaptive and smart materials and structures will be adopted and further developed in order to make them applicable in the maritime industry.
- Solution development: Driven by different shipyards, several application case studies will be performed, in order to achieve customised solutions for particular vessel types and their individual requirements. Classification societies will assure that the solutions comply with existing rules and regulations.
- Enabling and assessment of technologies: This group provides support to the other groups on the field of testing, assessment of safety as well as economical and ecological impact, and advice for production, operation and dismantling. Due to the novelty of the solutions to be pursued, further development of the required validation methods and tools is intended, as well as suggestions for standardisation.

The ADAM4EVE consortium is led by Center of Maritime Technologies and comprises 20 partners in total, representing different sectors:

- 5 shipyards and/or yacht builders (Uljanik Brodogradiliste DD, Flensburger Schiffbau-Gesellschaft mbH & Co KG, STX France SA, SC NAVROM Shipyard SRL, Saare Paat AS)
- 7 universities and research organizations, experienced in advanced materials' design, processing and assessment (Center of Maritime Technologies e. V., Fraunhofer Institut für Fertigungstechnik

und Angewandte Materialforschung (IFAM), VTT Technical research centre of Finland, SP Sveriges Tekniska Forskningsinstitut AB, University of Southampton, Universitatea Dunarea De Jos Din Galati, Hamburgische Schiffbau-Versuchsanstalt GmbH)
- 2 classification societies (Lloyd's Register EMEA, Rina Services SPA)
- 4 companies active in the development of innovative structures (Alveus I.I.C, Ship Design Group SRL, Acciona Infraestructuras SA, MEC Insenerilahendused)
- 2 ship owners (Compañía Trasmediterranea S.A., Carnival PLC)

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More information on the project will be available by end of March 2013 on the public website: www.ADAM4EVE.eu

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Participants of the ADAM4EVE kick-off meeting