

Clean Sky



www.cleansky.eu

Not legally binding



Introduction

Europe's largest Aeronautics Research Programme

- One of 6 EC Joint Technology Initiatives: **Public-Private Partnership** (PPP) in terms of funding and governance.
- **Clean Sky 1** started in 2008 under FP7, up to 2017;
- continuation decision in 2014 for **Clean Sky 2** under H2020, to 2024
- **Clean Sky 1**: 1.6 Bn€ budget / 800 M€ funding
- **Clean Sky 2**: 4.0 Bn€ budget/ 1.755 Bn€ funding
- Programme managed by a dedicated body: the “Joint Undertaking”



2020 / 2050 Environmental targets

Reduce perceived external noise by

- 50% by 2020
- 65% by 2050

Reduce NO_x emissions by

- 80% by 2020
- 90% by 2050

Reduce fuel consumption and CO₂ emissions by

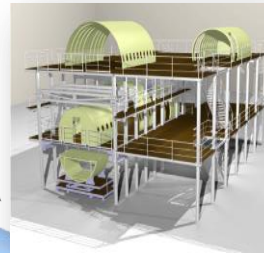
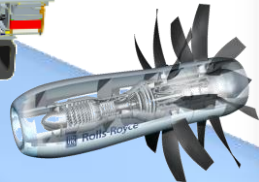
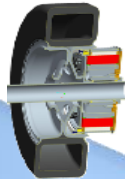
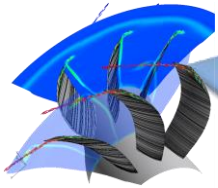
- 50% by 2020
- 75% by 2050

Important Trade-offs for all stakeholders

Vision 2020 and **Flightpath 2050** targets are for new aircraft technology relative to 2000 performance

Taking Technology to Full-Scale Demonstration

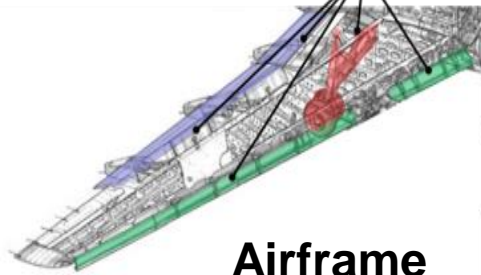
Design Studies, Rig Testing, Modelling



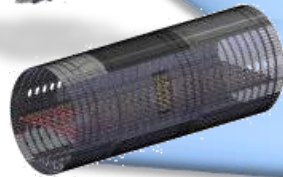
- Aerodynamics
- Advanced Materials and structures
- Propulsion
- On-board energy
- Trajectory Management

Engine / System Demonstrators

Sequential Power
Sharing Converter
(SPSC)



