

Would you like us to try to find interested companies with your projects ideas, please send us a short project abstract (by the 7th October) which we will display on this webpage under the match-making section.

The match-making concept is only designed to help you to find partners, a coordinator, technology,...

This webpage can be found at: <http://www.aeroportal.eu/ap3callfp7workshop.html>

Project Ideas	
Proposers of the idea:	National Aerospace University " Kharkiv Aviation Institute" named by N.Ye.Zhukovskiy
Type of Organisation: (SMEs, University, Research Center,...-)	University
Call identifier:	FP7-AAT-2010-RTD-1
Topics called:	AAT.2010.3.3-2. Systems and equipment
Funding Instruments:	CP-FP (Small or Medium scale focused research) <input checked="" type="checkbox"/> CSA-CS (Coordinating) <input type="checkbox"/> CSA-SA (Supporting) <input type="checkbox"/>
Project Title:	Composite Aircraft Active Lightning-strike Protection System
Project objectives:	To achieve the following impact: - Sufficient lightning strike safety increasing - Total weight savings
Project abstract: Be concise! Avoid abbreviations (Max. 3000 characters incl. spaces. Any exceeding words will be discarded.)	<p>Wide composite structures application is the nearest future of aircraft design. Beside well-known advantages, composites create some new specific problems. Lightning strike protection of composite airframe is one of them. Since composite conductivity is pretty low, conventional approach to lightning strike protection is embedding of conductive materials (coatings, foils, extended foils etc. mostly aluminum) into upper layer of composite panels. Despite some progress in this field, such approach has generally "passive" nature – all composite surfaces must be protected, since nobody can predict lightning strike exact points.</p> <p>The main idea of this project is to change general approach and follow to "active" lightning strike protection philosophy. This means to organize controlled distortion of electric field around composite aircraft with the points of maximum field strength in the areas of the most probable lightning strikes. Due to basic physical laws, these points would be, on one hand, the points of lightning attraction (lightning input), and, on another, can be electrically connected with specific points for lightning energy output on the rear part of the aircraft. Sure, both points must be conductors, but not distorting basic aircraft geometry ("invisible lightning rod").</p> <p>Electric field distortion can be created in two basic ways: 1. Heavy-duty electrical capacitors with one charged plate connected to conductor impregnated to composite shell outer surface 2. Small plasma torch, creating the stream of conductive ionized particles outside the aircraft thus creating "lightning attraction area" and, possibly, lightning energy dissipation shield.</p> <p>Active approach can sufficiently increase lightning strike safety of composite-made aircrafts and, possibly, give sufficient weight economy since conductive layers of composite structures would be sufficiently less in square and weight.</p>
Project structure (WPs, duration,...) *	Following Work Packages assumed: 1. Electrical capacitor field distortion possibilities research 2. Plasma-torch electrical field distortion possibilities research 3. "Invisible lightning rod" prototype design and manufacturing 4. On ground comparative lightning tests
Estimated budget *	
Project Coordinator	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
What are you looking for (a coordinator, partners, technology, other,...)? Please specify.	We are looking for: 1. Project coordinator! 2. Partners interested: Universities, research labs, aircraft/parts manufacturers (incl. SMEs)
The person identified above confirms that the data provided in this form are correct and that permission is given to publish this data in the MatchMaking table located in the Workshop page.	Yes <input checked="" type="checkbox"/>

* Not Mandatory

Please return the completed form **BY THE 7th October 2009** to AeroPortal, Ms. Monica Ibido, aeroportal@asd-europe.org. For more details refer to the AeroPortal homepage www.aeroportal.com.