Royal Aeronautical Society Hamburg
11th November 2010
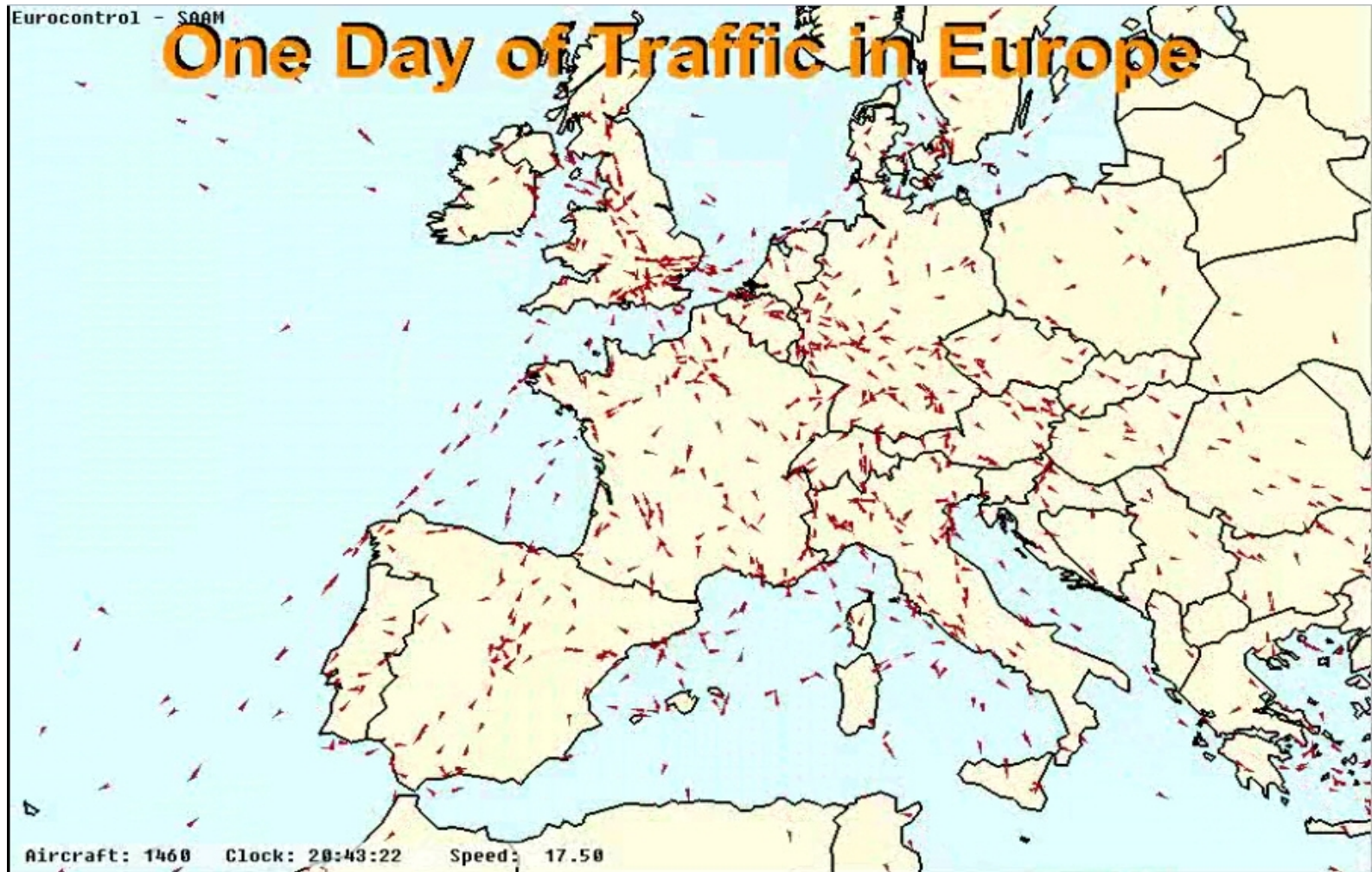
The Role of EUROCONTROL and the challenges ahead

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EUROCONTROL

One day's traffic

One Day of Traffic in Europe

Eurocontrol – SAAM

Aircraft: 1460   Clock: 20:43:22   Speed: 17.50

General Presentation   2

Air Navigation World
India/Europe/US/China/Russia/Brazil

		US	RUSSIA	CHINA	INDIA	EUROPE	BRAZIL
Geographic area (million km2) * = Sum of EUROCONTROL states		9.6	17.1	9.6	3.2	**6.3***	8.5
Number ACCs	Upper Airspace	18	97	22	11	**68**	5 4 Continental 1 Oceanic
	Lower Airspace			28			
Future ACCs	Upper Airspace		13	8		**FAB ?**	
	Lower Airspace			19			
Evolution traffic from Europe	2008-2009	-9%	-9.75%	-10.1%	-8.3%	**-7.1%**	-10.5%
	Forecast 2010-2016 [Yearly Average]	2.1%	12.9%	18.4%	19.5%	**2.2%**	1.9%
Air Traffic Controllers		14,000	6,800	4,000	1,400	**16,800**	4.000
Number of 'Top 100 airports'		50	1	4	2	**24**	1

Source: EUROCONTROL

General Presentation   3

Today's ATM situation in Europe

- Highly fragmented airspace

- Suboptimal route network

- Ageing technologies

- Significant environmental impact

- High ATM cost

- High level of safety

- Economic downturn

Single European Sky Legislation

- SES I package introduced by EC 2004
  - Main focus on ATM capacity and ATM Safety
- SES II package introduced by EC 2009
- Greater emphasis on:
  - Performance
    - Flight efficiency
    - ATM Cost efficiency
    - Airports
  - Environmental issues
  - Better Regulation

General Presentation   5

Single European Second Package

SAFETY

Guarantee to flying public the highest safety standards

ENVIRONMENT / FLIGHT EFFICIENCY

Ensure environmental performance of aviation, apply ETS

PERFORMANCE

Provide the most performing infrastructure to all users (commercial, general aviation, military, integrate "new")

FRAGMENTATION / COST EFFICIENCY

Work towards a seamless single sky

SESAR and SES:
The Only Game in Town for Europe

Crisis impacts priorities and trade-offs, not need for change

- **Traffic forecast to double by 2030**
- **Significant performance improvements are required**
- **Issues: ATC pushed to its limits; obsolescent technologies; airspacefragmentation**

Needs:

- **Turn off** fragmented approach
- **Accelerate** evolution in response to challenges
- **Synchronise plans and actions**
    - **from research to operations**
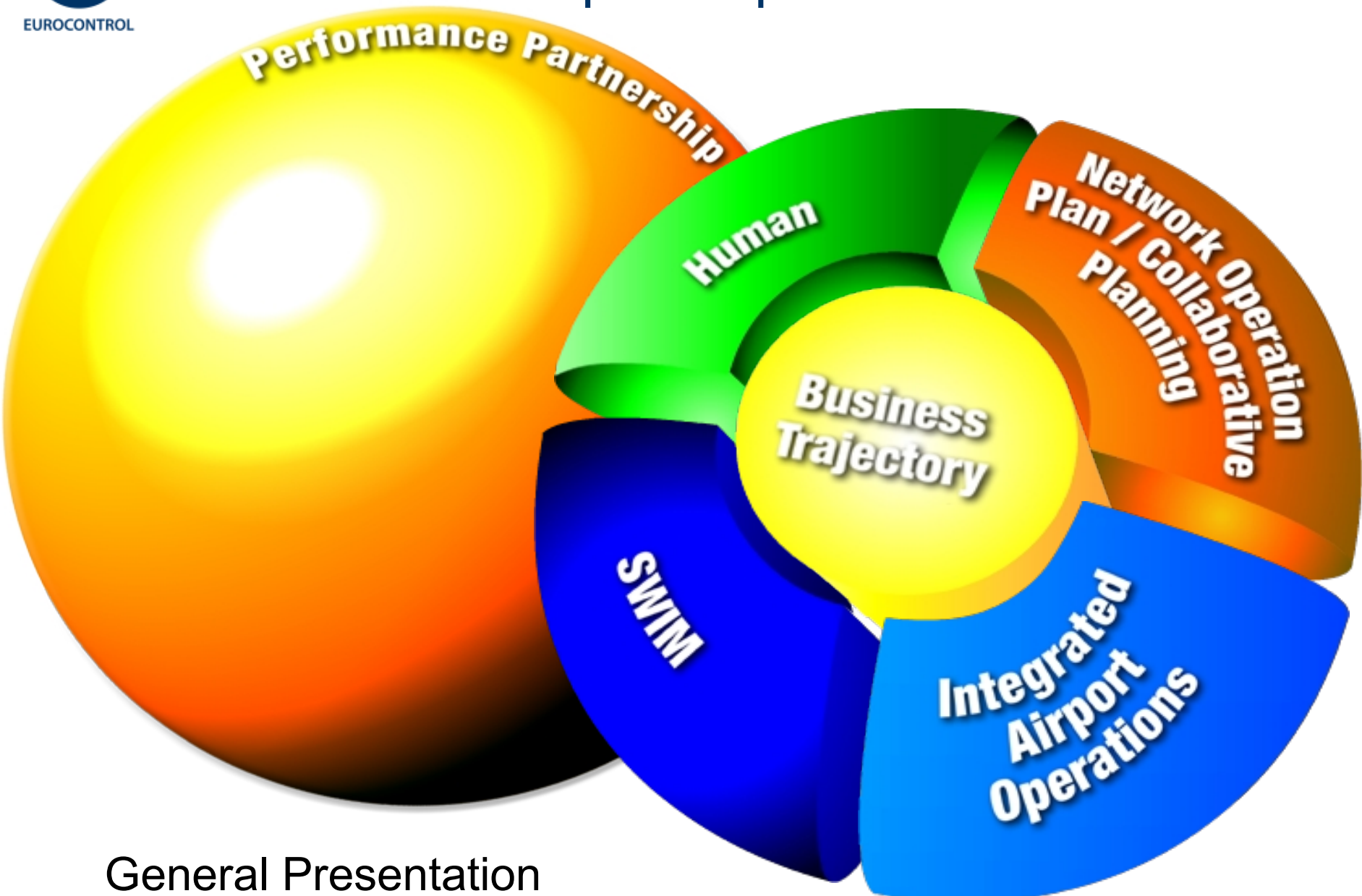   - **airborne and ground deployments**

SESAR

- **Technical/operational arm of the Single European Sky legislation**
- **Direct involvement of aviation industry in all phases**
- **Address European needs and Global interoperability**

General Presentation

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Concept of Operations

Performance Partnership
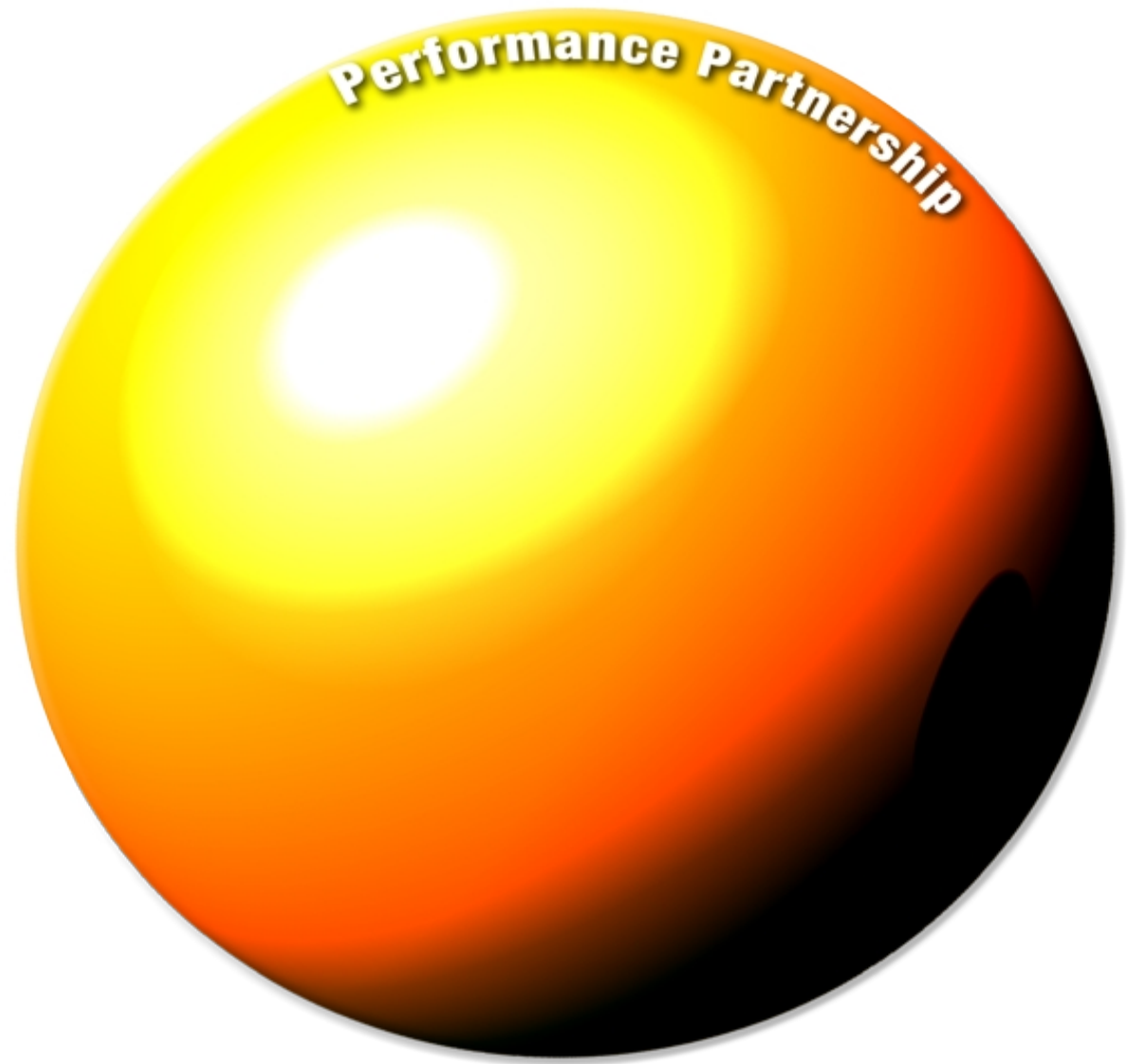
Concept of Operations

General Presentation

Concept of Operations

• **Human central in the system as manager and decision-maker**
• **Enhanced automation, e.g. at remote towers**
• **New separation modes**