Airframe Demonstrators



Flying Demonstrators

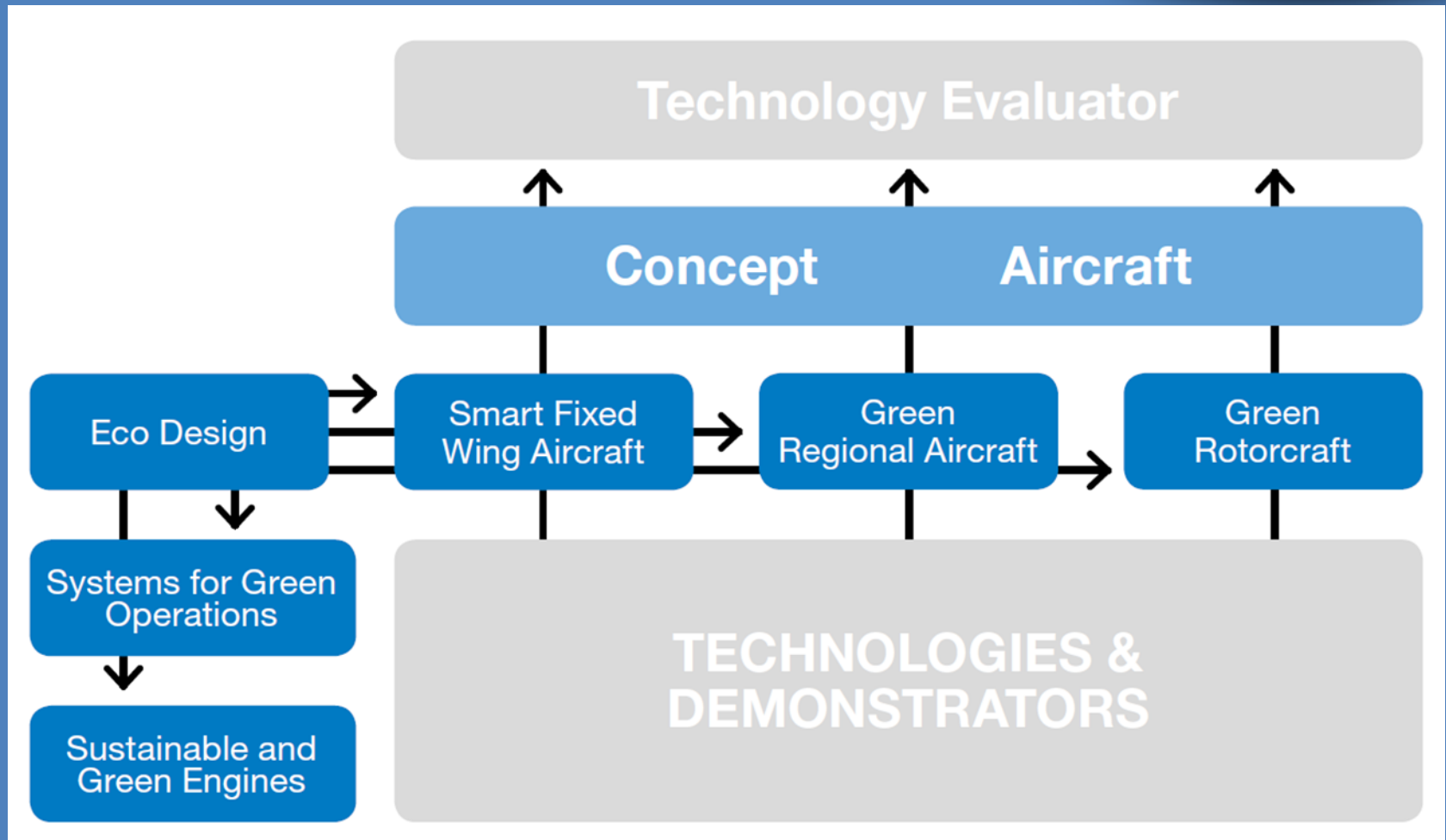


Clean Sky leaders



Clean Sky 1 Programme Set-up

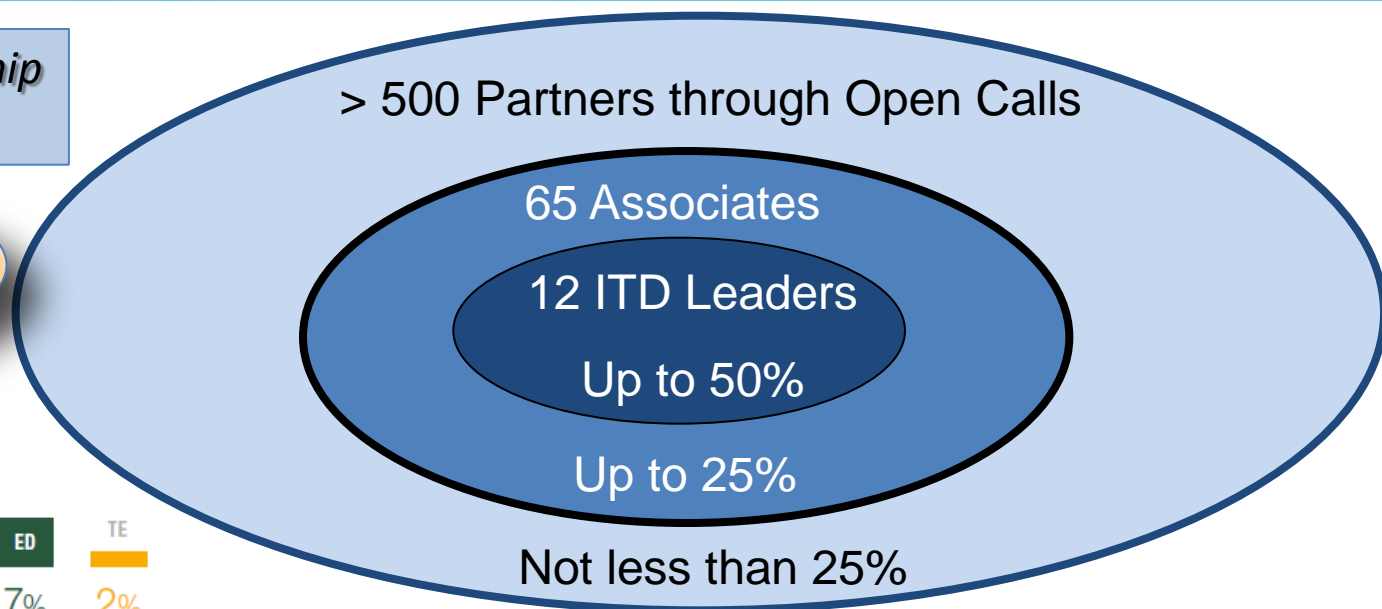
EU Funding
0.8bn€



Clean Sky : the European Aviation Partnership

Public Private Partnership
2008 - 2017

800 M€ Total EU
Funding →
1.6 B€ total cost



