

Supporting  
European  
Aviation



# European ATM/ANS - Policy and performance management

## Context of the European ATM Master Plan

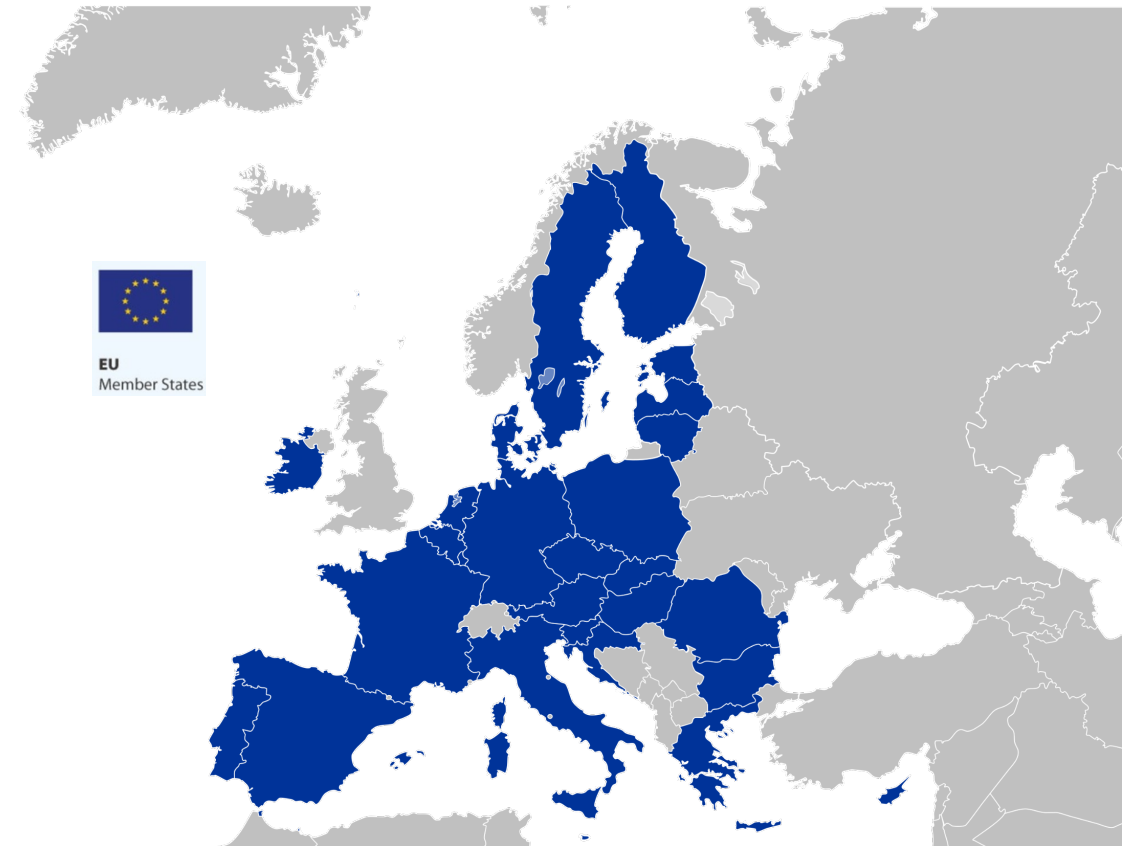
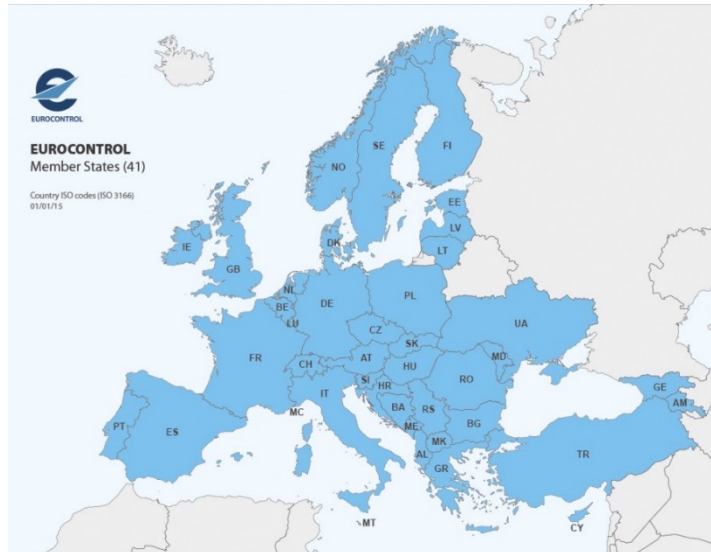
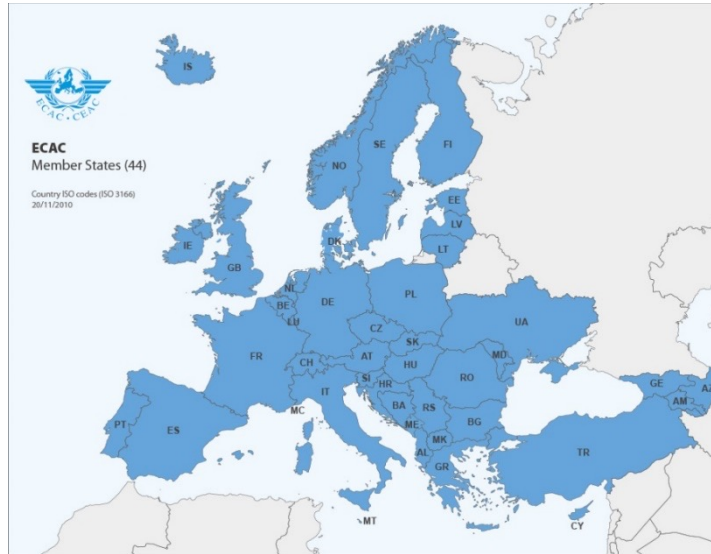
Wim POST

