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The Role of EUROCONTROL
and the challenges ahead

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One day’s traffic

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

Source: EUROCONTROL
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
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

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

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

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
Concept of Operations
Concept of Operations

Performance Partnership

Network Operation Plan / Collaborative Planning

Human

Business Trajectory

Integrated Airport Operations

SWIM

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
Concept of Operations

General Presentation
EUROCONTROL - History

38 member states & the European Community
EUROCONTROL members

- EUROCONTROL & EU
- EUROCONTROL but not EU
- Latvia - joining
- Estonia

General Presentation
EUROCONTROL: Structure

General Assembly

Ministers

Civil & Military Representatives

Provisional Council

Performance Review Commission

Civil/Military Interface Standing Committee

Standing Committee on Finance

Safety Regulation Commission

Enlarged Committee

Audit Board

Director General

Agency

Air Navigation Services Board

Military ATM Board

CGs

Supervisory Boards
ATM in Europe – looking forward

Regulate

- EC
- EASA

Operate/Coordinate

- Network Manager
- FAB

Research

- SJU (to 2016)

EUROCONTROL role

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

General Presentation
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
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
EUROCONTROL – New Structure

- SINGLE SKY
- NETWORK MANAGEMENT
- SESAR and RESEARCH

Route Charges  Maastricht Upper Air Centre  Corporate
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
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
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
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
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
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
    - Network planning & optimisation
    - Network Operations (ATFCM, FPL, EAD, Airports)
    - Operating and upgrading of Network technical systems
    - Performance monitoring, reporting to regulatory oversight bodies

  - Network Management Functions - Frequency and code management

  - Support to Deployment and synchronisation
    - Support to deployment and synchronisation IP1 implementation

  - Development & maintenance of services on request
    - Surveillance e.g. ARTAS,
    - Other support services (UPP) on request of stakeholders

  - Training
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)
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
Fragmentation
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
The Route Charges System

One message per flight

Monthly bill

States / ANSPs

Disbursement

Payment

Airlines / airspace users

General Presentation
Questions ?