

# Aeronautics and Air Transport

## 5<sup>th</sup> CALL

### Work Programme 2012

Directorate 'Transport' Unit 'Aeronautics'  
Directorate-General for Research and Innovation  
European Commission

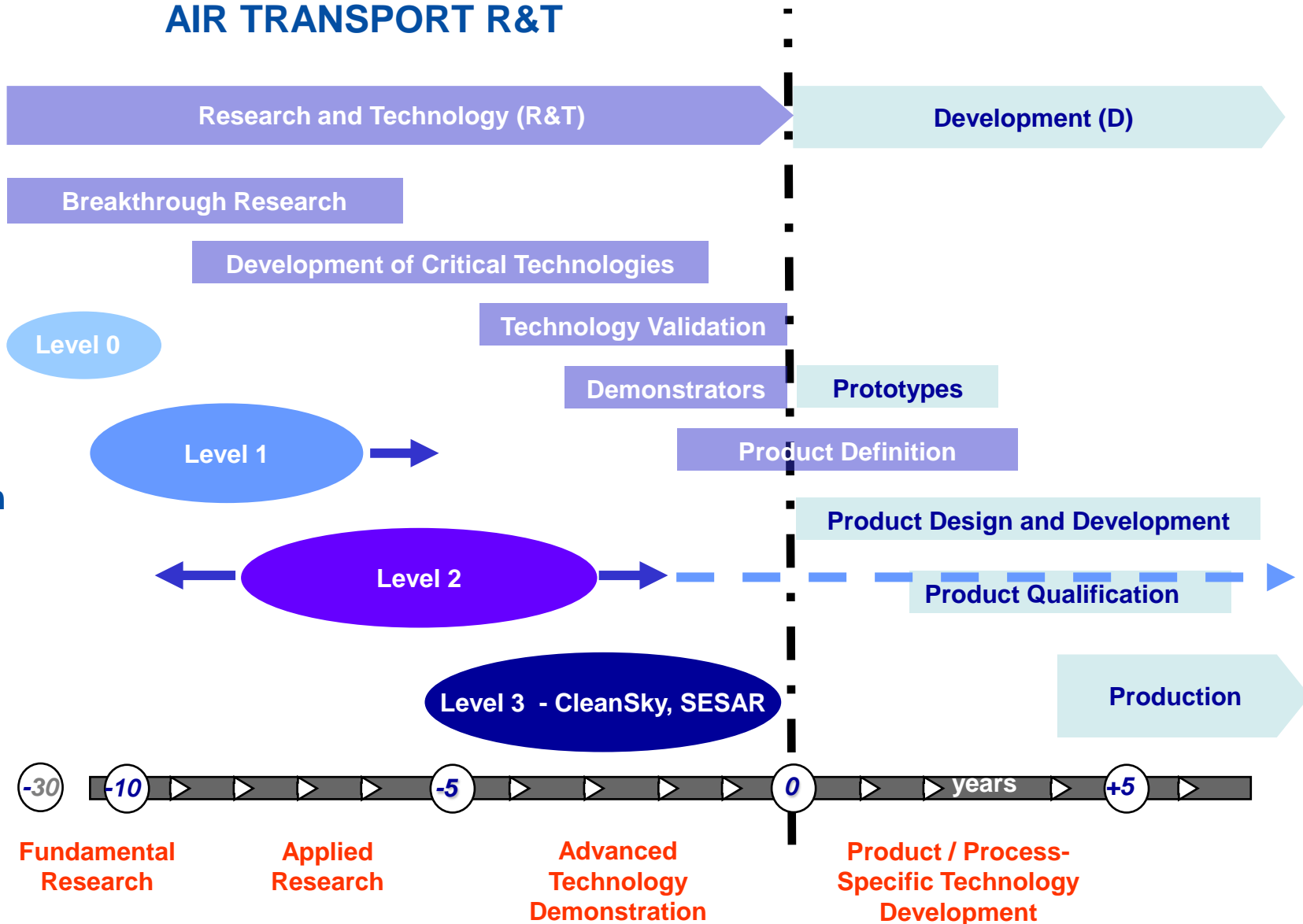
## FP7 Aeronautics & Air Transport Research

### Activities

1. The **Greening** of air transport
2. Increasing **Time** efficiency
3. Ensuring **Customer** satisfaction and **Safety**
4. Improving **Cost** efficiency
5. **Protection** of the aircraft and passengers
6. **Pioneering** the air transport of the future