European Parliament

Annual discharge

**National States
Representatives
Group**

Governing Board

12 industrial leaders
+ 6 associates + EU Commission

Scientific and Tech.
Advisory Board

**Joint Undertaking
Executive Team**

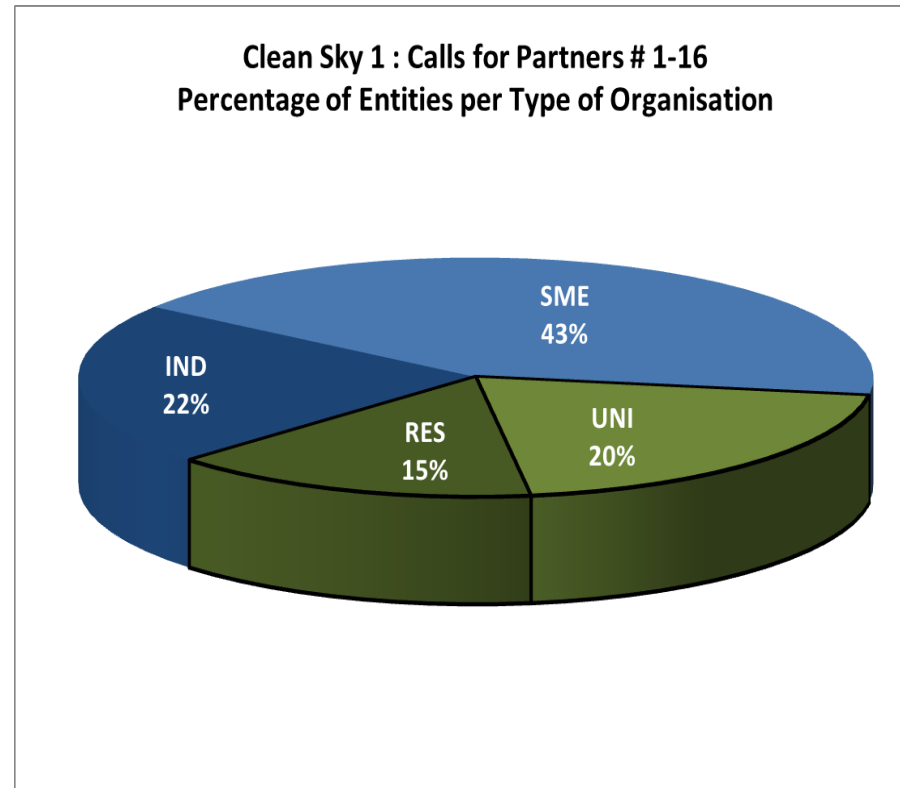
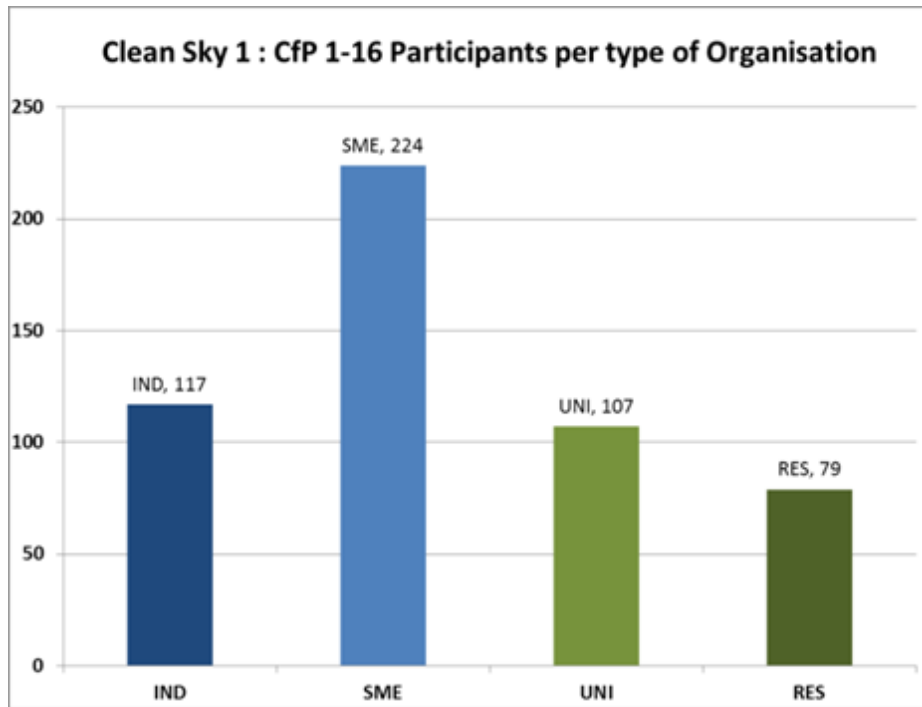
General
Forum

