

CUSTOMER CASE STUDY

AIR TRAFFIC FLOW MANAGEMENT

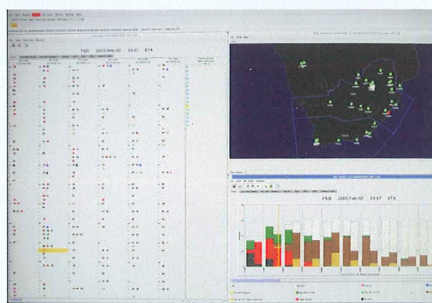
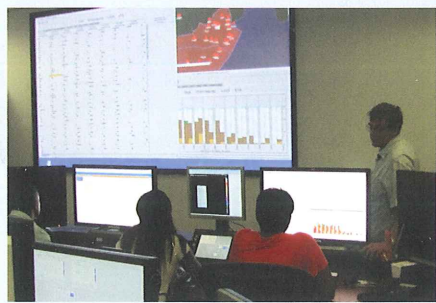
TRAFFIC FLOW MANAGEMENT

South Africa's Air Traffic and Navigation Services (ATNS) is responsible for Air Traffic Control (ATC) in approximately 10% of the global airspace. Operating at 20 aerodromes within the country, including O.R. Tambo, Cape Town and King Shaka (Durban) Airports, ATNS is internationally recognized as one of the top air navigation service providers (ANSP) in the world. ATNS safely and efficiently manages more than 650,000 arrival and departure movements per year.

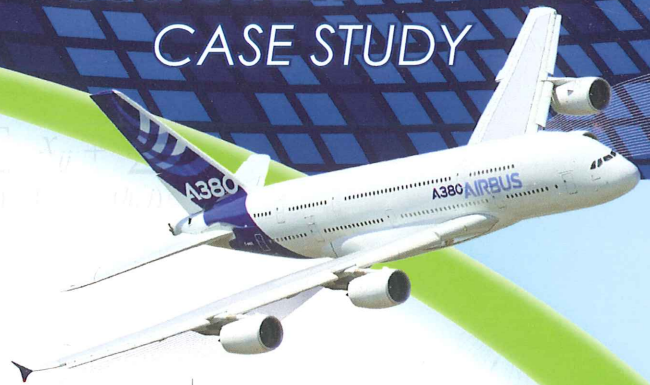
The responsibility for the management of air traffic flow and capacity management within South African airspace resides with the Central Airspace Management Unit (CAMU). The unit's responsibilities include comprehensive management of the airspace capacity, slot allocation program, flexible use of airspace (FUA) and the re-routing of traffic affected by adverse weather or restricted airspace.

THE CHALLENGE

Over the last decade, tourism and travel in South Africa has steadily increased by approximately 7% each year. With the increase in aircraft, passengers and total air traffic movements, South Africa needed to more efficiently manage airspace while enhancing safety. When South Africa was awarded the FIFA 2010 World Cup™, airspace optimization and management became an even larger challenge. The total number of daily aircraft, which on average was 2,000, would turn into 4,000 at peak periods during this global tourism event. Additionally, there was a total influx of over 350,000 visitors.



Metron Aviaton ATFM system provides ATNS with the ability to balance capacity and demand in South African airspace.