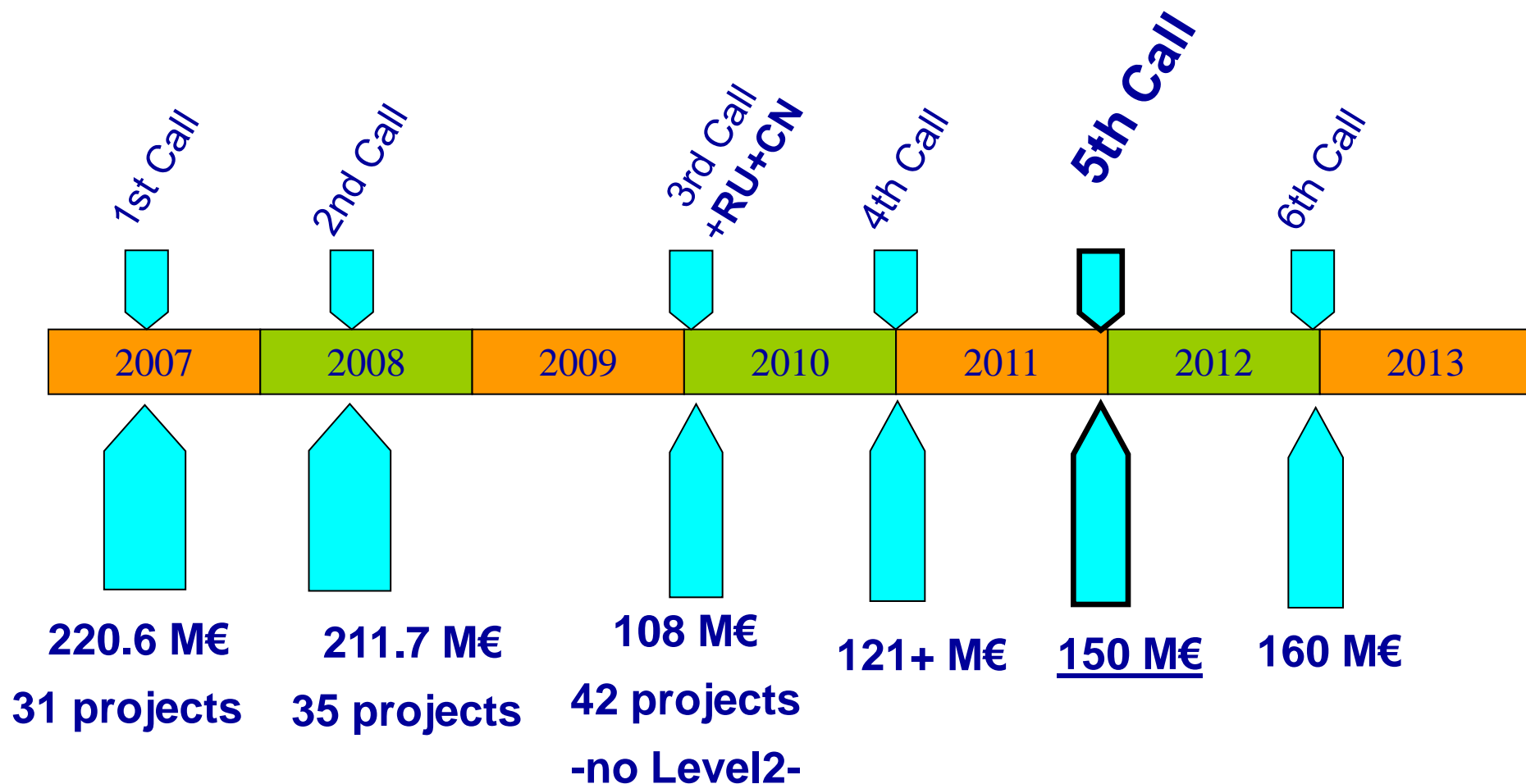
# FP7 AERONAUTICS AND AIR TRANSPORT R&T

Support  
And  
Coordination  
Actions



# Calls for Proposals

## FP7 Aeronautics and Air Transport Collaborative Research & Support



# WP2012 at a Glance

Publication: 20/07/2011

Closing: 01/12/2011

## Main Call (5<sup>th</sup> Call)

**L1 (CP-FP): Applied focussed research**

**L2 (CP-IP): Integrated projects**

CSAs: Support Actions

## Joint Topic with Energy

**L1 (CP-FP): Research and demonstration**

## L0 Open Call

L0 (CP-FP): Upstream research (beyond 2050)

## Coordinated Call with Japan

L1 (CP-FP): Applied focussed research

Max EC (M€) per proposal	Available Total (M€)	
5.0	68.0	
30.0*	65.0	(5 Topics)
0.6	3.0	
10.0	5.0	(+ 5 MEur ENER, 1 Topic)
0.6	5.0	(2 Topics)
1.4	4.0	(5 Topics)
<b>Total</b>	<b>150.0</b>	

