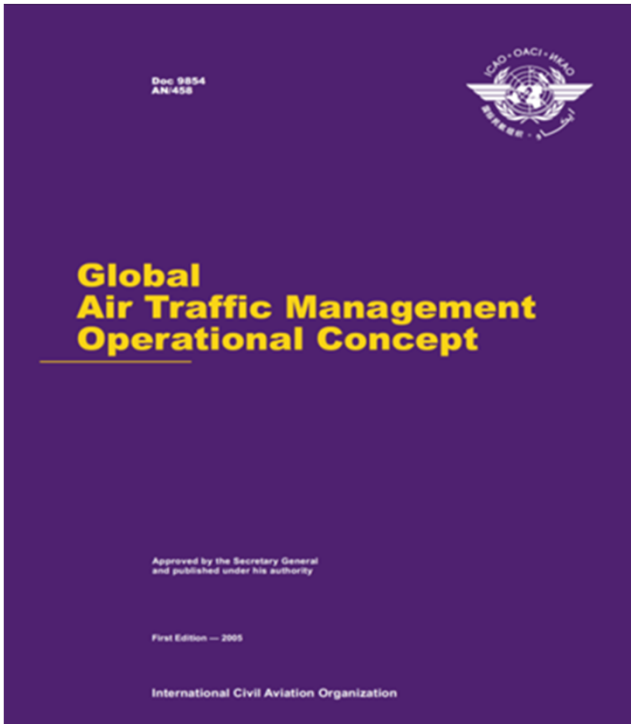
Airline Requirements

Introduction

- ICAO Doc 9854 – Global ATMOC
  - The global air traffic management (ATM) operational concept presents the ICAO vision of an integrated, harmonized and globally interoperable ATM system.



Fundamentals

Air Traffic Management

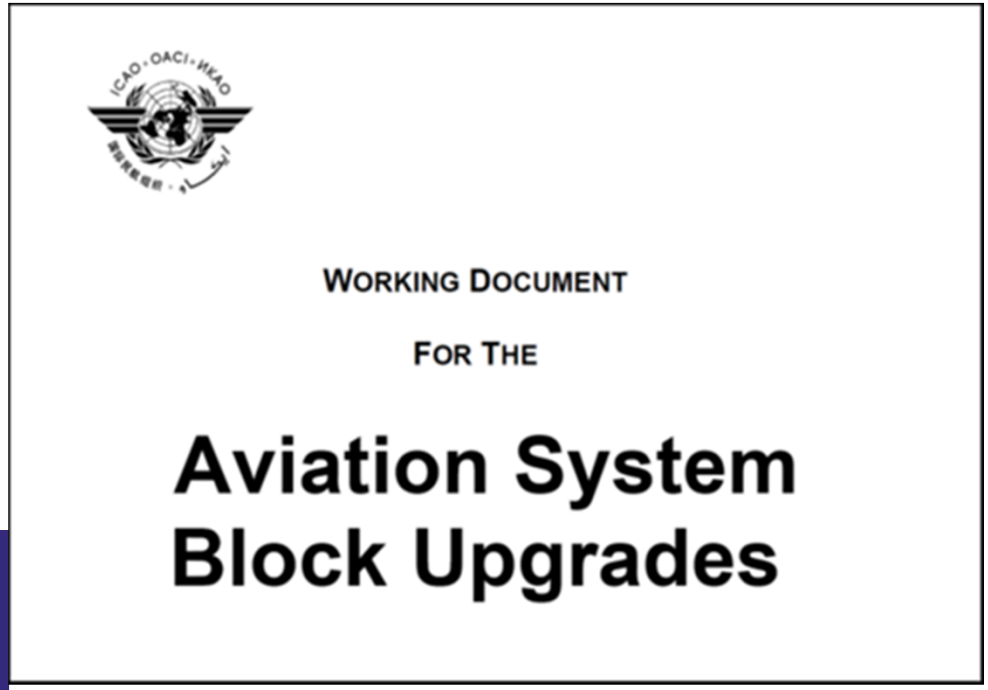
"the dynamic, integrated management of air traffic and airspace — safely, economically and efficiently — through the provision of facilities and seamless services in collaboration with all parties."

