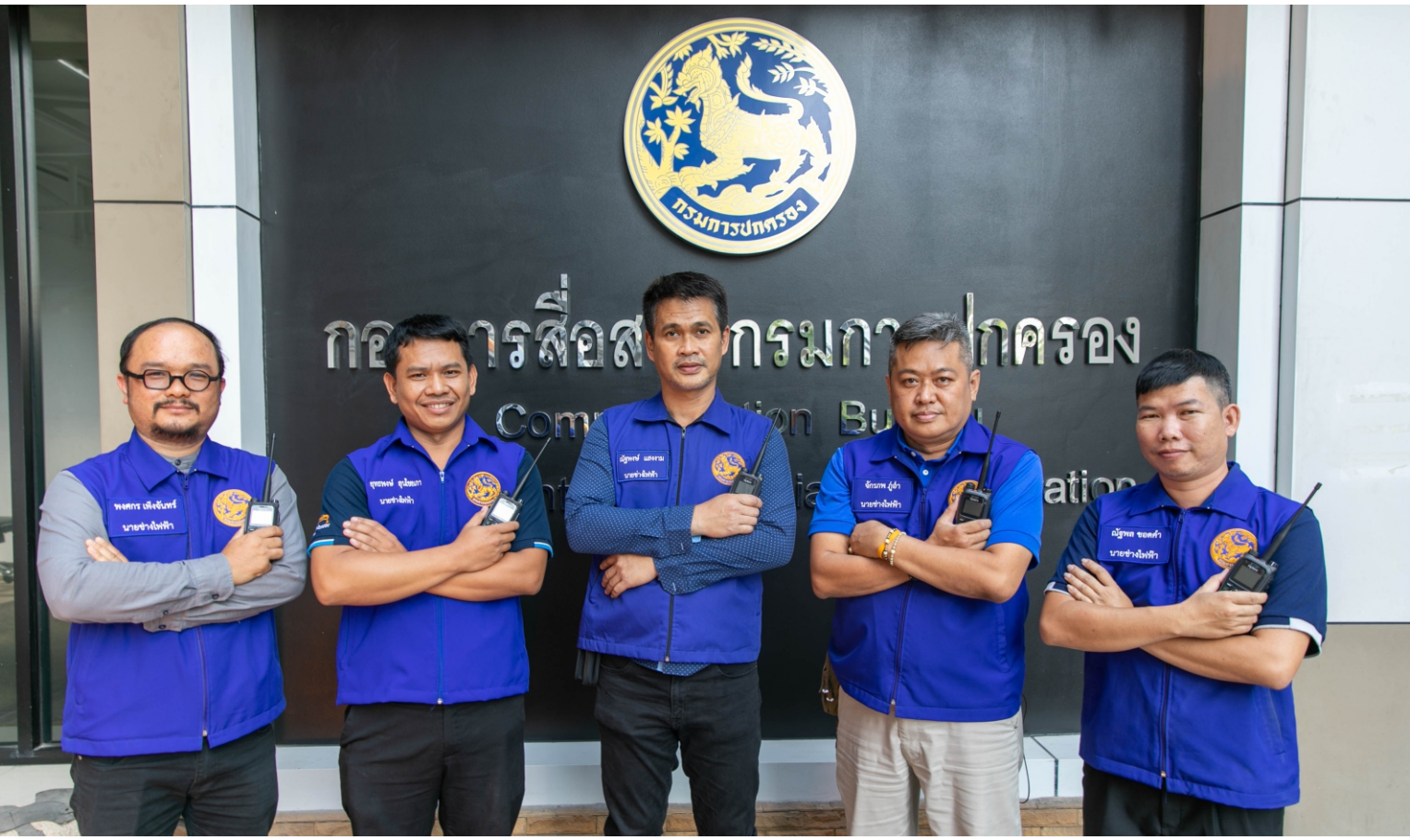
Thailand Provincial Admin Authority Deploys Nationwide TETRA to Improve Governance



Introduction

Thailand's Department of Provincial Administration (DOPA) required a modern nationwide digital radio network to better maintain law and order in its provinces and remote regions. Hytera supplied the country's first nationwide TETRA radio system with unified dispatching facilities, along with the ability to interconnect with existing analog networks, fixed telephony systems and cellular networks via a PTT app.