\* not an eligibility criteria

# Level 1 - in WP2012 (5th Call in AAT)

Activities	Topics in Technological Domains											
	Flight Physics	Aero-structures and Materials	Propulsion	Systems & Equipment	Avionics	Design Systems and Tools	Production	Maintenance Repair Disposal	Flight Air Traffic Management	Airports	Human Factors	Noise and Vibration
The Greening of Air Transport	o	o	o	o	o	x	o	o	o	o		
Increasing Time Efficiency				x	x			x	x	o		
Ensuring Customer Satisfaction and <u>Safety</u>		o	o	o	x	x		x	x	x	o	o
Improving Cost Efficiency	o	o	x	o	o	o	o	o	x	x	o	
Protection of the Aircraft and Passengers		o		x	x				x	x	x	
Pioneering the Air Transport of the Future						2 Topics for L1						

o: open

x:closed

Total EC: 68.0 MEur

Max 5.0 MEur EC contribution per Proposal

# Development and Testing of advanced bio-based fuels for Air Transport

Demonstrate the production of biofuels at large enough **scale** to allow testing in typical short to medium distances in Europe.

Investigate the **complete engine fuel system** with a special attention to the relationship between fuel composition range, **combustion** and air pollutant **emissions**.

Assess the **environmental, economic and social sustainability** of the fuel.

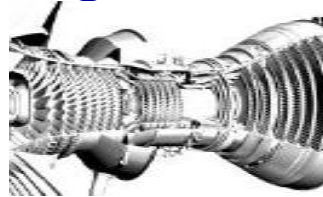
Identify **barriers to innovation** (economic, social and regulatory) for the **large-scale** bio-fuels utilisation in aviation.

Joint Topic with ENER  
(application should be made  
to ENER Call)

Total EC: **10 MEur**

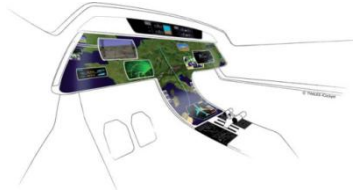
# CP-IP (Integrated Projects) - Level 2

- Demonstration of breakthrough technologies enabling **high overall pressure ratio**



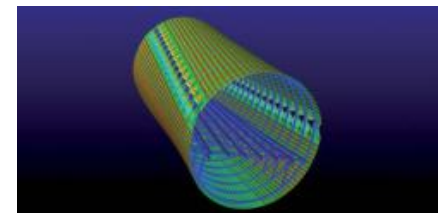
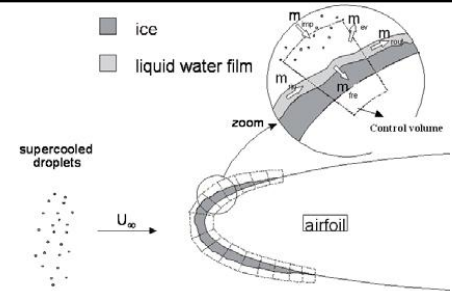
- Integrated approach to **safe** flight under **icing** conditions

- Integrated approach and demonstration of **safe** operations under **crew peak workload** / reduced crew



- Integrated approach and demonstration to **lean manufacturing** of metal, composite and hybrid aircraft / engine structures

Total EC: 65 MEur  
EC contribution per proposal: > 5 MEur (el.) and **expected to be < 30 MEur**

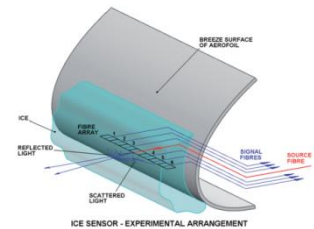
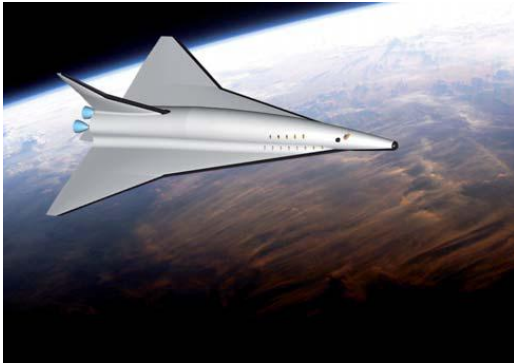


# L1 - Coordinated Call with Japan

- Separate Call
- 4 M€ EC + 4 M€ Japan

## 5 Topics:

- Aeronautical **communications**
- **Anti-icing** systems
- Surface **heat-exchanger** for aeroengines
- **Ceramic bearings** for engine
- **High speed aircraft**



Total EC: 4 MEur

Max 1.4 MEur EC contribution per Proposal

At least 2 legal entities established in Japan

# Support Actions

- European Air Transport System **scenario** elaboration and **trend** assessment **capability**
- **Attracting young** Europeans to future careers in the field of aeronautics
- Supporting organisation of **conferences** and events
- Assessment of the potential **insertion of unmanned aerial system** in the air transport system
- **Efficient airports** for Europe
- **Airport** centred **co-modality** and **inter-modality**
- Facilitating **access** to aircraft for **disabled people**

