

3rd ICAO-EASA Forum SEA

Overcoming obstacles towards seamless skies

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Speaker

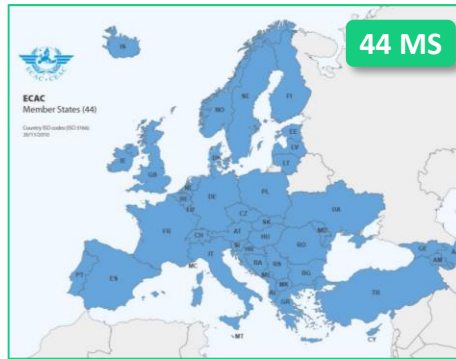
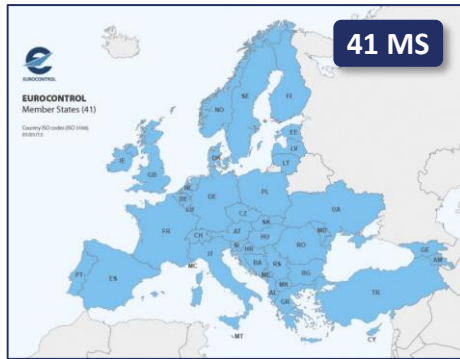
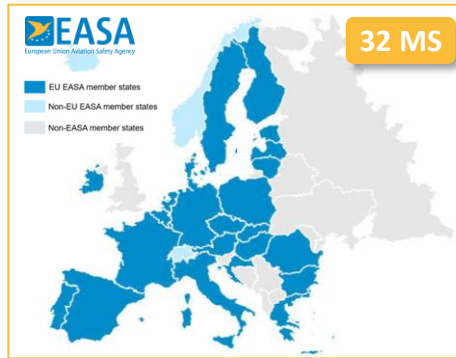
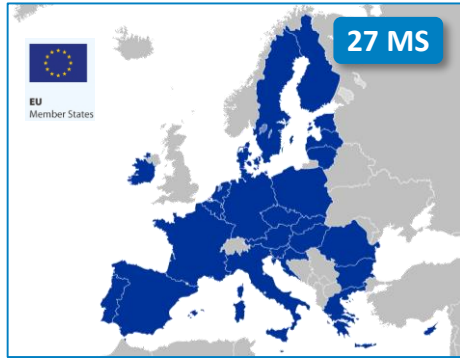


Daniel Cruz

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The complexity of the European frameworks for cooperation in aviation has affected the region's ATM/ANS for many decades



Air transport market liberalization resulting 3x growth of traffic in 20 years

+

Fragmentation of European airspace, complex and with **inefficient route structures**

+

Lack of **interoperability** of ATM/ANS infrastructure

→ **Increased delays**

→ **Increased costs**
inefficiencies

→ **Degradation of safety**

→ **Environmental impact**

Regional solutions at all levels were required to tackle these problems

...the Single European Sky (SES) initiative was born

A performance-based approach was launched to transform European air navigation,
starting with policy ambitions



**Increase
capacity x3**



**Increase safety
by a factor of 10**



**Reduce the
environmental
impact by 10%
per flight**



**Reduce ATM costs
by 50%**

SES was guided through two legislative packages along with strong institutional and technological threads

→ These packages (**SES I** in 2004 & **SES II** in 2009) were aimed at harmonising the regulatory framework and ensuring a level playing field for air navigation services

Safety

The competence of EASA was extended, among others, to cover ATM/ANS safety and related rules



Operations

Definition of **network functions** under the responsibility of the **Network Manager**

(Executed by Eurocontrol until 2029)



Technology

Modernising and harmonising European ATM infrastructure through the **SESAR R&D** Programme & **SESAR Deployment** Programme



Performance

A **performance scheme** and **charging scheme** to ensure that air navigation services meet defined safety, capacity, cost-efficiency and environmental targets



PERFORMANCE & CHARGING SCHEME FOR ATM/ANS

SES is strongly **performance-driven**. It includes a **performance & charging scheme** setting binding targets to be achieved by the ANSPs.

It also includes **tools** that are expected to significantly enhance performance in key areas.

- 1 **4 KPAs**: Cost-Efficiency, Capacity, Safety & Environment with associated KPIs
- 2 **Targets** are set at the EU level, national level, or by airspace blocks
- 3 SES Member States **report local performance** and how they contribute to the Union-wide targets
- 4 Provides **financial incentives (bonuses or penalties)** for en route and terminal capacity, cost-efficiency and environment for the achievement of the set targets
- 5 **Cost bases for charges** related to the provision of ANS, unit rates and methods for the calculation of charges

INITIATIVES TOWARDS SEAMLESS SKIES

Several EU initiatives have been deployed in support of seamless skies, to enhance the efficiency of ATM/ANS, reduce the fragmentation of airspace, and increase the interoperability of systems

1 EASA Standardisation activities



2 European ATM Master Plan



3 ATM R&D initiatives: SESAR



4 Conformity assessment framework for ATM/ANS



EASA STANDARDISATION ACTIVITIES

EASA plays a pivotal role in the **standardisation of safety and security protocols** in support of the SES objectives.

Regional standardisation has brought **several benefits** to EU aviation institutions and ATM/ANS industry.



1

EASA monitors in all EASA states how each country applies the **common EU rules** on aviation safety

2

Two types of activities: (i) **Inspection of national authorities** and service providers, and (ii) **monitoring** of the application of EU safety regulations

3

Main benefits:

- (i) A higher **uniform level of aviation safety** across the EU
- (ii) **mutual recognition** of certificates
- (iii) **increased recognition** by international partners

EUROPEAN ATM MASTER PLAN

The European ATM Master Plan is the guidance tool that coordinates the **modernisation** of European **ATM/ANS**.

The Plan calls for an acceleration of the **digitalisation** of aviation infrastructure to offer new capabilities.



- 1 Lays out a **common roadmap** for all regional air navigation stakeholders. It is aligned with the **GANP**
- 2 Ensures consistency and alignment of the deployment of **SESAR R&D** concepts and solutions
- 3 Consisting of **three levels**: (i) Executive, (ii) Planning & Architecture view, and (iii) Implementation view
- 4 Details the **SESAR long-term vision** (2040): Resilience, scalability and integration of ATM with UTM

R&D INITIATIVES: SESAR PROGRAMME

The SESAR programme was launched to bring the **transformation of ATM/ANS** in Europe.

SESAR Joint Undertaking is a Public Private Partnership with industry and service providers.

A white line-art icon of a magnifying glass. Inside the lens of the magnifying glass are three lines of binary code: "1001100", "1010101", and "1100101".

1001100
1010101
1100101

**LATEST ATM
DIGITAL
TECHNOLOGIES**



**PERFORMANCE
DRIVEN
APPROACH**



**SOLUTIONS FOR
EVERY FLIGHT
STAGE**



**RESEARCH &
LARGE-SCALE
TRIALS**



**SUSTAINABLE
ATM & GREENER
FLIGHTS**

CONFORMITY ASSESSMENT FRAMEWORK FOR ATM/ANS

As systems become more interconnected, digitalized and automated, the need for them to be as **interoperable** and **standardized** as possible increases.

A regulatory basis has been developed to ensure the interoperability of **ATM/ANS equipment** in EU.



- 1 Enhance **harmonisation** for ATM/ANS equipment and manufacturers and drive **innovation**
- 2 Specifications and common requirements based on recognised standards such as **EUROCAE** and **ICAO**
- 3 Framework entered into force in September 2023 with a 5-year **transition period**
- 4 Ground ATM/ANS equipment will require different **assessment processes** based on their criticality

Thank you for your attention!

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