



ACARE

The ACARE vision of upstream research – a seamless R&I agenda

R. Henke

ACARE Chairman

Clean Sky Conference 2016, Berlin

The First EC Aeronautics Vision



Group of Personalities


Pedro Argüelles


John Lumsden


Manfred Bischoff


Denis Ranque


Philippe Busquin


Soren Rasmussen


B.A.C. Drosie


Paul Restltinger


Sir Richard Evans


Sir Ralph Robins


Walter Kröll


Helena Terho


Jean-Luc Lapardère


Arne Wittlöv


Alberto Lina

Group of Personalities GoP Invited by EC – DG 12 2000



Vision 2020 January 2001

Le Bourget Kick-Off June 2001

“The framework programmes are the key to acquiring the technology required to develop the vision”

Philippe Busquin

ACARE Timeline

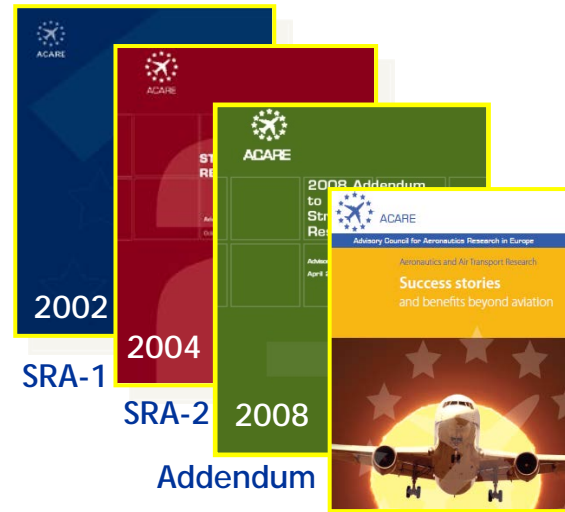


A comprehensive response to Vision 2020



Strategic Research Agenda

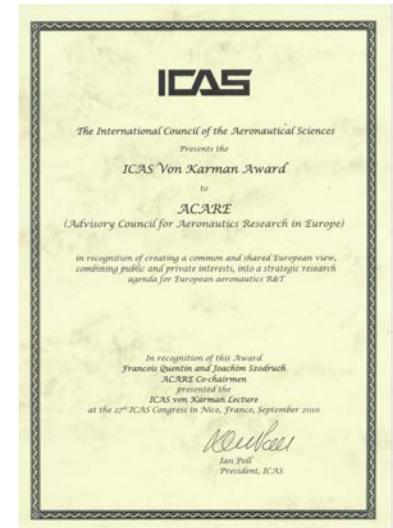
- Responding to society's needs
- Securing global leadership for Europe



Flightpath 2050

SRIA - 2012

15 years of successful innovation



ICAS Von Karman Award

Rationale to update SRIA

New Topics

- Emergence of **new manufacturing processes** that are vital for competitiveness and need for certification.
- Development in more **remotely piloted air systems (RPAS)** is delivering new ideas and concepts which need to be taken into account.
- Application of IT including **big data, cyber security**.



Source: Airbus



Source: NASA



Source: deepagopi2011

Rationale to update SRIA

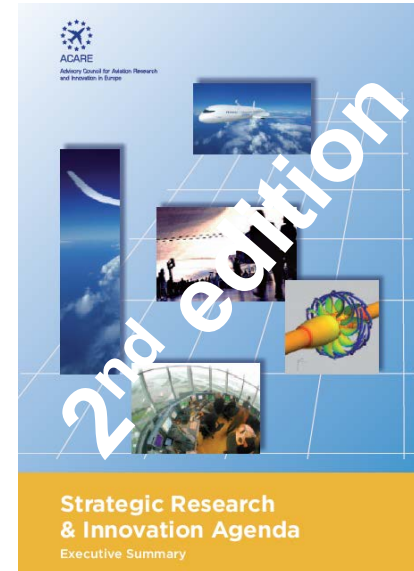


And new research baseline and boundary conditions

- **Results of FP7, Clean Sky and SESAR** delivering new technologies, common concepts and opportunities.
- **Recent accidents** including MH370 and the Germanwings flights showing that additional issues need to be addressed.

