

ICAS Workshop 3rd October 2005

“Single European Sky”

Implementation Plan - SESAME

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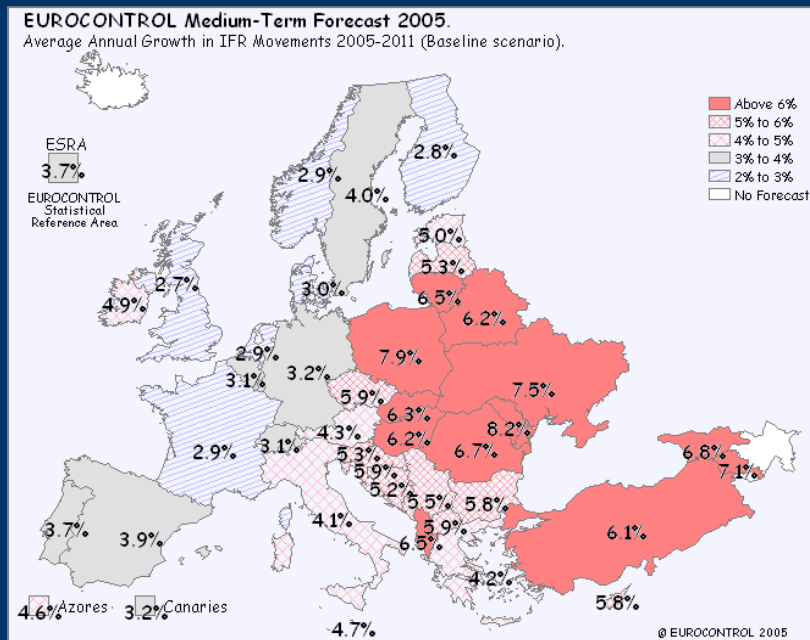
EUROCONTROL Experimental Centre, France

Director



Demand

- Aviation is in full expansion
- Traffic demand up by 5%
- Some Eastern European Countries with spectacular increases of 20% +



Growth 2005-2011



Single European Sky

- High Level Group 2000
- Proposals for Single European Sky 2001
- Conciliation concluded in 2003
- Legislation passed end 2004
- Memorandum with Eurocontrol (Implementing Rules)

- Commission in charge of implementation, supported by:
 - Single Sky Committee
 - Industry Consultation Body

Air Traffic Management Package

- Airspace
- Service Provision
- Charging regime
- Equipment (interoperability)

SESAME Background

The logo for SESAME, featuring the word "SESAME" in a bold, italicized, blue sans-serif font with a white outline, set against a white rectangular background.

Following Single European Sky Legislation

- Eurocontrol – AECMA (ASD) implementation road mapping
- Air Traffic Alliance – “DEPLOY” proposal to EC (SES implementation support)
- EC referral to Eurocontrol
- TEN-T proposal (SESAME Initiation *“was DEPLOY”*)
 - Accepted for funding by EC TEN-T committee
 - Single tender received by Eurocontrol
 - Negotiation complete – contract ready for signature
- Long term programme from late 2007 – EC funded

A European ATM Master Plan To Unlock Air Transport



Converging analyses & initiatives from Industry, EC & EUROCONTROL

Needs:

- Turn off the fragmented approach
- Accelerate European ATM evolution & respond to Air Transport challenges
- Synchronise & integrate plans from research to operations
- Synchronise airborne and ground deployments

SESAME

EC initiative to support Single European Sky (SES) technical/operational implementation, in addition to the regulatory framework

2 Phases:

- Definition of a European ATM Master Plan (→ mid-2007), geared to, & followed by...
- Implementation (2007-20)