Head of Unit Master Plan and Architecture

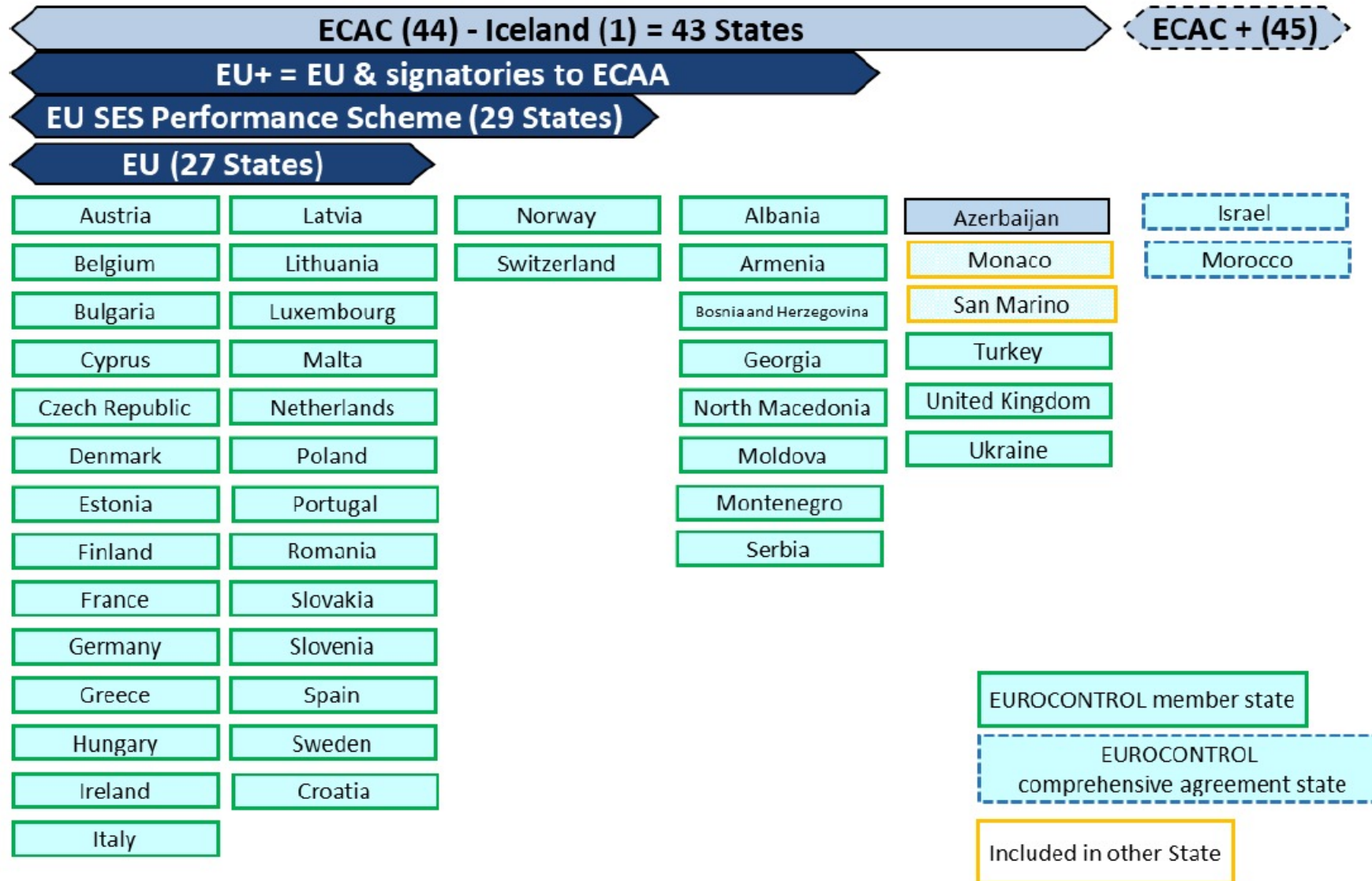
2021-10-06



# EUROPE – which Europe?



# European States in various 'organisations'



# It all started with de-regulating the airline industry (1992 – EU Single Aviation Market)

- Objective: **aviation development**

- More connections
- Lower fares

- Means: **common rules in key areas adopted**

- Air carrier licensing
- Air carrier access to market
- Fares

- Results: **traffic growth**

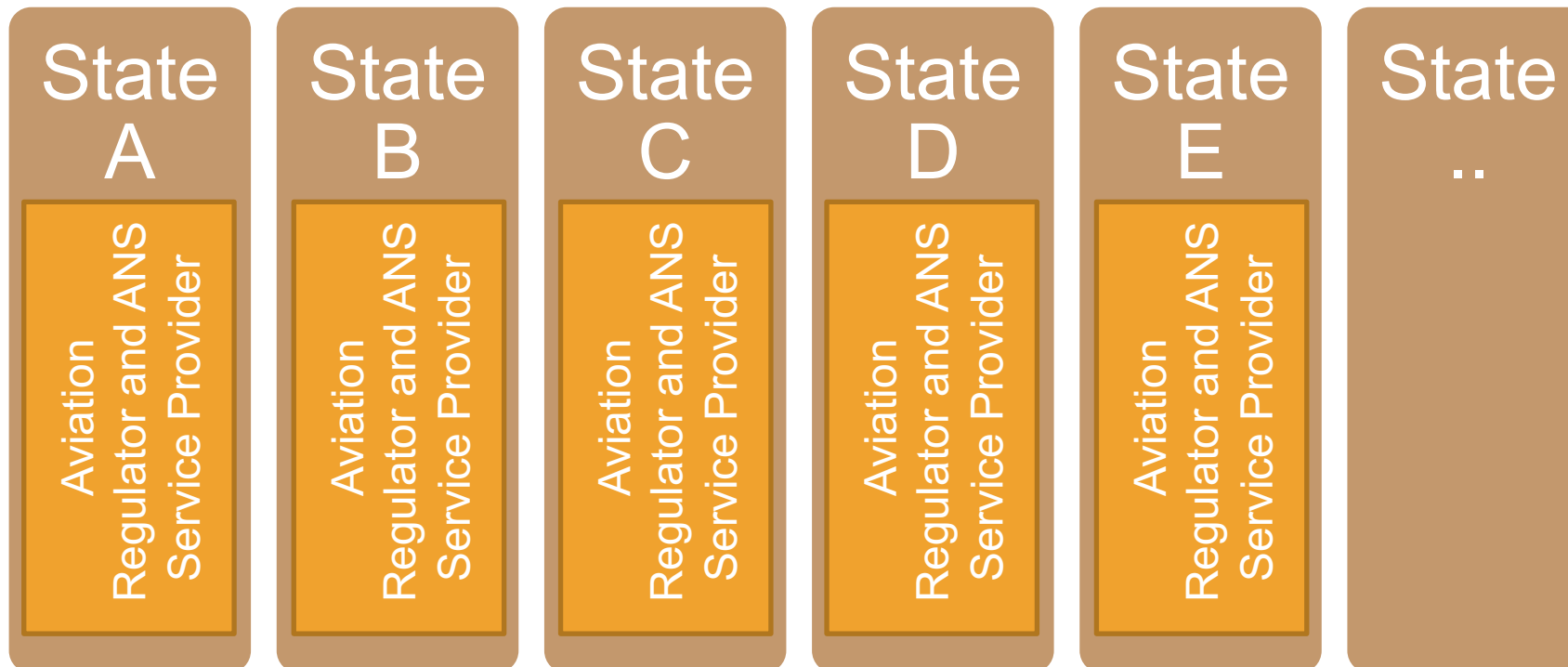
- Tripled from 1980 to 2000

- Consequence: **new ATM challenges**



# The European ATM Network – How it was organised

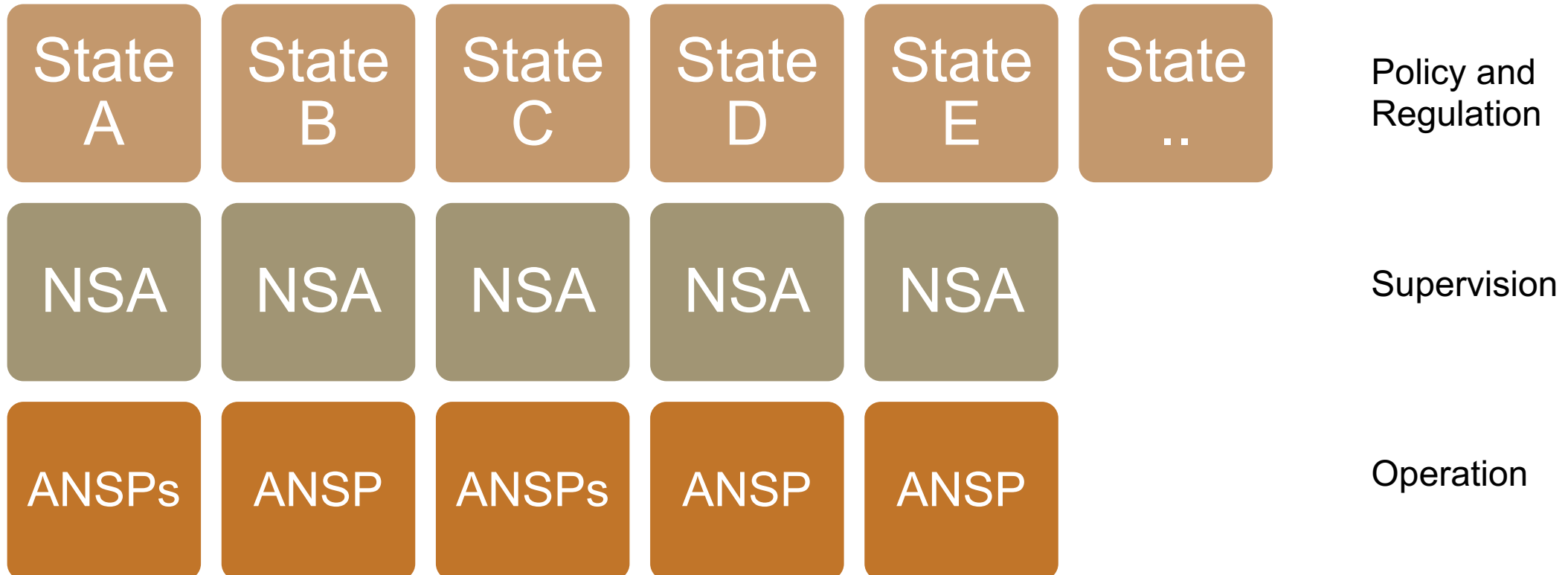
## Intergovernmental Organisations (EUROCONTROL, European Union)



Not a very clear  
distinction of  
responsibilities  
between Policy,  
Regulation,  
Supervision and  
Operation

# The European ATM Network – reducing conflict of interest

## Intergovernmental Organisations (EUROCONTROL, European Union)



# ORGANISATIONAL ATM CHALLENGES IN THE EU 20 YEARS AGO

## REGULATION

- With Regulators/Supervisory Authorities separated from ANSPs there was a wide disparity of available knowledge between many of them.
- Weak harmonisation between European States due to missing common legal framework

## DECISION MAKING

- From 15 EU states in 2002 to 25 in 2003, now 26
- Even more ANSPs than states (e.g. separate civil and military ANSPs)
- Many national R&D Programmes, mainly in the larger states (33%)
- Some EU R&D projects (20%)
- EUROCONTROL investing in R&D (30%)
- Insufficient coordination on the ATM changes being investigated.
- Deployment of changes across the network not well coordinated.
  - EUROCONTROL had no legal means to enforce
  - European Union had no competence in ATM up to 2004

