CUSTOMER BENEFITS

- Fully automatic train control at speeds up to 130km/h
- 99.65% on-time reliability
- Significant energy savings
- Infrastructure cost savings of HKD 3 million
- Shorter, straighter station platforms
“This proven technology has shown to be reliable, safe, upgradable and cost effective. Thales has a solid record of on-time delivery to facilitate a successful start-up.”

Ir Lee Kang-Kuen, Senior Director
Capital Projects, KCRC

THE CHALLENGE

With population growth and expansion beyond its city centre, moving masses of citizens is a high priority for the Hong Kong SAR government. Their initiative to build an efficient railway network to serve outlying areas for economic development includes MTR’S West Rail project – a 31 km 9-station rail line from Nam Cheong in West Kowloon to Tuen Mun in the Northwest New Territories. The line went into revenue service in 2003 and provides a commute time of only thirty minutes. West Rail is served by 22 seven-car train sets carrying over 2,300 passengers each.

In 2005, KCRC (now MTR) contracted to extend West Rail with the Kowloon Southern Link, a 3.8 km underground twin track formed by extending the overrun tunnel at West Rail’s Nam Cheong station to East Tsim Sha Tsui station. As part of the project, the existing 1.2km tunnel section between East Tsim Sha Tsui station and Hung Hom station will be equipped with new railway system facilities to allow West Rail trains to terminate at Hung Hom station. This provides the travelling public with a convenient and direct point of transfer between these two railway corridors. One new underground station will be added – West Kowloon Station.

To maximize operational efficiency, KCRC continues to use SelTrac communications-based train control technology and maintains an attendant on board.

THE SOLUTION: SELTRAC® CBTC

The SelTrac integrated solution including moving block technology, was the preferred choice to handle anticipated volumes and provide the flexibility needed for further projected growth.

The system operates under fully automatic control at speeds up to 130 km/h and train headways of 105 seconds at peak periods. The fleet includes ATO equipped passenger trains supported by ATP equipped work trains. The SelTrac system for West Rail consists of: SMC/ATS, 4 VCC (Zone Controller), 15 interlockings controlled by Station Controller Systems for points/signals, one Platform Door Interface Controller per station, and two VOBCs per EMU train. Workstations are installed at all stations and other West Rail facilities to provide on-line information for local staff.

A back-up central control and simulator comprises a complete set of central dispatch equipment, a track and vehicle emulator, an operations simulator and facilities to interface with other training simulators. Although primarily used as a training simulator, it can be used as back-up to control train operations.

THE RESULT

West Rail continues to operate reliably at over 99.65 percent of passenger journeys on time – ranking MTR one of the top urban rail operations in the world. Due to the strong working relationship developed, in 2005 Thales and KCRC (now MTR) struck a new working partnership agreement for Kowloon Southern Link (KSL) project. Under the agreement, Thales provides the design and supply of the SelTrac automatic train control system and MTR provides installation, testing and commissioning services.

KSL went into revenue service August 16, 2009.