ONE, Common Master Plan for Research and Implementation

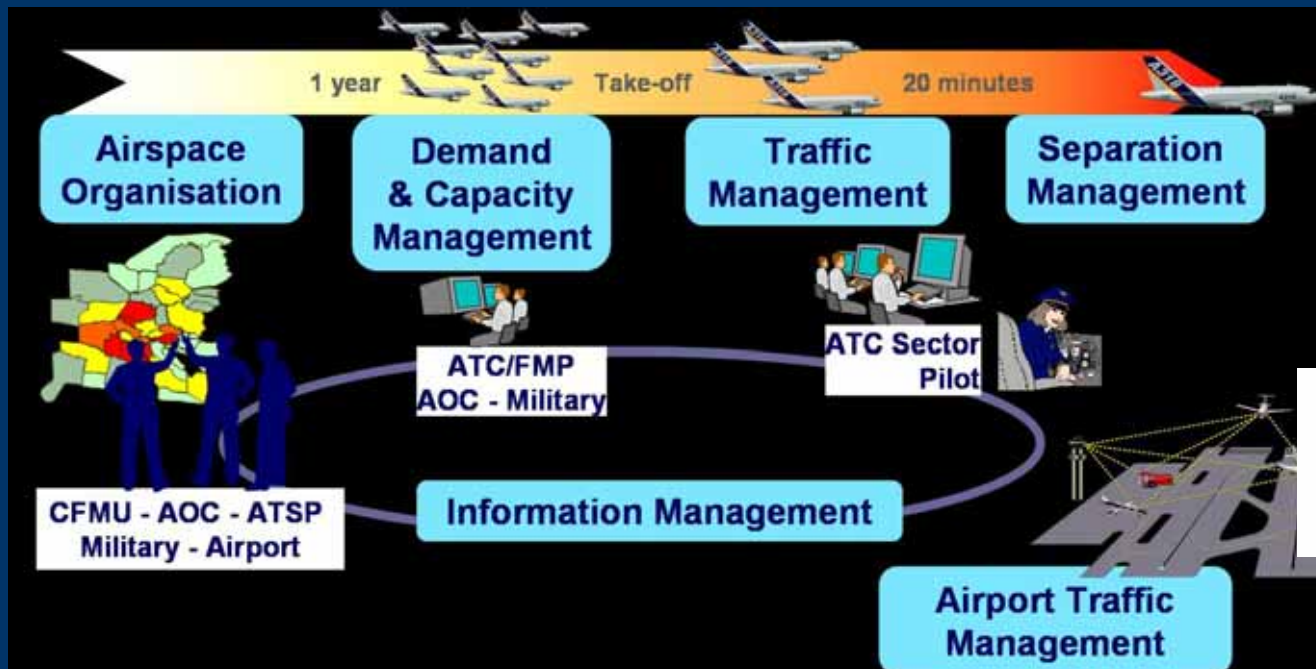
- ATM industry, operators & users, civil & military, together in defining, committing to, and carrying out the plan
- Based on future requirements & current plans
- Agreed change steps

Actions & means to make change happen

Concept Elements

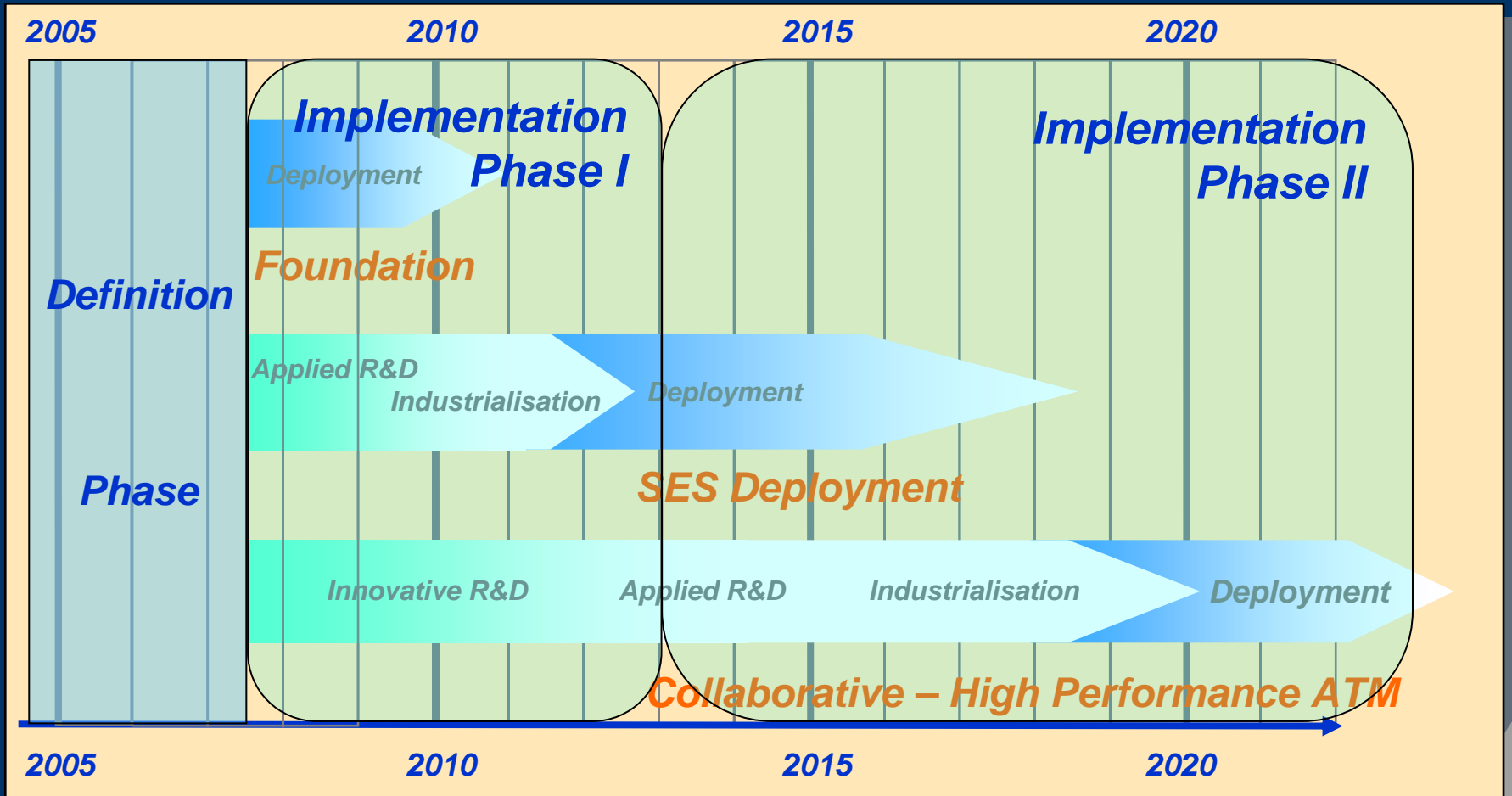
- ATM2000+ and Eurocontrol Operational Concept Document
+ Portfolio of concept and performance documents detailing an integrated ATM system