Intention of update is to ensure that the SRIA

- remains **THE state-of-the-art strategy and reference document** for European aviation with the aligned position of the whole aviation sector on research and innovation needs,
- provides valid **input to next FP or national research programs**
- remains a valid source for position papers and/ or consultations
- contains valid **recommendations endorsed by GA**



Target Date:
30-June-2017

ACARE Future Tasks



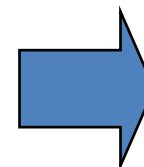
Source: Airbus



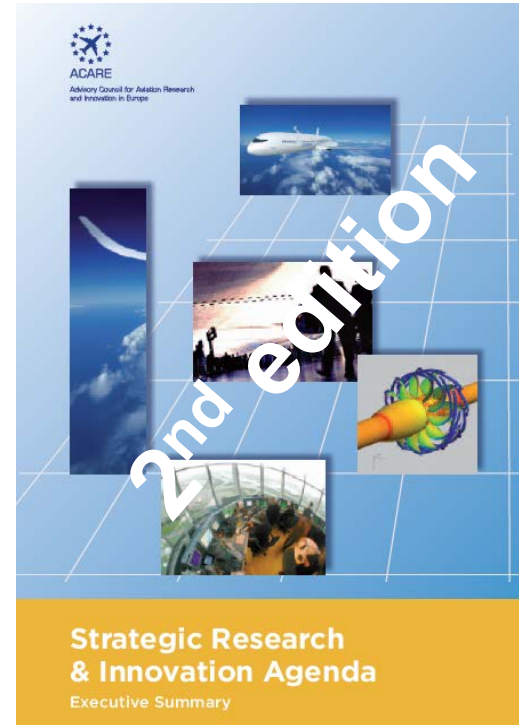
Source: deepagopi2011



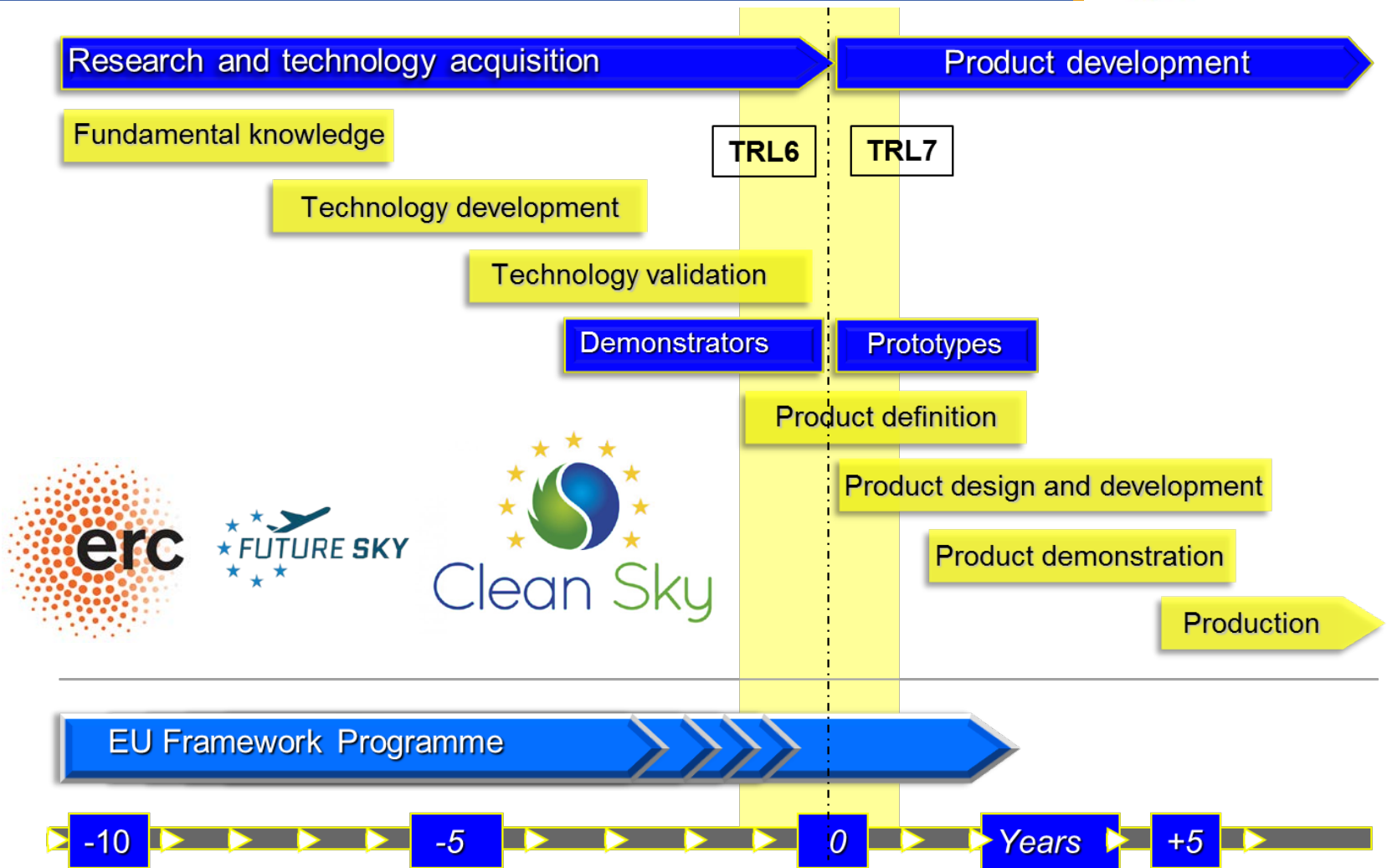
Source: NASA



FP 9



R&I Process in Aviation



Possible Future Support to R&I in Aviation



TRL 1

TRL 6

All aeronautics research under one roof



Large Demonstration Projects

Mid Size Projects, Single Demonstration

Exploratory Research

Top Down

Bottom up

“CleanSky-like” L3 / L3+ Activities, with Partners And Core Partners

L2-like projects via standard calls (no large demonstrations)

- Collaborative research as “Future Sky”
- L1-like Projects on Breakthrough’s
- CSA-like networking national / EU / international aviation activities

New Joint Undertaking

European Innovation Council

-10

-5

0

Years

+5

Conclusion (citet from ACARE position paper):

The EC's idea on EIC is supported **to complement the existing European funding instruments** ERC, collaborative research, JTIs/PPPs with a European Innovation Council as a **one-stop shop for innovators starting with a Technology Readiness Level of 7 or higher.**

It is crucial that this **additional instrument flanks existing instruments** and does not weaken them by reducing their resources. The **entire research and innovation chain must be covered by European support** to ensure in the long run a continuous development of new innovative products and processes, hence creating growth and jobs in Europe.

ACARE calls for simplification and consolidation of the existing programmes, with simple and lean rules and processes for all kinds of entities.

- Aviation products are different from other sector's products in terms of development time, lifetime, standards, certification, etc.
- Aviation is a prospering business, with high tech work force and full order books for ~ 10 years (Airbus backlog: 1 trillion €!)
- Therefore, aviation research is needed, with continuity and support
- The EU's EIC approach is supported in case of dedicated additional budget
- However, the full process chain is needed, from basic research via applied research up to innovation development
- Aviation research needs to be maintained in FP 9; the home base may be outside one single DG e.g. via a new, JU-like instrument

Aviation research of the new kind will lead to a seamless R&I agenda