Global Vision – The Future of ATM

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Shaping Asia Pacific ATM - Global Vision, Regional Action

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Traditional Approach to ATM

Providing a Safe, Orderly and Expeditious Service by

- Highly structured routes
- High levels of intervention
- Tactical separation management
- Local optimisation

Which results in a safe operation but with

- Limited flexibility
- Reduced predictability and resilience
- High levels of variability
- Different concepts and procedures
Challenge for ANSPs

- Delivering performance to satisfy customers & regulators
  - Safety
  - Service – delay; predictability; resilience
  - Value
  - Environment / fuel efficiency
- Compliance with regulations
- Deploy new capabilities on legacy systems or with new systems
- Striving to harmonise
What do we want for the Future

• New ways to deliver benefits for customers

• Short Term
  • Solutions to current challenges
    • Resilience; predictability
    • Safety hot spots
    • Small scale environmental improvements

• Medium Term
  • New ways to deliver ATM services
    • Airspace changes with PBN
    • Long term planning / 4D trajectories
    • Network optimisation
    • Air / Ground integration
    • Satellite Surveillance
    • Reduced controller intervention

• Long Term
  • Innovative solutions with practical applications
  • New ways to solve old problems
Vision for 2030

- Airspace & Procedures
- Network Management
- Trajectory Based Operations
- Traffic Synchronisation & Airport Integration
- Technical Capabilities
- Collaboration & Competition
Vision for 2030

Airspace & Procedures

- Consistent approach to airspace design
- High level flexible route airspace wherever possible
- Systemised airspace for busy terminal areas

Network Management

- Network performance optimised to maximise overall throughput and minimise delay
- Local decision making based upon shared information and de-centralised control
Vision for 2030

Trajectory based operations
- Preferred customer trajectories with minimal (human) intervention
- Strategic and tactical conflict free trajectory management with conformance monitoring
- Integration of airborne capabilities
- Delegated tactical separation
- Based on common worldwide standards

Traffic Synchronisation & Airport Integration
- Airport and airspace operations designed to optimise runway utilisation
- Airport and airspace operations integrated to support optimised sequencing with minimal delay
- Inter-centre interoperability to allow seamless end to end traffic management
Vision for 2030

Technical Capabilities
• Agreed data and interface standards
• Service Oriented Architecture
• System Wide Information Management
• Open architecture workstation
• Trajectory-based flight data processing
• Satellite Surveillance

Collaboration & Competition
• Efficiencies through industrial partnerships
• Sharing capabilities
• Co-operation between functional groups
• Political and economic imperatives
Vision for 2030

Summary

• Integrated global solution
  • Common solutions, standards and regulation
• Maximum flexibility, minimum control
• Constrained resources optimised for maximum network performance (airspace and airports)
• Local decision making based on common processes and shared information
• Seamless end to end operation based on user preferred trajectories with minimal intervention

Created through greater Collaboration and Competition