

Hytera TETRA Radio System Ready for Take-off at Luanda Airport in Angola



Introduction

SGA is the operator of the main international airport in Luanda, the capital of Angola. However, its old analog radio system was no longer adequate for SGA's requirements. It needed a modern digital radio system with wider coverage, more radio channels, and one able to support more applications. Hytera supplied its latest TETRA two-way radio solution with a Smart Dispatch system and PT580H Plus handheld terminals. SGA can now manage airport operations much more effectively to ensure a more efficient operational environment for its airline customers and passengers.

The Background

The National Airports Company (Sociedade Gestora de Aeroportos - SGA) is the current operator of the 4th of February International Airport in Luanda, the capital of Angola. The 4th of February International Airport is the current main international airport of Angola, which is located 5 km to the south of the centre of the capital. SGA was restructured in 2019 from its predecessor, the National Airlines (Enana).

Project Name

Angola Luanda 4 de February
International Airport TETRA Outdoor Project

Client Name

Sociedade Gestora de Aeroportos (SGA-SA)
-National Airports Corporation

Project Start/End Dates

2022-2023

Project Location

Luanda, Angola

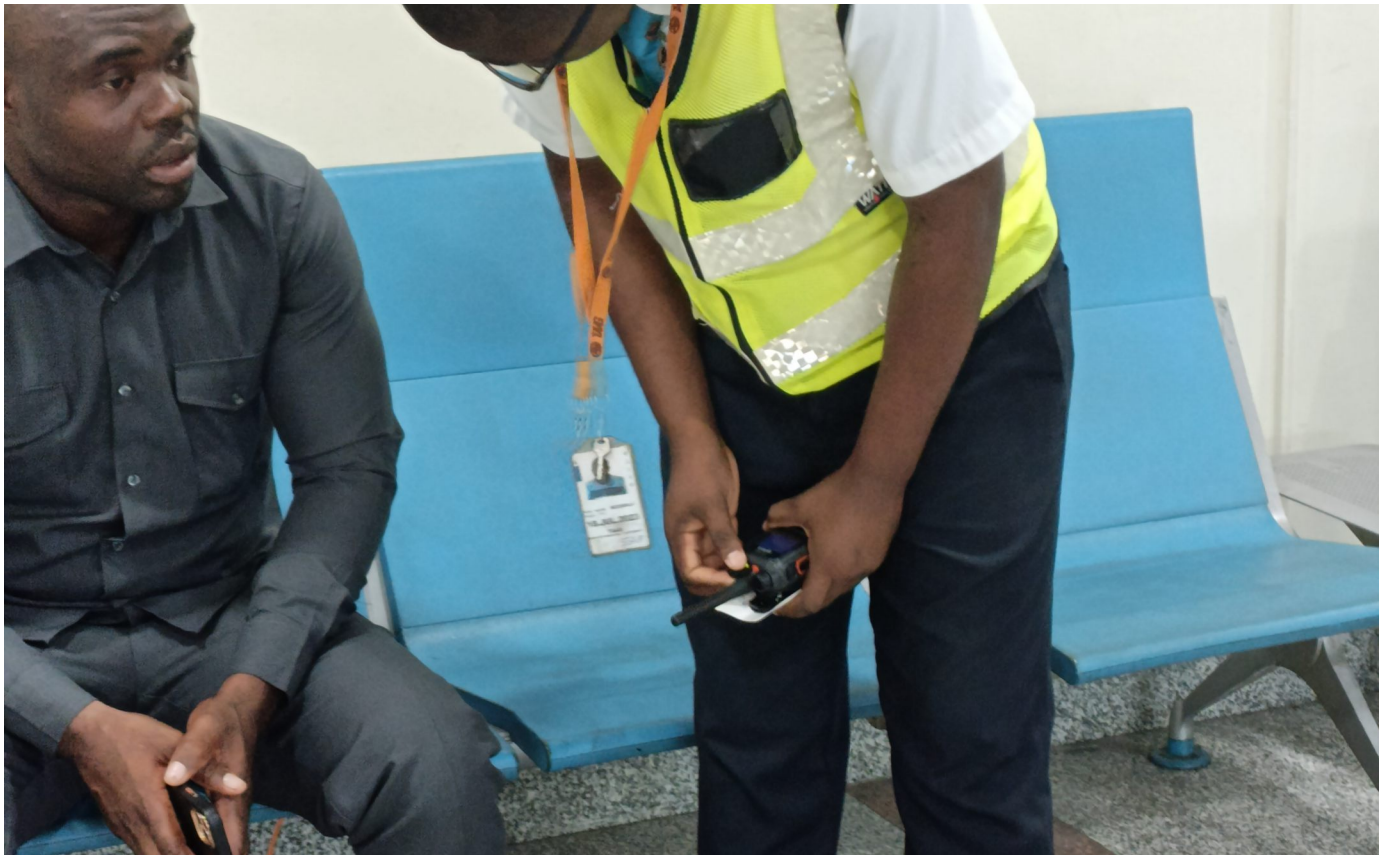
Industry

Airport - Transportation

Products

- TETRA ACCESSNET-T IP Smart System
- TETRA Outdoor Base Station
- TETRA Smart Dispatch
- TETRA PT580H Plus Hand Portable Radio Terminals

Airports operate to tight timescales to meet fast aircraft turnaround schedules, so a reliable communications system is essential to ensure efficient management and coordination of airport staff, airline staff, aircraft and passengers. SGA inherited an old analog radio system from its predecessor, which provided poor quality sound and only a limited number of radio terminals. The airport operator badly needed a modern radio system.