• **Starting in strategic planning phase**
• **Continuous in the "Network Operations Plan"**
• **Dynamic airspace design & management**

• **Performance is the collective result of the decisions by interdependent actors throughout the network**
• **Partnership is required**

• **Trajectory: the common object of decisions**
• **Defined in 4D, gate-to-gate, including turnaround operations**
• **Executed as close as possible to owner's intention**
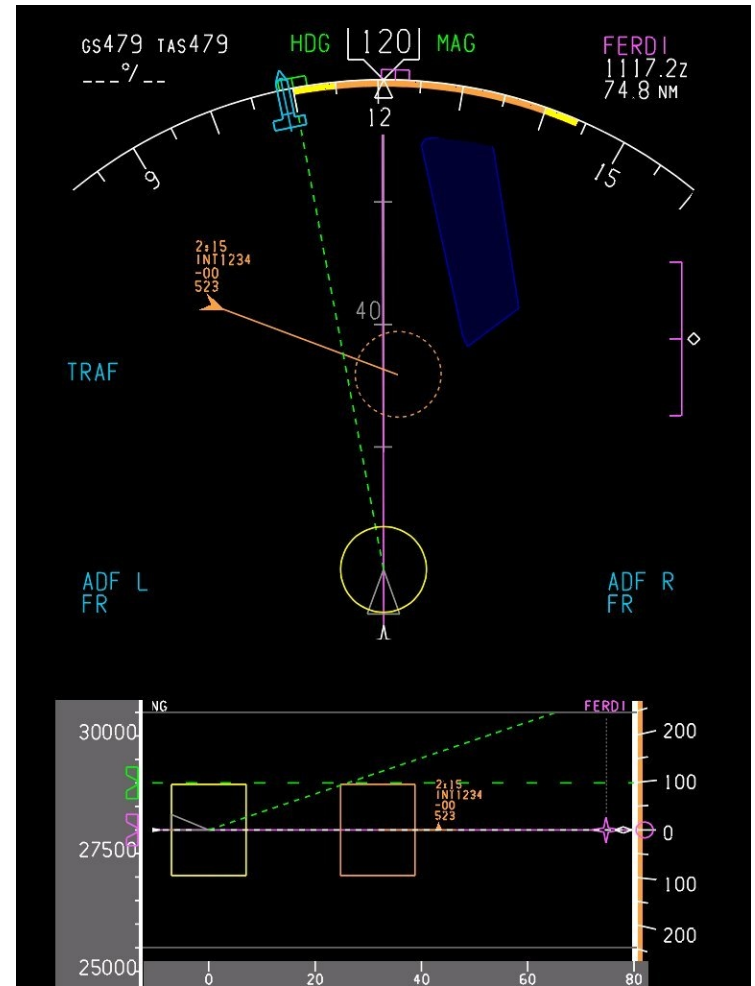• **User-preferred routing (except where capacity requires structured network)**

• **Need to share accurate information**
• **Trajectory exchange, incl time reference**
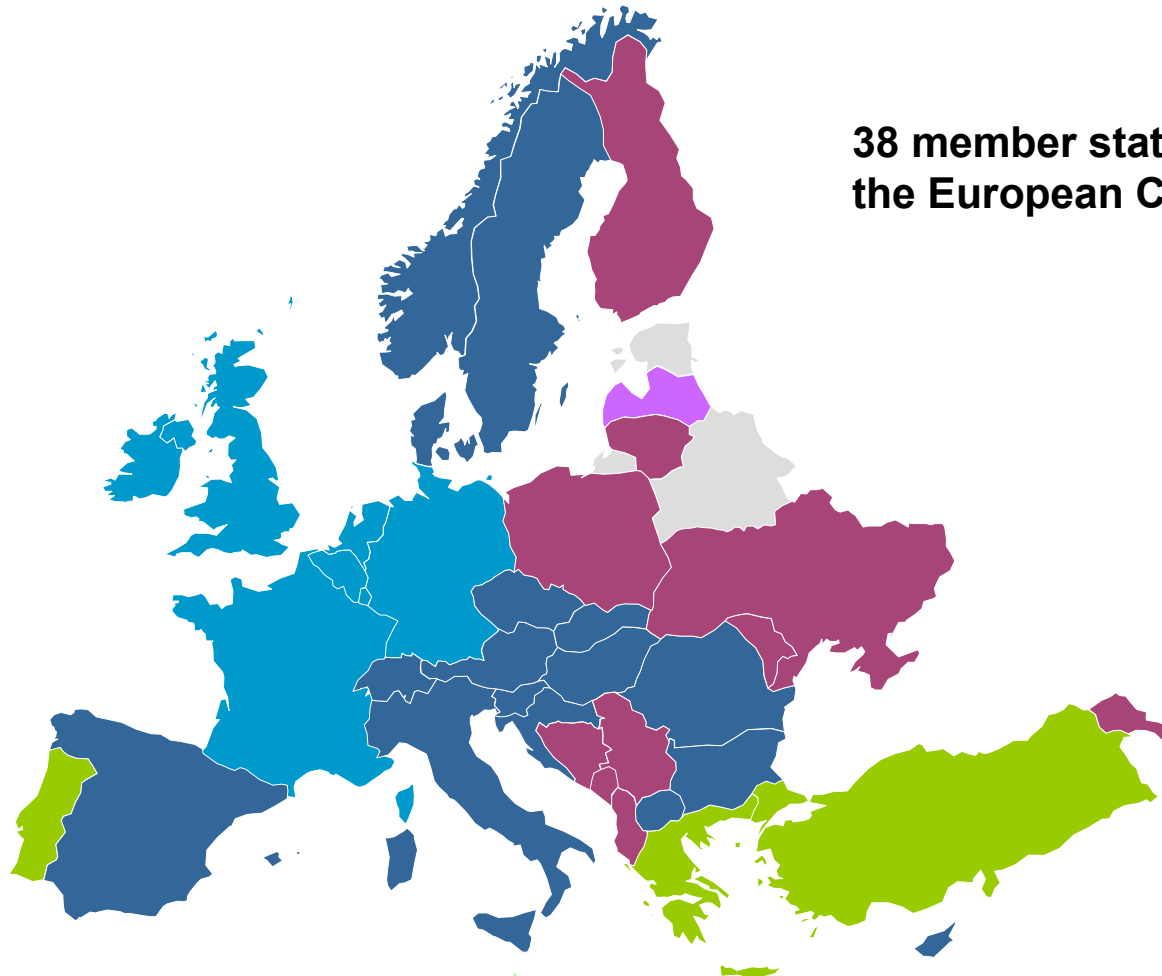• **System Wide Information Management**