**~ 600
participants
(members +
partners)
to date**



Facts & Figures – Clean Sky 1

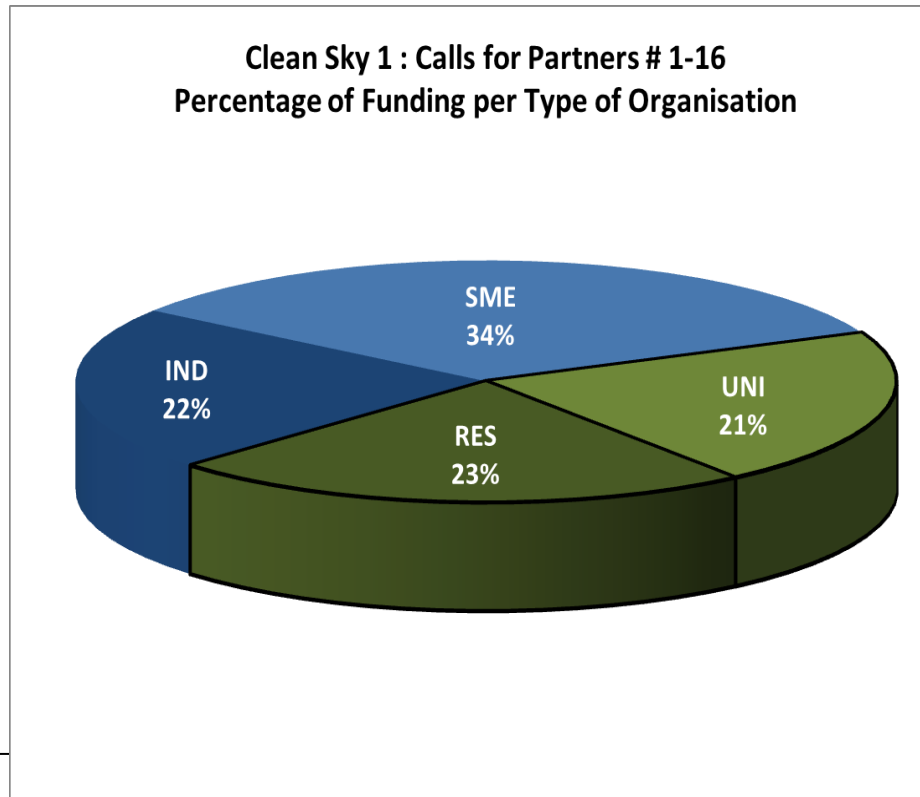
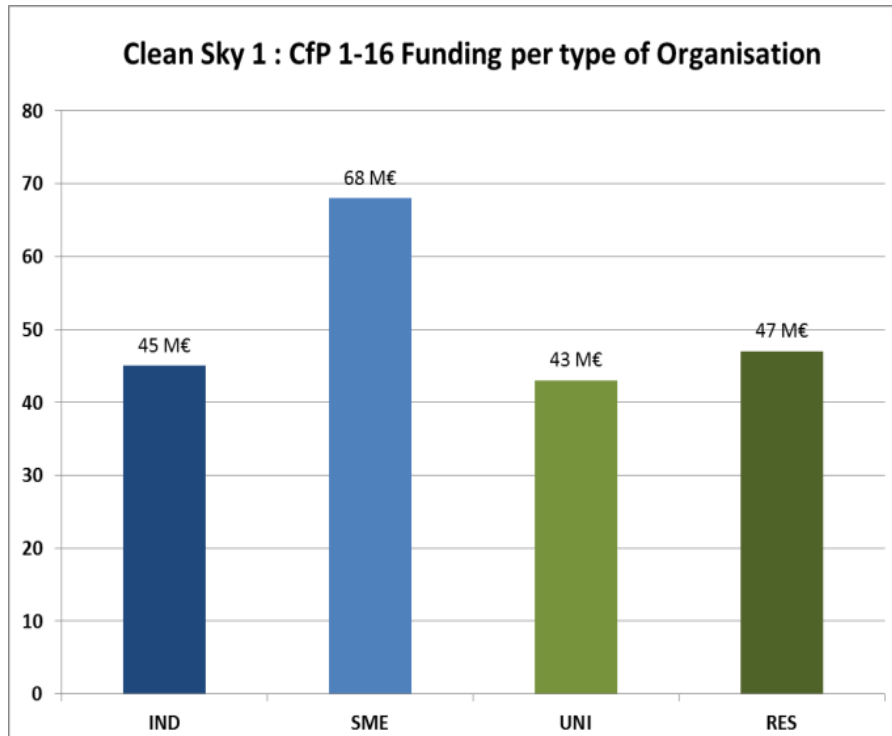
SMEs, Academia and RTOs (Research and Technology Organisations) Statistics over 16 CfP Calls :



