SASHA
Small Aircraft Avionics Solutions for Hazard Alleviation
7th Framework Programme Proposal

Brussels, 23rd November 2009
Overview

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General Information

**ACRONYM:** SASHA (Small Aircraft Avionics Solutions for Hazard Alleviation)

**Type of funding Scheme:** Collaborative Project – Small or medium-scale focused project

**Work Programme Topic Addressed:** AAT-2010.3.3-3 Avionics
Advanced concepts and technologies to counteract hazards specific to the flight operation of small-size aircraft operating in non-scheduled flights, improving automation, smart responsiveness to unforeseen situations in piloting the vehicle, including those adapted to less-skilled pilot operations

**Budget:** 4,289,260

**EC Contribution:** 2,983,098

**Duration:** 36 months
Objectives

SASHA aims at solving the following problems:

- Small aircraft pilot has to be able to control the aircraft at all times even if part of the control system fails
- Small aircraft pilot needs to increase his/her situational awareness with regard to specific hazards related to the operation of small aircraft
- Small aircraft pilot needs exactly to know how to react to those specific hazards

Therefore:

SASHA will develop advanced functions, and the technologies supporting these functions, to enhance small aircraft pilot responsiveness in unforeseen situations related to the operation of small aircraft.
### Consortium

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<tr>
<th>Organization</th>
<th>Country</th>
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<tr>
<td>ISDEFE (Coordinator)</td>
<td>Spain</td>
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<td>BAE Systems</td>
<td>United Kingdom</td>
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<td>Honeywell</td>
<td>Czech Republic</td>
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<td>Institute of Aviation</td>
<td>Poland</td>
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<td>Kyiv Polytechnic Institute</td>
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<td>NLR</td>
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<td>TU Munich</td>
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<td>Warsaw University of Technology</td>
<td>Poland</td>
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**CONSORTIUM ALREADY FIXED**
Work Package Description

WP1 Operational Concept High Level Architecture
Identification of the operational hazards related to the operation of small aircraft that may be counteracted by means of avionics
Definition of system and interfaces requirements to counteract those hazards. Definition of high level architecture

WP2 Control Core Development
Development of a high integrity, robust and low-cost control core system available at all times.
Supporting functions defined in WP3 are interfaced with this control core system
Work Package Description

**WP3 Support Functions Development**

Development of low-cost support functions to achieve high-integrity situational awareness:

- Traffic awareness
- Terrain awareness
- Pilot assistance and situational awareness

**WP4 Flight Deck Human Machine Interface Development**

Development of an integrated HMI providing pilots with reliable information of support and control functions previously developed
Work Package Description

**WP5 Integration and Validation**

Integration of the previous developed control and support functions and the Human Machine Interface for the validation in three different platforms following E-OCVM principles.

- NLR’s GRACE Simulator
- TUM’s Level 5+ DA-42 Simulator
- IoA’s I-23 Manager Aircraft
Work Package Description

**WP6 Regulatory Impact**

Assessment of the impact that the new developed systems will have on operations from a certification and regulatory perspective.

Assess the safety of the new developed systems to ensure that they do not introduce new hazards.

**WP7 Dissemination and Exploitation**

Dissemination of project activities by means of workshops, articles, devoted website, etc.

Interaction with final users through the creation of a user group. Small aircraft manufacturers, regulators, operators, pilots associations, etc.

Some these final users have been already contacted and some of them have confirmed participation.
WP relationships

WP8 Management

- WP1 Operational Concept High Level Architecture
- WP2 Control Core Definition and Development
- WP3 Support Functions Definition and Development
- WP4 Flight Deck Human Machine Interface Definition and Development
- WP5 Integration and Validation

WP6 Regulatory Impact

WP7 Dissemination and Exploitation

User Group
Thank you!!