Total EC:

3 M€

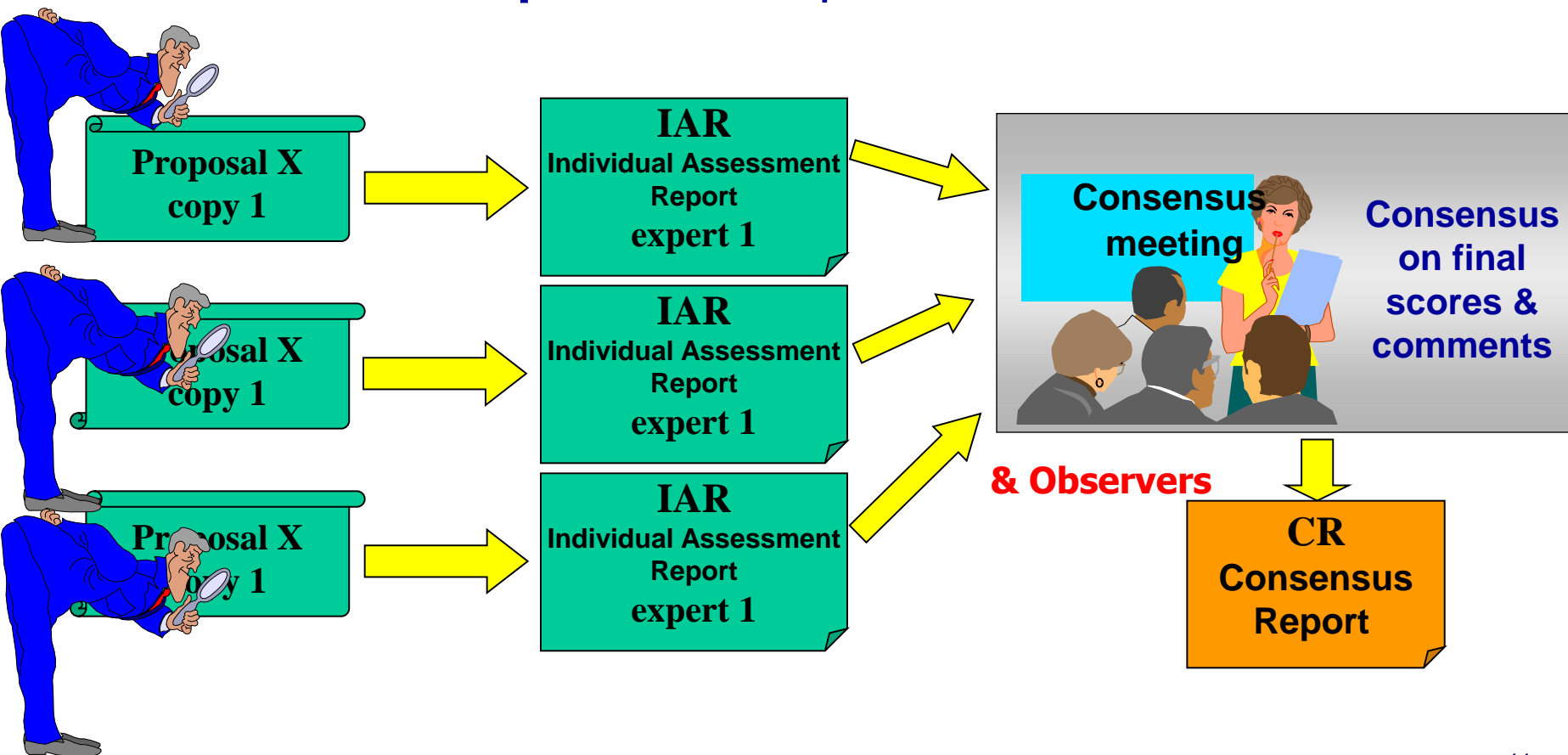
Max EC  
contribution per  
project

600 k€

# Evaluation of Proposals

## Criteria:

- I. **S&T Excellence**: soundness, beyond state of the art,...
- II. **Implementation**: Partners, Resources, Management,...
- III. **Potential impact** at European / International level, ...



