SESAR 2020 delivered

Benoit Fonck, Chief Programme, SESAR 3 JU
Making Europe the most efficient and environmentally friendly sky to fly in the world

127 delivered Solutions

SESAR 2020

7 YEARS

150+ PROJECTS

2 000 BENEFICIARIES

1 000 VALIDATIONS & TRIALS

95 TEST SITES ACROSS EUROPE
Making Europe the most efficient and environmentally friendly sky to fly in the world

**ATM transformation**

**Virtual centres and delegating air traffic services**

- unbundling of the services (flight data, radar, weather information)
- delegating services according to demand/needs

**Towards higher level of automation**

- Attention guidance with an algorithm that can fade out potentially non-conflictual aircraft from the controller monitoring
- Automatic speech recognition based on machine learning to reduce the additional click time by a factor of 30
ATM transformation

Trajectory-based operations

• **Flight profile** downlinked from the aircraft to ground system ensuring consistency between flight plan & real trajectory

• **European ADS-C (datalink) common service** to distribute flight profile data downlinked from aircraft to relevant ground users (e.g. air traffic control, Network Manager, airlines, MET providers)

Integration of new entrants

• **U-space services and concept** definition for drone operations & Extensive flight trials in urban & non-urban environments

• **Accommodation** of heavy drones in instrument flight rules (IFR) environment

• Development of **concept of operations for higher airspace operations**
ATM transformation

Sustainability of ATM operations

• Reducing CO2 emission on airport surface management by using new taxiing technique (e.g. taxiBots, WheelTugs, e-taxi, single-engine taxi);

• Reducing noise impact around airports with new satellite-based approach procedures;

• Eliminating extra fuel consumption and CO2 emission through:
  o Optimised descent operations to accommodate best flight profile and avoid levelling off;
  o Extended arrival management enabling sequencing of arrival traffic in en-route phase to reduce holding patterns.
SESAR 2020 contribution to Master Plan

- **A** Address known critical network performance deficiencies
- **B** Efficient services and infrastructure delivery
- **C** Defragmentation of European skies through virtualisation
- **D** Digital European Sky

30% Solutions in the pipeline
35% Solutions addressed by Digital European Sky
35% Solutions completed in SESAR 2020

Phase C Solution coverage

Making Europe the most efficient and environmentally friendly sky to fly in the world
SESAR Solutions performance

- Cost efficiency: -23%
- Departure Punctuality: +20%
- Airport capacity: +23%
- TMA capacity: +36%
- En-route capacity: +60%
- CO2 emission: -4%
- Fuel consumption: -4%

Safety: No increase in accidents despite increase in traffic

Making Europe the most efficient and environmentally friendly sky to fly in the world
SESAR 2020: A collaborative success story

Digital SESAR solution catalogue

Now live!

EUROPEAN PARTNERSHIP

Co-funded by the European Union

Making Europe the most efficient and environmentally friendly sky to fly in the world
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Delivering solutions that yield real and timely benefits

- Connected and automated ATM
- Air-ground integration and autonomy
- Capacity-on-demand and dynamic airspace
- U-space and urban air mobility
- Virtualisation and cyber-secure data sharing
- Multimodality and passenger experience
- Aviation green deal
- Artificial Intelligence for aviation
- Civil/military interoperability and coordination

58 projects in operation
EUR 600 million investment

Smart
Sustainable
Resilient

Making Europe the most efficient and environmentally friendly sky to fly in the world
Partnering to succeed!

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