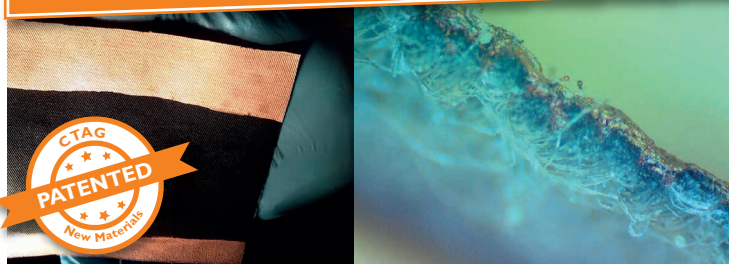


- ▶ Electrical and thermal conductivity
- ▶ New functionalities added to the base material
- ▶ Intelligent materials
- ▶ Sensing ability
- ▶ Innovations based on nanotechnology

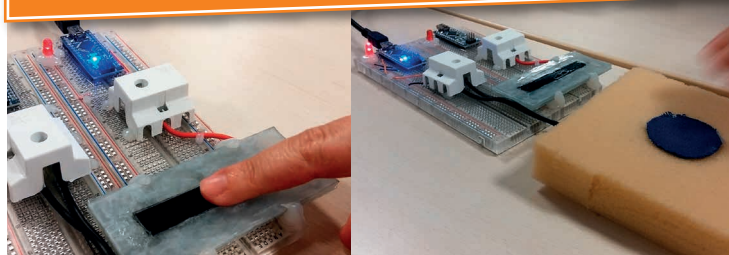
## INNOVATIONS BY CTAG



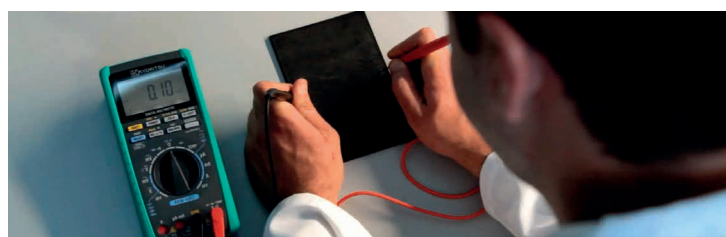
Homogeneous and efficient heating up films and textiles



Flexible electrodes for smart textile fabrics and paper based electronics



Capacitive and resistive activation properties integrated in any surface type (e.g. plastic, foam, textile, paper, film)



In-bulk and/or surface electrical conductivity added to plastic components



Heating up coating suitable for any surface type (e.g. textile, ceramic, films, plastics, metal)



EMI shielding added to plastic housing



Paper sensor with moisture and temperature sensing ability

## 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



Novel energy efficient EV climate system for improved passenger comfort based on Joule and Peltier effects  
H2020-GV-2-2014 | [www.jospel-project.eu](http://www.jospel-project.eu)



Knowledge transfer network on nanomaterials for the SUDOE Space industry  
INTERREG IVB SUDOE | [www.carboninspired2.com](http://www.carboninspired2.com)



Interior plastic component with integrated sensor function based on smart textiles  
National



Flexible photovoltaic modules for their application in the automobile sector  
National



New composite polymers for the detection and quantification of structural damage in car parts through surface resistivity measurements



Research and development of new composite applications based on carbonaceous nanostructures.  
National