

# Az AirTN projekt és az európai repülőipari és légiközlekedési kutatási rendszer bemutatása

AirTN – H2020 Workshop  
Budapest, 2013. december 13.  
Gurály Roland (AirTN)

- **Európai repülőipari technológiai platform – ACARE**
- **Air Transport Net FP7 (AirTN)**
- **A német LUFO program**
- **Clean Sky 2**
- **SESAR 2**

# ACARE achievements so far

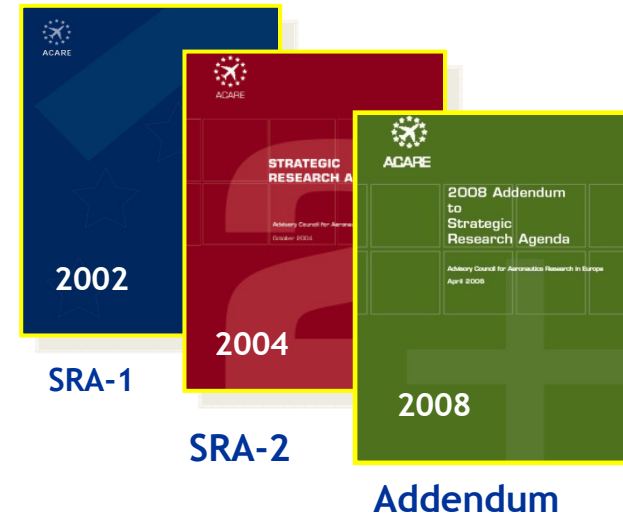


## *A comprehensive response to Vision 2020*



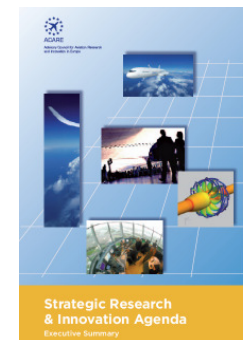
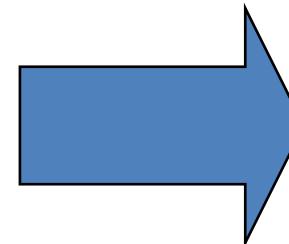
### **Strategic Research Agenda**

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



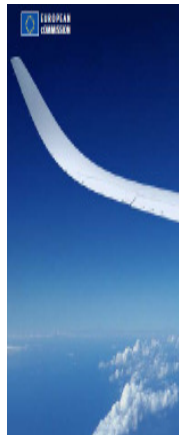
### **A decade of Successful Innovation**

### **Flightpath 2050**



### **SRIA- 2012**

# SRIA launch

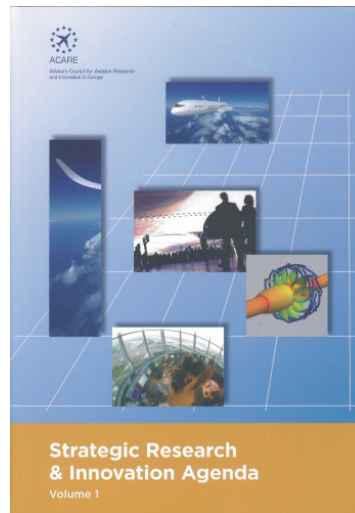


Flightpath 2050  
Europe's Vision  
for Aviation  
Report of the High Level Group  
on Aviation Research



