

CARBON-FIBRE TECHNOLOGY CLUSTER

EUCARBON

EUROPEAN SPACE QUALIFIED CARBON FIBRES AND PRE-IMPREGNATED BASED MATERIALS

EUCARBON project, coordinated by INEGI (Portugal), it is a 4 years project in its final year. It aims to overcome the present recognized needs of European made space qualified carbon fibre and prepreg materials. These materials are building blocks for technological innovation in Space research. The project target the development of high and ultrahigh modulus CFs (350 to 500GPa) to be produced in Europe by a European manufacturer (FISIPE SA-SGL Group) and space qualified pre-impregnated materials involving the developed CF and epoxy resins doped with CNTs. These novel materials will address one of the main issues linked to use of CF composites in space applications: their low thermal and electrical conductivity. The above technologies will be demonstrated with the conception, production and testing of demonstrator parts for use as satellites and launchers components demonstrators parts for satellite sub-components.

EUCARBONPROJECT
www.eucarbon-project.eu

CARBOPREC

RENEWABLE SOURCE NANOSTRUCTURED PRECURSORS FOR CARBON FIBERS

Today, almost 80% of the CF available on the market is using PolyAcryloNitrile (PAN) as the starting raw material because of its superior properties. Yet, PAN precursor implies high costs (it is acknowledged that precursor accounts for approximately 50% of the total manufacturing costs). Within this context, there is a crucial need to develop cost-effective precursors in order to produce CF at a more competitive price, which is the main barrier to address mass markets such as automotive industry, as well as emerging markets such as wind energy. Two types of carbon fibre precursors will be investigated within CARBOPREC project: a high purity cellulose grade and a high purity organosolv lignin grade, both doped by carbon nanotube (CNT). The project is coordinated by ARKEMA (France) and technical management CANOE (France).


carboprec
www.carboprec.eu

This project clustering activity, promoted by EC under H2020, is based on five projects all related to Carbon Fibres. The aim is to put together the best European expertise in this field, brainstorm around common expectations, discuss the context and synergies to ensure the highest possible impact at the industrial, social and economic level. Three of the projects (**NEWSPEC**, **FIBRALSPEC** and **CARBOPREC**) were funded under the same EU-FP7 call "NMP.2013.2.1-1 Developing new precursors, new processing routes and functionalisations for carbon fibres". The main aims are on CF precursor development for cheaper CF and independence from international monopolies. **EUCARBON** is a project from an FP7 SPACE call which also aims at independence from non-European suppliers. **REFORM**, the 5th project, which deals with the recycling of CF composites, was funded under the FP7-2011-NMP-ICT-FoF call.

LEADER OF DISSEMINATION AND TRAINING ACTIONS OF THE CLUSTER

 **WARRANT GROUP**

www.warrantgroup.it

DEVELOPING NEW
PRECURSORS, NEW
PROCESSING ROUTES AND
FUNCTIONALISATIONS FOR
CARBON FIBRES

REFORM

RESOURCE-EFFICIENT FACTORY OF RECYCLABLE MANUFACTURING COMPOSITE COMPONENTS

REFORM (Resource-Efficient Factory Of Recyclable Manufacturing composite components) is a 4 year project funded by the European Union's 7th Framework Factory of the Future Programme to develop the next generation of production technologies. We will develop clean and resource-efficient technologies for the manufacture and disposal of composite material, looking at each individual production stage.

REFORM is coordinated by the AMRC at the University of Sheffield.


REFORM
www.reform.eu.com

FIBRALSPEC

FUNCTIONALIZED INNOVATIVE CARBON FIBERS DEVELOPED FROM NOVEL PRECURSORS WITH COST EFFICIENCY AND TAILORED PROPERTIES

FIBRALSPEC project is coordinated by the National Technical University Of Athens - NTUA (Greece). The project aims to develop innovative processes with streamlining and improved control. Novel CF precursors will be developed (silicon carbide, textile-grade PAN, polyolefins, and lignin); in parallel, the suitability of a new environmentally friendly pitch will be assessed, obtained from anthracene oil, for the preparation of isotropic CF. Testing of laminates and prepregs production based the new developed CFs followed by manufacturing of laminates/coupons and high-performance filament wound tubes are also foreseen. The project will make efforts on CF functionalization mainly focused on cost reduction, mechanical and chemical property improvement.


FS
www.fibralspec.net

NEWSPEC

NEW COST-EFFECTIVE AND SUSTAINABLE POLYETHYLENE BASED CARBON FIBRES FOR VOLUME MARKET APPLICATIONS



The main objective of NEWSPEC is the development of CFs through promising low-cost polymers, such as polyethylene (PE).

PE presents interesting technical features like high carbon yield (around 70%), high processability and flexibility (many potential polymer modifications to examine) and very competitive cost (~2 euro/kg) with respect to PAN precursor which may result to precursor cost savings of up to 70%.

NEWSPEC is coordinated by Brembo SPA (Italy) in collaboration with Warrant Group srl (Italy).


NEWSPEC
www.newspec.eu