General Presentation

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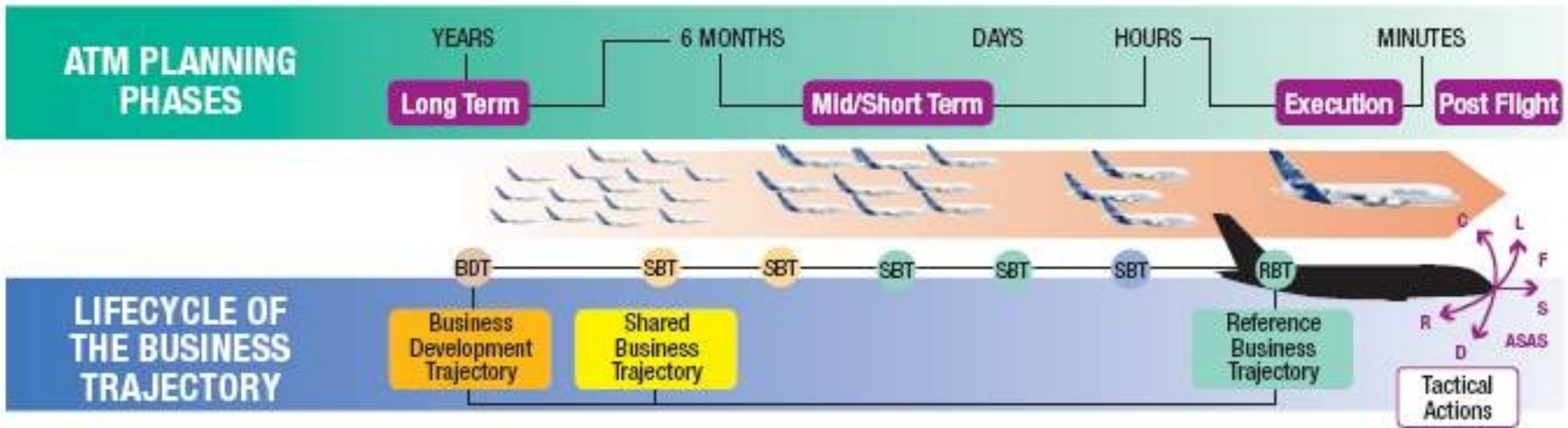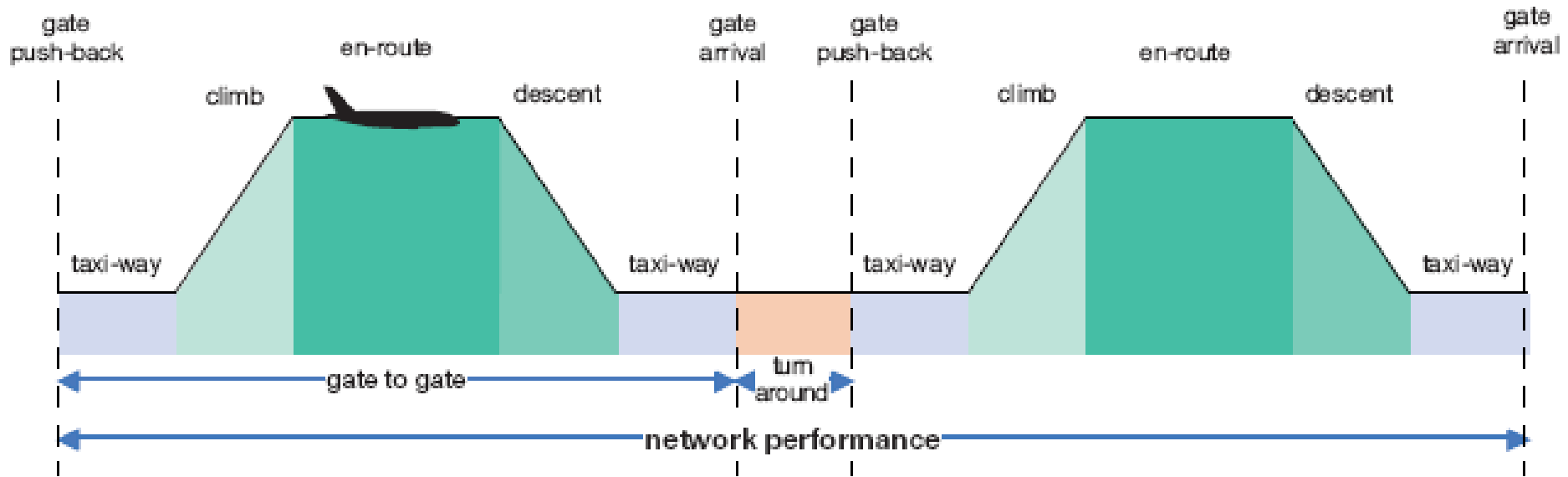
Concept of Operations