Flightpath 2050 Launch  
at EC Aero days  
2011 in Madrid

SRIA Launch  
at ILA Air Show  
2012 in Berlin



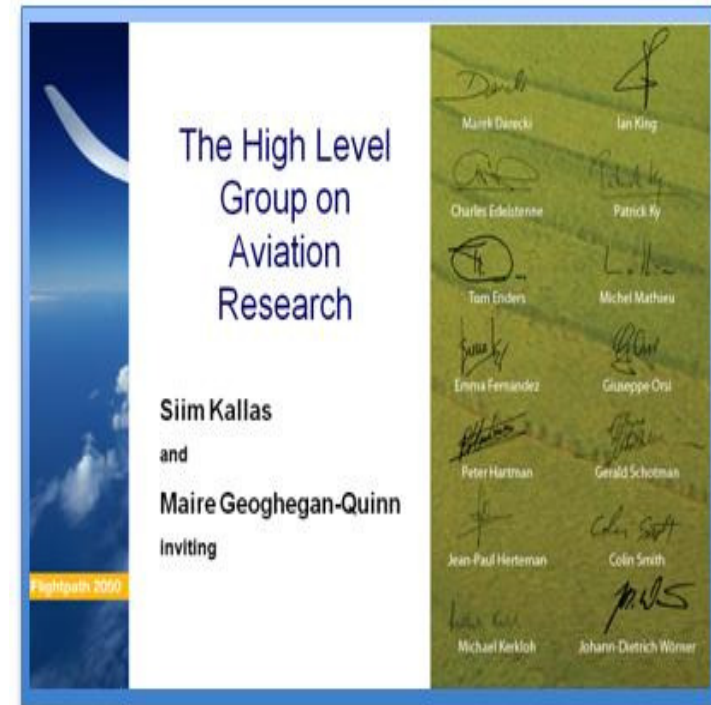
[www.acare4europe.org](http://www.acare4europe.org)

# ACARE Mission



ACARE

- Establish a network for strategic research in aviation for all European stakeholders
- Develop and maintain the Strategic Research and Innovation Agenda (SRIA) and monitor implementation at European and national levels
- Make strategic and operational recommendations to achieving the goals of Flightpath 2050
- Maintain links with the relevant technology sectors and other transport modes
- Develop and implement a communication strategy to promote awareness of the SRIA
- Facilitate stakeholder co-operation in Europe and internationally as well as aviation representation at events and forums