Driver for Change

"the driver for change must be ATM user expectations"

Foundation

- GANP
- ASBU
- RANP
- etc



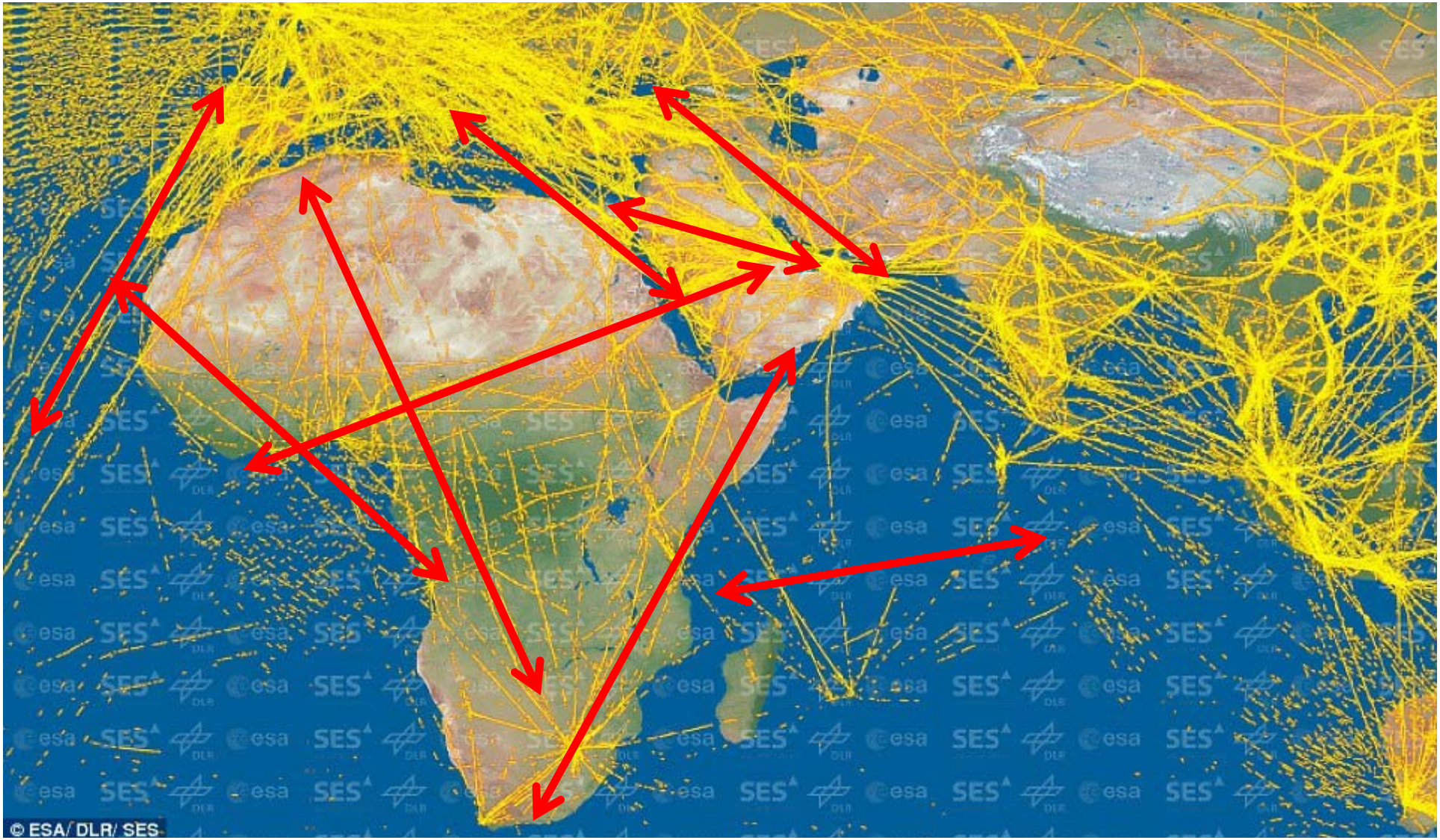
Airline Perspective

- Collaborate with Industry
- Promote / Support CBA
  - Supports investment
  - Justifies cost
- Reasonable time scale
  - Fleet refresh typically 5-7 years
- Progression of benefits

  e.g.
  - As available (early adopters)
  - Operational advantages
  - Best equipped, best served (peak only or H24)

