



LOWFLIP PROJECT: Low cost flexible integrated composite process

Press release nº 1

LOWFLIP (Low cost flexible integrated composite process) project has been recently launched with a duration of 36 months and 10 partners from 5 European countries.

Partly funded by the European Commission under the FP7 program, the LOWFLIP project involves 2 research centers/ universities (University of Stuttgart and TECNALIA), 7 industrial partners, 2 of which are SMEs, (SGL, CARBURES, AERNNOVA, KOGEL, ALPEX, FILL and MECAS ESI) and a consultancy firm (ALMA).

Context

Fibre-reinforced polymer composite materials are leading candidates as component materials to improve the efficiency and sustainability of many transport modes.

However, the current manufacturing processes used in aeronautic and automotive still represent high capital investments and a high percentage of manual work for SMEs and this represents a major barrier for their deployment in sectors like the automotive industry. Moreover, there are a number of technical issues that still need to be resolved before any significantly increased uptake of composites by the automotive sector can be expected.

Technical objectives

The main objective is to develop a low cost flexible and integrated composite parts manufacturing process which will require minimum investments in comparison with current state of the art processes. The specific scientific and technical objectives are the following:

- To develop, assess and analyse new out-of-autoclave composite raw materials for easy and low cost automated manipulation
- To develop low cost and flexible multifunctional handling, placement and draping solutions for both small complex parts and big structures
- To reduce composite manufacturing process steps by selective, fast and energy efficient heating technologies
- To develop simulations tools to support the automation of the process with regards to material drapability, curing optimization and crash behaviour
- To design and produce prototype manufacturing cells that integrate the technologies validated at laboratory scale and to create a new process concept for the composites manufacturing sector

For more information:

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