Results of yesterday meeting

Warsaw 8 July 2009

EPATS 2 study

- Roadmap, operational concept, involve industry
- Lead:
- Partners:

AAT.2010.7-12. Assessing and further developing the role of small aircraft in the air transport system

Expected impact: Proposals should demonstrate contributing to an improved understanding of the role that small-size aircraft operating on scheduled or non-scheduled flights can play as a component of the air transport system to satisfy the needs of transportation in regions where transport networks are underdeveloped.

Scope: Study to develop a road map and supporting business case to address the benefits of the use of small aircraft as a component of the air transport systems. The task will identify the technologies necessary to meet the safety, environmental, operational and economic requirements, including integration into the European ATM environment, ensuring complementarity with SESAR. The implications of the safety regulation process as it applies to small aircraft will also be considered.

The existing capabilities in the Member States and Associated Countries regarding this sector should be assessed.

Funding scheme: Coordination and Support Actions aiming at supporting research activities

Seamless air transport/ IPATS

- Network centric IT system for door to door multimodal transport
- Lead:
- Partners:

AAT.2010.7-3. Improving passenger choice in air transportation with the incorporation of additional and new vehicles

Expected impact: Proposals should demonstrate contributing to achieving one or several of the following objectives for readiness by 2020:

To increase passenger choice with regard to best air transportation means connecting point A with point B.

To reduce travel charges and time to destination.

Scope: Study to investigate the technical, operational, economic and regulatory issues relevant to the development of an air transport system which exploits existing vehicles and potential new vehicles (manned and unmanned) in optimum way from the standpoint of seamless capacity of the system as well as providing best choice to passengers, while respecting environmental constrains and safety.

Funding scheme: Coordination and Support Actions aiming at supporting research activities

Novel concepts???????

AAT.2010.6.3-3. Personal air transport systems

The aim is the research of concepts and related technologies and operations which will enable future individual air transportation. The idea of personal air transport is not new as it has been regarded as a possible solution to the ever increasing congestion in road traffic, providing at the same time greater speed and flexibility.

The viability of the concept will depend not only on the design of a vehicle capable to operate under the imposed constraints, but mainly on the operational environment both in the air and on the surface. Challenges for research are the environmental impact, automation of the vehicle and of its operation, certification, maintenance, training of the "pilot'", infrastructures, etc.

Relevant underpinning research topics could be found also in other parts of this work programme, in particular in AAT.2010.6.2-1.

Separation management and single pilot ops

- Lead:
- Partners:

- ***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.**
- **Funding scheme: Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities**

- ***AAT.2010.4.2-5. Avionics***
- Advanced concepts and technologies **to reduce crew workload and the number of crew through increased automation of cockpit functions adapting the role of the crew to new patterns. Where operational issues related to ATM are addressed, complementarily and coordination with the SESAR Programme needs to be demonstrated.**
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities

Situational awareness single pilot ops

- Lead;
- Partners:

- ***AAT.2010.4.2-5. Avionics***
- Advanced concepts and technologies **to reduce crew workload and the number of crew through increased automation of cockpit functions adapting the role of the crew to new patterns. Where operational issues related to ATM are addressed, complementarity and coordination with the SESAR Programme needs to be demonstrated.**
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities

Safe landings at uncontrolled airfields

- Lead:
- Partners:

- ????
- ***AAT.2010.6.2-2. Guidance and control***
- Investigation of new approaches to guide and control the vehicle flight with very high or total automation. It could include topics such as the application of new generation computers, on-board or on-ground, to entirely manage the flight and provide for pilot-free operation with the possibility to reverse the operation to human control, robotic technologies embodied in autonomous robots to perform specific guidance and control tasks.
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
- **Note:** Limits on the EC financial contribution apply. These are implemented strictly as formal eligibility criteria. You must refer to the call fiche for details of these limits
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Integrity management

- Lead:
- Partners:

- ***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.
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
- **Note:** Limits on the EC financial contribution apply. These are implemented strictly as formal eligibility criteria. You must refer to the call fiche for details of these limits
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Integrated modular avionics

- Lead:
- Partners:

- ***AAT.2010.4.1-4. Avionics***
- Advanced concepts and techniques to develop robust, affordable, scalable and reconfigurable modular avionics architectures; data networks, packaging and information management systems.
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
- **Note:** Limits on the EC financial contribution apply. These are implemented strictly as formal eligibility criteria. You must refer to the call fiche for details of these limits
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- ***AAT.2010.1.1-5. Avionics***
- Advanced concepts and technologies for increased modularity and integration of avionics components and systems.
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
- **Note:** Limits on the EC financial contribution apply. These are implemented strictly as formal eligibility criteria. You must refer to the call fiche for details of these limits
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Coupled engines

- Lead:
- Partners:

- ***AAT.2010.6.1-2. Propulsion***
- Investigation of new approaches to create propulsion power and the energy required for powering vehicle systems. It could consider topics such as the application of renewable energy sources, including solar power, new-generation biofuels or "green" synthetic fuels, hybrid propulsion as well as other types of energy such as nuclear, plasma jets, beamed energy or ground-based energy forms, propulsion systems for supersonic, hypersonic and suborbital flight.
- Note: Work on hydrogen and fuel cells has been excluded from the 2010 calls as the relevant work will be covered by the FCH JTI.
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
- **Note:** Limits on the EC financial contribution apply. These are implemented strictly as formal eligibility criteria. You must refer to the call fiche for details of these limits
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Spin resistant aircraft

- Lead:
- Partners:

- ???