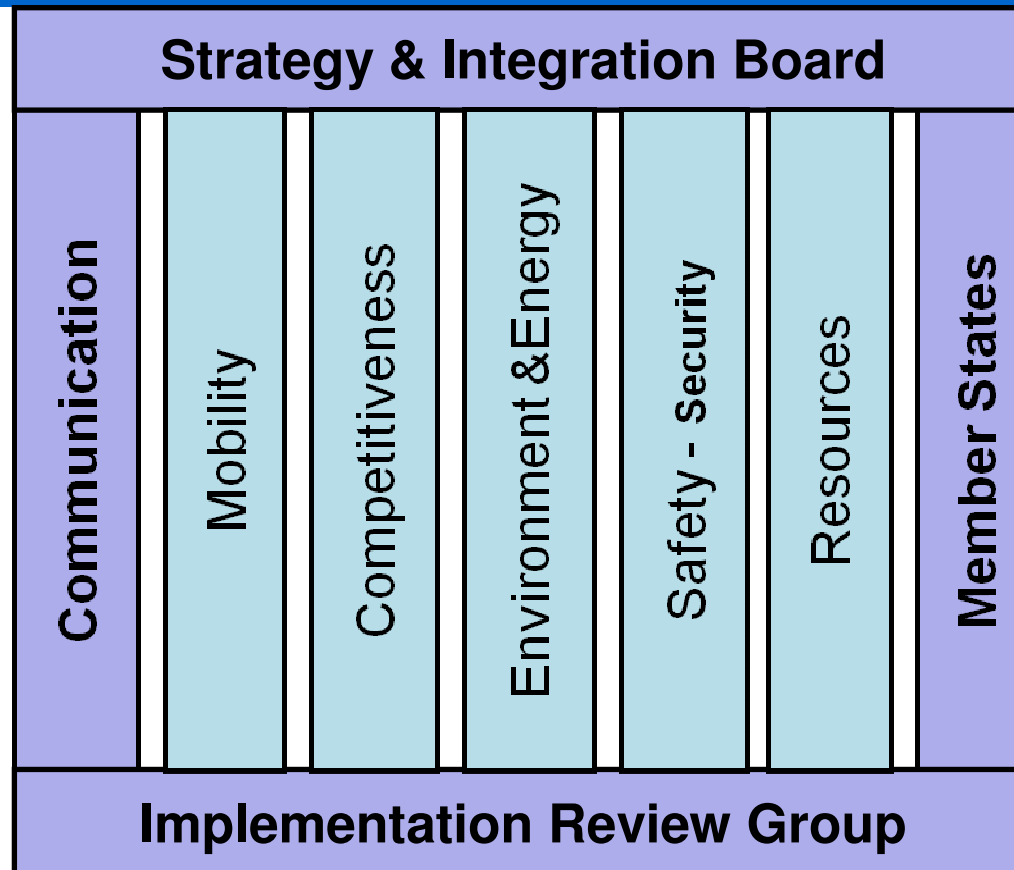


# ACARE structure & membership



## General Assembly

- ☐ 28 Member States
  - ☐ European Commission
  - ☐ Manufacturing Industry
  - ☐ Airlines
  - ☐ Airports
  - ☐ Air Navigation
  - ☐ EASA
  - ☐ Eurocontrol
  - ☐ Research Centres
  - ☐ Universities
  - ☐ Energy
  - ☐ Regulators
- Over 50 members



# Strategic Research and Innovation Agenda (SRIA)



**Road map for aviation research, development & innovation**

**Content aligned to five goals of Flightpath 2050:**

**Meeting Societal and Market Needs**

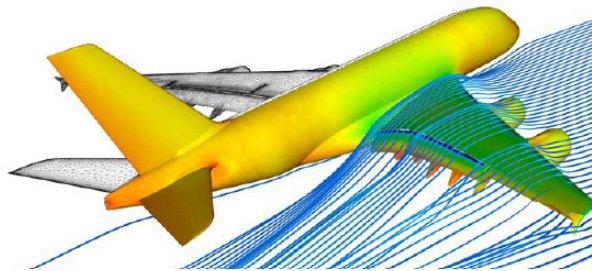
**Maintaining and Extending Industrial Leadership**

**Protecting the Environment and the Energy Supply**

**Ensuring Safety and Security**

**Prioritising Research, Testing Capabilities & Education**

**Published in 2012**



# 1) Mobility

**Aviation as an integral element of the Single European Transport Area** – creating the basis for user-centric, integrated seamless travel in Europe

## **Travel process management**

Tools for inter-modal door-to-door travel choice, single ticketing, easily reconfigurable journey

**Processes, technologies & communication systems** for resilient, predictable and seamless global passengers & freight traffic management



**Seamless door to door travel in 4 hours.  
Handling 25 million flights per year in Europe.**



## 2) Competitiveness



Development of technology: **Radical new aircraft architecture**

**Efficient processes** for development, manufacturing, testing and certification

Optimised **public-private investment**

**Policy and Regulatory framework** promoting innovation

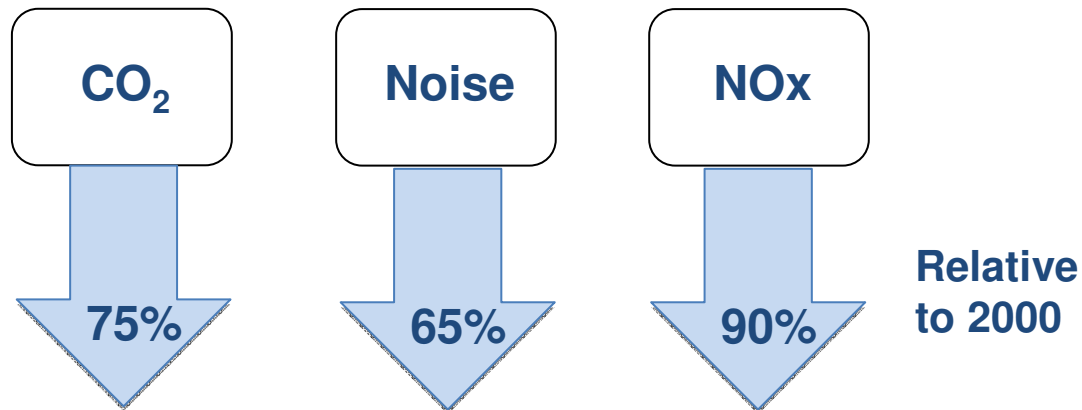
**Maintain Leading Edge Design, Manufacturing, System Integration Capabilities and jobs**



### 3) Environment and Energy



By 2050, per passenger kilometre:



**Optimise air operations and traffic management**  
**Improve airport noise and air quality**  
**Provide affordable and sustainable alternative fuels**  
**Atmospheric Research**

