

Chimica

PARTNER SEARCH NMP7-EU-LCP-4

01 dicembre 2017

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Ricerca partner di un proponente danese la cui proposta ha superato il primo stage di valutazione nella tematica: "FP7 NMP-2007-2.1-1 " (Nanostructured polymer-matrix composites).

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<Reference n.: NMP7-EU-LCP-4>

<Deadline: 01/10/2007>

<Programme: >

<Project Title: Nanostructured toughened hybrid nanocomposites for high performance applications>

<Financial Scheme: >

<Description: Schema di finanziamento: 'Collaborative Project' a beneficio delle PMI.

Motivation: Nanocomposites are emerging new materials that promise improved properties. Their applicability, however, is presently limited by the cost of manufacture and lack of reproducibility.

Literature shows that on the bench scale, dramatic improvement in polyolefin mechanical properties can be obtained by intercalation and exfoliation of nanoparticles in the matrix. However, when materials produced using conventional equipment are tested, their performance does not meet expectations nor live up to the claims. Project Goals: To remove technical barriers to producing high performance polymer nanocomposite materials on the industrial scale, fundamental insight into the dispersion of particles within the polymer matrix is needed.

The intension is to gain this insight through a series of carefully designed studies, using the most advanced experimental techniques,

theoretical modelling, carried out by very experienced and skilled partners. The basic objective is to obtain a deeper understanding of the interfacial structure of nanocomposites. This knowledge will enable realization of the great performance potential of these materials through development of novel multiphase and hybrid nanocomposites. This knowledge will facilitate commercialization of polymer nanocomposite materials with superior properties that will lead to development of new products. To meet this objective, we aim to improve the stiffness of polyolefin nanocomposites while not only maintaining but also improving the toughness of the matrix considerably. The technological objective is to optimize and, through novel interface design, to develop new cost efficient hybrid (nanofiller-fiber) nanocomposites as an alternative to heavily filled polymers and expensive engineering polymers and fulfil industry requirements for high performance materials in high tech applications.

<Organisation Type: Altro>

<Partner Sought: Industrial partners (preferably SMEs) particularly within the following sectors: construction, domestic appliances, medical or electronic devices, aeronautics.