RESULTS

ASSISTS IN THE
MANAGEMENT OF
REDUCING GROUND
AND EN-ROUTE DELAYS

MAXIMIZES CAPACITY
AND OPTIMIZES THE
FLOW OF AIR TRAFFIC

PROVIDES CDM
FEATURES AND
COMMON SITUATIONAL
AWARENESS

ENABLES AIRLINES
TO MANAGE THEIR
TACTICAL SLOTS
THROUGH WEB-BASED
APPLICATION



THE SCIENCE OF HARMONIZING AIR TRAFFIC

AN  AIRBUS COMPANY

THE SOLUTION

ATNS deployed Metron Aviation's ATFM system, Metron Traffic Flow at the CAMU, which is located at the Johannesburg ATC Centre. The Metron Aviation ATFM system gives ATNS advanced tools for strategic planning, as well as pre-tactical and tactical management of traffic flows within the available capacity of the Air Traffic Management (ATM) system. The system provides the CAMU with comprehensive ATFM capabilities to model and implement all traffic flow initiatives for both aerodrome and airspace volumes in South Africa. Traffic flow initiatives are used to dynamically balance air traffic demand with capacity to keep traffic flowing as smoothly and efficiently as possible. The system interfaces with ATM production systems, including Thales' airspace monitoring, EUROCAT and other software systems, through a scalable, event-driven data gateway.

During the FIFA 2010 Soccer World Cup™, ATNS safely managed a total of 108,120 aircraft arrivals and departures across 20 airports. The Aeronautical Information Management (AIM) team filed a total of 57,187 flight plans that facilitated this process. During the staging of the World Cup, ATFM initiatives were dealt with on a tactical level by unit and CAMU management on the day of operations. The ATFM solution assisted in the strategic planning for the event as well as allowing ATNS to work together with customers on a pre tactical and tactical level to ensure the efficient flow of air traffic. With advanced CDM features, Metron Traffic Flow maximized throughput for all users and provided a basis for more predictable scheduling.

THE BUSINESS CASE FOR ATFM¹

- + \$1.2M (U.S.) in savings per annum for every one minute of saving at runway hold (Johannesburg) cost jet A1 "Jet Fuel Burn"
- + \$0.7M (U.S.) reduction in airborne hold due to weather disruption (Johannesburg)
- + \$0.4M (U.S.) in additional fuel burn savings
- = **\$2.3M (U.S.) IN TOTAL SAVINGS PER ANNUM**

ON-SITE SERVICES PROVIDED

Metron Aviation fostered a seamless integration for deployment, support and training by having professionals on-site at ATNS, prior and during the World Cup. This helped ATNS fully utilize the system to effectively optimize their airspace.

1. "Eyes on the Prize: Efficient flow management at the World Cup." *CANSO Airspace*, Q2 2010.

ABOUT METRON AVIATION

Founded in 1995, Metron Aviation, a subsidiary of Airbus Americas and member of the Airbus ProSky Alliance, pioneered the advancement of Air Traffic Flow Management (ATFM), working with the FAA to develop the industry's first Collaborative Decision Making (CDM) platform for optimizing system-wide traffic flow. Metron Aviation provides concept engineering, advanced research, software development, traffic flow management, surface operations management, airspace design and environmental analysis solutions to the global aviation industry. Metron Aviation fuses advanced science and mathematics with unparalleled subject-matter expertise to turn groundbreaking Air Traffic Management (ATM) research concepts into next-generation operational capabilities. Metron Harmony, Metron Aviation's commercial product, provides integrated ATFM and CDM capabilities for the world's leading Air Navigation Service Providers (ANSPs), airlines and airports. Metron Aviation customers include the FAA, NAV CANADA, NASA, ATNS, FedEx, Air Canada, Memphis International Airport, Delta Air Lines, Southwest Airlines, American Airlines, Airservices Australia and many more.

“METRON (HARMONY) HELPED US BALANCE DEMAND WITH AVAILABLE CAPACITY. IT ALSO HELPED US PREDICT TRAFFIC FLOW WELL IN ADVANCE, AND ENABLED US TO PUT PROACTIVE MEASURES IN PLACE TO EFFICIENTLY AND SAFELY CONTROL TRAFFIC DURING THE WORLD CUP.”

PATRICK DLAMINI,
CHIEF EXECUTIVE OFFICER,
SOUTH AFRICA AIR TRAFFIC
NAVIGATION SERVICES



THE SCIENCE OF HARMONIZING AIR TRAFFIC

AN AIRBUS COMPANY

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