# The European ATM Network – An Operational view

## The Network

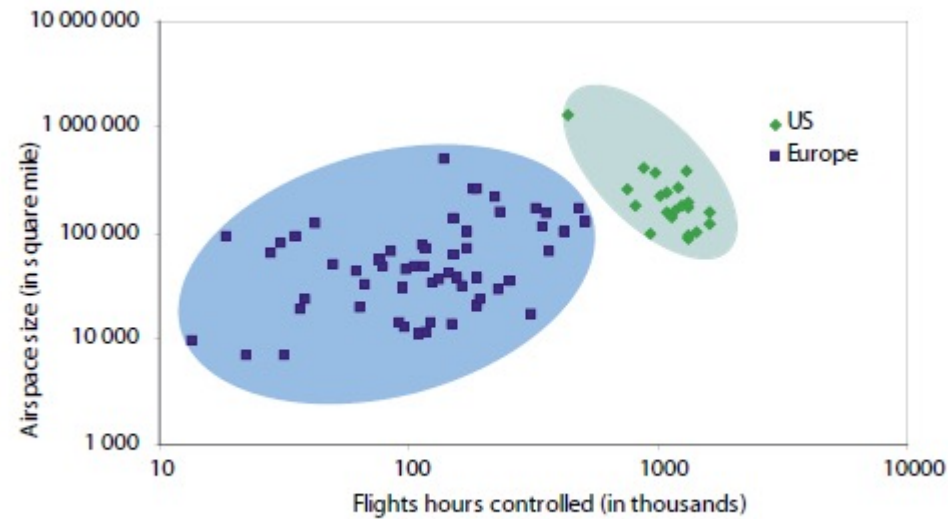
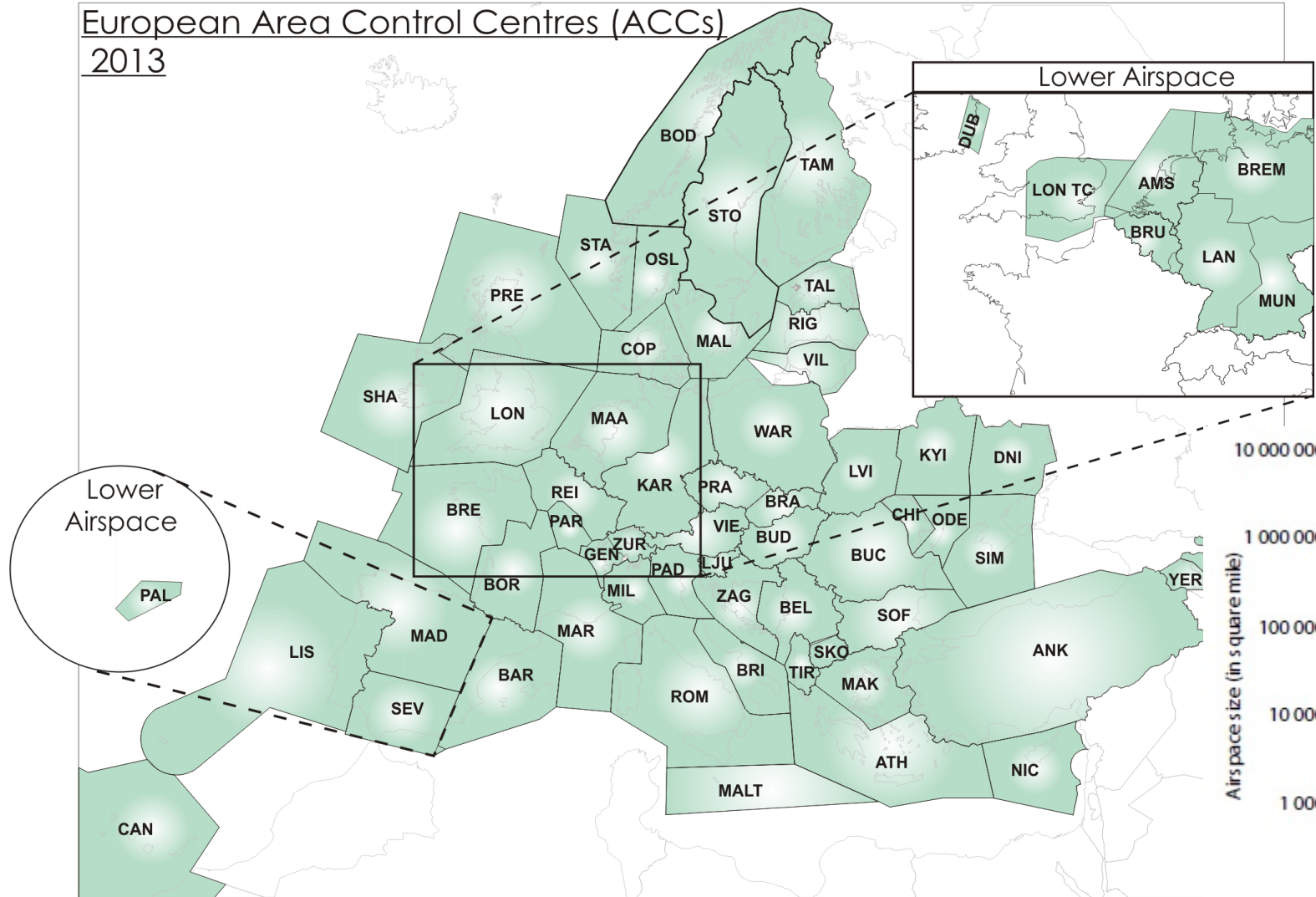




# AIRSPACE FRAGMENTATION IN THE EU

European Area Control Centres (ACCs)

2013



Data source: FAA & CFMU & EEC

Figure 66: Traffic and size of European and US en-route centres

Source: PRR5

# OPERATIONAL ATM CHALLENGES IN THE EU 20 YEARS AGO

## INCREASING TRAFFIC

- 8,4 million annual flights & 440 airports
- Increasing complexity of traffic
- 61 Area Control Centres operated by 32 ANSPs
- ~16 700 Air Traffic Controllers

## AIRSPACE FRAGMENTATION

- A few big ANSPs operating majority of traffic
- Need to balance with military needs of aviation
- Aircraft fly much longer routes than strictly necessary
- Growing awareness of the need for a **network** perspective

## COSTS

- Annual cost of the ATM system inefficiency: **€ 1,5 billion**
- Cost of the ATM service: **6-10% of airline operating costs**

## SAFETY

- Major ATM accidents: collisions in 2001 (Milan/Linate – runway incursion) and 2002 (Überlingen – mid-air)

