INNOVATION IN ACTION

Joint Exhibition
30 September - 4 October 2013
Clean Sky: Innovation takes off

Europe's largest Aeronautics Research Programme ever

- Environmental objectives, mainly CO2 and noise reduction
- €1.6B value, split 50/50 between the Commission (cash) and Clean Sky members and partners (in kind)
- 65% of the work achieved by end 2013
- 570 participants
- Integrated breakthrough technologies, up to full scale demonstrators
Clean Sky Technology Evaluator

Eco-Design

Large Aircraft

Regional Aircraft

Rotorcraft

Systems and equipments

Engines

TECHNOLOGIES & DEMONSTRATORS

www.cleansky.eu
One programme, with a set of coherent targets (e.g. 20 to 30% of CO2 reduction), cross-links between technological platforms, global management and governance.

- **6 platforms**
- **20 large demonstrators**
- **100 key technologies**

**2015**
- Ground test

2012
- Large engine, advanced low pressure spool

2015
- Regional Aircraft
- More electric systems

2014
- Diesel powered light helicopter

**2015**
- High Speed Demonstrator for passive laminar-flow wing technologies
A success story...

Calls for Proposals

Total

Uni 23%
Ind 21%
Res Cen 18%
SME 38%

> 570 participants
Clean Sky 2: Meeting the Challenges set in Horizon 2020

• **Creating resource efficient transport that respects the environment:**
  Finishing the job for reaching ACARE 2020 targets beyond CS1 contribution, and paving the way for the 2035 intermediate step of the new Strategic Research and Innovation Agenda

• **Ensuring safe and seamless mobility:**
  With a global ATS vision, improve the use of small airports, bring new means to the air transport capabilities, provide for faster connections

• **Strengthening the whole European innovation chain** with a strong emphasis on SMEs

**Building on Clean Sky, with a wider approach:**
- Going further into integration at full aircraft level
- And developing new technology streams for the next generations of aircraft
From technology to full-scale demonstration

Design Studies, Rig Testing, Modelling

System Level Demonstrators

Flying Demonstrators

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<tr>
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<th>Clean Sky 2 as proposed</th>
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<tbody>
<tr>
<td><strong>CO₂ &amp; Fuel Burn Reduction</strong></td>
<td>-20% to -30% (2025/2035)</td>
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<tr>
<td><strong>NOₓ reduction</strong></td>
<td>-20% to -40% (2025/2035)</td>
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<td><strong>Population exposed / Noise footprint impact</strong></td>
<td>Up to -75% (2035)</td>
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* Baseline is best available performance in 2014
Clean Sky 2: from a flagship to a force

- 4 bn€ programme, >55% private funding
- Up to 40% for Leaders (large integrators), at least 60% open to competition
- ~800 participants expected

*Clean Sky 2 will involve a significantly wider participation – nearly the entire aeronautics knowledge base in Europe and attract many newcomers.*

*It is a Clean Sky JTI ambition to explore routes and create a model for technological innovation in Europe*