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CORPORATE BROCHURE

Sky high efficiency

A major contribution to improved airline efficiency is coming from the air traffic controllers, as Jeff Daniels learns

On any scale you care to use, those occupations which hold the most responsibility in their hands would have to include air traffic control high on the list. They are barely given a thought until something goes wrong but those individuals who man air traffic control centres have a lot on their plate: hundreds of airline passengers who expect to complete their journey in safety; millions of pounds worth of aircraft; and the protection of a country's reputation to control its airspace efficiently.

Fly across southern Africa and the people looking after you belong to ATNS—Air Traffic and Navigation Services Company, from its headquarters in Johannesburg. It is the sole provider of air traffic and navigation services within South Africa, responsible for approximately 10 per cent of the world's airspace. Anywhere between 10° west and 75° east, and between 18° south and the South Pole lies in its airspace.

"We are present at 21 aerodromes within the country," explains CEO Patrick Dlamini, "but our services extend far beyond just providing air traffic control. It encompasses the provision of vitally important aeronautical information used for all flight planning purposes as well as alert, search and rescue coordination activities, while all along maintaining a reliable navigation infrastructure."

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a number of temporary international staff to cope with the peaks of just a single month's traffic. In this respect, ATNS played its part in an event that went off without a hitch and helped consolidate South Africa's global reputation.

The current recessionary pressures have dampened the relentless growth in air travel but it is only a matter of time before demand once again increases, so aviation authorities the world over are trying to squeeze the maximum efficiency out of the skies. RVSM (reduced vertical separation minimum) is a process of reducing the conventional vertical separation from 2,000 feet to 1,000 feet. By introducing an additional six flight levels, the density of the skies has been increased but only aircraft with the required technology that have been approved by their respective countries for RVSM operations are permitted to fly in RVSM airspace.

But in addition to carrying more traffic, air traffic flow and capacity management have become just as important in improving aviation productivity. "In future," says Dlamini, "the management of capacity will become equally important as managing the traffic flows—but always secondary to safety."

The responsibility for the management of air traffic flow and capacity management within South African airspace rests with the Central Airspace Management Unit (CAMU) located at the Johannesburg air traffic control centre. Here, in addition to managing the functions of the slot allocation programme, CAMU manages the flexible use of airspace to facilitate military exercises or any other unusual event that might require the use of airspace for a particular time period.

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During the summer, when South Africa played host to the World Cup football competition, the whole of South Africa's aviation industry was working to full capacity—including ATNS. The first challenge meant securing a headcount of 410 suitably skilled air traffic control staff—the highest number of ATCs ever in South Africa at a given time. "Planning for this began as far back as 2006," says Dlamini. "Our recruitment, training and validation initiatives went some way to reaching the target but a number of exceptional steps were also called for."

With the agreement of Solidarity—the ATC trade union—ATNS was able to buy back off-day entitlements from willing controllers and to draft in

At the heart of such work is a collaborative decision making process and complementary technology commissioned by ATNS from its partners, Thales and Metron Aviation. The resulting Air Traffic Flow Management (ATFM) tool was completed in October 2009, in time to be fully operational during the World Cup. By allowing ATNS to predict the traffic flow well in advance, proactive measures can be put in place to efficiently and safely control traffic.

This advanced technological solution—in conjunction with collaborative decision making—enables airlines to wring the maximum productivity out of the system, through the efficient management of their allocated slots. It incorporates reports from weather services and displays current and predicted activity based on reiterative flight plan activity and can identify where there is under- and over-capacity. It then interacts with the users and other operators to review the schedule in a collaborative way, allowing for better planning at both strategic and tactical level.

The objectives of the system are many and varied but essentially it aims to reduce delays whether they be en-route or on the ground. Advance warning of problems provides an informed choice between departure delay, re-routing and/or flight level selection. At the same time, it enables ATNS to balance demand against capacity of air traffic control sectors, air routes and airports.

Under normal circumstances, the ATFM tool is in use at the country's three principal airports in Johannesburg, Cape Town and Durban; but during the World Cup, 20 of South Africa's airports were incorporated into the slot system. "Not only is ATFM a significant contribution to overall air transport efficiency," says Dlamini, "but beyond the benefits of efficiency and safety, it also addresses some of the 'green' issues for which the world's aviation industry is seeking practical solutions."

By cutting down on delays and waiting time, efficiency is enhanced through timely and accurate information on any event affecting the flow of air traffic and capacity of the airspace. So much so was the contribution that ATNS and the ATFM collaboration partners were awarded the 2010 Jane's Airport Review Enabling Technology Award for contribution to enhanced capacity and safety.

It will no doubt be some time before ATNS has to cope with traffic levels similar to those of the World Cup again; but through this experience, it has demonstrated to all concerned that it can cope with whatever challenge comes its way. www.atns.co.za

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