- Noise & emissions becoming an increasing concern

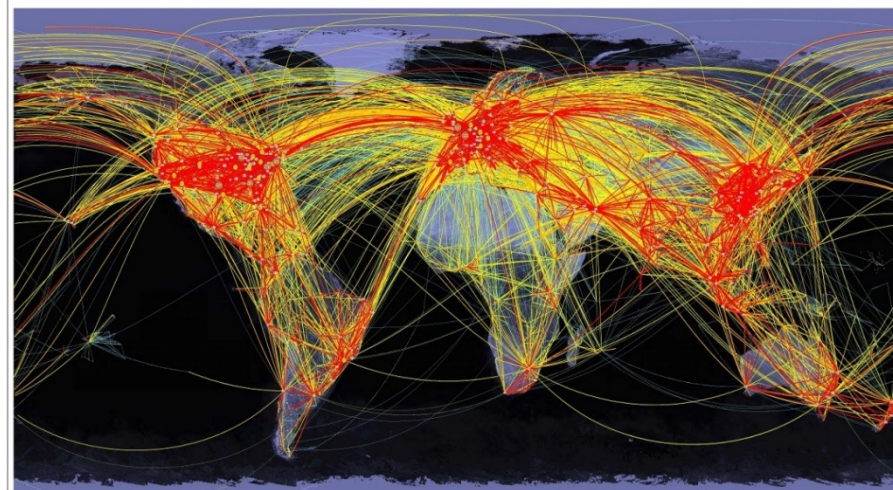
## ENVIRONMENT

# WE FORECASTED GLOBAL GROWTH IN AIR

2010



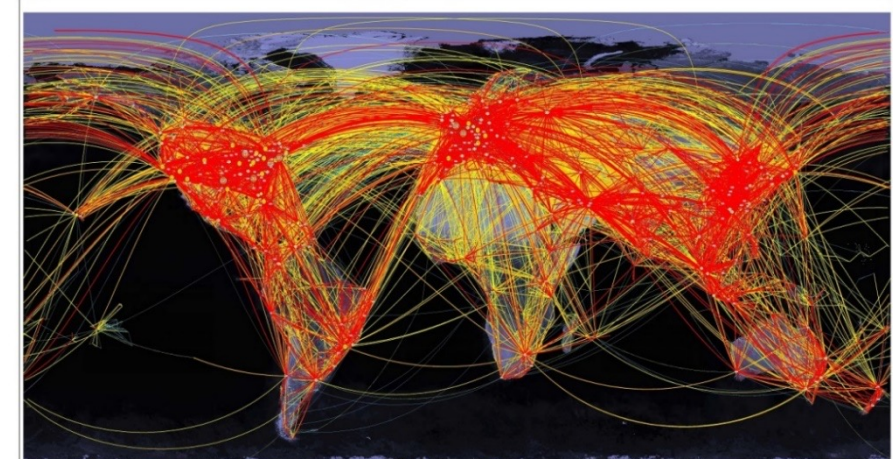
2020



2030



2040



# The Single European Sky

## Policy Ambitions for enhancing European ATM Performance



Increase current capacity X 3



Increase safety by a factor of 10



Reduce the environmental impact by 10% per flight



Reduce ATM costs by 50%

# The Single **European** Sky

2 main threads

## Institutional



Reforming ATM organisation & management



Service provision  
airspace regulation

## Technological



Modernising & harmonising ATM systems & operational procedures



Common modernisation roadmap (MP)

Coordinated R&D and validation

Synchronised deployment

Safety

Interoperability



# Single European Sky

Two legislative packages (SES 1 in 2004 and SES 2 in 2009) aimed for a **harmonised regulatory framework** and a **level playing field** for air navigation services  
 2020: Ongoing further modernisation of the SES



## Economic regulation

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



## Safety

The competence of the European Aviation Safety Agency (EASA) was also extended to cover ATM safety and related rules.



## Operations

Definition of network functions under the responsibility of the **Network Manager**  
 Executed by Eurocontrol until 2029

