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TOMORROW'S AVIATION TODAY

The Civil Aviation Authority of Singapore (CAAS) recognises the benefits of constant innovation in ATM and has been working with Thales, a leader in Air Traffic Management (ATM) systems, towards establishing an encompassing network that ensures the smooth flow of international air traffic. *Bridging Skies* **meets with Graham Pollock, General Manager, Export Programs 1, Air Operations, Thales Aerospace Asia Pte Ltd, who shares his insights into the state of air traffic management and what it will take to manage the increasingly complex global airspace.**

Thales is committed to finding solutions for more efficient ATM systems. Can you give us your view on the situation now, as far as countries' ATM systems are concerned?

There is increasing pressure on Air Navigation Service Providers (ANSPs) by airspace users, which creates a need to procure and operate the most efficient ATM systems possible. Achieving this requires collaboration and investment in more complex systems on behalf of ANSPs, airlines and the industry. At Thales, we are committed to finding solutions for more efficient ATM systems, and we focus strongly on providing solutions that enable CAAS and other ANSPs to deliver the services that all airspace users demand.

Of course, there are still wide variations in system capability across the region and the pace of renewal in some countries remains slow, which affects overall ATM systems efficiency. However, we are working hard to ensure that our systems remain cost-efficient to operate, while accommodating higher service demands and increased air traffic.

Thales' presence in Singapore for the past three decades has also been pivotal in helping the country achieve a good track record in Air Traffic Control (ATC). What would you consider your biggest contribution to the country's ATM sector?

We are currently approaching the third generation of Long-Range Radar Display System (LORADS III). One of our biggest contributions is the provision of reliable, safe and efficient ATM systems to CAAS. This has helped CAAS develop its superior reputation, and ensure that the high expectations of Singapore and CAAS are being met, with direct benefits to all airspace users.

More importantly, we also helped ensure that the necessary skills and support is developed in Singapore. We built strong partnerships with local companies to deliver effective ongoing support for ATM systems. To reinforce this, we created many jobs in Singapore with the establishment of our regional ATM support centre in Changi. All this, combined with our

research and development (R&D) investment, and our participation in major international projects such as SESAR and the Next Generation Air Transportation System (NEXTGEN), means that Singapore benefits directly from our local presence.

A constant issue at international conferences is aviation's inability to respond quickly to aviation threats/disasters, as well as the industry's reactionary stance towards them. With the company's emphasis on safety and efficiency, how have Thales' developments in ATM helped to overcome these obstacles?

This is where, once again, our good fortune in having a large and forward-thinking customer base becomes critical. ANSPs that recognise the value of innovation and are willing to respond to whatever changes and threats arise are pivotal when it comes to working together to resolve issues, both now and into the future.

Along with that, we invest heavily in R&D to ensure our systems are not only safe to operate but are secure. We also leverage our dual technologies from civil and defence domains, which provides us with the advanced capabilities to build into our civil systems' many innovative defence technologies – the best of both worlds.

Currently, a major issue in international ATM is its move towards e-technology. What are the pros and cons of this move, and what is Thales doing to ensure the smooth transition of aviation operations going online?

Internet-based technologies are a key enabler towards the success of Collaborative Decision Making (CDM), a priority flight efficiency measure endorsed by industry bodies such as the Civil Air Navigation Services Organisation (CANSO), the International Air Transport Association (IATA), Airports Council International (ACI) and the European Organisation for the Safety of Air Navigation (EUROCONTROL).

This development sees e-technology becoming a vital part in aviation as it allows efficient, affordable communication between all CDM partners as well as the general aviation community. They also introduce automation while minimising the impact on legacy systems. Currently, South Africa and Taiwan's ATM systems are connected to CDM websites, while Singapore has utilised e-technology to export ATC data to authorised external subscribers. Such infrastructures have robust IT security policies to safeguard against intrusion. However, this remains a key concern for aviation as it continues to integrate e-technology into its operations.

In order to further explore the feasibility of multi-state collaboration through the Internet, the Thales Airport Collaborative Transformation Centre in France and the Australian Transformation & Innovation Centre are laboratory facilities that play a role in Thales's ongoing R&D into e-technology while allowing customers to explore new CDM business models and validate the technical infrastructure before investing in any infrastructure.

Asia Pacific, with its disparate geography and non-standarised levels of development, will especially benefit from CDM. From Thales' perspective, how can technology help to establish a strong and secure network that can help the region grow?

It is certainly true that ATM systems in some countries are rather fragmented. Having different systems with different capabilities can and does pose a safety risk to aviation, specially regarding near or cross-border operations. The key is to ensure the interoperability of ATM systems, so that safe and efficient coordination can take place. The technology today helps to establish a strong interpretative ATM network. However, it depends on the capabilities of ANSPs to invest in new technology to ensure a safer and more secure operating environment. Currently, there are a number of EUROCAT systems deployed in the region and wherever these are deployed in adjacent Flight Information Regions the coordination is improved through silent coordination. The ability to offer optimum routing ensures more efficient and cost efficient operations for the user, in addition to the safety improvements this brings.

How does Thales see tomorrow's aviation and its place in it?

Tomorrow's aviation in the context of ATM will be largely directed by the large investments in SESAR and NEXTGEN. The concepts, resulting systems and components will shape the future of ATM globally. From an operational perspective, aviation will also continue to have greater dependency and interoperability between the three key segments – ground, airborne and space systems.

As the largest industry partner for SESAR and being directly involved in NEXTGEN, Thales is uniquely positioned in the aviation industry to help ensure interoperability across these systems. Our systems will remain future proof as we continue to help shape future aviation. Combined with our partnerships with leading edge customers such as CAAS, this gives us great confidence that we will continue to drive innovation in ATM technology to meet future challenges in air transport.