- Academia and Research Centers obtained 35% of participation, i.e. 107 Universities and 79 Res. Centers, sometimes involved in several different projects.
- SME's obtained 43% of participation.

Facts & Figures – Clean Sky 1

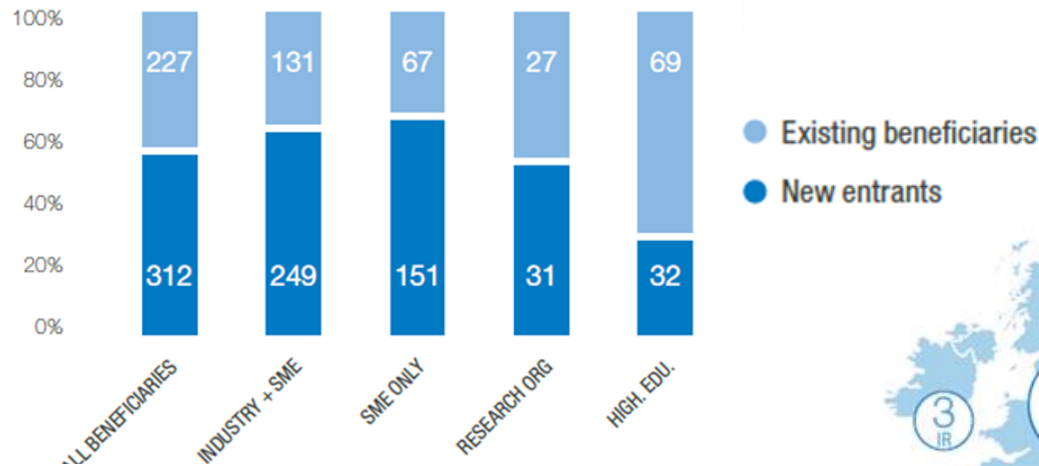
SMEs, Academia and RTOs (Research and Technology Organisations) Statistics over 16 CfP Calls :



- **Academia and Research Centers obtained 90 M€, i.e. 44%, twice the funding received by IND.**
- **SME's obtained 68 M€, i.e. 34%.**
- The overall funding of the 16 Calls for Proposals calls was **203 M€ - 482 Projects**

Facts & Figures – Clean Sky 1

New beneficiaries in Clean Sky



Number of Calls	Eligible Proposals	Funded projects	Average Project value
16	1519	482	€600 000

Average Funding Rate : 69%
Success rate of applicants : 32%

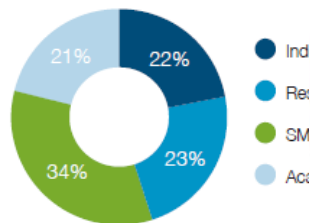
Distribution of Funding for Partners

Applying as a single entity is possible under Clean Sky rules. This was the case for 41% of the funded projects. The maximum funding rate for Partners ranges from 50% up to 75% of project value, depending on the participant category (for example, SMEs, research centres and academia are eligible for 75%).