EUROCONTROL - History

1960s

1980s

1990s

2000s

Next

**38 member states &
the European Community**

EUROCONTROL members
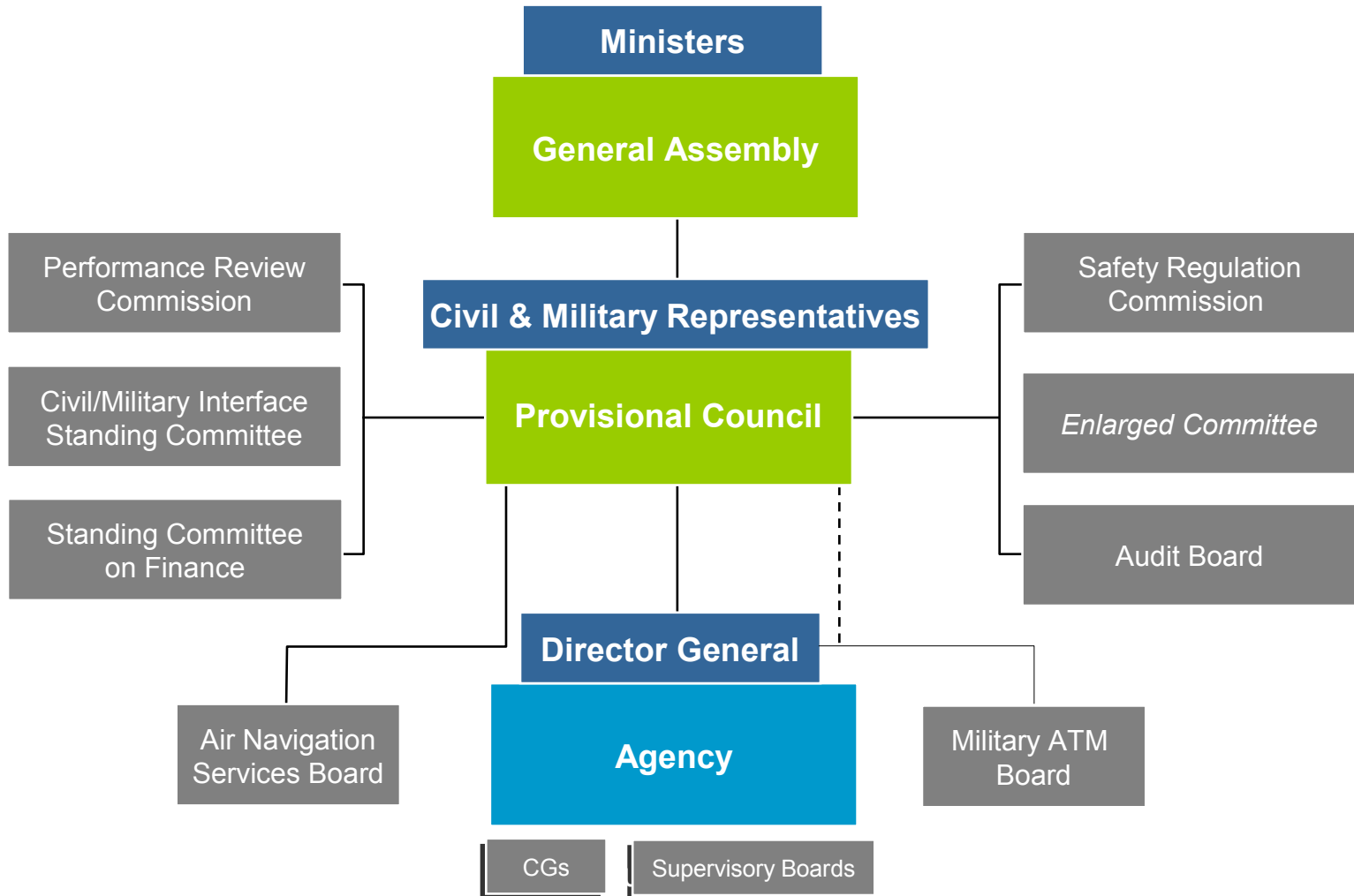

EUROCONTROL & EU
EUROCONTROL but not EU
Latvia - joining
Estonia
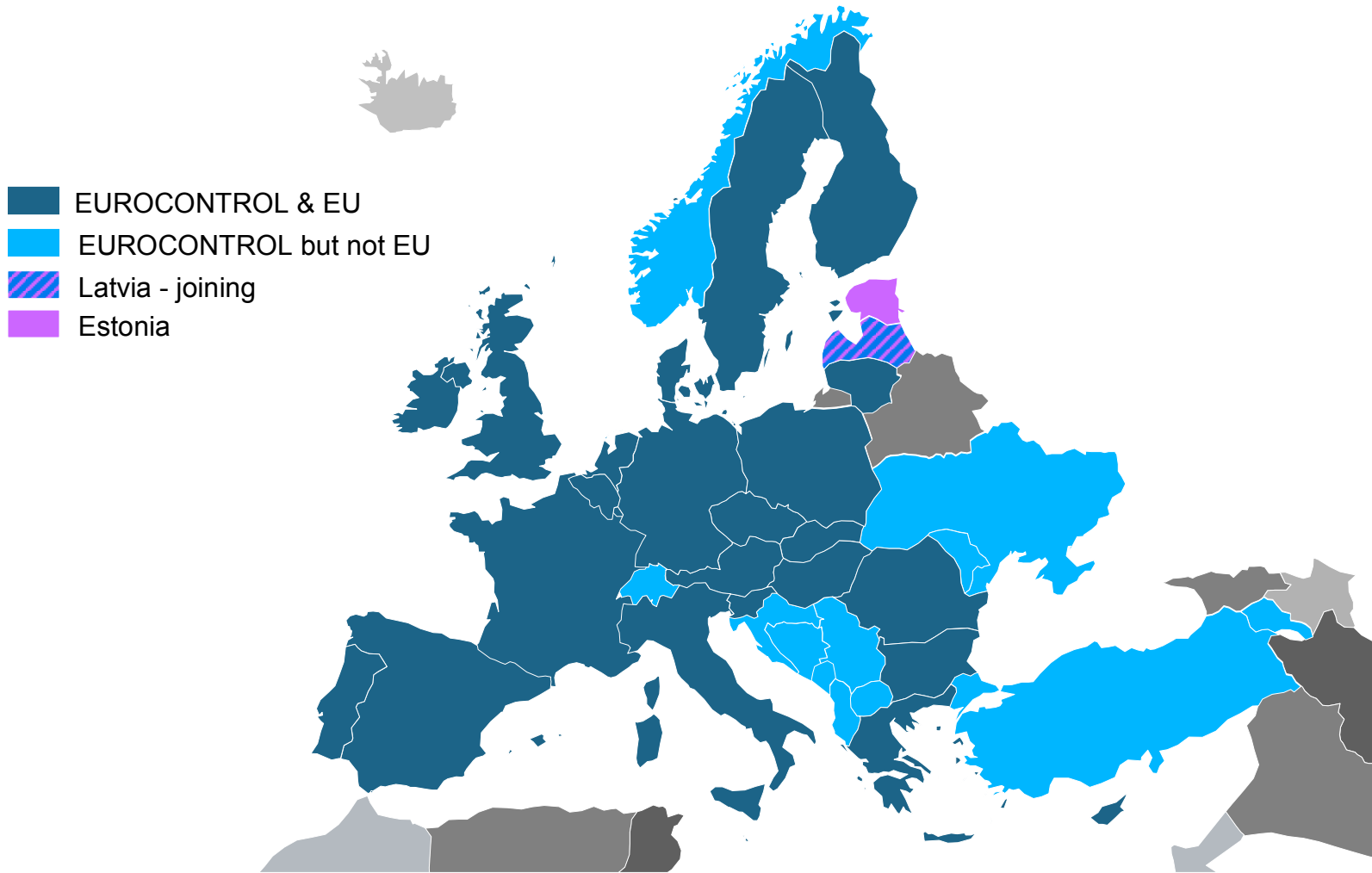
ATM in Europe - historically

States

EUROCONTROL

NSAs Regulate
ANSPs Operate

(Regulate)
Research
Operate *(Network)*
Coordinate

General Presentation

EUROCONTROL: Structure

```
                        Ministers
                     General Assembly

Performance Review                              Safety Regulation
Commission          Civil & Military Representatives   Commission

Civil/Military Interface  Provisional Council   Enlarged Committee
Standing Committee

Standing Committee                              Audit Board
on Finance
                     Director General

Air Navigation          Agency          Military ATM
Services Board                          Board

                CGs    Supervisory Boards
```

General Presentation   16

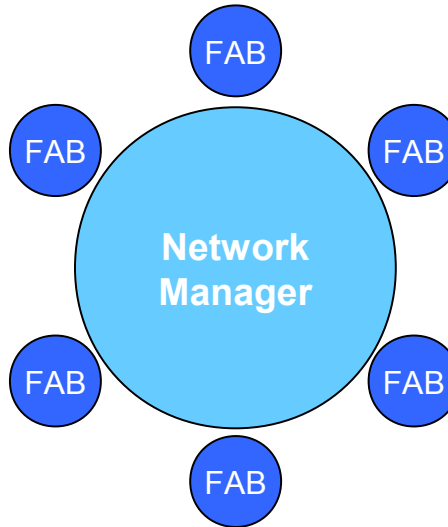# ATM in Europe – looking forward
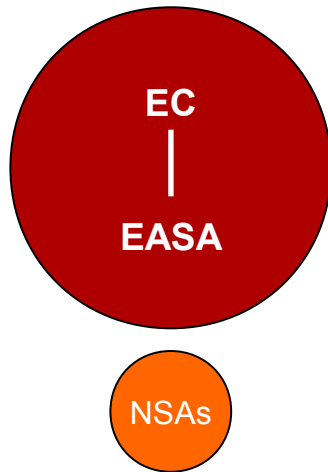
Regulate   **Operate/Coordinate**   **Research**
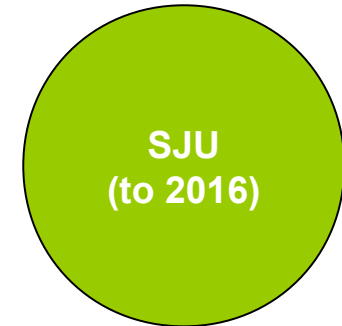
EUROCONTROL role

Technical support	Network management	Founding member
Performance review	Deployment coordination	Major contributor
	Route charges	Longer term research

EUROCONTROL Agency strategic objectives 2011-15

Delivery

- Network Mgt functions and pan European services
- Support ATM industry in delivery of SESAR JU programme
- Provide technical support to EU, EASA and states in development of a regulatory framework
- Deliver pan-European route charges collection services
- Provide regional ATS at Maastricht and support its intergation into FABEC

