

Infrastructure & Cities Sector Mobility and Logistics Division

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Siemens automates metro for Hongkong

MTR Corporation has placed an order with Siemens to upgrade the 47 kilometer-long line from the Chinese border to the central business district of Hongkong Island with control and signaling. The existing line (East Rail) will be extended by six kilometers and the entire line will be equipped with the most up-to-date control technology and the Trainguard MT automatic train control system. The upgrade will not interrupt ongoing operation. The contract is worth around 80 million euros. Commissioning of the route is scheduled for 2020.

To keep pace with Hongkong's growing transport needs, the government announced in 2009 that it would be investing 2.9 billion US dollars in expanding the railway network as part of the "Hongkong 2020" program. The line to be equipped by Siemens extends from the Chinese border to Hongkong Island, and is one of the most expensive and technically challenging infrastructure projects of "Hongkong 2020".

As part of the modernization and expansion project, Siemens will equip the 16-stations line with the CBTC (Communication Based Train Control) system Trainguard MT. Automatic train supervision will be realized using the Vicos operations control system, while the tried-and-tested Siemens solution Airlink will be installed for radio transmission. Eight Sicas electronic interlockings will be installed for train control. The new signalling system will be controlled and monitored by the Operations Control Center in Tsing Yi.

Trainguard MT comprises all functions for monitoring, performing and controlling the fully automatic operational process. Continuous data communication takes place between the control center, the trackside equipment and the trains via a WLAN radio network. This makes it possible to pinpoint the exact location of each train within the railway network. The optimum speed and the distance between two trains are constantly recalculated during the journey and transmitted directly to the on-board train control system. Moreover, automatically controlled vehicles consume less energy

1 / 2

thanks to the optimization of their acceleration, traction and braking processes. Depending on the degree of automation, energy consumption can be cut. At the same time, train punctuality is improved.

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