Smart Aircraft in Emergency Situations

Fact Sheet

Project Information

SMAES
Grant agreement ID: 266172
Status
Closed project

Funded under
FP7-TRANSPORT

Overall budget
€ 5 732 492,60

EU contribution
€ 3 828 125

Coordinated by
CRANFIELD UNIVERSITY
United Kingdom

Objective

"Ditching analysis is requested for large transport aircraft by EASA. The respective requirements are specified under § “CS 25.801 Ditching”. They are primarily devoted to a minimisation of risks for immediate injuries and the provision of fair chances for an evacuation. A significant part of average air travel is over water and historically a planned or unplanned water-landing event occurs grossly speaking every 5 years.

This proposal directly addresses areas ""7.1.3.3: Aircraft Safety"" and ""7.1.4.1: Aircraft Development Cost"". The primary outcome of the SMAES project will be advanced methodologies and simulation tools to support aircraft development from pre-project phase to certification. These will enhance future innovation in aircraft design through ensuring that innovative designs are compliant with safety requirements.

The key developments addressed in the work programme are:

1. Improved models for the calculation of ditching loads including both analytical and detailed fluid dynamics models. Inclusion of the effects of the complex flow physics in ditching is critical to prediction of ditching loads."
ditching is critical to prediction of ditching loads.
2. Reliable and predictive aircraft models for structural behaviour under dynamic fluid loads.
3. Demonstration of the methods on representative future aircraft design concepts.

The consortium brings together aircraft manufacturers, analysis software developers, research organisations and universities. Together the partners form a strong team covering the required expertise in aircraft design, numerical methods and simulation, ditching analysis and supporting experimental methods to achieve the project objectives."

Field of science

/natural sciences/computer and information sciences/software
/social sciences/social and economic geography/transport
/natural sciences/physical sciences/classical mechanics/fluid mechanics/fluid dynamics
/engineering and technology/mechanical engineering/vehicle engineering/aerospace engineering/aircraft

Programme(s)

Topic(s)

Call for proposal

FP7-AAT-2010-RTD-1

Funding Scheme

CP-FP - Small or medium-scale focused research project

Coordinator

CRANFIELD UNIVERSITY

Address

College Road
MK43 0AL Cranfield - Bedfordshire
United Kingdom

Activity type

Higher or Secondary Education Establishments

EU contribution

€ 437 500,80

Website

Contact the organisation

Administrative Contact

James Charles Anthony
Participants (15)

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<th>Organisation</th>
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<th>Address</th>
<th>Activity type</th>
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<td>Germany</td>
<td>€ 132 640</td>
<td>Helmholtzstrasse 10, 01069 Dresden</td>
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<td>DASSAULT AVIATION</td>
<td>France</td>
<td>€ 360 000</td>
<td>9 Rond Point Champs-elysees-marcel Dassault, 75008 Paris</td>
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<td>AIRBUS DEFENCE AND SPACE SA</td>
<td>Spain</td>
<td>€ 155 607</td>
<td>Avenida De Aragon 404, 28022 Madrid</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
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Establishments)

Website  Contact the organisation 

Administrative Contact
Daniel Martin Martinez (Mr.)

AIRBUS OPERATIONS GMBH

Germany
EU contribution
€ 26 300

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ALENIA AERMACCHI SPA

Italy
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€ 175 000

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DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV

Germany
EU contribution
€ 441 351,75

Address
Activity type
Linder Hohe
Research Organisations
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<td>Piazzale Aldo Moro 7, 00185 Roma</td>
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<td>OFFICE NATIONAL D'ETUDES ET DE RECHERCHES AEROSPATIALES</td>
<td>France</td>
<td>€ 401 914,50</td>
<td>Chemin De La Huniere, 91120 Palaiseau</td>
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<td>ESI GROUP</td>
<td>France</td>
<td>€ 195 000</td>
<td>100-102 Avenue De Suffren, 75015 Paris</td>
<td>Private for-profit entities (excluding Higher or Secondary Education Establishments)</td>
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ALTAIR ENGINEERING FRANCE

France
EU contribution
€ 127 500

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