Modernisation

- Complete financial and structural reorganisation of agency
- Support EU and other stakeholders in developing European ATM research framework post SESAR JU (2016)

Efficiency

- Assist SES II performance monitoring process

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Objectives of the modernisation project

EUROCONTROL is preparing itself for designation by the EC on SES II

- On the Performance Review Body
- On Network Management
- On technical support to policy-making

With extension of SES benefits to all EUROCONTROL Member States, encompassing civil and military

This will be done through separation between the 3 pillars

- Separation service provision vs regulation/regulatory support
- Independent decision-making, specific governance
- Considering transversal areas where necessary to maximise efficiency
- Over time, separate funding streams

Whilst maintaining a constant cost-base from 2008 - 2012

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EUROCONTROL – New Structure

SINGLE SKY

NETWORK MANAGEMENT

SESAR and RESEARCH

Route Charges

Maastricht Upper Air Centre

Corporate

General Presentation

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SESAR Directorate - Objectives

- Represent the interests of EUROCONTROL in the SESAR programme

- Deliver the Agency contribution as agreed

- Support the transition of improvements from development to deployment

- Co-ordinate the ATM Master Plan updates

- Ensure excellence in SESAR delivery

General Presentation   21

SESAR Joint Undertaking

- Public-private partnership to manage the SESAR Development Phase
  - Execute the European ATM Master Plan
  - One single ATM R&D programme in Europe
    - Innovation from private sector
    - Public financial stability & enforcement power
- Founding members: European Commission & EUROCONTROL
- 15 industry members

  - + 13 Associate partners
- Active airspace users participation, incl. EBAA/Netjets/Dassault
- Additional partnership under discussion

General Presentation   22

EUROCONTROL's role in SESAR

- EUROCONTROL is a founding member of the SJU

- Agency Contribution to S-JU activities agreed by EUROCONTROL Permanent Commission: circa 700M€ in total

  - **In-kind (535 M€)**
    - In majority staff efforts as work package/project contributor/leader
      - working in partnership with the SJU members
      - sub-contracting for complementary studies, tools/facility developments
    - Programme Support Office at SJU

  - **"Cash" (165 M€)**
    - Cash transfer to SJU for co-financing members in WPs (C, 7, 13, 16)
    - Agency contracts on behalf of S-JU for
      - Participation of airspace users, staff associations & military
      - Airline/Wing Operations Centres & Meteorological Information Services (WP 11)
      - Long term & Innovative Research (WP E): research projects & networks (academia, SMEs and industry)
    - Participation to SJU running costs, provision of IT and admin support

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Directorate Network Management - Objectives

- Implement the Pan-European Network Management Functions

- Meet the SES II performance targets for Network Management

- Deliver operational services

- Develop a coherent Network Management work programme

- Ensure effective co-ordination of network deployment

- Provide other services as agreed

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Directorate Network Management (DNM)

Key drivers

- **To get the buy in of industry
through a new enhanced governance with industry**
Clear governance, funding and working arrangements

- **To ensure separation between "support to service provision" and regulations**
Clear accountability of tasks and resources of the NMD

- **To apply the principle of subsidiarity in an efficient partnership with the industry**
Ensure the Network coherency of FABs implementation

- **To enhance the operational partnership with "Airports"**
Ensure the performance achievement from a "gate to gate" perspective

- **To define a new efficient and transparent structure**
Reorganise CFMU and part of CND activities in a new directorate (NMD)

- **To allow the Agency to be designated as**
Network Manager

General Presentation

Directorate Network Management (DNM) Main Functions

➢ Operational partnership with ANSPs/FABs, Airports, Users, Military inside a regulatory SES framework defined by SES NM IR

➢ Main Functions:
   Service Provision Support entity

- Network Operations Management

   o Network planning & optimisation
   o Network Operations (ATFCM, FPL, EAD, Airports)
   o Operating and upgrading of Network technical systems
   o Performance monitoring, reporting to regulatory oversight bodies

- Network Management Functions - Frequency and code management

- Support to Deployment and synchronisation

   o Support to deployment and synchronisation IP1 implementation

- Development & maintenance of services on request

   o Surveillance e.g. ARTAS,
   o Other support services (UPP) on request of stakeholders

- Training

General Presentation   26

Directorate Single Sky - Objectives

- Establish PRB Support function

- Provide technical support to EASA

- Support EC and Member states regarding rulemaking and standardisation

- Support maintenance of European ATM Regulatory Roadmap on behalf of EC

- Provide Regulatory support to States and NSAs as requested

- Provide civ/mil ATM co-ordination in support of regulation

- Provide support to EC and Member states on aviation environment issues (Including ETS Support Facility)

General Presentation   27

Network Performance Regime

- **Main feature**
  - Key Performance Areas (KPA) and Indicators
    - On safety, the environment, capacity and cost-efficiency
  - European targets
  - National/FAB Performance Plans
  - Periodic review, monitoring and benchmarking
  - Performance Review Body to assist the EC

- **European and local targets set for three to five years**
  - Reference Period 1: 2012-2014
  - Reference Period 2: 2015-2019

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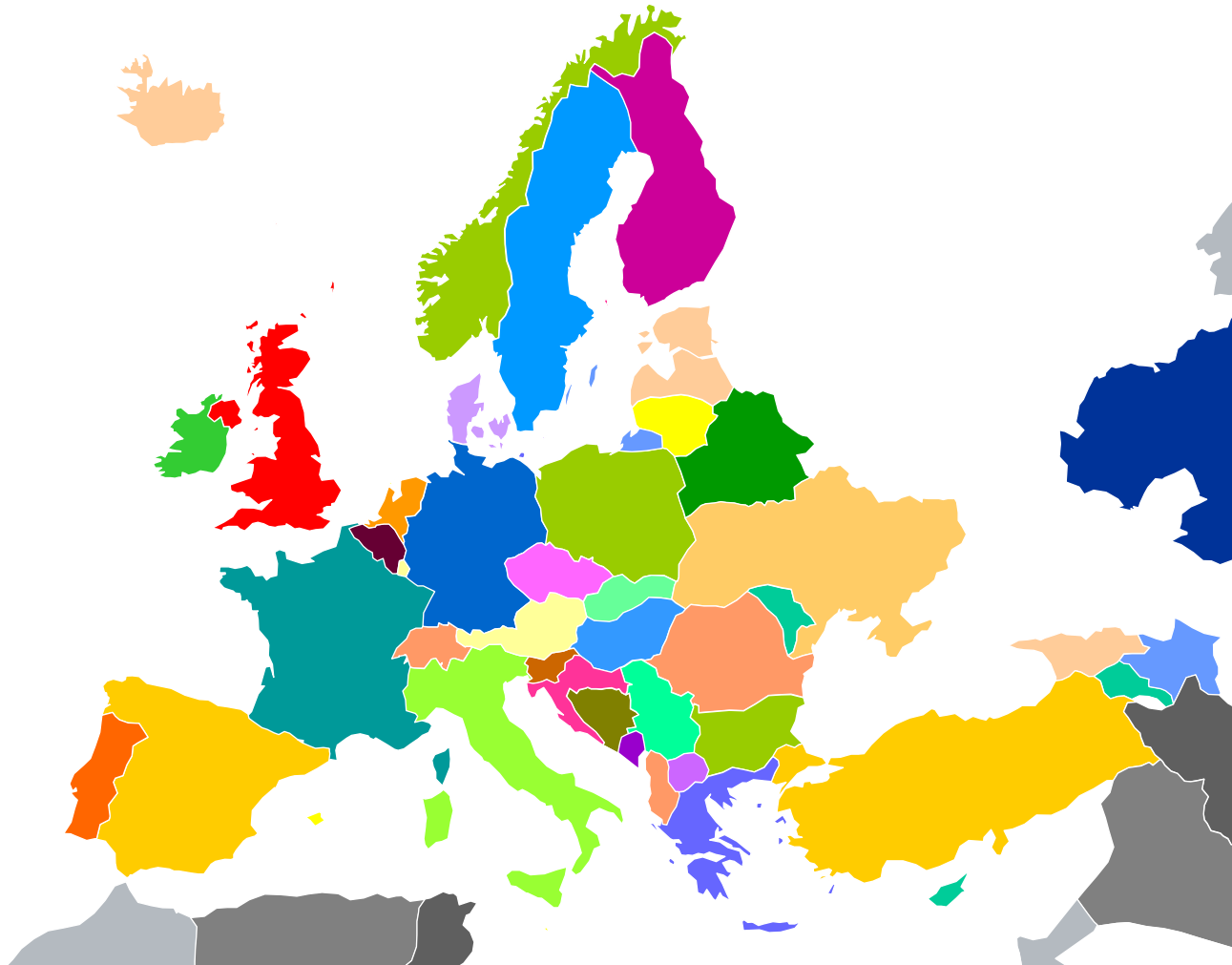
Fragmentation