The Background

Thailand's Department of Provincial Administration (DOPA) is a public organization under the Ministry of Interior (MOI). It oversees provincial administrations at the district, sub-district, and village levels and is a law enforcement agency responsible for maintaining public order and security.

DOPA previously relied on an analog trunked radio communications network

User Name
Department of Provincial Administration (DOPA)

Date
2020-2023

Industry
Public Safety

Products
- TETRA DIB-R5 outdoor base stations
- TETRA MT680 Plus mobile radios
- TETRA PT580H Plus portable radios
- Network management system (NMS)
- Digital voice recording system (DVRS)
- Unified Communication & Dispatch (PUC)
- PTT Connect System

which was no longer fit for purpose. The legacy network suffered constant breakdowns, which hampered operational effectiveness. Maintaining the old equipment was difficult, time-consuming, and ate into budgets. It was also increasingly hard to obtain spare parts.

The relatively small number of analog base stations did not provide signal coverage across the whole country. Audio quality suffered in weak signal areas and capacity was limited, which caused delays when multiple groups tried to communicate at the same time, and the system was not able to support an efficient data service.

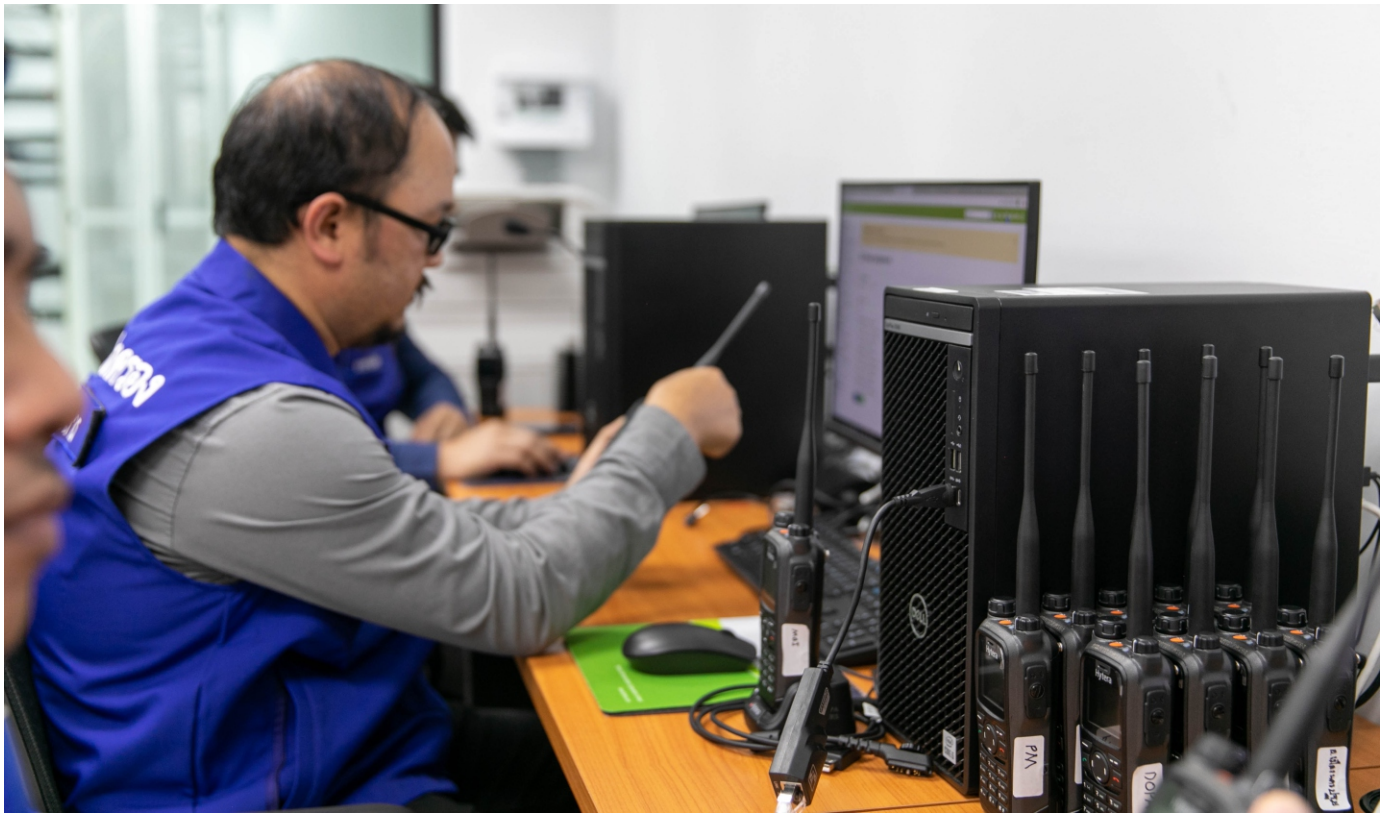
The Challenge

DOPA wanted a modern radio network to enhance the ability of public safety agencies to carry out daily operations more efficiently and to respond more effectively to emergencies. The radio network should also be able to facilitate greater social stability and a sense of well-being among citizens and visitors alike by providing a more effective response to incidents and emergencies.