## 4) Safety & Security



**Efficient, queue-free and threat modulated processing**

**Defences against hostile cyber activity**

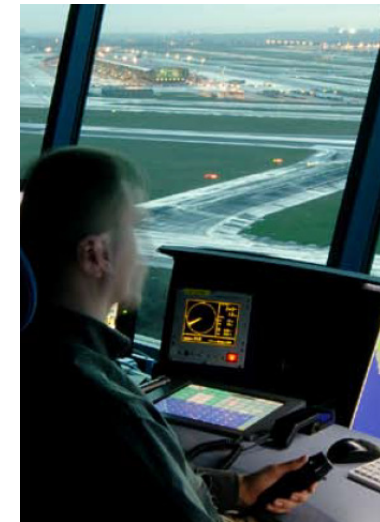
**Safety hazard mitigation**

**Air vehicle operations and Traffic Management**

**Human centred automation**

**- Passenger and personnel / crew**

**Less than one accident per ten million commercial aircraft flights**



## 5) Resources

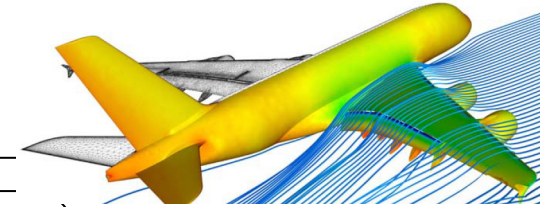


**Strategic roadmap on research infrastructures,  
test, simulation and development facilities**

**Multidisciplinary clusters of excellence.  
Joint effort : e.g. flying test beds (X-planes)**

**Fully integrated European Aviation education system  
to attract talent, tailored to the sector needs.  
University and industry partnerships**

**Courses offered by European Universities closely  
match the needs of Aviation Industry**



# SRIA - Implementation



## Implementation of SRIA needs

- a close cooperation of all stakeholders and
- the support of the entire innovation chain including
  - Industrially oriented research and test infrastructures
  - Small and medium sized research projects and
  - Public Private Partnerships (PPP's) e.g. Clean Sky and SESAR
- Horizon 2020 and national programs will be key elements
- January 2014 start



## ACARE role during implementation of H2020 as Advisory Council:

- Close cooperation of all Stakeholders
- Ensure H2020 reflects SRIA priorities
- Cover the full cycle of R&TD from:
  - ❑ incubating new breakthrough ideas
  - ❑ fundamental research
  - ❑ full scale system/sub-system demonstration
- Alignment between H2020 and national programs
- Working Groups to assess level of completion of ACARE goals and identify gaps and priorities – CA's