AFI/MENA

AFI/MENA



User Requirements

- Intra-regional
  - Point to point
    - RNP
    - Uni-directional
  - COM/SUR
    - Continuous
  - CDM
    - Network Mgmt (e.g. LOA, RTA, GDP)
  - Seamless transition
    - Dynamic FIR

User Requirements

- Inter-Regional
  - Flexible routing
    - RNP
    - Entry/ Exit Points
  - COM/SUR
    - Minimal Intervention
    - Datalink
  - CDM
    - Network Mgmt (Dynamic re-routing)
  - Seamless transition
    - Dynamic FIR

User Requirements

- Airport
  - Segregated ARR/DEP
  - Baro-VNAV
  - Metering
  - AIXM

User Requirements

- Intra-regional
  - Point to point
    - RNP
    - Uni-directional
      - B0-FRTO Improved Operations through Enhanced Route Trajectories
        - RNP
        - Free flow
          - Uni-directional
          - De-conflict
  - COM/SUR
    - Continuous
      - B0-ASUR Improved Capability for Ground Surveillance
        - ADS-B/ SSR / VHF (Continental)
        - ADS-C/ CPDLC (Remote/ Upper Air)

User Requirements

- Intra-regional
  - CDM
    - Network Mgmt (e.g. RTA, GDP)
      - B0-NOPS Improved Flow Performance through Planning Based on a Network-Wide View
        - CDM with Neighbours
        - Virtual coordination
        - AIDC (OLDI)
  - Seamless transition
    - Dynamic FIR
      - B0-FICE Improved Interoperability, Efficiency and Capacity through Ground-Ground Integration
        - AIDC (OLDI)

User Requirements

- Inter-Regional
  - Flexible routing
    - RNP
      - B0-FRTO Improved Operations through Enhanced Route Trajectories
        - RNP
        - Connector/ Conditional Routes
        - Free Route Airspace (Time based/ Dynamic)
  - COM/SUR
    - Minimal Intervention
    - Datalink
      - B0-TBO Improved Safety and Efficiency through the Initial application of Data Link En-route
        - ADS-C/CPDLC (Upper Airspace)

User Requirements

- Inter-Regional
  - CDM
    - Network Mgmt (Dynamic re-routing)
      - B0-NOPS Improved Flow Performance through Planning Based on a Network-Wide View
        - CDM
        - Network Coordination
  - Seamless transition
    - Dynamic FIR
      - B0-FRTO Improved Operations through Enhanced Route Trajectories
        - FUA
        - Dynamic FIR
        - Free route airspace

User Requirements

- Airport
  - Segregated ARR/DEP
    - B0-CDO/CCO Improved Flexibility and Efficiency in Descent/Departures Profiles
      - RNP ARR/ DEP Corridors
      - Deconflicted
  - APCH
    - B0-APTA Optimisation of APCH Procedures including Vertical Guidance
      - Baro-VNAV (All)
      - RNP-AR (operational advantage)

User Requirements

- Airport
  - Metering
    - B0-NOPS Improved Performance through Planning Based in a Network-Wide View
      - CDM
      - GDP
  - CDM
    - B0-ACDM Improved Airport Operations through Airport-CDM
      - A-CDM
      - Stakeholder Engagement
  - AIXM
    - B0-DATM Service Improvement through Digital AIM
      - AIXM
      - Regional Cooperation
      - AIRAC Adherence

