

PARTNER SEARCH FORM

GENERAL DESCRIPTION

Deadline for responses	01/02/09
Title:	Light-weight polymers composites for transport applications
Abstract:	This work proposes an integrated approach on nanostructured light-weight composites providing not only the research platform for their development but also the necessary tools, computational, engineering & testing, for their effective adaptation in transport applications (automotive, aerospace and marine). Carbon nanotubes & nanofibers will be tested in order to tailor their chemical functionality towards polymer matrices commonly used in the transport industries (polyolefins, resins, etc.)
Description:	<p>This work proposes an integrated approach on nanostructured light-weight composites providing not only the research platform for their development but also the necessary tools, computational, engineering & testing, for their effective adaptation in transport applications (automotive, aerospace and marine). Carbon nanotubes (CNT) and nanofibers will be tested in order to tailor their chemical functionality towards polymer matrices commonly used in the transport industries (polyolefins, epoxy resins). Hyperbranched polymers will be also employed as matrices. These polymers, apart from their low cost, enhance CNT dispersion and are considered to be biodegradable.</p> <p>Additionally, computational tools will support for the study of the phenomena, which are relevant to the mastering and processing of the developed multifunctional composites. The simulation tools and their integration into the developed methodologies are expected to provide insight of the fundamental mechanisms that determine the phenomena observed. Furthermore, the engineering tools produced will overcome the current limitations on the applicability of nanocomposites in industry and lead to "smart" innovative industrial processes contributing to sustainable development and competitiveness of the EU transport industry.</p> <p>Finally, the proposed testing methods of light-weight composites will assist the development of a pan-European standard for the characterization of nanocomposites, increasing the scientific acceptance of EU research centers and universities worldwide.</p>
Keywords	Design of Vehicles

EUROPEAN FUNDING SOURCE

EC Programme(s)	NMP-2009-2.5-1 Light high-performance composites
Type(s) of Project	Large-scale integrating Collaborative Project
Development Stage	Proposal under development



ORGANISATION/COMPANY

Organisation Type	Research Institute
Organisation Size	>500
Description of activities/other details	<ul style="list-style-type: none">- Synthesis and applications of carbon nanotubes (CNTs).- Development of CNT-based composites (resins, polyolefins) for high-strength applications, as well as applications that require high electrical conductivity.- Characterization of materials

TARGET PARTNER

Target Partner Organisation Type(s)	SME (<250 employees), Large Company
Target Partner Expertise Sought	<p>A company active in the automotive or aerospace field that could be benefited by the development of light-weight polymer composites for use in its product line. This company could either design/fabricate transport components or actually build vehicles. Another option would be a company which produces polymers/resins that can be used in the transport industries.</p> <p>task: To act as the coordinator since the call requires industrial leadership. The coordination will be supported by the technical/research centre which typically cannot undertake the coordination tasks.</p>
Application Domain(s):	Transport, Aerospace technology, Chemical industry

Contact:

Apostolos Dimitriadis

HELP-FORWARD Network / Diktyo PRAXI

Member of Enterprise Europe Network - Hellas

STEP-C, N.Plastira 100, Vassilika Vouton 700 13

T: +30 2810 391963

F: +30 2810 3636109

E: adimi@help-forward.gr