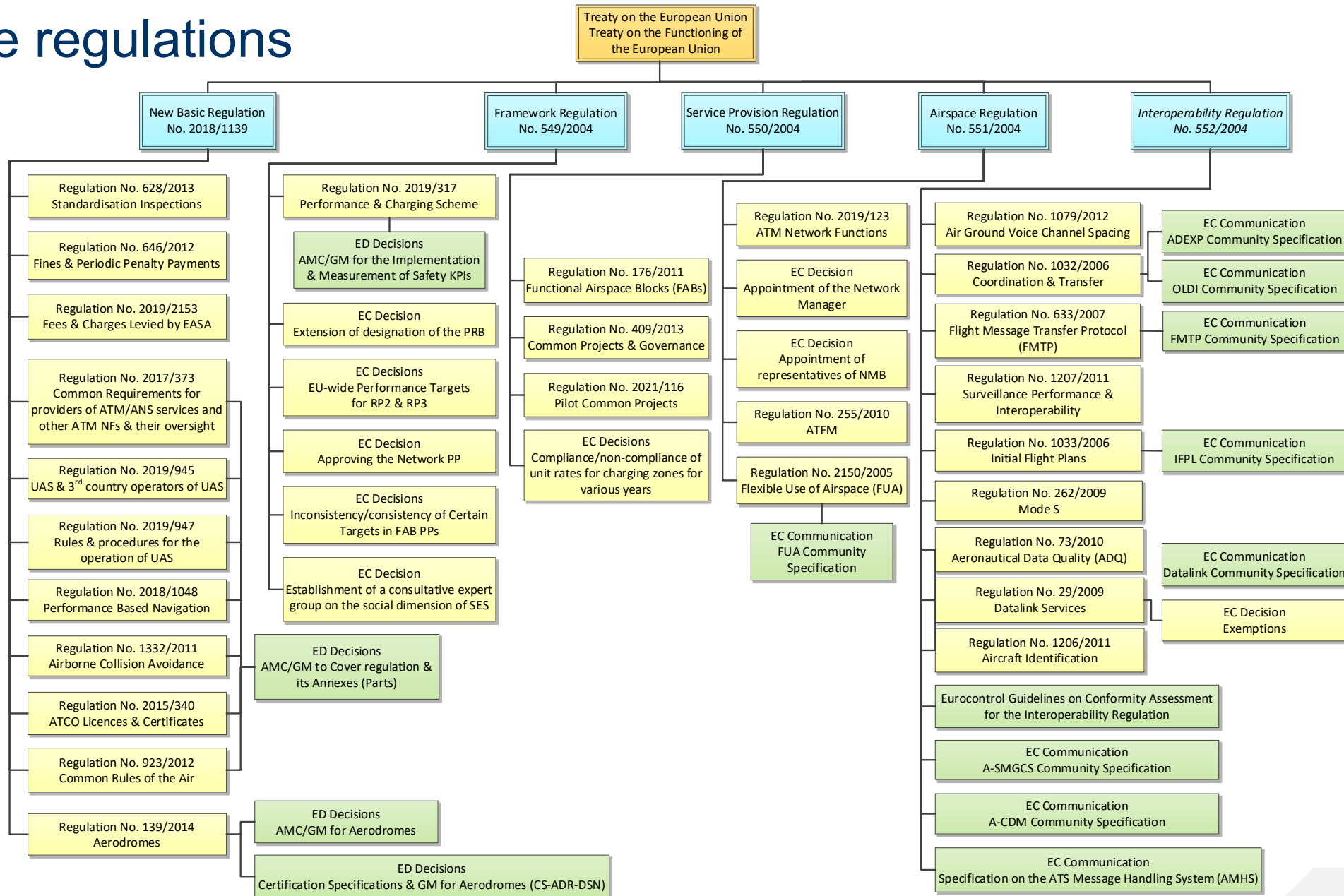


## Technology

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