Score  
re-calibrated

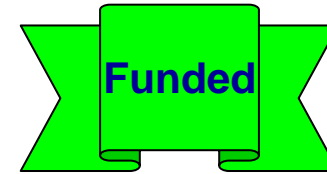
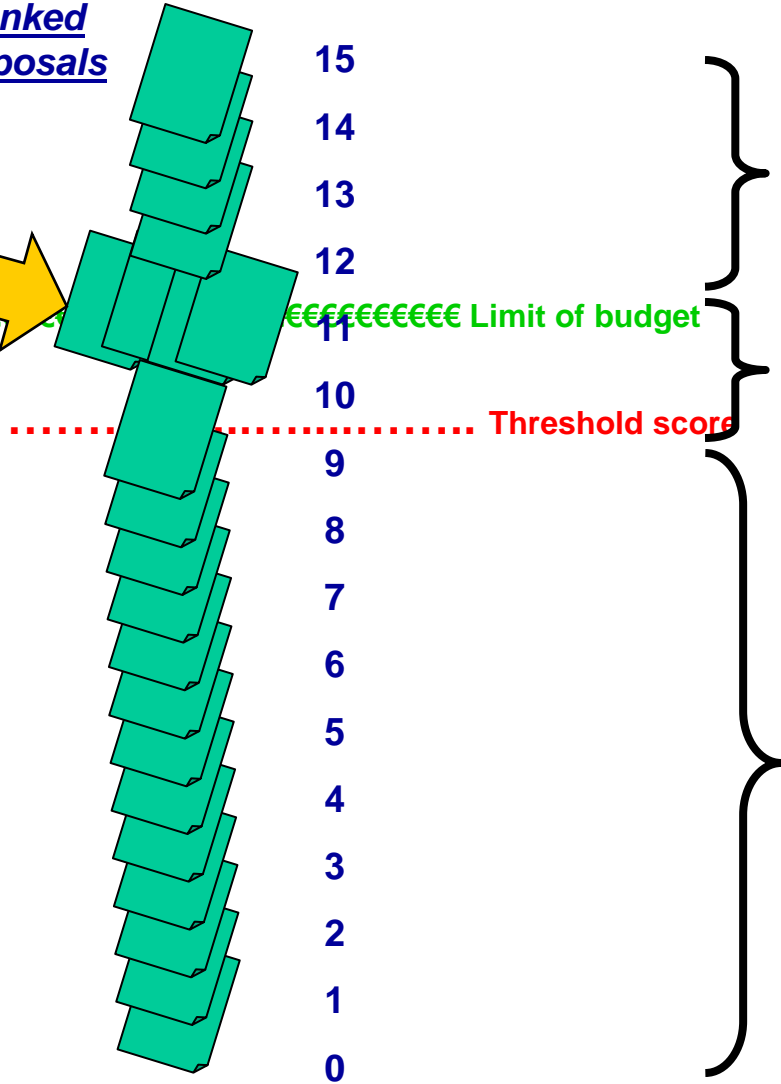
# The ranked list

Panel

Finalisation

Ranked proposals

Ex aequo  
to be  
prioritised



\*unless selected via a reserve list



NB:if ex-aequo: 1. Coverage, 2. S&T, 3. Impact 4. Up to the panel (sme, international dimension, ...)



- Separate **Open Call**
- 2 Topics

## AAT.2012.6.3-1. **Breakthrough and emerging technologies**

**Emerging** technologies or technologies **from other sectors** which have the potential to bring **radical new** approaches to the **vehicles**, the **propulsion** technology, the **energy** needed for the flight, the **tools** to provide **guidance and control** to the vehicles, the **ground infrastructures** for passengers and freights and the **impact of the air transport on the environment**.