**January 2014 start**





# AirTN

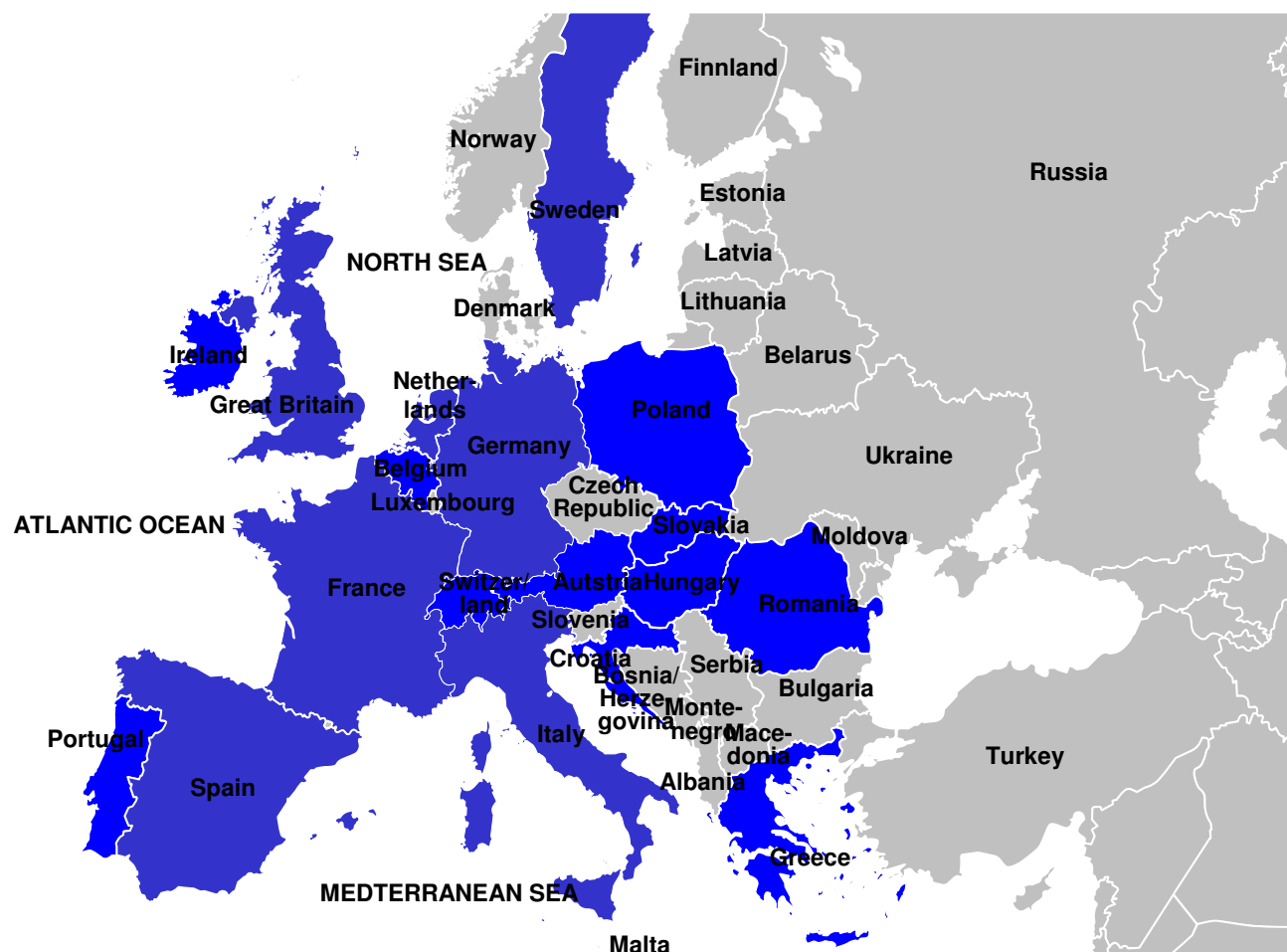
# Air Transport Net



# AirTN Landscape

## The AirTN Countries:

Austria  
 Belgium  
 Croatia  
 France  
 Germany  
 Greece  
 Hungary  
 Ireland  
 Italy  
 Netherlands  
 Poland  
 Portugal  
 Romania  
 Slovakia  
 Spain  
 Sweden  
 Switzerland  
 United Kingdom





## **AirTN FP7 - key data:**

### **Project Coordinator**

- DLR e.V.- Programme Management Agency / Aeronautics Research for the Federal Ministry of Economics and Technology, Germany

### **Duration:**

- 3 years (01.01.2010 - 31.12.2012)
- prolongation of one year: end of project: 31.12.2013

