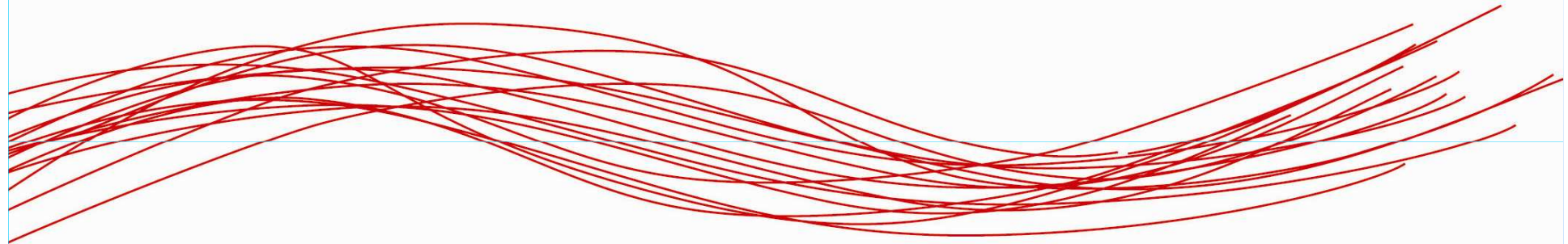




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# Aeronautics and Air Transport Research 3rd Call for Proposals - 2010



***European Commission – DG Research***  
***Jose M. Martín Hernández***  
***Warsaw 7 July 2009***



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## 3rd Call Aeronautics and Air Transport - 2010

***Budget: 108 million Euro***

- 101 million Main Call
  - ▶ **98 million for L1 and CSA – Coordinating**
  - ▶ 3 million for CSA - Supporting
- 4 million Coordinated Call Russia
- 3 million Coordinated Call China

*No Level 2 topics !*

*No Networks of Excellence !*

*Max funding per project (L1): 5 million*

Publication:	30 July 2009
Deadline:	<b>14 January 2010</b>
Proposals evaluation:	March 2010
First contracts:	July 2010 ?



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# Research, Technology & Product Development



Fundamental knowledge

Technology development

Technology validation

Demonstrators

Prototypes

Product definition

Product design and development

EU Framework Programme

Product demonstration

Production

Level 1

Collaborative Projects

Level 2

FP7 Concept: Level 3

JTI: Joint Technology Initiative

EUREKA





## 3rd Call Aeronautics and Air Transport – 2010

### Workprogramme Scope

- *Includes:*

*Technologies, services and operations of all components of the air transport system from airport kerbside to airport kerbside (i.e. aircraft, airport and air traffic management)*

- *Excludes:*

*Non-travel aspects, ticketing and ground vehicles*

Technologies, services and operations for **small size aircraft** are within programme scope as long as they deal also with application to commercial transport



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## 3rd Call Aeronautics and Air Transport - 2010

### *Activities open:*

1. The **greening** of air transport
4. Improving **cost** efficiency
6. **Pioneering** the air transport of the future

### *Some topics open also in:*

2. Increasing **time** efficiency
3. Ensuring **customer** satisfaction and safety

### *Activity closed:*

5. **Protection** of Aircraft and Passengers



## 1. *The Greening of Air Transport*

- Embraces both the **global issue of climate change** (CO<sub>2</sub>, NO<sub>x</sub>, soot, water vapour, particulates) as well as the **local issues of noise and air quality**

→ **Green Aircraft;** Flight Physics, Aerostructures, Propulsion, Systems and Equipment, Avionics

→ **Ecological Production and Maintenance;** Production, Maintenance and Disposal

→ **Green Air Transport Operations;**  
Flight procedures, Airports,  
Environmental modelling

### Goals

- **50% CO<sub>2</sub> reduction**
- **80% NO<sub>x</sub> reduction**
- **50% noise reduction = decrease of 10 dB**
- **Aircraft recycling**
- **Clean maintenance**



