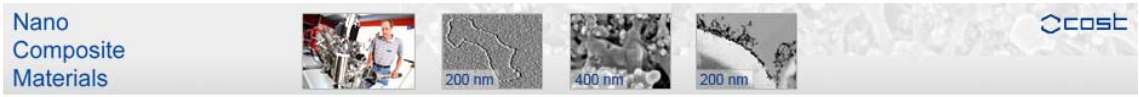
# European Construction Technology Platform
# 4th Conference, Brussels, November 24 – 25, 2009

## COST Action MP0701 Nano Composite Materials – NCM)"

COST-NCM

www.nanocomposites-cost.eu

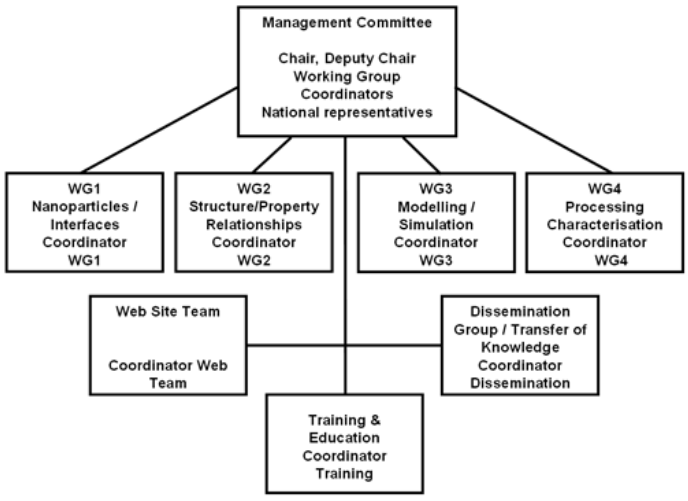
The COST Action MP0701 aims to form a European-wide scientific and technology knowledge platform on the topic of nanocomposite materials in order to advance the R&D, the use and exploitation of these innovative materials in Europe with a special focus on SME.
Such nanocomposites are of great importance for a multitude of industrial uses in construction, automotive, aerospace, and mechanical engineering. In order to accelerate growth of this promising new field of technology, taking into account sustainability, safety and health, this COST activity is considered the most appropriate way of cooperation to facilitate its commercial exploitation in Europe.




## Scientific Programme and Innovation

**The proposed COST action will generate and coordinate a number of research projects which will be carried out by the participants. The seven research areas which will be covered by such projects are:**

- ✓ **New innovative nanosized filler particles, preparation and processing, basic properties and handling**
- ✓ **Development of Polymer nanocomposite matrix systems based on thermoplastics, elastomers, duromers and liquid crystalline polymers**
- ✓ **Preparation and processing of polymer nanoparticle blends with necessary surface modifying additives**
- ✓ **Processing technologies and novel production processes for semi-finished or final products**
- ✓ **Modelling and simulation**
- ✓ **Characterisation, safety aspects, quality assurance, property database**
- ✓ **Up-scaling, applications and commercialisation**




**The main innovation will be products with optimised properties and the industrial procedures for high quality nanocomposites:**

**Automotive:** paints, windscreens, catalysts, timing belt cover, engine cover, fuel lines, lightweight construction
**Electronics and Optoelectronics:** adhesives, glues, electrically conductive composites, signal wire shielding, electrostatic painting, interference shielding, photovoltaic cells
**Medical:** membranes, tubings, stent delivery balloons, bioactive nanocomposites, dental fillings, artificial blood pumps, blood sacs, artificial hearts, orthopaedic applications, elastomeric membranes
**Packaging (Food industry):** conservation foils, membranes, bottles, containers
**Aviation:** mechanical engineering, controlled processing, adaptive systems
**Construction:** High performance nanocomposites coatings, building preservation/ restoration
**Flame retardant applications:** wire and cable covers, battery char, electrical enclosures, home interior decoration, insulation thermal/acoustic
**Sports equipment:** tennis rackets/squash rackets, fishing rods, hockey sticks, golf clubs, high performance bicycles, skis & ski poles, training shoes, protective eyewear
**Oil and Gas:** pipes for steam assisted gravity drainage, oil sand extraction equipment, plastic vessels
**Energy industry:** ultra capacitors, photovoltaic systems, plastic pipes, electrical insulation

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