

ADVANCED LIGHTWEIGHT MATERIALS FOR ENERGY-EFFICIENT STRUCTURES

FOREST PROJECT

FOREST will develop novel lightweight multifunctional biocomposites as a competitive alternative to conventional composites. New chemistries will be developed based on bio-based materials in combination with fully recycled carbon fibre and EMI particles. FOREST will increase the focus area on the sustainability in circular economy by effective circularity solutions applied to multifunctional biocomposites constituents with over 50% sustainable materials contain in the lightweight products.

TECHNICAL AND ECONOMIC IMPACTS

- 25% reduction of the cost of the production of selected parts and lightweight materials
- 20% reduction of CO2 emission

BUDGET

4 996 k€

PARTNERS

AGZ (PL), AIMPLAS (ES), ARKEMA (FR), BASF (DE), BTZ (UK), CLAR (DE), FENIX (CZ), FIAT SCPA (IT), FHG (DE), G2C (UK), IRT JULES VERNE (FR), MBHA (ES), MBT (TR), STELIA (FR)

KEY WORDS

Biocomposite / Reduce - Recovery - Reshape / Transport



INDUSTRIAL CONTEXT

Transport sector, which accounts for more than fifth of the green-house emissions in Europe has always been the focus of the decarbonization. Despite the largest-ever decline in global emissions due to the economic and social shutdowns during the covid-19 crisis, the transport sector rebounded to their higher-level history in 2021. Furthermore, the fast-growing transport demand, is expected to generate a large increase in transport emissions if no actions are taken. Long term low green-house gas emissions development strategies are key enabling instruments to reconcile near-to-medium term action with the European long-term objectives to become climate-neutral by 2050.

INNOVATIVE FEATURES

- Light-weight products containing >50% sustainable, bio-based materials
- Development of 100% recycled carbon fibre semi-finished materials

INDUSTRIAL APPLICATIONS

Development of new chemistries for fast curing resins, new biobased composites, joining technologies between composites and other materials and associated novel production techniques are expected to result in:

- Reduced cost for production of renewable and recycled lightweight materials, 25 % lower cost than currently used materials.
- Light-weight products containing >50% sustainable, bio-based materials.
- Reduction in CO2 emissions of at least 20%.
- Business models and circular value chains for lightweight bio-based components.
- Improved time-to-market for European providers of lightweight solutions.



Funded by
the European Union

"Funded by the European Union. Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or the HaDEA (European Health and Digital Executive Agency). Neither the European Union nor the granting authority can be held responsible for them."

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement no.101091790.

IRT JULES VERNE

1 Mail des 20 000 Lieues
44 340 Bouguenais

Business contact
business@irt-jules-verne.fr

Press contact
communication@irt-jules-verne.fr

WWW.IRT-JULES-VERNE.FR

Meet us on :



LE FUTUR
DE VOS USINES