Coverage and Interconnection: Before the deployment of the Hytera TETRA radio network, different provinces in Thailand had their own relatively independent analog public safety networks, but they did not cover remote areas of the country and were not able to achieve nationwide interoperability. The new radio network needed to interconnect with these existing analog networks to enable more efficient inter-agency operations and better coordination between central and regional departments.

Interoperability: Besides providing wider signal coverage in remote provinces, border districts, and risky areas, DOPA wanted to be able to extend network coverage further by enabling the TETRA network to interconnect with fixed telephony and mobile cellular networks.

Data Capacity: The new radio communications network should be able to support text and other data services, use frequency resources more efficiently to boost capacity, and be economical, safe, cost-effective, and easy to operate and maintain.



The Solution

Thailand's first-ever nationwide TETRA radio system was built with Hytera DIB-R5 outdoor base stations, network management systems (NMS), professional unified communication platforms (PUC), and digital voice recording systems (DVRS). Coverage across the whole country was achieved by deploying DIB-R5 outdoor base stations supplemented by MT680 Plus TETRA mobile radios.

Over 20 sets of analog gateways were deployed to interconnect the new TETRA system with the existing analog networks operating in different cities of Thailand to provide the required interoperability. Hytera's innovative PTTConnect APP is deployed on smartphones to provide connectivity with the TETRA system and the DOPA staff can push-to-talk with TETRA radios to smartphones.

The network features 19 sets of dispatching systems, which are distributed in different areas of Thailand to ensure seamless dispatch whenever necessary. The entire system is configured to ensure reliability even when natural disasters occur. Redundancy has been built into the system controller IP nodes, base stations, applications, and NMS elements.

Products

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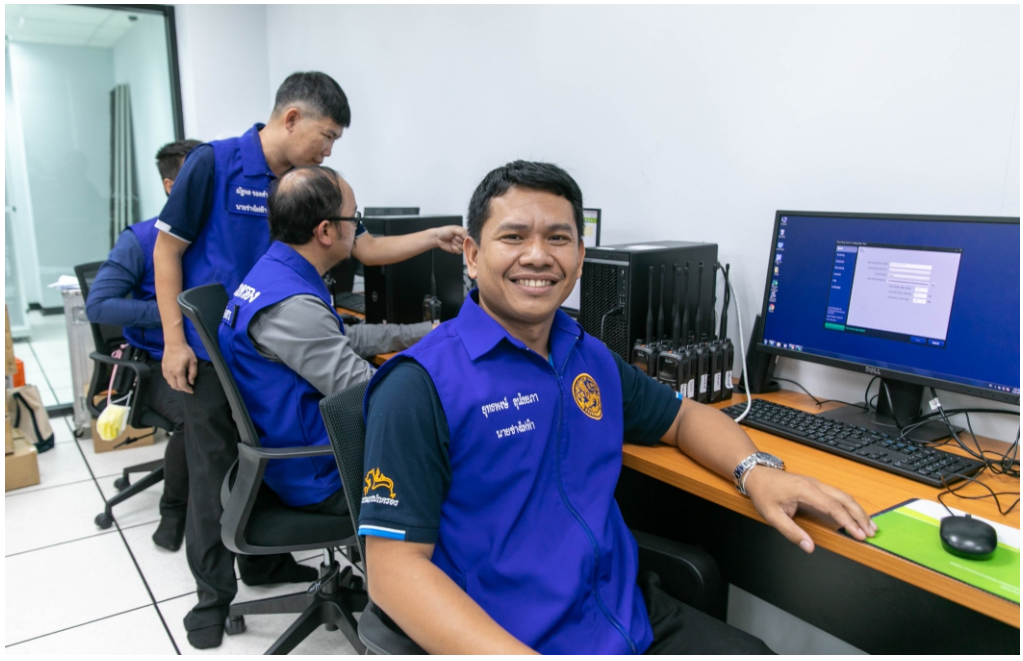
The Benefits