## 4. *Improving Cost Efficiency*

- Embraces all the costs that arise in the air transport system design and operation, enhancing **the whole enterprise process** from conceptual design to product development and manufacturing including in-service operations

→ **Aircraft Development Cost;** Design Systems and Tools, Aerostructures, Systems & Equipment, Avionics, Production

→ **Aircraft Operational Cost;** Flight Physics, Aerostructures, Propulsion, Systems, Avionics, ~~Maintenance~~

→ **ATS Operational Cost;** ~~Design Systems and Tools, Air Traffic Management (SESAR!), Airports, Human Factors~~

### Goals

- **50% aircraft development cost reduction**
- **50% time to market reduction**
- **50% aircraft operating costs reduction**
- **reduction in travel charges**



## *6. Pioneering the Air Transport of the Future*

- Relies on **stimulating ideas** across all stakeholders, particularly academia and research institutions and on setting technology incubators **to nurture the future**

→ **Breakthroughs and Emerging Technologies;**

Lift, Propulsion, Interior Space, Life-cycle

→ **Step Changes in Air Transport Operation;**

Novel Air Transport vehicles, Guidance and control, Airports

→ **Promising Pioneering Ideas in Air Transport;**

The cruiser/feeder concept, Take-off and landing with ground-based power, Personal air transport systems, New sources of aircraft main propulsive power

### Goals

- **setting the foundations of technology base and of new paradigms for step changes in air transportation**





- ***Increasing Time efficiency***

Only the "Airport" topic is open (i.e. passenger & luggage flow; planning of airport operations; fleet management; freight operations; strategic decision making, etc)

- ***Customer Satisfaction and Safety***

"Passenger Friendliness" is reduced to only the topic on noise and vibration

"Aircraft Safety" is substantially reduced to crashworthiness, fireworthiness and to topics of interest to **small aircraft safety which have been added in this Call** (i.e. advanced concepts and technologies to counteract hazards specific to this type of aircraft operating in non-scheduled flights)

"Operational Safety" is reduced to only research in support of certification



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## Aeronautics and Air Transport Research Workprogramme 2010

### Support Actions

- *Improving passenger choice with the incorporation of new vehicles*
- *Retrofitting for improved sustainability and economic viability*
- *Stimulating cooperation with ICP countries*
- *Supporting the organisation of conferences and events of special relevance*
- *Stimulating the participation of SME and other small organisations*
- *Assessing and further developing the role of small aircraft in the ATS*
- *Observation platform to assess the fulfilment of Vision 2020 goals*
- *Platform to stimulate the development of breakthrough technologies and concepts*
- *Updating the strategic research agenda*
- *Exploring opportunities and stimulating research cooperation with the USA*
- *Socioeconomic incentives and barriers to innovation in air transport*



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## Aeronautics and Air Transport Research Workprogramme 2010

### ➤ Coordinated Call with Russia

- *4 M€ EU funding to fund the European partners*
- *5 topics identified:*
  - *Novel composite structures*
  - *High-lift aerodynamics*
  - *Maintenance and safety*
  - *Plasma actuators for engine noise control*
  - *Simulation tools in propulsion*

### ➤ Coordinated Call with China

- *3 M€ EU funding to fund the European partners*
- *3 topics identified:*
  - *Aircraft noise prediction and control methods*
  - *Flow control for drag reduction and wing aeroelastic optimisation*
  - *Casting of large Ti components*



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## Aeronautics and Air Transport Research Workprogramme 2010

### *In summary...*

- All areas and topics are potentially open for small size aircraft
- Topics added for the specific interest of small size aircraft

#### **For Collaborative projects: “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.

#### **For Support Actions: “AAT.2010.7-12 Assessing and further developing the role of small aircraft in the air transport system”**

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.



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## Roadmap Calls Aeronautics and Air Transport 2007- 2013

- 2007 (220 million) L1 & L2
- 2008 (210 million) L1 & L2
- **2010 (108 million) L1 only**
- 2011 (127 million) mainly L2, some L1
- 2012 (157 million) tbd
- 2013 (136 million) tbd



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**THANK YOU !**

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