

What is FUTURE SKY SAFETY?

FUTURE SKY SAFETY is an EU-funded transport research programme in the field of European aviation safety, with an estimated initial budget of about € 30 million, which bring together 35 European partners to develop new tools and new approaches to aeronautics safety, initially over four and a half year, starting in January 2015. The programme research focuses on four main topics:

- Building ultra-resilient vehicles and improving the cabin safety
- Reducing risk of accidents
- Improving processes and technologies to achieve near-total control over the safety risks
- Improving safety performance under unexpected circumstances

The Programme will also help coordinate the research and innovation agendas of several countries and institutions, as well as create synergies with other EU initiatives in the field (e.g. SESAR, Clean Sky 2).



Who initiated FUTURE SKY SAFETY?

EREA, the association of European Research Establishments in Aeronautics, launched FUTURE SKY: Joint Research Initiatives to prepare the future of aviation beyond the next generation vehicle and air traffic management. FUTURE SKY's overall goal is "Twenty-four-Seven". This concept describes the full airside mobility, 24 hours a day, 7 days a week, resilient against any impacts e.g. from disruptive events like extreme weather, in line with the goals laid down by FlightPath 2050. The first Joint Research Initiative: FUTURE SKY SAFETY, initiated by EREA, builds on the European safety priorities and safety challenges.

The Concept

The collaborative safety research projects in FUTURE SKY SAFETY are built on relevant safety priorities in Europe. Main European safety pillars are defined by ACARE SRIA Safety challenges, EU's Safety Management Policy, and the European Aviation Safety Plan (EASp). The long term aviation vision, issued by the EC as Flight Path 2050, includes safety as one of the most important

What Societal Challenge?

FUTURE SKY SAFETY is an innovative research programme, dealing with Aviation Safety. FUTURE SKY SAFETY contributes to the EC Work Programme Topic MG.1.4-2014 Coordinated research and innovation actions targeting the highest levels of safety for European aviation in Call/Area Mobility for Growth – Aviation of Horizon 2020 Societal Challenge Smart, Green and Integrated Transport. FUTURE SKY SAFETY addresses the Safety challenges of the ACARE Strategic Research and Innovation Agenda (SRIA).

European priorities: to achieve the highest levels of safety and security to ensure that passengers and freight as well as the air transport system and its infrastructure are protected. The FUTURE SKY SAFETY Programme links the EASp main pillars (operational issues, systemic issues, human performance and emerging issues) to the Flight Path 2050 Safety challenges.



The Projects

The seven specific objectives, each addressed in one Project, are:

- **To coordinate institutional safety research programmes**, and connect and drive institutionally funded Safety R&TD by EREA to safety priorities established by the EC in the ACARE SRIA on Safety and Security.
- **To perform dissemination, exploitation & communication actions**, and maximize impact and use of Results
- **To perform collaborative safety research on safety risk priority areas**. The priorities and objectives are:
 - **Solutions for runway excursions**. Perform breakthrough safety research, in accordance with European Action Plan for the Prevention of Runway Excursions (EAPPRE) priorities, to enable a significant reduction of runway excursion risk.
 - **Total system risk assessment**. Develop a prototype risk observatory to assess and monitor safety risks throughout the Total Aviation System and allow frequent update of the assessment of risks.
 - **Resolving the organizational accident**. Reduce the likelihood of organisational accidents in aviation via development and implementation of a Safe Performance System.
 - **Human Performance Envelope**. Define and apply the Human Performance Envelope for cockpit operations and design, and determine methods to recover crew's performance to the centre of the envelope, and consequently to augment this envelope, through Human Machine Interface principles, procedures or training.
 - **Mitigating risk of fire, smoke and fumes**. Develop solutions to mitigate fire, smoke and fumes related (fatal) accidents.



Consortium

Coordinator: Netherlands Aerospace Centre NLR
NLR – Nederlands Lucht- en Ruimtevaartcentrum

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Office national d'études et de recherches aérospatiales
Centro para a Excelência e Inovação na Indústria Automóvel
Centro Italiano Ricerche Aerospaziali
Centre Suisse d'Electronique et Microtechnique
Institutul National de Cercetari Aerospatiale "Elie Carafoli"
Instituto Nacional de Técnica Aeroespacial Esteban Terradas
Výzkumný a zkušební letecký ústav
Totalförsvarets FÖrskningsInstitut
European Organisation for the Safety of Air Navigation
Civil Aviation Authority UK

Airbus SAS
Airbus Operations SAS
Airbus Defence and Space SA
Thales AVS France
Thales LAS France
Deep Blue
Technische Universität München
Deutsche Lufthansa Aktiengesellschaft
Service Technique de l'Aviation Civile
Embraer Portugal Estruturas em Compositos
Embraer Portugal

Russian Central Aerohydrodynamic Institute - TsAGI
Ente Nazionale di Assistenza al Volo
Boeing Research and Technology Europe
London School of Economics and Political Science
Alenia Aermacchi
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