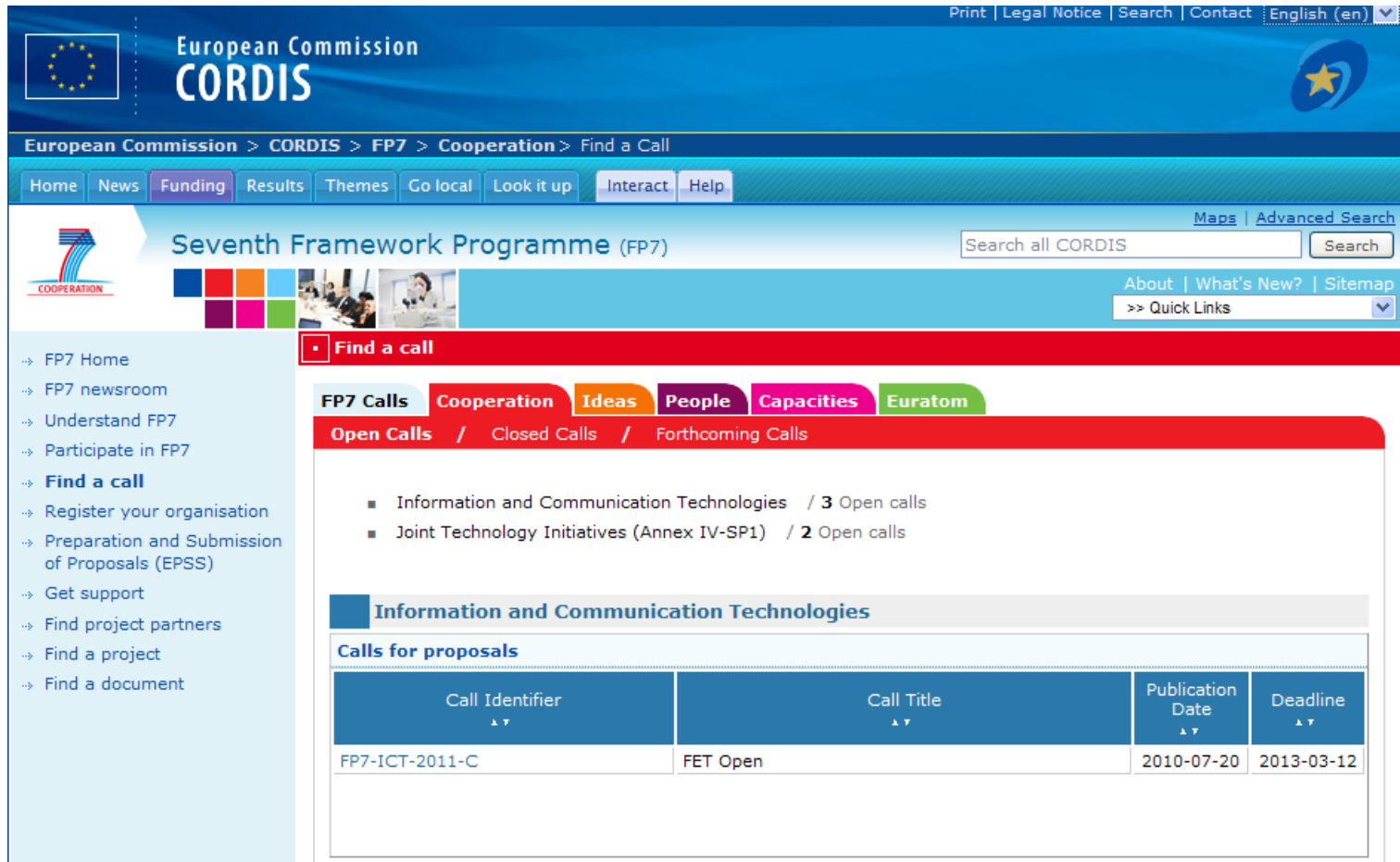
## AAT.2012.6.3-2. **Radical new concepts for air transport**

New approaches to systems for the air transport such as new approaches to the **control and guidance** of vehicles, the way passengers or freight **access the vehicle**, the way air transport is **connected with other modes** and the way **travel information** is handled.

- Provisional dates to launch the 1 stage evaluations: 15/10/2011 - 15/03/2012 - 15/10/2012 - 15/03/2013
- **600 kEur** max EC contribution
- Evaluation: weights of **70% on S&T**, 10% on Implementation, 20% on Impact
- Max **20 pages** of text
- Recommended duration: **24 m**, partnership  $\leq 7$

Total EC: 5 MEur

Max EC contribution  
per project 600 kEur



The screenshot shows the CORDIS website interface. At the top, there are navigation links for 'Print', 'Legal Notice', 'Search', 'Contact', and 'English (en)'. The main header includes the European Commission logo and the 'CORDIS' title. Below this, a breadcrumb trail reads 'European Commission > CORDIS > FP7 > Cooperation > Find a Call'. A secondary navigation bar contains buttons for 'Home', 'News', 'Funding', 'Results', 'Themes', 'Go local', 'Look it up', 'Interact', and 'Help'. A search bar is labeled 'Search all CORDIS' with a 'Search' button. A 'Maps | Advanced Search' link is also present. The main content area is titled 'Seventh Framework Programme (FP7)' and features a 'Find a call' button. Below this, there are tabs for 'FP7 Calls', 'Cooperation', 'Ideas', 'People', 'Capacities', and 'Euratom'. Under the 'Cooperation' tab, there are sub-tabs for 'Open Calls', 'Closed Calls', and 'Forthcoming Calls'. The 'Open Calls' section lists:
 

- Information and Communication Technologies / 3 Open calls
- Joint Technology Initiatives (Annex IV-SP1) / 2 Open calls