# The regulations



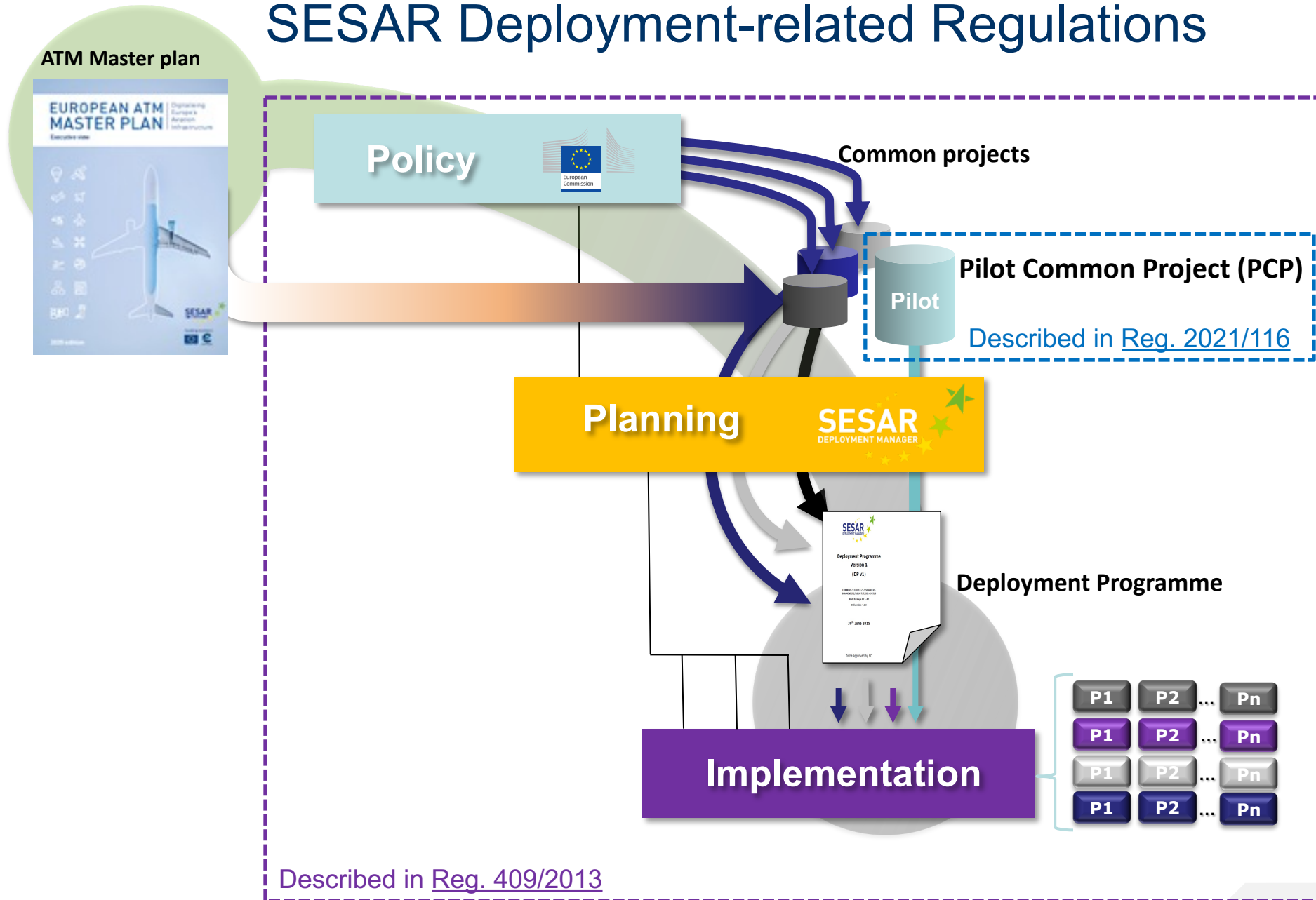
# Performance Scheme (PS)