Operational Concept –
Vision for 2020
+ CATM HLOC
Concept of Operations
+ CATM Mode of Operation
Operational Requirements
+ CATM OSEDs
+ OATA Use Cases
Logical Architectural Model
Performance Requirements



SESAME

Addressing Different Timeframes



Building upon an evolving institutional & regulatory framework

Financing

- Initiation: 60 million Euro / 2 years (100% funding for industry consortium)
 - European Commission TEN-T
 - 30 Million Euro
 - Eurocontrol
 - 10 Million investment
 - 10 Million in kind (deliverables)
 - 10 million staff effort
 - 30 Million Euro
- Programme: Financing to be agreed

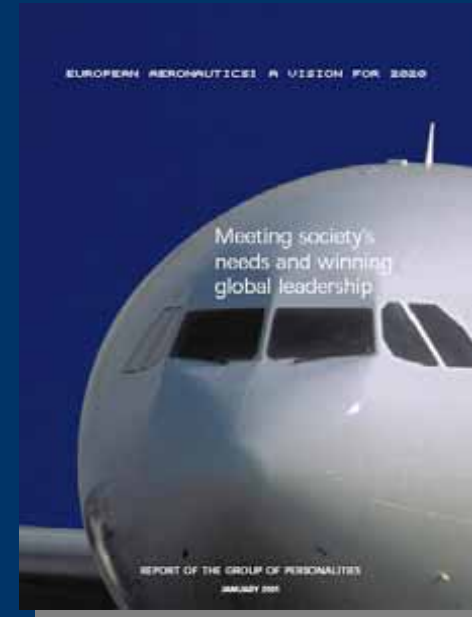
Opportunity

- Manage European Research according to SESAME
 - Joint Undertaking launched by EC
 - Targeted EC finance
 - Eurocontrol aligned accordingly
- ACARE SRA1/2 supported through the 7th Framework Programme from 2007
 - Joint Technology Initiative
- New working arrangements:
 - EATM - support of SESAME
 - Experimental Centre - strategic alliances



Looking for the Paradigm Shift “VISION 2020”

- ‘Group of Aeronautics Personalities’ goal for Europe
 - World class leader in the field of aeronautics.
 - Through:
 - Coordinated collaborative effort, strengthened and guided by a single shared vision & creation of a common framework for research and technological development.
 - To better serve the needs of European society:
 - Safety, Capacity, Efficiency, Flexibility & Predictability
 - Responding to issues of public interest including:
 - Noise & emission reduction, reduced travel delays & security.



The EUROCONTROL Air Traffic Management 2000+ strategy and the Vision 2020 are aligned together with the **ACARE** Strategic Research Agenda