The Challenge: Implementation of a modern digital two-way radio system to cover the entire airport

The existing out-of-date analog radio system was not fit for purpose. Most of the SGA airport staff did not have access to a radio, which made it challenging to coordinate airport operations in an efficient and safe way.

The airport environment itself has a high noise and signal-to-interference ratio, resulting in poor voice quality for those that did have a radio. Another major difficulty was the lack of channel resources of the analog network. This meant that even though there were only 50 users, communications were constantly hampered by having too few radio channels, forcing callers to queue. Again, this impacted operational efficiency.

SGA needed a radio solution with the necessary coverage and capacity, good sound quality, lightweight equipment, and one that enhanced safety and reliability, but which was also cost-effective.

The project also faced the challenge of a lack of local expertise in implementing radio projects. The local radio channel dealers did not have the required delivery capabilities, so it was necessary for the radio manufacturer to send experts to help deploy the equipment, train the users, and help deliver the overall project for the customer.

The Solution

SGA opted to deploy a Hytera TETRA two-way radio network. The solution included one DIB-R5 outdoor base station, a dispatch system, and 50 PT580H Plus handheld radios. The project is believed to be the first time the latest Hytera TETRA ACCESSNET-T IP Smart system has been deployed at an airport.

A major advantage of switching to a digital TETRA system is that it is based on time-division multiple access (TDMA) technology, which provides four user channels on one radio carrier. This automatically provided SGA with more radio channels than the previous analog system.

The DIB-R5 base station is designed to work in the demanding temperatures found in Angola as it will continue to operate efficiently within a temperature range of -30°C to +60°C. It is IP65 rated against dust and water ingress, so it is rugged and reliable.

Given the client's need to keep costs down, the Hytera base station offers one of the lowest power consumptions on the market (Max. 75W) along with passive cooling, which aids power saving. Both DC and solar power supply options are supported.

The solution has a low failure rate and high scalability, which helps to reduce OPEX costs, while low infrastructure requirements, low frequency interval requirements, and low packaging and transportation costs reduce CAPEX. In addition, no TETRA switching server is required.

The Hytera SMART software solutions are easy to learn, use, and maintain. The lightweight features are designed to meet all user needs. The Hytera PV11 architecture is more advanced and safer and the use of a Linux system further reduces maintenance costs. The system can be fully remotely configured and upgraded, which also helps to keep maintenance costs down.

The Benefits

Full Coverage

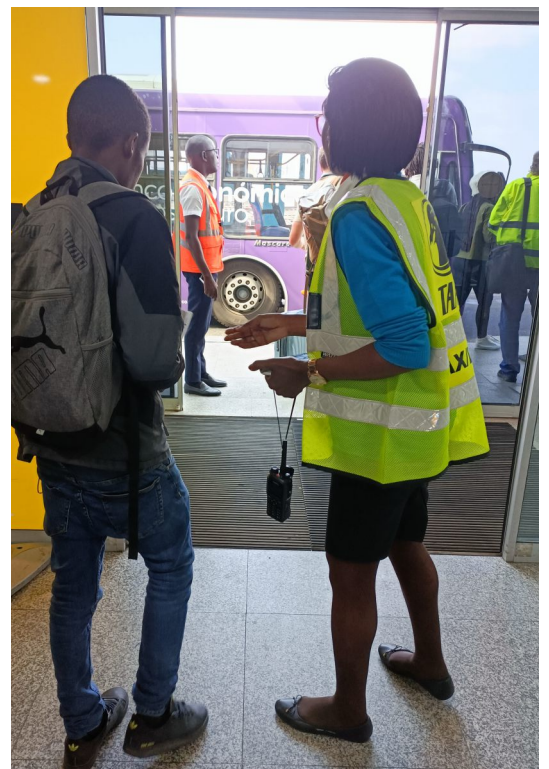
The TETRA solution meets the needs of SGA's airport and control tower staff as it provides full coverage across the whole of the airport to ensure smooth and reliable communications.

Cost-effective Solution

The Hytera ACCESSNET T-IP SMART TETRA system delivers a lightweight solution that saves users money while creating value. It combines the latest Hytera hardware and software innovations to help reduce both CAPEX and OPEX costs, including ongoing operational and maintenance costs.

Additional Capacity and Ease of Use

The TETRA system provides more radio channels to easily support the 50-plus users. The additional channels means specific talk groups can be created to separate out different job roles. This avoids clogging up the radio system with calls having to queue for a free channel.



Products

- TETRA ACCESSNET-T IP Smart System
- TETRA Outdoor Base Station
- TETRA Smart Dispatch
- TETRA PT580H Plus Hand Portable Radio Terminals



Smart Dispatch and NMS

The web-based Network Management System and Smart Dispatch system with its easy-to-use interface makes it simple to support a variety of applications, including dispatch of workers with just one click. It also enables efficient radio fleet management, maintenance and software upgrading via OTAP (over the air programming).

Loud, Clear Audio

The PT580H Plus features an advanced audio chip with the latest noise cancelling capability, which means users working in noisy environments still get excellent audio quality. The 3W transmit power improves coverage and makes communications easier to hear.

Rugged Handsets

The terminal is IP68 certified, which provides a very high level of protection against dust and water ingress. It also meets the MIL-STD-810G standard for drop, shock and vibration resistance.

A Safer Workforce

The PT580H Plus helps to keep the workforce safe as it features lone worker alert, man down alarm and emergency alarm features, while the built-in GPS technology means the location of workers can be quickly pinpointed and help sent if they are in trouble.



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