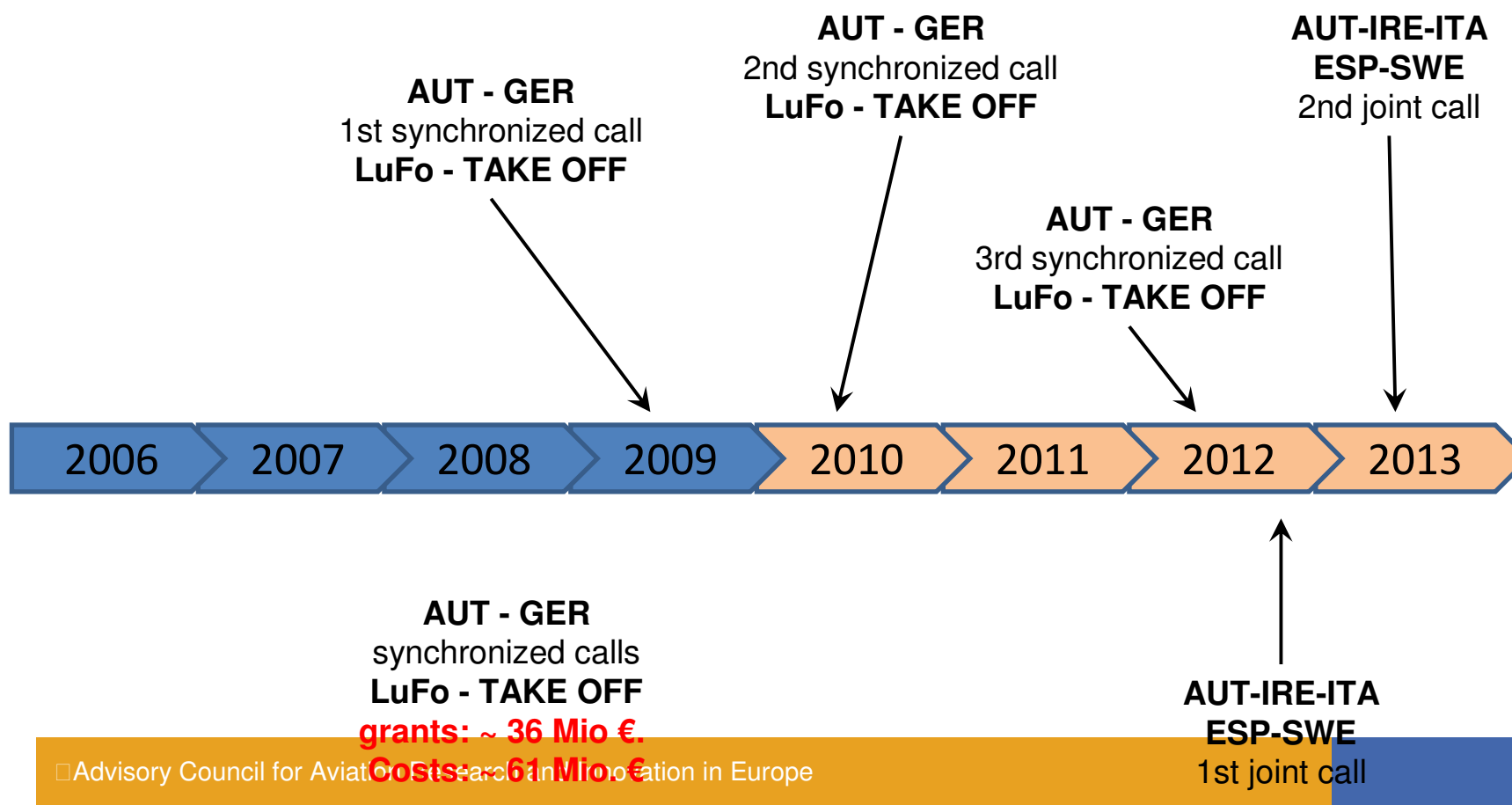
### **Consortium:**

- Participating countries almost identical to AirTN FP6,
  - 18 nations
  - open to new members
  - information exchange process through ACARE and others

## Work-Packages:

No.	Action	Lead
WP1	Management and Coordination	BMW/DLR PT-LF; Germany
WP2	Foundations of joint activities	MDPaT/UNI Zilina; Slovakia
WP3	Facilitators of joint activities	BMVIT/FFG; Austria
WP4	Implementation of joint activities	CDTI; Spain
WP5	Dissemination	EZ/NLR; The Netherlands

