

Hytera Delivers VSAT Satellite Solution to Enhance Efficiency and Safety of Aviation in Zimbabwe



Introduction

The Civil Aviation Authority of Zimbabwe (CAAZ) needed a way to connect up four of its airports to support real-time voice, video, data and VHF communication signals independent of any terrestrial infrastructure network. Hytera was able to supply a C-Band VSAT satellite solution, which delivers a highly reliable means of communication to enhance inter-airport efficiency and aviation safety in general.

The Background

The Civil Aviation Authority of Zimbabwe (CAAZ) is the government body responsible for regulating the aviation sector in Zimbabwe. Its functions include the provision of air navigation and technical services, as well as regulating and enforcing flight safety and standards. CAAZ is headquartered at Harare International Airport in the country's capital.

Customer Name

Civil Aviation Authority of Zimbabwe (CAAZ)

Project Time

2022-2024

Project Location

Zimbabwe

Industry

Aviation

Products/Solutions

- 5.3m C-Band Hub Earth Station
- 3.7m C-Band Remote Terminals
- Satellite Modem System
- Airtime Service

The Challenge

Flight controllers in Zimbabwe depend on reliable communications for voice, radar and messaging traffic between air traffic control sites at different airports and to communicate advice, information and instructions to pilots. As aircraft move from one air traffic control airspace zone or sector to another, the transfer must be clearly communicated and seamless to keep aircraft safe.

However, in certain locations terrestrial infrastructure may not be available to connect radar signals or messaging traffic, so an alternative has to be found.

In this case, CAAZ needed a satellite network to cover the four important airports at Harare, Bulawayo, Victoria Falls and Masvingo. The network will be used to transmit voice, video, data and VHF communication signals between the four airports.



The Solution

Hytera proposed the use of a satellite communications system based on C-Band VSAT (Very Small Aperture Terminal) system, which offers a more cost-effective CAPEX than other alternatives. The system supports multiple applications for CAAZ's real-time voice, video, data and VHF communication signals.

The VSAT set-up comprises a two-way 5.3m C-Band hub satellite Earth station with multiple 3.7m C-Band antenna at remote terminals, and each station equipped with satellite modem system.

The VSAT router has auto-route detect and switchover functions, ensuring communications can be automatically switched between ground fiber-optic cables and satellite links to maintain continuity of service.

Based on the cooperation with Satellite Operators, Hytera also provided airtime service to CAAZ. The one-stop satellite communication solution ensures that the communication link is fully independent of any terrestrial infrastructure, providing the highest reliability and availability of service.

Products

- 5.3m C-Band Hub Earth Station
- 3.7m C-Band Remote Terminals
- Satellite Modem System
- Airtime Service

Benefits

Highly Reliable and Available Communications

The VSAT satellite solution provides a very reliable quality of service ensuring CAAZ benefits from stable satellite links. C-band satellites cover a larger area than Ku-band satellites and also perform better in adverse weather conditions.

Multiple Communications Interface Support

The solution offers a variety of interfaces compatible with various communication devices and software, including ground-to-air VHF, VCCS, telephones and more.

Enhanced Dispatch

By connecting Zimbabwe's four most important airports with voice and data services, the solution enhanced CAAZ's collaborative dispatch capabilities, which also improves aviation safety.

Improved Efficiency

The nationwide satellite communication network allows Harare International Airport to communicate with Zimbabwe's more remote regional airports in real-time, which greatly enhances communication efficiency.

Post-contract Support

Hytera is able to offer timely and efficient technical support to CAAZ to ensure this vital communication service is maintained to a high standard at all times.

The Civil Aviation Authority of Zimbabwe VSAT satellite project demonstrates Hytera's expertise and versatility in providing different kinds of communications solutions to customers in the aviation industry to support their mission critical and business communication needs.



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