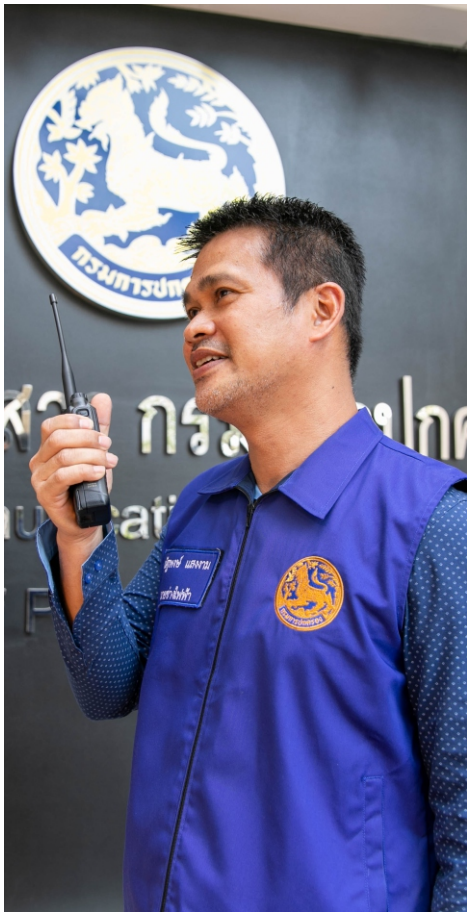
Wider, More Reliable, Better Quality Communications

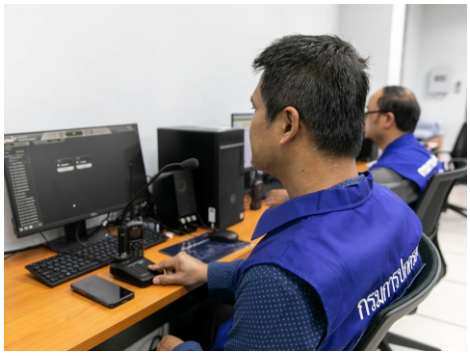
The dedicated nationwide TETRA radio system provides a safer, more reliable, and better quality communications for DOPA with increased coverage and capacity to transmit voice and data. It ensures connectivity and situational awareness when other networks, such as cellular networks, are unavailable or congested.

Greater Operational Effectiveness

The TETRA system enables DOPA to carry out its duties more effectively and to better serve the communities it is responsible for. It allows DOPA to respond more quickly not just to major incidents or disasters, but also to the day-to-day needs and problems of citizens, particularly those in more remote parts of the country.







More Efficient Dispatching

The 19 sets of fixed dispatching consoles and 4 mobile dispatching consoles support voice dispatch and location-based services, which make it much easier and quicker to dispatch resources than before. The unified dispatching system improves cross-organization coordination and the efficiency of daily work operations and the response to emergency situations.

Improved Inter-agency Cooperation

Supervisors from different agencies can work together and coordinate their activities more easily, as all the different radio networks interconnect. The dispatch solution supports dynamic grouping, the setup of combined TETTRA and analog call groups, remote listening by dispatchers, and stun and kill of devices.

Voice and Data Recording

The Hytera DVRS digital voice recording system provides full audio and data recording with easy retrieval for later playback, along with logs, statistics, and analytics of network usage. It aids post-operation review and training.

Better Interoperability

The Hytera PTTConnect smartphone app allows users to access the TETRA network via cellular networks when outside the TETRA network area or if they do not have a TETRA radio. The gateways enable TETRA radio users to communicate with analog radio users.

Tough, Reliable Radios

The MT680 Plus mobile radios work both in gateway mode and repeater mode and they can communicate with portable radios in Direct Mode Operation (DMO) when they are outside the base station coverage, further expanding the network coverage. The TETRA PT580H Plus portable radios are tough and durable (IP68 and MIL-STD 810G); it supports more than 22 hours of battery life, which makes it the ideal device for users in the field.

Hytera
Respond & Achieve

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