



High Performance & Lightweight materials

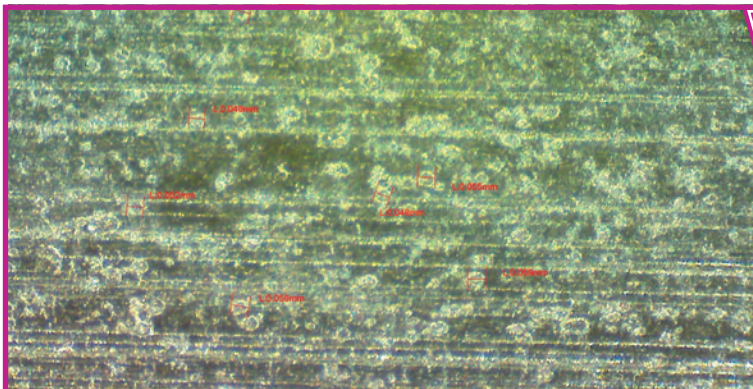
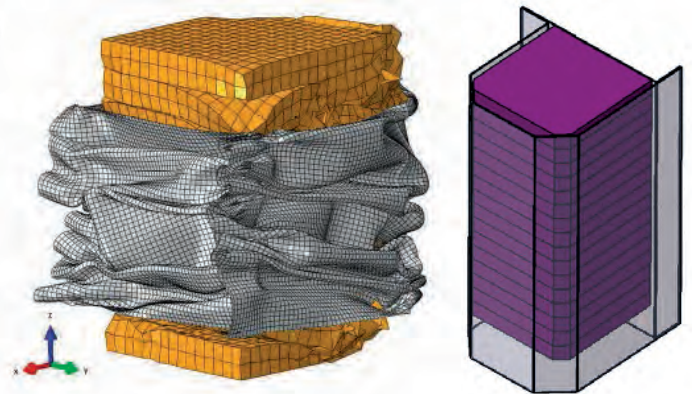
- ▶ Low density and high strength materials
- ▶ Weight reduction
- ▶ Increased energy efficiency
- ▶ Reduced material consumption
- ▶ Higher performances
- ▶ Affordability
- ▶ Lower environmental impact

INNOVATIONS BY CTAG



Local reinforcement on thermoplastic components through continuous unidirectional tapes

Metal-hybrid structures to minimize transmitted loads and enable optimized and lightweight concepts



Lightweighting strategies for injection moulding: glass bubbles and blowing agents

MATERIALS INNOVATION

- ▶ 17 patents & 2 pending
- ▶ 20 collaborative projects
 - ▶ 10 EU projects
H2020, 7FP, Interreg SUDOE & POCTEP
 - ▶ 10 as coordinators
- ▶ 30 customer R&I projects
- ▶ International Collaborations:
 - ▶ 9 automotive OEMs
 - ▶ 18 TIER1
 - ▶ EU excellence research institutes
 - ▶ SMEs with intensive research capacities
- ▶ Synergy with in-house technological capacities
 - ▶ CAE design: structural linear/non-linear analysis, topology optimization
 - ▶ Virtual simulation: crashworthiness, fluid determination, kinematics, process simulation
 - ▶ Physical validation: climatic, vibro-acoustics, fatigue, materials, engine, electronics and ergonomics
- ▶ Deep knowledge of the analysis and application of automotive regulations and standards as well as of the development of new testing strategies for new materials



LATEST PROJECTS



Research on efficient integrated systems for the manufacturing of complex parts based on unidirectional tapes for the automotive and aeronautical industry
H2020-FoF-2-2014 | www.fortapeproject.eu



Development of low cost precursors from renewable materials widely available in Europe to produce high performance CF for automotive and wind energy applications
FP7-NMP-2013-LARGE | www.carboprec.eu



Structural optimization of a metal-hybrid system for front crash energy absorption with experimental and computing verification
Regional



Reduction of the vehicle environmental impact through structural lightening based on low-cost carbon composites without compromising safety and comfort.
National