SME Statistics

SMEs are actively involved in Clean Sky through Calls for Partners (CfPs)

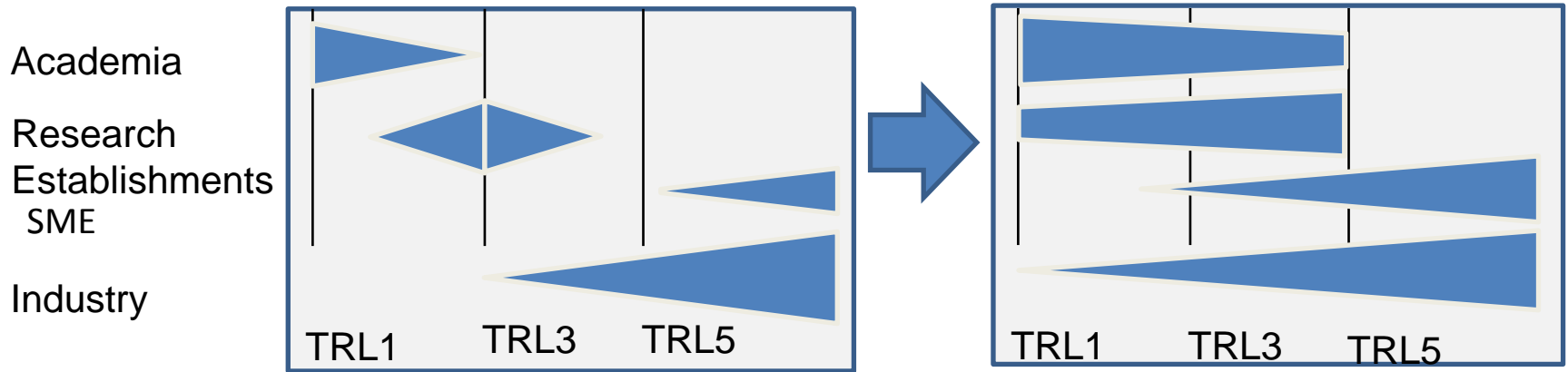
- SMEs CfPs funding share 34%
- SME average size of topics 600 k€
- SME % of mono-beneficiary 41%