Defragmentation - FABs
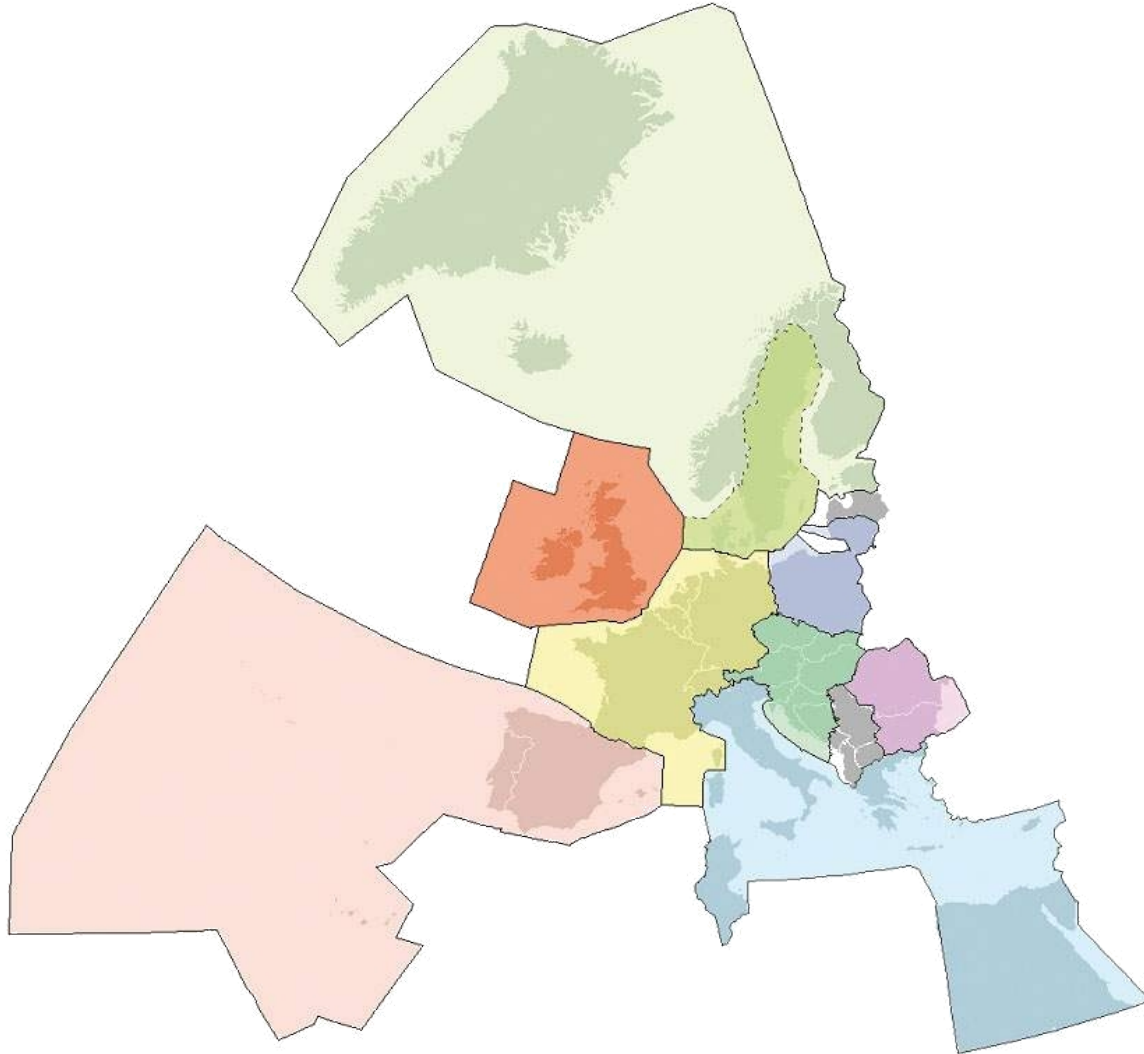
General Presentation

EUROCONTROL – New Structure
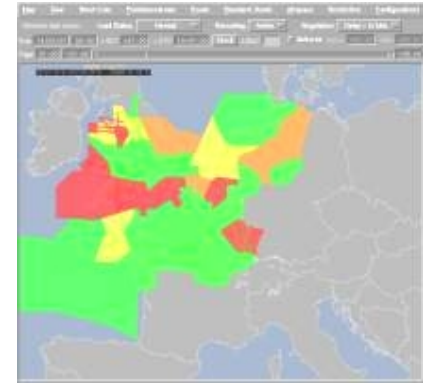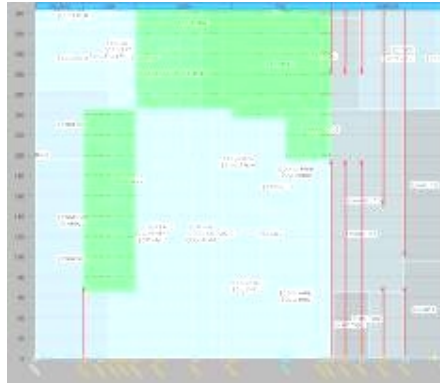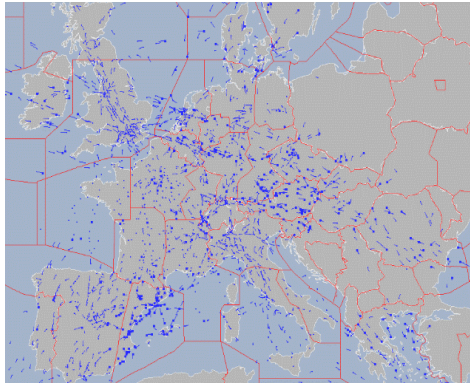
SINGLE SKY