## AirTN – Time Line





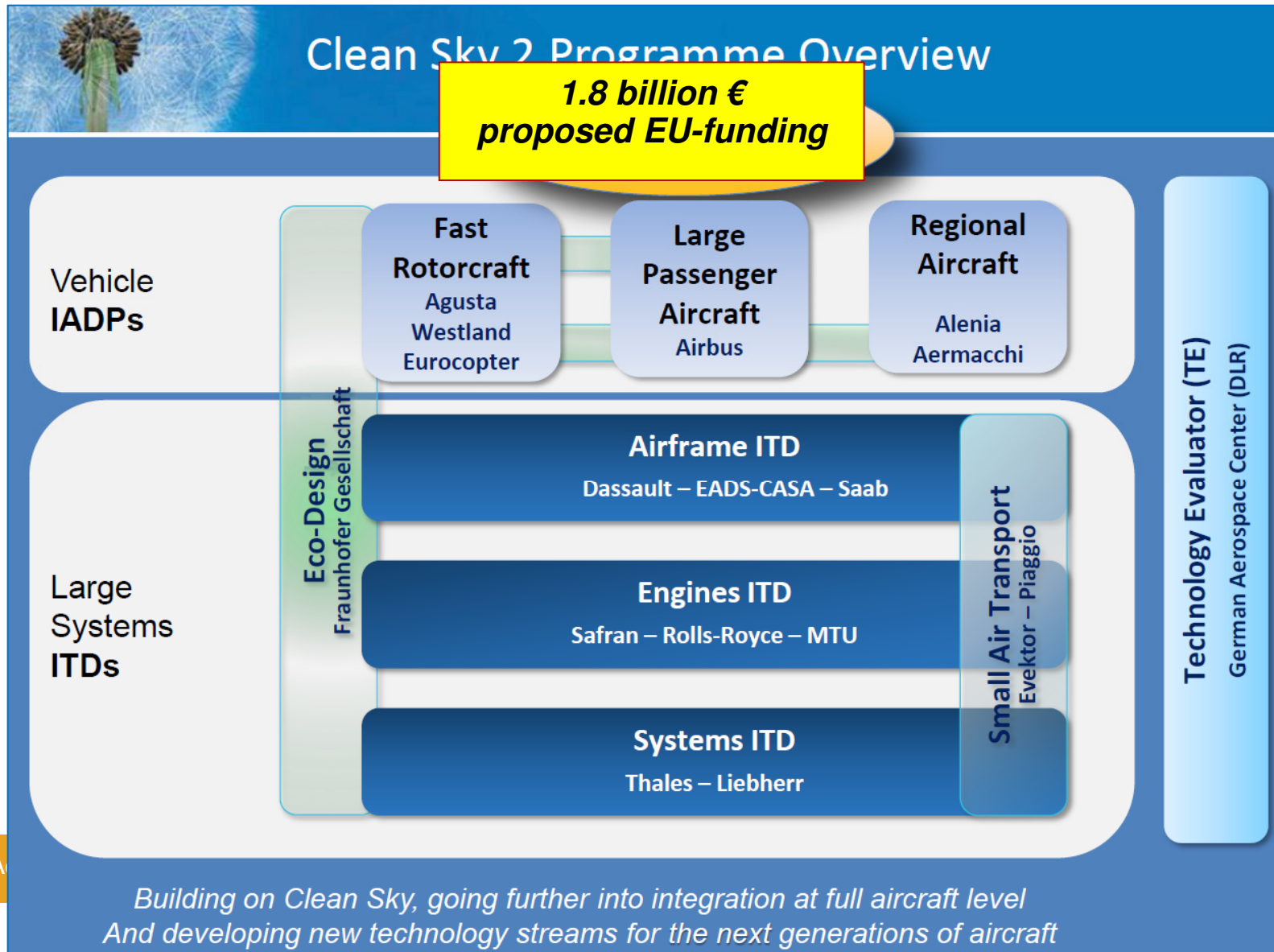
To enhance synergies  
throughout Europe

To support transnational  
programmes

**Coordination of  
MS Research**

To act together to form an  
integrated community

To increase efficiency  
of national funding



# SESAR Joint Undertaking Extension



## SESAR JU Programme 2

Single European Sky Air Traffic Management Research

### Exploratory Research



- Air Vehicle /ATM/Aircraft Ops & Tech.
- ATM System Architecture
- ICT for Information Mgmt.,
- Uncertainty & Optimisation
- ICNS Infrastructure
- Safety/Security/Human in Automation /Operational Change
- Environment & Weather
- Enabling Change:  
Economics/Legal/Policy/Regulation

### Applied research

### Pre-industrial research



- **ATM Master Plan Remaining Step 2 + Step 3**
- **RPAS ATM integration**

### Large scale demonstrations



Towards deployment phase

- Validation with :
  - Multiple Aircraft
  - Multiple Airports

Advisory Council for Aviation Research and Innovation in Europe