- IR in force: Reg. 2019/317
- Essential tool to achieve the performance improvements
- 4 KPAs – Cost-Efficiency, Capacity, Safety, Environment
- KPIs/PIs
- Binding EU-wide performance targets
- Fixed reference periods (5 years)
- Performance plans (PPs) to be developed by NSAs & by NM
- Review of PPs by EC (supported by PRB)
- NSAs & EC (supported by PRB) to monitor implementation of PPs
- Data collection (workflow)
- Reporting





# SESAR Deployment-related Regulations



# Broader European Policy perspective impacting ATM



# Master Plan as the strategic roadmap for deployment

- Council Resolution of 30 March 2009 requested the Commission “to present before the end of 2010 precise proposals (...) for the preparation and transition to the SESAR deployment phase emphasising its governance (...)”
- Article 3 of IR (EU) No 409/2013 of 3 May 2013 on common projects:
- “The updates of the ATM Master Plan shall contribute to **achieving the EU-wide performance targets and maintain consistency between these targets, SESAR deployment and SESAR R&D**”
- “The ATM Master Plan is the roadmap **driving** the modernisation of the European ATM system and **connecting SESAR R&D with deployment**. It shall be the **key SES instrument** for the seamless operation of the European ATM Network and the **timely, coordinated and synchronised SESAR Deployment**”.



The MP is a structuring document that coordinates and drives the modernisation of European ATM, securing stakeholders and industry engagement throughout the SESAR project

# Linking the Master Plan with the performance scheme: a tool for authorities and regulators

- **Commission IR (EU) No 2019/317**


- In their performance plans Member States provide information on their “*major investments*”, and their “*change management plans for the entry into service of major airspace changes or for ATM system improvements*” (Article 10(2)(i)).
- For the major investments, they should also provide justification on their relevance with reference to the Master Plan and the common projects (Annex II Para. 2.2 (b)(iv)), and this is submitted to Commission scrutiny (Annex IV, Para. 2,1 (d)(iv))

A performance plan is also a tool to identify and highlight the major investments that are deemed relevant against the Master Plan and common projects

- **Furthermore:**

- Article 22: “*Determined costs stemming from new ATM systems and major overhauls of existing ATM systems shall only be included in the cost base where those systems are consistent with the implementation of the European ATM Master Plan, and, in particular, with the common projects*”.

An investment in a new system or a major overhaul is eligible to charges recovery only if properly mapped to MP and/or a CP



MP is potentially a powerful tool for States to ensure effective oversight of their ANSPs’ investments and for the EC to monitor and steer the delivery of the SESAR Vision and AAS

# Achieving the Single European Sky

## EU Policies

## The ATM Master Plan



## Summary

- The ATM Master Plan is the roadmap towards SES Goals, setting a vision to achieve the **digital transformation** of European ATM, also supporting **short to medium term milestones** to mitigate the capacity crunch
- It has a **structuring** impact on both development and deployment activities running in parallel
- Technology development and deployment are directly hooked to the ATM Master Plan **performance ambitions** and to the **SES policy**