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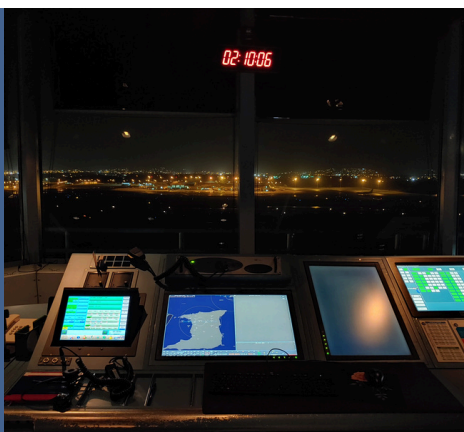
ON UPGRADED AERODROME AND APPROACH SIMULATOR



Introduction

The Civil Aviation Training Centre (CATC), through the Trinidad and Tobago Civil Aviation Authority (TTCAA), has recently commissioned two advanced Aerodrome/Approach and Surveillance simulators. This milestone represents a deliberate investment in strengthening the Authority's operational preparedness, long-term training capacity, and commitment to excellence in air traffic control (ATC) development.

This initiative reinforces TTCAA's continued drive to enhance aviation safety and training standards, ensuring that air traffic controllers are equipped with modern tools that reflect today's complex operational environment.



Background

Between 2013 and 2015, the TTCAA procured and implemented two (2) automated Aerodrome and Approach Simulators to support ATC training at CATC. These systems performed exceptionally well over the years; however, having outlived their expected operational lifespan, upgrades became necessary to maintain reliability and training effectiveness.

Recognising this need, TCAA Management took the strategic decision to upgrade both systems by implementing the Adacel MAXSim Aerodrome and Approach Simulator platform, delivering:

- Greater reliability and stability
- Manufacturer support, including updates, spare parts, and technical assistance
- More realistic simulation of modern aerodrome and approach operations
- Enhanced instructor tools for scenario development and evaluation
- Improved cybersecurity and reduced operational risk
- Compliance with ICAO training standards
- Reduced long-term costs by limiting dependence on legacy systems
- Expanded capability for new and enhanced course offerings

This upgrade project began in 2022, and was supported by a specialised cross-functional team committed to delivering a successful outcome.

Project Team

A dedicated team from across the TCAA was selected to manage the project, ensuring it was executed efficiently, on schedule, and aligned with operational standards.

Project Team Lead:

- Roopnarine Samuel

Air Traffic Control Experts:

- Lorraine Ramjattan
- Ashton Ramjohn
- Jerome Martin

Information Technology Team:

- Shamil Maharaj
- Neil Parmashwar
- Maurice Dorman

Project Coordination:

- Rhonda Sooklalsingh – Project Logistics
- Keisha Duncan – Project Finance



MaxSim simulation platform

developed by Adacel.

TECHNOLOGY PARTNERSHIP AND SYSTEM PLATFORM

The simulator hardware has been supplied by Aeronav and operates on the MaxSim simulation platform developed by Adacel.

Adacel is internationally recognised for its air traffic control simulation systems used by training organisations and air navigation service providers worldwide. With over 30 years of experience, Adacel's solutions are built on a strong emphasis on human factors, incorporating extensive input from former air traffic controllers and global industry feedback.

MaxSim is trusted by both civilian and military organisations worldwide, with hundreds of simulators used daily to support controller proficiency and skill development. TCAA has been utilising MaxSim ATC simulation systems for several years and remains familiar with Adacel's trusted solutions.

These upgraded systems provide an immersive and realistic environment where complex operational scenarios can be practised and assessed without impacting live air traffic operations.

Key capabilities include:

- Real-time simulation of aircraft movements in the air and on the ground
- Immediate system response to controller instructions
- Fully digital IP-based infrastructure for precise processing
- High-resolution 4K graphical interface
- Recording and replay functions to support evaluation and performance improvement
- Tower and radar training delivered independently or in an integrated format
- Dynamic weather, emergency scenarios, equipment failures, and high-traffic conditions

The simulators also include visual representations of several regional airports, allowing trainees to practice within a familiar Caribbean operating environment, including:

- Piarco International Airport
- A.N.R. Robinson International Airport (Tobago)
- Maurice Bishop International Airport (Grenada)
- V.C. Bird International Airport (Antigua)

Additionally, the radar suite supports airspace and sector development, allowing customised training environments to meet specific operational needs.

This flexibility strengthens TTCAA's ability to support national training requirements while also providing support to regional aviation partners when needed.

THE CONTINUED EVOLUTION OF CATC

The Civil Aviation Training Centre continues to revolutionise air traffic control training through continuous research and development, ensuring it remains aligned with both present and future operational demands.

The introduction of these advanced simulators represents a natural progression in CATC's development and ongoing pursuit of excellence. The systems provide a modern training environment designed to strengthen the development and enhancement of air traffic controllers through realistic, structured, and technology-driven instruction.

With multiple controller workstations, advanced instructor monitoring tools, and sophisticated simulation software, CATC is further positioned as a leading aviation training institution in the hemisphere.

Conclusion

The commissioning of the new Aerodrome/Approach and Surveillance simulation systems represents a significant milestone for the TTCAA and CATC. It strengthens training standards, enhances operational readiness, supports ICAO compliance and reinforces TTCAA's role as a leader in aviation development across the Caribbean.

Through this investment, CATC continues to build a stronger, safer, and more resilient future for air traffic control training in Trinidad and Tobago and the wider region.