



High Speed Rail Taiwan

A high-speed rail network that commenced operations in January 2007, connecting the cities of Taipei and Kaohsiung.



Taiwan High Speed Rail gets up to speed with Motorola TETRA system.

BACKGROUND

Taiwan's reputation as an Asian dragon sums up the country's affluence and economic success. The rise in living standards has also generated higher expectations from the community. For the transportation industry, commuter expectations for better transportation now go beyond safety and efficiency to include comfort. The country's transport planners realised early that its railways were a vital economic lifeline that had to be upgraded. The rail industry had to be 'brought up to speed' to play an integral role in the country's national development.

For the first time, Taiwan High Speed Rail made it possible for commuters to travel in comfort between the cities of Taipei and Kaohsiung in roughly 90 minutes. As a result of this significant reduction in traveling time, the cities in the western corridor of Taiwan became a one-day community.

Key to operational efficiency in rail transportation was the transport operator's communications system. Taiwan High Speed Rail selected the TETRA digital communications platform to be implemented over its entire 345 kilometer track including tunnels, train stations and depots. The train-borne equipment had to also work optimally under high-speed conditions of over 300 km/h.

Motorola was selected as the partner-of-choice for its strong TETRA delivery track record. Toshiba Corporation, a consortium member of Taiwan Shinkansen Corporation and the main contractor for the project, decided that Motorola, with its strong leadership in digital communications for the rail industry, was the ideal partner for the project.

Motorola was awarded a multi-million dollar contract to provide a digital communications system for the Taiwan High Speed Rail Corporation.

BENEFITS

Better coordination of facilities results in:

- *Increased productivity*
Dispatchers and train service controllers are able to better co-ordinate and monitor passenger train fleets and maintenance personnel and equipment. This results in a higher level of efficiency that in turn increases productivity.
- *Greater operational efficiency*
The integration of a computer-aided dispatch system and failure monitoring means that dispatch operations for passenger trains and maintenance vehicles can be more closely monitored for greater efficiency and reliability.
- *Higher standard of safety*
The higher level of operational effectiveness means that train personnel are better equipped and prepared to deal with emergency situations. Hence, commuters can expect to enjoy a safer environment.

CUSTOMER NEEDS

- Seamless voice and data services.
- Clear and reliable communications when trains are running at high speed.
- Enhanced communication reliability and clarity for better control and management of daily operations.



Notably, this system marks the world's first TETRA (TErrestrial TRunked RAdio) contract for the high-speed rail industry and the first TETRA contract in Taiwan for Motorola. In the Asia Pacific region, Motorola is the TETRA market leader for the rail segment, having major projects in China, Hong Kong SAR, India, Korea, Malaysia, Singapore and Taiwan.

MOTOROLA SOLUTIONS

Motorola recommended a suite of TETRA-compliant products including Dimetra™ with a customized CAD (Computer Aided Dispatch System) and a train-borne radio equipment system.

Motorola's TETRA system brings the latest in digital communication to Taiwan High Speed Rail's entire 345 kilometer track including tunnels, train stations and depots as well as high-speed trains plying at 300km/h and above. The entire 380 MHz system includes a redundant computer-aided dispatch (CAD) system, 30 enhanced base transceiver systems (EBTS), 36 console positions, 180 mobile radios and over 260 portable radios. There are 10 consoles in Taoyuan Operation Control

Center, two consoles in each of the eight Station Control Rooms and another two consoles in each of the five Depot Control Rooms.

Motorola's Dimetra system will address all of Taiwan High Speed Rail's operational and functional requirements – providing seamless voice and data services that will enable the Taiwan High Speed Rail to benefit from enhanced communication reliability and clarity, resulting in better control and management of its daily operations.

The railway's dispatchers and train service controllers will use the new technology to better coordinate and monitor passenger train fleets, maintenance personnel and equipment. This will ensure that the trains arrive on time as scheduled and enhance the safety of the passengers.

Motorola's TETRA system will also integrate computer-aided dispatch technology with failure monitoring and alarm reporting, a move that will make dispatch operations for passenger trains and maintenance vehicles more efficient, more reliable, and safe.



MOTOROLA

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https://www.motorolasolutions.com/en_xp/solutions/rail-transportation.html

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