Key Short Term Targets

- AIDC
  - B0-FICE
- RNP
  - B0-CDO/ B0-FRTO/ B0-CCO/ B0-APTA
- CDM
  - B0-NOPS/ B0-ACDM
- AIXM
  - B0-DATM

Prioritisation

- Block 0 provides the framework

  but

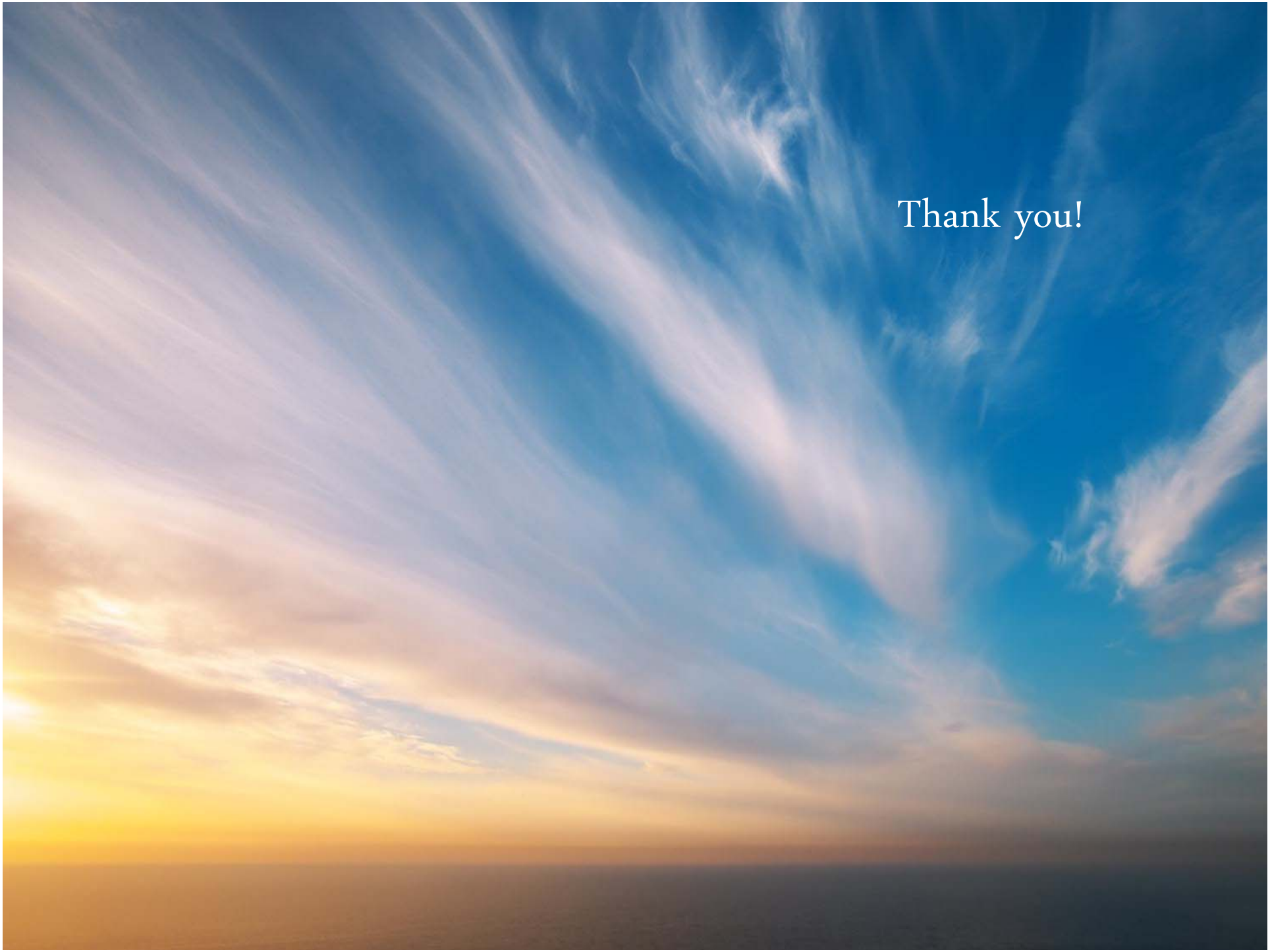
- Application needs to be appropriate for your environment
- Need to achieve the requirement
- CBA
  - Efficiency (Workload)
  - Safety
  - Cost/Value

Implementation

- Need to fulfill the concept/ principle not just implement a product/tool
- Keep it simple
  - Complete solution desireable but partial solution can be better than waiting
- Collaboration
  - Users/ Regulators/Adjacent Providers
- Phasing
  - Leading Edge/ Trailing Edge
- Biggest value result of cooperation

Summary

- Opportunities exist now
  - Component parts “what can I do today”
- Validate plans with involvement of users
- Coordinate with adjacent providers
- Communicate
- Support is there
  - ICAO
  - IATA
  - Other ANSPs
  - Airlines


Thank you!