Number of Beneficiaries per country

The innovation chain

✓ How the aero innovation pipeline is evolving

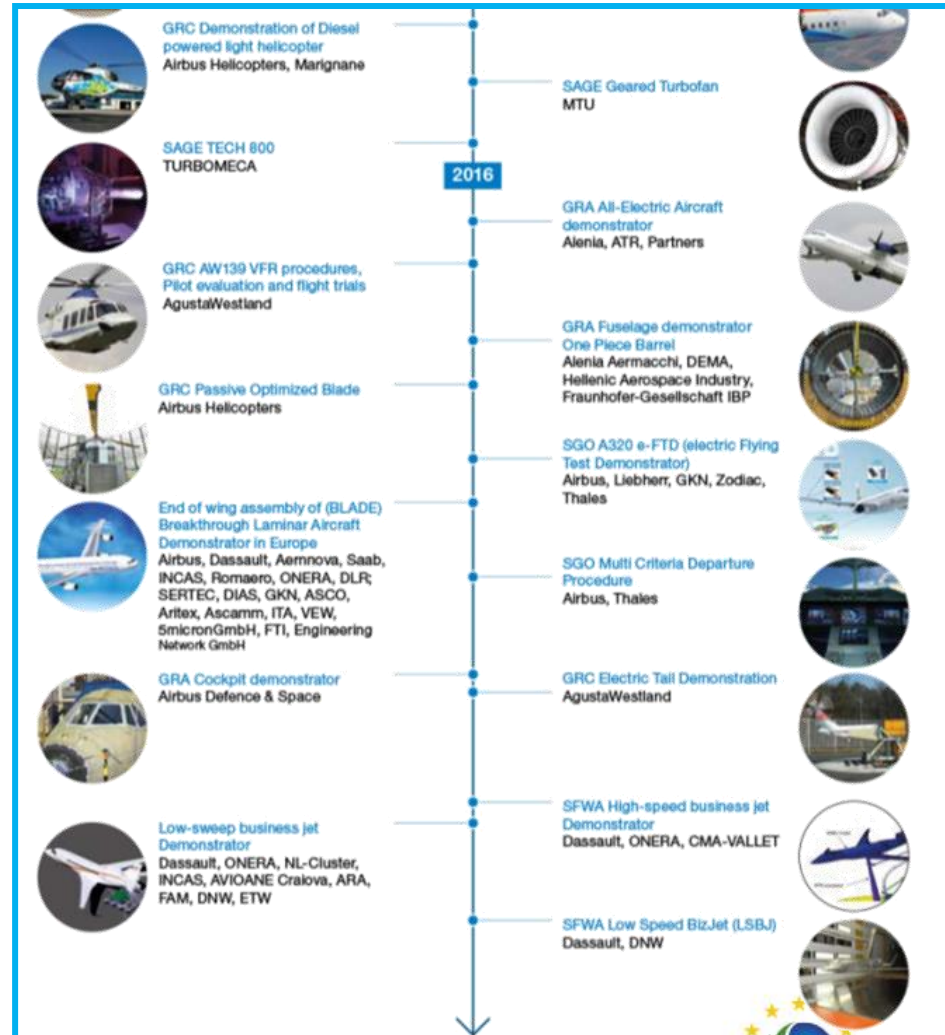
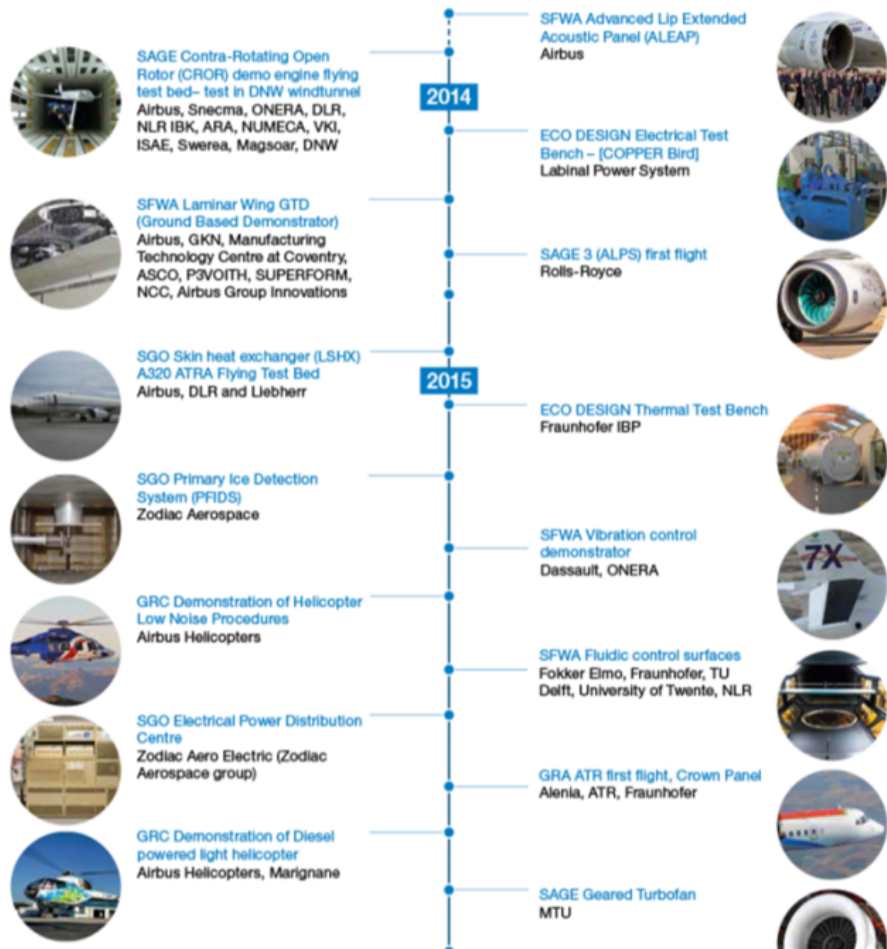


✓ **How CS is striving to bring more SMEs to technological innovation**

- Breaking the 3 barriers to innovation for new entrant SMEs: Financial / Technological / *Reputational*
- Focusing on precise topics and allowing applicants to run single
- Bringing a long-term strategic view
- Encouraging University or Research Org / SME teaming

