

TECHNOLOGICAL OFFER

The Pilot Line can be used to:

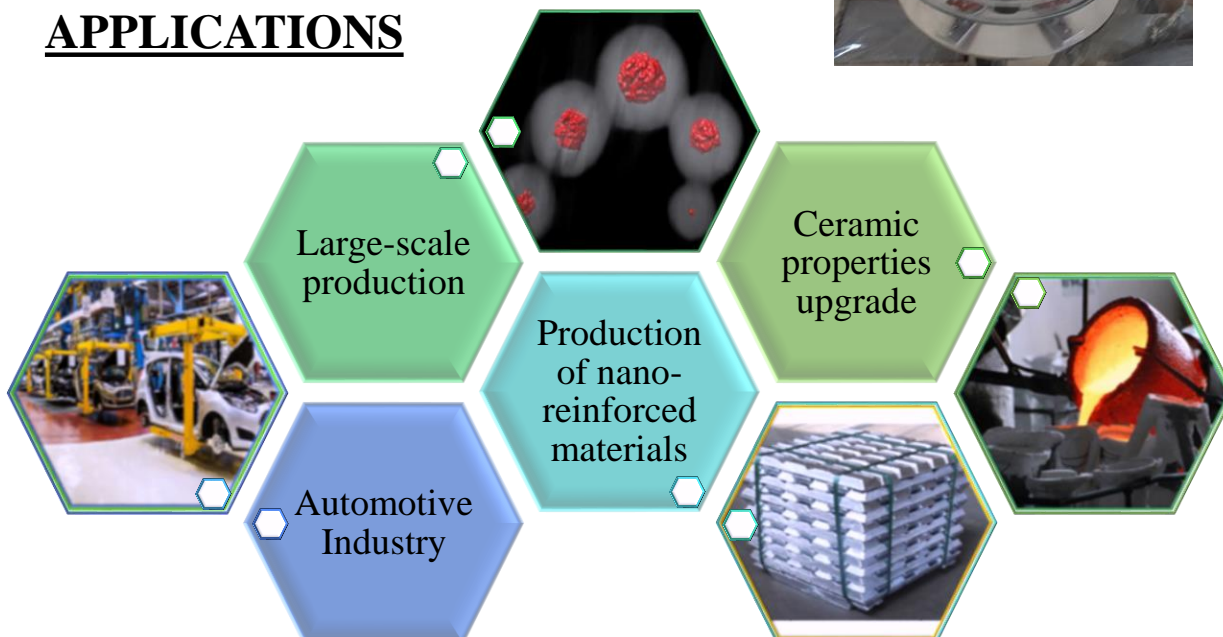
- Perform large-scale synthetic chemistry.
- Control the key synthesis parameters “in line”.
- Develop advanced nanoparticles and nanomaterials.
- Ensure high-quality production of nanomaterials in compliance with the applicable regulations.

COMPETITIVE PRODUCTS

- Nanoparticles large-scale production.
- Coating/Encapsulation improving matrix incorporation.
- Properties enhancement.
- Synthesis repeatability.



APPLICATIONS



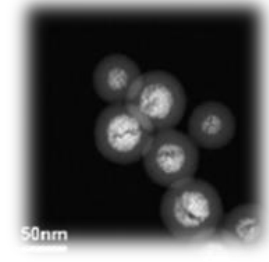
Open access single entry point for scale-up of innovative Smart lightweight composite materials and components
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 814581



Automated freeze-drying avoiding particles aggregation

20 L/batch semi-continuous process

Nano-materials scale-up production



Enhanced volumetric productivity

Features of the Pilot Line

Limiting the coproduction of undesired side-products

Production of nanoscale structures with intrinsic properties

Control of dimensions by UV/vis *in situ* monitoring

Material production up to 500 g per batch



UPGRADED TECHNOLOGY

- *Large connected reactors*: two 20 L connected reactors with injection by dosing pump (pump flow max. 85 L/h) with 10 L and 5 L side reactors.
- *In-situ monitoring*: accurate UV-vis spectrophotometer Agilent Cary 60 UV-Vis with fibre optic probe (working at 190-1100 nm) with fast data collection.
- *Nanopowder drying*: automated freeze dryer with process control interface from Cryotec for non-aggregation of nanoparticles.