- ***AAT.2010.1.1-1. Flight physics***
- Advanced concepts and technologies for flow control, airframe aerodynamics design and drag reduction (active or passive); advanced designs for high lift over drag ratios; innovative high lift devices to enable steeper take-off and landing flight profiles; advanced concepts and technologies for improved airframe/engine integration aiming at reduced drag and/or reduced noise; development of adaptive wing and wing morphing technologies; concepts and technologies to reduce airframe noise in subsonic or supersonic flight.
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
- **Note:** Limits on the EC financial contribution apply. These are implemented strictly as formal eligibility criteria. You must refer to the call fiche for details of these limits
- **Open in call: FP7-AERONAUTICS and AIR TRANSPORT (AAT)-2010-RTD-1**
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- ***AAT.2010.4.2-1. Flight physics***
- Advanced or novel aircraft configuration concepts that could deliver improved aerodynamic efficiency compared to traditional configurations in subsonic, transonic or supersonic flight; advanced concepts and technologies for flow control, airframe aerodynamics design and drag reduction (active or passive); advanced concepts and technologies for improved airframe/engine integration aiming at reduced drag; development of wing morphing technologies; concepts and technologies to reduce drag in subsonic or supersonic flight.
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
- **Note:** Limits on the EC financial contribution apply. These are implemented strictly as formal eligibility criteria. You must refer to the call fiche for details of these limits
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Crash behavior

- Lead:
- Partners:

- ***AAT.2010.3.3-1. Aerostructures***
- Advanced modelling tools, design techniques and structural concepts including its experimental validation for improved protection against crash, impacts and blast loads, including passive and active ‘smart’ concepts; advanced methods and techniques to ensure safety of aging airframe and engine structures.
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
- **Note:** Limits on the EC financial contribution apply. These are implemented strictly as formal eligibility criteria. You must refer to the call fiche for details of these limits
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Climate in cockpit/ cabin

- Lead:
- Partners:

- ***AAT.2010.3.1-2. Noise and vibration***
- Advanced modelling tools, concepts and technologies (active and passive) to reduce overall cabin noise as well as noise at passenger level; advanced techniques to reduce vibration and overall effects of noise and vibration on passengers (harshness) as well as other unwanted dynamics effects of flight (ride comfort).
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
- **Note:** Limits on the EC financial contribution apply. These are implemented strictly as formal eligibility criteria. You must refer to the call fiche for details of these limits
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- ***AAT.2010.6.1-3. Interior space***
- Investigation of new forms of setting the environment for the passenger inside the vehicle. It could consider topics such as the application of future techniques of virtual reality with virtually sensed environments capable of producing higher standards of comfort as well as new functionalities appropriate for all range of flight durations at all altitudes (atmospheric and beyond) and for all types of air vehicles.
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
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Lightning resistant composite aircraft

- Lead:
- Partners:

- ???

Adaptive impact absorption

- Lead:
- Partners:

- ***AAT.2010.3.3-1. Aerostructures***
- Advanced modelling tools, design techniques and structural concepts including its experimental validation for improved protection against crash, impacts and blast loads, including passive and active ‘smart’ concepts; advanced methods and techniques to ensure safety of aging airframe and engine structures.
- **Funding scheme:** Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
- **Note:** Limits on the EC financial contribution apply. These are implemented strictly as formal eligibility criteria. You must refer to the call fiche for details of these limits
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Extended slotted flaps

- Lead;
- Partners:

AAT.2010.6.1-1. Lift
Investigation of new approaches to produce or to control the forces that govern flight, in particular those that lift the vehicle. It could consider topics such as other principles of physics as alternative to conventional fluid dynamics, computer controlled aircraft morphing into different aerodynamic forms for different flight phases, thrust vectoring to provide lift and control.
Funding scheme: Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
Note: Limits on the EC financial contribution apply. These are implemented strictly as formal eligibility criteria. You must refer to the call fiche for details of these limits
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Aerovan concept

- lead:
- Partners:

AAT.2010.6.1-1. Lift
Investigation of new approaches to produce or to control the forces that govern flight, in particular those that lift the vehicle. It could consider topics such as other principles of physics as alternative to conventional fluid dynamics, computer controlled aircraft morphing into different aerodynamic forms for different flight phases, thrust vectoring to provide lift and control.
Funding scheme: Collaborative Projects small or medium-scale focused research, Coordination and Support Actions aiming at coordinating research activities
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Demo biofuels

- Lead:
- Partners:

- ***AAT.2010.6.1-2. Propulsion***
- Investigation of new approaches to create propulsion power and the energy required for powering vehicle systems. It could consider topics such as the application of renewable energy sources, including solar power, new-generation biofuels or "green" synthetic fuels, hybrid propulsion as well as other types of energy such as nuclear, plasma jets, beamed energy or ground-based energy forms, propulsion systems for supersonic, hypersonic and suborbital flight.
- Note: Work on hydrogen and fuel cells has been excluded from the 2010 calls as the relevant work will be covered by the FCH JTI.
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Aero elastic behavior of composite aircraft

- Lead:
- Partners:

- ????