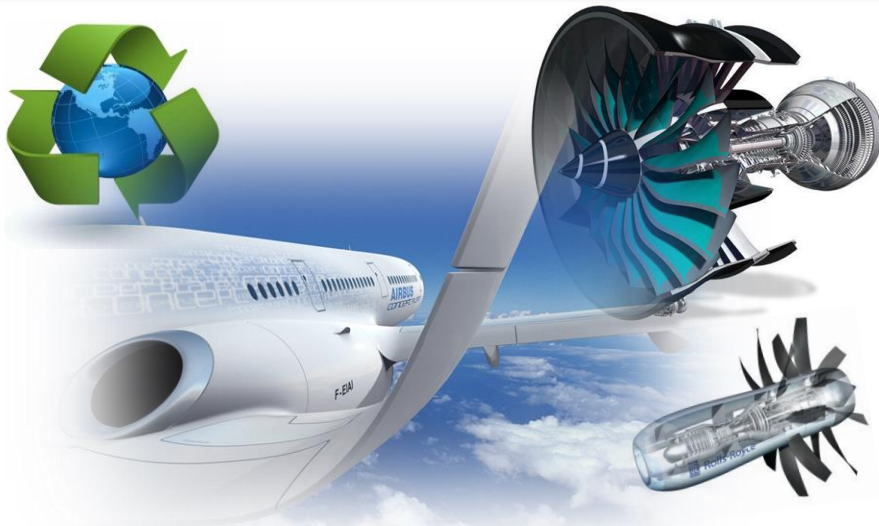
Clean Sky Demonstration

CLEAN SKY DEMONSTRATORS



Addressing H2020 Transport Challenge Areas

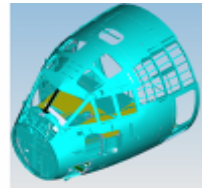
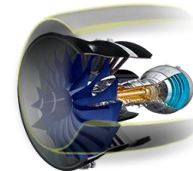
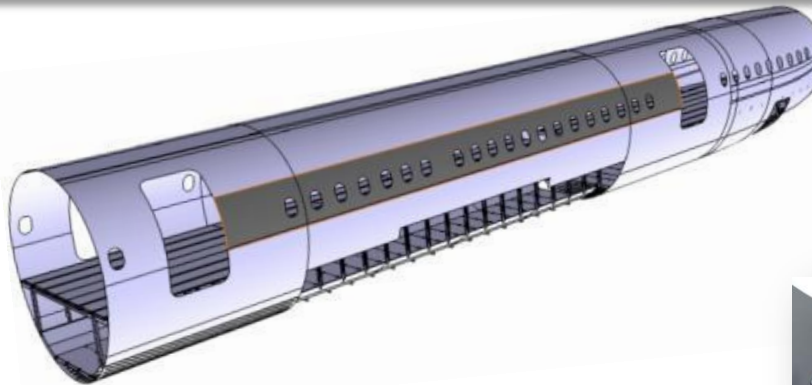
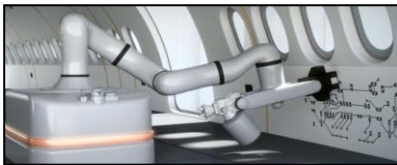
Energy Efficiency & Environment



Enabling Safe & Seamless Mobility



Building industrial leadership in Europe



Clean Sky 2 Programme Set-up

EU Funding
1.755bn€

Vehicle
IADPs

**Fast
Rotorcraft**
Agusta
Westland
Eurocopter

**Large
Passenger
Aircraft**
Airbus

**Regional
Aircraft**
Alenia
Aermacchi

Large
Systems
ITDs

Eco-Design
Fraunhofer Gesellschaft

Airframe ITD
Dassault – EADS-CASA – Saab

Engines ITD
Safran – Rolls-Royce – MTU

Systems ITD
Thales – Liebherr

Small Air Transport
Evекtor – Piaggio

Technology Evaluator (TE)
German Aerospace Center (DLR)



Clean Sky 2

- ❑ Up to 40% of EU funding available for CS2 Leaders
- ❑ **At least 60% of EU funding open to competition:**
 - Up to 30% for Core Partners (becoming Members once selected)
 - At least 30% for CfP (i.e. *Partners* as in CS) plus CfTs : ~ 540 M€
- ❑ **Meaning >1bn€ of EU funding in play, via open Calls**



Industry, SMEs, Academia, and Research Organizations eligible both for participation as Core Partners or Partners.
Participation may also take place via suitable Clusters / Consortia.



800 - 1000 Participants expected across all tiers of the industrial supply chain and “R&I Chain”, with large investment leverage effect



Clean Sky Joint Undertaking

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Thank You for your Attention