NETWORK MANAGEMENT

SESAR and RESEARCH

Route Charges

Maastricht Upper Air Centre

**Corporate**

CFMU at a glance

CFMU is a network management unit for European Air traffic

With a NETWORK performance objective

Will be a key actor for Network management functions to contribute to the achievement of SES performance objectives

Maastricht Upper Air Centre

- 260,000 km² extending over Belgium, the Netherlands, Luxembourg and North-West Germany

- 1.4 million flights controlled (2009)

- Annual costs (2009): € 134M

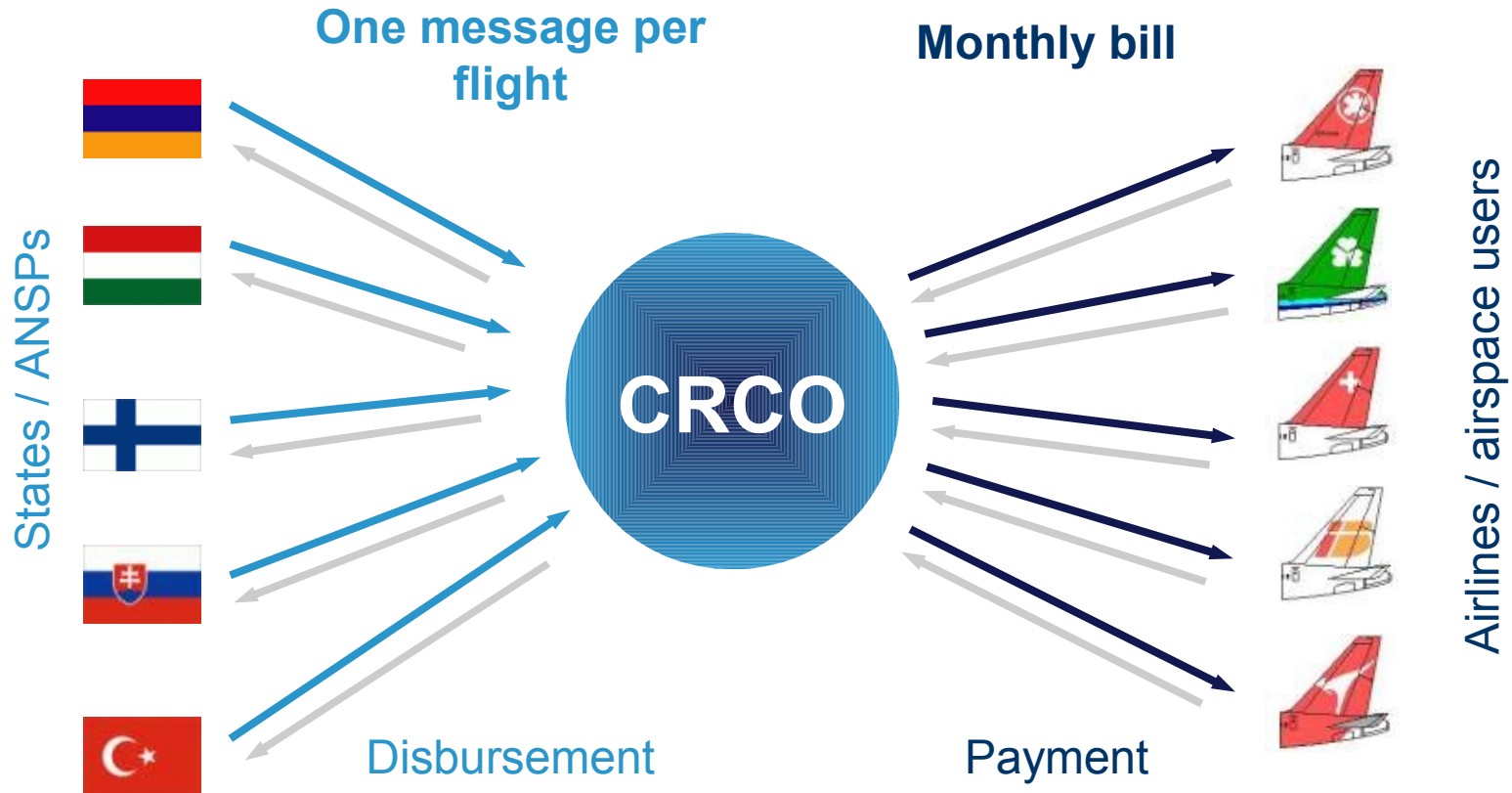- Annual route charges generated (2009): € 374M
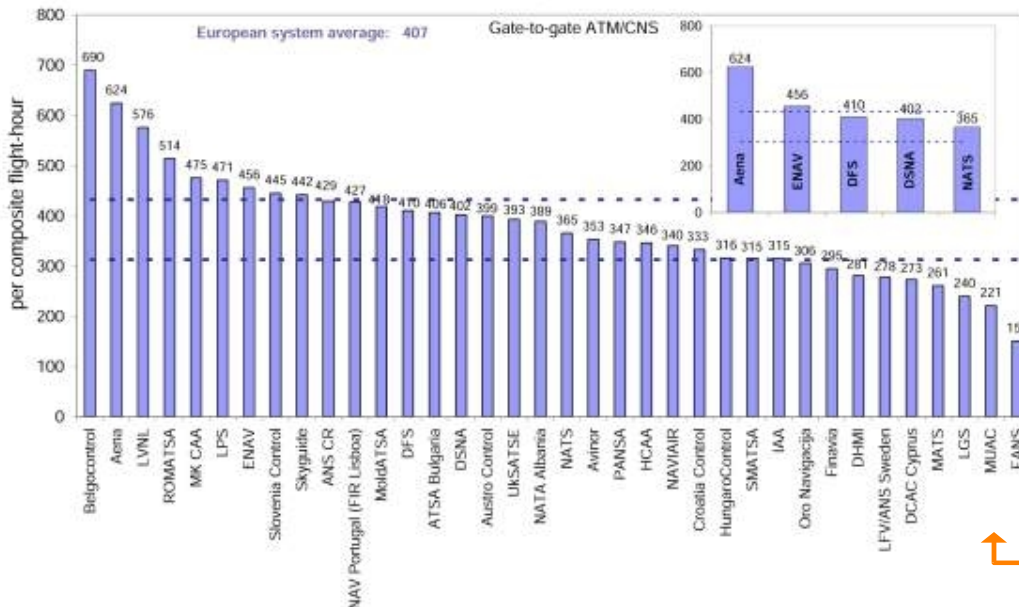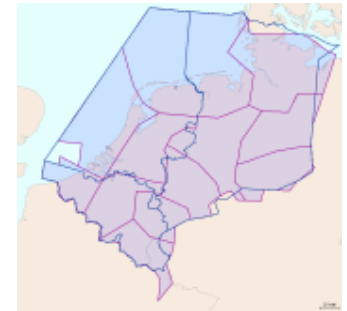
- 2nd largest control centre in Europe

- 6th largest ANSP in Europe

- Highest productivity in Europe

One of the most cost-effective ANSPs

Central Route Charges Office

- Collects air navigation charges on behalf of States across Europe
  - En-route
  - Terminal
  - Communication

- Pan-European service
  - Simple, equitable and transparent for airspace users
  - Quick, efficient and cost-effective for States/ANSPs

- Over 6 billion € collected annually

- Collection cost of approximately 0.3% of amounts billed

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The Route Charges System

One message per flight

Monthly bill

States / ANSPs

CRCO

Airlines / airspace users

Disbursement

Payment

Questions ?

EUROCONTROL