



International Civil Aviation Organization


ASBU/SIP/Lima/2012-WP/14

# Dynamic wake turbulence separation

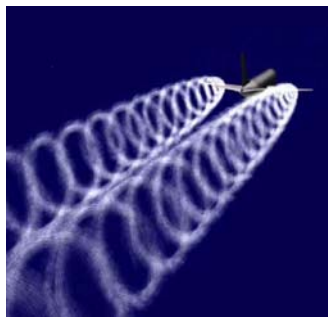
Saulo da Silva

Workshop on preparations for ANConf/12 – ASBU methodology  
(Lima, 16-20 April 2012)

Objective



- Discuss improvements in the throughput on departure and arrival runways through the dynamic management of wake turbulence separation minima.



ICAO SIP 2012 - ASBU workshops2

## Overview



- **What is**
- **Plans and trials**
- **Benefits**
- **The key**

## What is?



- Separation dynamically assessed for each aircraft pairing and provided to ANSP tools and the flight deck for cooperative separation



## What is?



- Will optimize the inter-operation wait time to the minimum required for wake disassociation and runway occupancy
- Runway throughput is increased as a result



ICAO SIP 2012 - ASBU workshops

5

## What is?



- Uses the current winds, assigned speeds, and real time environmental conditions to dynamically assess the proper spacing between the aircraft to achieve wake separation
- Coupled with information on expected runway occupancy establishes a time spacing that provides a safe separation

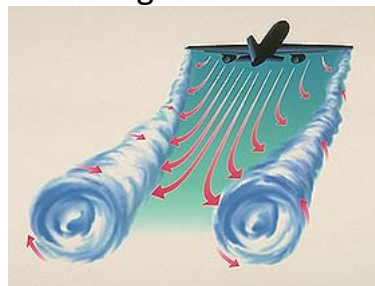
ICAO SIP 2012 - ASBU workshops

6

## What is?



- Time-based separations provided with support tools to the ANSP on their displays, and to the flight deck in the instances of cooperative separation which assumes already available flight deck tools for interval management.



ICAO SIP 2012 - ASBU workshops

7

## Plans and trials



- Work is continuing on developing crosswind based wake separation procedures and technology upgrades for arrival operations
- Human-in-the-loop simulations using the procedures and the associated controller display support
- Wake Turbulence Mitigation for Departures (WTMD).



ICAO SIP 2012 - ASBU workshops

8


## Benefits



- ***Capacity***
- ***Efficiency***
- ***Environment***
- ***Predictability***
- ***Safety***

ICAO SIP 2012 - ASBU workshops 9

## The key



- **Procedures will need automation support in providing the required time-based aircraft-to-aircraft wake separations to its air traffic controllers and pilots.**

ICAO SIP 2012 - ASBU workshops 10