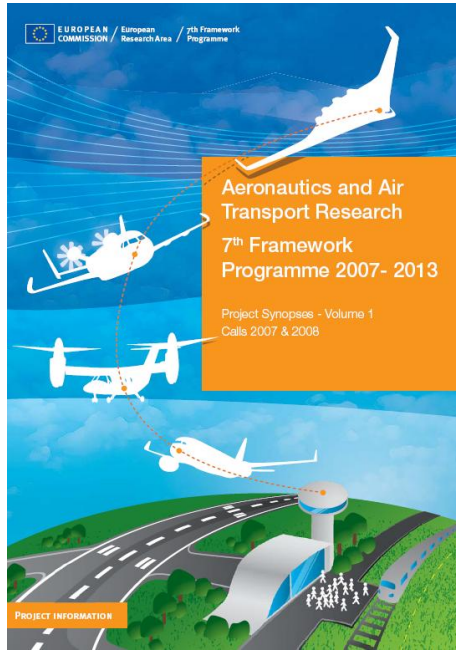
 A section titled 'Information and Communication Technologies' contains a table of 'Calls for proposals':
 

Call Identifier	Call Title	Publication Date	Deadline
FP7-ICT-2011-C	FET Open	2010-07-20	2013-03-12

Google: 'Cordis FP7 Find a Call Cooperation'

Look for FP7-AAT- calls (AAT: Aeronautics and Air Transport)

In the 'Information Package' section, download the Work Programme



# Aeronautics and Air Transport Work Programme 2012

## Info-Day: 18 July



## Flightpath 2050 Europe's Vision for Aviation

Report of the High Level Group  
on Aviation Research

# BACK UP

# Methodology

→ Call for Proposals

→ Workprogramme  
(Greening, Cost Efficiency, etc.)

→ Topics  
(Flight physics, Propulsion, etc.)

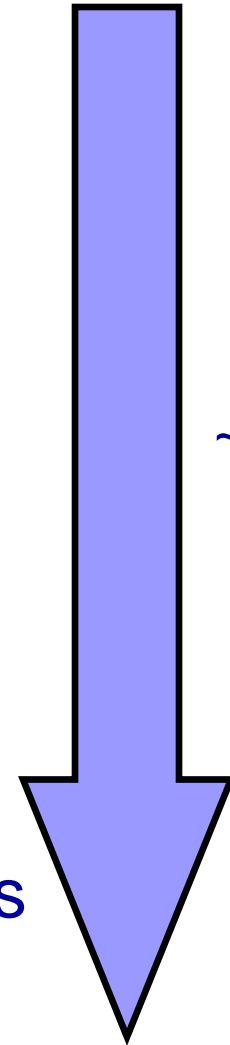
→ Proposals

→ Evaluation  
(Peer Review)

→ Negotiation with Successful Projects

→ Project Starts

**Success Rate  
of  
CF-FP  
in Aeronautics  
Call 2010:  
1 project  
out of 5**



~1.5 year

# L1 in Pioneering

Enhancing cooperation with Japan in the field of high speed aircraft  
(see also Coordinated Call with Japan)

Conceptual design of a high speed aircraft with low emissions, market analysis, iterative multidisciplinary preliminary design, type of fuel selected in the light of its environmental performance, careful optimisation of on-board energy management, lightweight materials capable of resisting high levels of stress and temperature, sonic boom and noise reduction technologies...

Building agility and resilience of the ATM system beyond SESAR

Safe, agile and resilient by design concept for the air traffic management system beyond SESAR, analysis of the ability of the current system to recover and adapt from disruptions; innovative concept operating efficiently under optimum conditions and able to react to crisis...



# FP7 COOPERATION AERONAUTICS R&T Structure and Schemes

- ◆◆◆ **Level 3: Combination**, final proof in fully integrated system of systems. PublicPrivatePartnerships: SESAR, **CLEANSKY**
  
- ◆◆ **Level 2: Downstream R&TD**,  
Multidisciplinary **integration & validation**
  - Collaborative Projects < 30 M€ EC fund
- ◆ **Level 1: Upstream R&TD**  
Up to validation at component level
  - Collaborative Projects < 5M€ EC fund
- ◆ **Level 0: Breakthrough exploratory R&TD**
  - Collaborative projects < 600 k€ EC fund
- **Coordination** Actions « CSA-CA » (no R&TD)
- **Support** Actions « CSA-SA » (no R&TD) < 600 k€

*Min. 3  
entities from  
**different**  
Member or  
Associate  
States.*

*R&TD up to  
50/75% EC  
co-funded,  
others up to  
100%.*

# Aeronautics & Air Transport Research Work-programme Preparation (DG RTD)

Technology Platform: **ACARE**  
(Advanced Council for Aeronautics Research in Europe)  
ie high-level stakeholders

Strategic Research  
Agendas + adds.

EASA,  
EUROCONTROL,  
Others

**Industrial Groups eg IMG4**

European Commission  
DG RTD, DG MOVE,  
DG ENTR, DG ENV, ...

