

# Dave Allanby GM Operations



SOUTH AFRICAN EXPRESS



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ACCRA, GHANA

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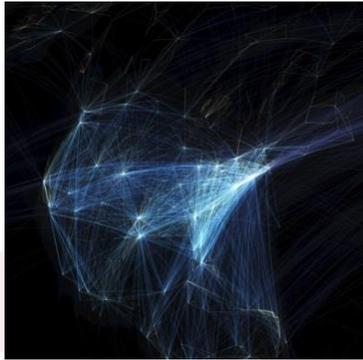
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# World Airspace Usage



# World City to City - 60 000 Flights



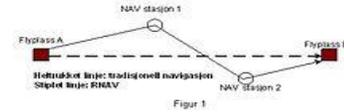
# Expectations of a Single Airspace Regional Master Plan

- To provide a strategic view and direction for airspace organization and management within the continent of Africa
- To provide strategies, rules and procedures by which the airspace will be structured to accommodate the different types of air activity, traffic volume, differing levels of service and rules of conduct
- To provide flexible allocation and use of airspace to be based on the principles of access and equity

# Expectations of a Single Airspace Regional Master Plan

- Expectations for the global ATM system have been discussed among the ATM community in general terms for many years
- Expectations are interrelated and cannot be considered in isolation
- Expectations provide for harmonization and interoperability based on safety, capacity, efficiency and economic considerations
- Expectation is that Safety is the highest priority

# PBN Expectations



- Performance requirements should also be recorded in the Plan as user expectations and again align with the global requirements as articulated Regional and Global PBN Roadmaps
- A Plan must also address Performance-based transition planning and implementation
- Planning choices are to be justified in advance, through the analysis of anticipated performance requirements and achievements, to underscore the transition process and promote transition planning both at global, regional and local level



# Communication Expectations



- Until controller/pilot data link communication (CPDLC) comes into widespread use, air traffic control will depend on voice communications that are affected by various factors
- Pilots and Controllers expect each other to use standard phraseology
- Use of non standard ICAO phraseology may result from regional /national practice



# Communication Expectations



- Effective communication is achieved when our mental process is able to accommodate and interpret the information contained in a message
- Pilots and Controllers are involved equally in the air traffic management system
- This shared responsibility is intended to compensate for communication failures that might affect safety

# Effective Pilot / Controller Communications Expectation

- Incorrect or incomplete pilot / controller communications is a causal or circumstantial factor in 80% of incidents or accidents

FACTOR	%	MODE of COMMUNICATION	%
Incorrect communication	80	Listening	45
(Absence of communication)	(33)	Speaking	30
Correct but late communication	(12)	Reading and Writing	25

# ATC & Expected Aircraft Performance

- **Traffic Separation Conflict** – Separation of IFR aircraft is based on a number of known factors; e.g. anticipated performance in climb, descent and turn of the aircraft. Controllers base their instructions on what they expect the aircraft to do. But pilots do not always do the expected
- If a standard flight path / rate of turn cannot be executed, or a climb/descent rate is anticipated to be other than normal, pilots must notify the controller so that an alternate plan can be implemented to ensure separation and safety

# Expectation of the Unexpected

- An aircraft on departure leveling off momentarily, increasing airspeed, and inadvertently overtaking the first departure
- Aircraft clearing the runway too slowly after landing, resulting in a go-around for the following aircraft
- Pilots failing to advise until too late that SID restrictions cannot be met
- Pilots accepting clearance for an immediate take-off and then delaying in position
- Aircraft prematurely slowing to approach speed, leading to excessive vectors for other aircraft
- Pilots' acceptance of an altitude crossing restriction, and then announcing too late "...unable to comply"
- Pilot deviation from an assigned route or vector heading for weather avoidance without ATC approval

# Pilots & Expected ATC Performance

- Use of Standard Phraseology
- English language proficiency
- Minimum delay in start, taxi and take off clearances
- Continuous Climb and Descent Operations (CCO / CDO)
- Direct/cost effective routing
- And no admonishment





# Airspace Safety Expectations



- **Safety** is the highest priority in aviation
- ATM important in ensuring overall aviation safety
- Uniform safety standards, risk and SMS practices applied systematically throughout ATM system
- When implementing elements of the global aviation system, safety must be assessed against appropriate criteria, in accordance with appropriate and globally standardised safety management processes and practices

# Airspace Access & Equity Expectations

- Provide an operating environment ensuring that all airspace users have the right of access to ATM resources required to meet their specific operational requirements
- Ensure that shared use of airspace for different airspace users can be achieved safely
- Ensure equity for all airspace users that have access to a given airspace or service
- In principle: The first aircraft ready to use the ATM resources will receive priority without jeopardising the overall system efficiency

# Airspace Capacity Expectations

- Ensure airspace organisation and management principles that exploit the inherent capacity to meet airspace user demand at peak times and locations while minimizing restrictions on traffic flow
- In response to future growth, capacity must increase, along with corresponding increases in efficiency, flexibility, and predictability while ensuring that there are no adverse impacts to safety whilst giving due consideration to the environment
- The ATM system must be resilient to service disruption and resulting temporary capacity reduction



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# Cost Effective Airspace Expectations

- Planning and subsequent ATM system should be cost-effective, while balancing the varied interests of the ATM community
- The cost of service to airspace users should be considered when evaluating any proposal to improve the quality and performance of ATM services and the designation of airspace

# Airspace Efficiency Expectations

- Must address the operational and commercial economic cost-effectiveness of gate-to-gate flight operations from a single-flight perspective and the associated collaborative decisions
- It is recognised that airspace users want to depart and arrive at the times they select and fly the 4D trajectory they determine to be optimum in all phases of flight
- The Plan must consider overall system efficiency as a driver for airspace concept development and change

# Airspace Environmental Expectations

- The ATM system should contribute to protection of the environment by considering noise, gaseous emissions and other environmental issues in the implementation and operation of the National ATM system
- The Plan must provide for the designation of airspace with due consideration of environmental concerns
- While taking environmental concerns into consideration, safety of the airspace users must at all times be the paramount consideration

# Airspace Flexibility Expectations

Must address the ability of all airspace users to modify flight trajectories dynamically and adjust departure and arrival times thereby permitting them to exploit operational opportunities as they occur



# Global Interoperability Expectations

The ATM System must be based on global standards and uniform principles in order to ensure the technical and operational interoperability with Global ATM Systems and facilitate homogeneous and non-discriminatory global and regional traffic flows



# ATM Community Expectations

The ATM community must have continuous participation and involvement in the planning, implementation, and operation of the system to ensure that the evolution of the single-airspace ATM System meets the expectations of all local ATM communities



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# Airspace Security Expectations

- Adequate security is a major expectation of the ATM community and of citizens and must provide protection against threats which stem from intentional (e.g. terrorism) or unintentional (e.g. human error, natural disaster) acts affecting aircraft, people or surface installations
- The ATM system should therefore contribute to security and the ATM system, as well as ATM related information, should be protected against security threats

# Airspace Predictability Expectations

The ability of the airspace users and ATM service providers to provide consistent and dependable levels of performance

Predictability is essential to airspace users as they develop and operate their schedules





# THANK YOU



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