CARBON FIBRES & ADVANCED HIGH PERFORMANCE COMPOSITES CLUSTER (CFPC)

EXCELLENCE AT THE SERVICE OF EUROPEAN COMPETITIVENESS FOR HIGH PERFORMANCE COMPOSITES

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The Cluster activity under H2020 aims to bring together EC funded projects to enable the sharing of ideas, results and concepts, contributing to the EU Strategic Research Roadmaps and to use the synergistic effect to improve the dissemination and exploitation of the project results and enhance their impact.
Five projects, which initially formed this cluster, relate to the sustainable production and recycling of carbon fibres (CF) and carbon fibre composites.
CARBOPREC, **FIBRALSPEC** and **NEWSPEC** investigate CF precursor development where cheaper CF and independence from international monopolies are some of the main aims. **EUCARBON** aims at independence from non-European suppliers on Space qualified carbon fibres.
REFORM deals with the recycling of CF composites. Six more projects have been added: **FIBREMOD** (Fibre break models for designing novel composite microstructures and applications), **SMARTFAN** (Smart by Design and Intelligent by Architecture for turbine blade fan and structural components systems), **MODCOMP** (Modified cost effective fibre based structures with improved multi-functionality and performance), **BIO4SELF** (Biobased self-functionalised self-reinforced composite materials based on high performance nanofibrillar PLA fibres), **1D-NEON** (1D Nanofibre Electro-Optic Networks), **GREENLIGHT** (Cost effective lignin-based fibres for innovative light-weight applications).

CLOSED CLUSTER PROJECTS

carboprec · NewSPEC · FS · EUCARBON · REFORM

NEW CLUSTER PROJECTS

FiBreMoD
Marie Skłodowska-Curie European Training Network

FiBreMoD aim to train 13 such researchers to become multi-talented and interdisciplinary researchers that will be highly coveted in the field of composites. They will be intensively trained by leading experts with world-class facilities and will be supported by a strong industry participation and an extensive international network.

SmartFAN

SMARTFAN proposes the development of “smart” material and product architectures, with integrated functionalities, that will interact with their environment and react to stimuli by employing biomimetic, selfsensing, actuating and damage-repairing technologies.

MODCOMP aims to develop novel engineered fibre-based materials for technical, high value, high performance products for non-clothing applications at realistic cost, with improved functionality and safety. Demonstrators will be designed to fulfil scalability towards industrial needs and focus on TRL5/ TRL6. End users from a wide range of industrial sectors (transport, construction, leisure and electronics) will adapt the knowledge gained from the project and test the innovative high added value demonstrators

MODCOMP

BIO4SELF aims at fully biobased self-reinforced polymer composites (SRPC). To produce the SRPCs two polylactic acid (PLA) grades are required: a low melting temperature (Tm) one to form the matrix and an ultra high stiffness and high Tm one to form the reinforcing fibres. To reach unprecedented stiffness in the reinforcing PLA fibres, we will combine PLA with bio-LCP (liquid crystalline polymer) for nanofibril formation.

BIO4 SELF

1D NEON

D-NEON is a 4 year Innovation Action of the H2020 work programme funded by the European Commission under the NMP-22 2015 call topic “Fiber-based materials for non-clothing applications”. The vision of the 1D-NEON project is to create outstanding added value for the textile manufacturing industry. This will be accomplished by developing fibre-based smart materials along with an integrated technology platform for the manufacturing in Europe of new products enabling applications in sensing, lighting, energy and electronics.

GreenLight

Biobased cost-efficient carbon fibres would enable an increased replacement of steel with carbon fibre composites in cars. This would in turn decrease the weight and fuel/electricity consumption of the car fleet. The vision of the GreenLight project is to utilise lignin, a wood component that is a large by-product from pulp mills, as raw material for such green and cost-efficient carbon fibres.

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This Cluster is supported from the European Union’s Horizon 2020 research and innovation programme through the following projects: SMARTFAN GA No. 760779, FIBREMOD GA n. 722626.