European Research Establishments in  
Aeronautics (EREA)

**Member  
States (MS)  
+ Associate  
States (AS)**

Universities – European Academic  
Scientific Network (EASN)

(DRAFT) Work-  
programme

Advisory Group (Personalities)

**(MS + AS) Transport Programme Committee**

FINAL.

Official Journal



# European Aeronautics: A Vision for 2020

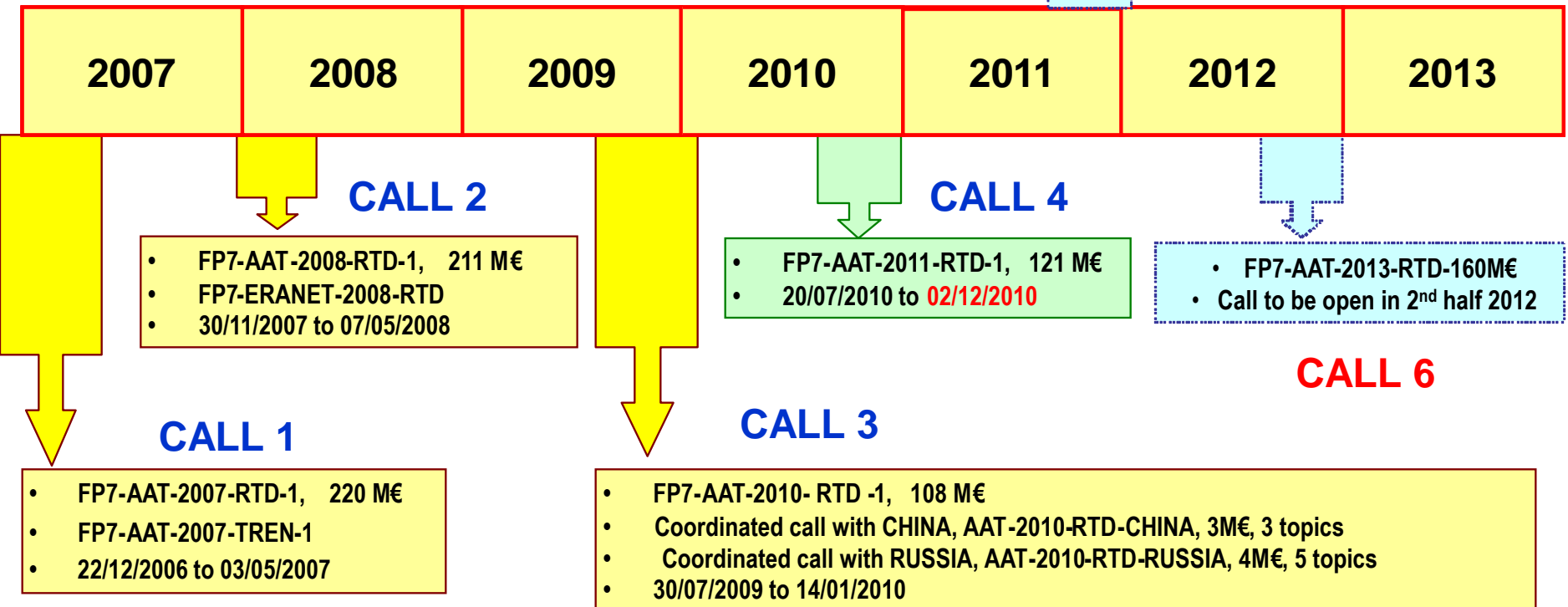
## ***The Goals for 2020***

- **50%** cut in **CO<sub>2</sub>** emissions per pass-Km
- **80%** cut in **NO<sub>x</sub>** emissions per pass-Km
- **Halving** perceived aircraft **noise**
- **Five-fold** reduction in **accidents**
- Air traffic system **capable of handling 16 million** flights a year
- **99%** of all flights within **15 min of timetable**

# Aeronautics Calls in FP7 2012-2013

## CALL 5

- FP7-AAT-2012-RTD-1, PROVISIONAL BUDGET 150 M€  
*Including a coordinated call*
- Call to be open ≈ July to Dec. 2011





# International Cooperation in Aeronautics Research

## HOW to cooperate in FP7 ? – Evolution

< 2007   2008   (2009)   **2010**   2011   2012   2013

...OPENING.....

..... **SUPPORT ACTIONS** .....

TWINNING.....

**COORDINATED CALLS** .....

- Co-participation = approx. 50/50
- Co-funding = each-side-pays-its-nationals
- Co-evaluation = peer review from both sides

***RECIPROCITY***

*... ASSOCIATE TO FP7 ?*

--"Gov2Gov" e.g. EU-RU WG on Civil Aero Research; e.g. EU-US (FAA) MoC – Annex I ATM;

-- 3rd Countries experts as evaluators: <https://cordis.europa.eu/emmfp7/>

