ITALIA
Agenzia per la promozione all'estero e l'internazionalizzazione delle imprese italiane
(in gestione transitoria)

I T A L Y D A Y

ABSTRACT TABLE OF PROJECT PROPOSAL

PROJECT Nr. 5

SECTOR:	Transport sectors
PROJECT IDEA IN A HEADLINE:	Development of new environmentally friendly, non-toxic, low-leaching alternative halogen-free fire retardant additives for structural and semi-structural fibre-reinforced thermo-set or thermoplastic
INNOVATIVE POINTS:	▪ Development of novel fire retardant additives ▪ Experimental and numerical approach to move from small-scale tests to the prediction of fire behaviour of novel composite materials in a real large-scale fire scenario ▪ Set up of new fire standard test methods focusing particular attention to the mechanical response of innovative composites in certain (extreme) fire condition.
POTENTIAL BUSINESSES AND APPLICATION FIELDS:	Aircraft, ships, cars and trains
CHARACTERISTICS OF POTENTIAL PARTNERS:	- Material supplier; - Research/Academic partner having modeling or synthesis material competences.
EU PROGRAMMES TO PARTECIPATE:	Nanosciences, nanotechnologies, Materials and new Production technologies - NMP
BRIEF PROJECT DESCRIPTION:	In many technological fields, the replacement of conventional materials with lightened advanced composites is limited because of the poor fire-behaviour of these new materials. When composites are exposed to fire, the polymeric matrix firstly softens and secondly undergoes a thermal decomposition with release of flammable gases contributing thus to the combustion. We have set up a numerical-experimental Fire Laboratory to study the fire performances of composite materials and to develop new composites for applications where fire issues are extremely relevant. Our involvement in this project might be focused on the fire characterization of the materials that will be developed in the project (e.g. by testing ignitability, fire toxicity, burning behaviour, reaction to fire and/or flammability according to the appropriate standards).