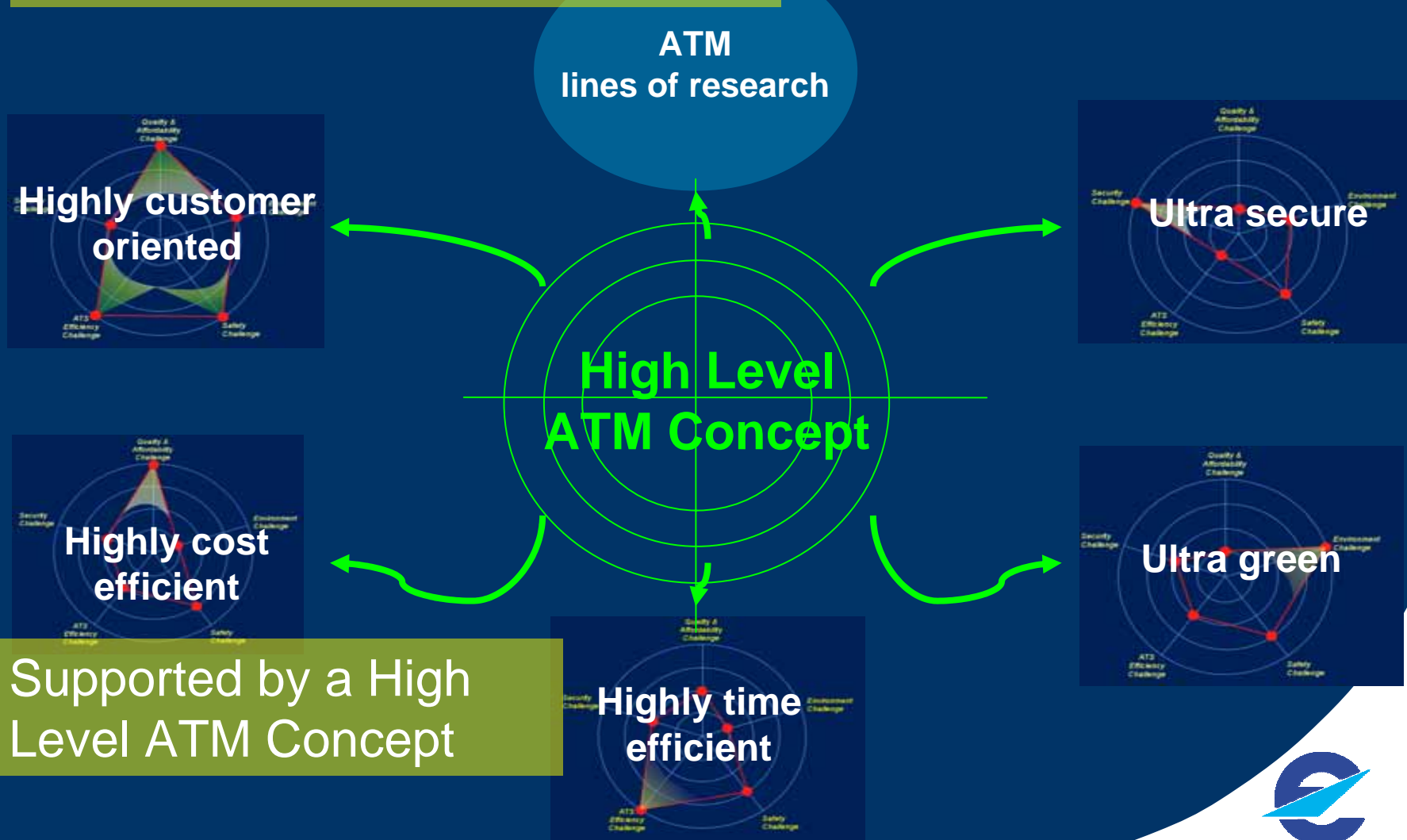


- Strategic Research Agenda 2 (SRA 2):
 - A holistic and integrated view of the European Air Transport System
 - Meeting societies needs whilst seeking global leadership
 - High level target concepts - extreme challenges for leading edge research
- ATM – a main pillar in SRA 2
 - Operational concept vision
 - Input to each “High Level Target Concept”
 - Lines of research
 - Air Traffic Management Challenge -
 - The key infrastructure baseline for the Air Transport System
 - Safely catering for 2 / 3 times traffic growth scenarios > 2020



ACARE

Five High Level Target Concepts



Supported by a High Level ATM Concept



- Main themes from the ATM concept: - searching for the “Paradigm Shift?” – challenge the “capacity wall!!”
 - Safety is “non- negotiable”
 - Modes of Operation
 - Dependent on Levels of Service
 - Density of Traffic
 - Exploiting
 - Network wide managed system
 - Integrated Air Ground approach - System Wide Information Management
 - 4D Trajectory Management and precision navigation
 - Aircraft Autonomous Operations / Airborne Separation Assistance System
 - Human System Automation Support – decision support tools
 - Exploiting Aircraft Communication and Navigation capability
 - Integrated Airport and ATM processes with environment considerations

Effect on European ATM - Safety

- Air / Ground integration – data exchange
- Autonomous Aircraft Operations – self separation
- UAV in civil airspace
- 4D Trajectory Management
- Ground system automation



Certification issues for both aircraft and ground systems



Leading, and Cooperating

- Europe - positioning as Leader, Competitor, and Innovator in global aviation
- But Global Cooperation required on:
 - Concepts
 - Standards
 - Systems
- Working with the US through Memorandum of Cooperation with FAA
- Working inside ICAO
 - ATM Concept
 - Performance based
 - SARPS ...

