

新聞稿

Press Release

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MTR Establishes its First Capital Works Integration Lab Advancing E&M Testing for New Railway Projects Harnessing Innovation and Technology to Strengthen Rail Infrastructure for Hong Kong

MTR Corporation is dedicated to leveraging technologies and innovative mindsets to advance new railway projects. Following extensive study and coordination, the Corporation has newly established the Capital Works Integration Lab (CWIL) to enable large-scale electrical and mechanical (E&M) system integrated testing for new stations to be carried out off-site and ahead of civil works completion. Following the topping-out of Kwu Tung Station* on the East Rail Line, around 60% of its E&M system integrated testing was completed in the Lab. The CWIL is now conducting integrated testing of E&M systems for the Tung Chung Line Extension. This brand-new approach to integrated testing helps enhance the efficiency and quality of project delivery.

The establishment of the CWIL for E&M system integrated testing marks a breakthrough from the traditional construction sequence of “civil works first, E&M works later”. While civil works progress in full swing at the station site, the core components of around 20 E&M systems are set up at the CWIL to form a “virtual station” that replicates real-world station operations across the concourse, platforms and station control room. This allows for the early integration and testing of various E&M systems, including the station public address system, passenger information system, entry/exit gates, lifts and escalators to validate system behaviour and identify integration issues.

This arrangement transforms the traditional approach of conducting E&M works after civil construction. Under the conventional arrangement, the E&M team can only commence installation of E&M systems after major station structural works and building services works, followed by system testing and integration. With the CWIL, project teams and E&M contractors can collaborate closely to test E&M system operations as well as resolve potential integration issues. The “virtual station” also allows the station staff to familiarise themselves with the systems in advance, improving coordination for future handover and station operations. Upon completion of the station structural works, the core E&M components will be delivered from the Lab to the station site for installation and the remaining on-site integrated tests.

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The integrated testing of E&M systems for the Tung Chung Line Extension is currently underway at the CWIL. The scale is larger than that of Kwu Tung Station, as it involves integrated testing for Tung Chung East Station*, Tung Chung West Station* and the railway extension. The target is to complete the testing within six months, in line with the construction progress of the civil works and building services works for the two stations.

Mr Tim Leung, General Manager – Railway & System Integration of MTR Corporation, introduced the newly established CWIL to the media today (14 May 2026). “E&M construction is another crucial stage following civil construction. A single station can involve the installation, testing and integration of around 20 systems and tens of thousands of E&M components. The CWIL represents a revolutionary change in railway delivery, enabling certain E&M works to be brought forward and overcome traditional time and space constraints,” said Mr Leung.

Many of MTR’s new railway projects involve extensions to existing operating lines or the construction of new stations between existing stations. A significant portion of essential tests could only be conducted during the “golden two hours” window after train services conclude for the day, with the primary aim of minimising disruption to normal operations. In addition, numerous construction activities often take place concurrently within the new station during the construction period, further constraining on-site testing. By moving a substantial part of integrated testing into the Lab environment, the CWIL effectively overcomes the time and space constraints of on-site testing and enhances the flexibility and efficiency of relevant testing. The integrated testing of E&M systems for other new railway projects will be carried out progressively at the CWIL.

*Station names are working titles only.

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About MTR Corporation

To Keep Cities Moving, MTR makes encounters happen and rendezvous for a more connected tomorrow. As a recognised world-class operator of sustainable rail transport services, we are a leader in safety, reliability, customer service and efficiency.

MTR has extensive end-to-end railway expertise with over 45 years of railway projects experience from design to planning and construction through to commissioning, maintenance and operations. Going beyond railway delivery and operation, MTR also creates and manages dynamic communities around its network through seamless integration of rail, commercial and property development.

With more than 46,000 dedicated staff*, MTR carries over 13 million passenger journeys worldwide every weekday in Hong Kong, Chinese Mainland and beyond. Together, we Go Smart and Go Beyond.

For more information about MTR Corporation, please visit www.mtr.com.hk.

*includes our subsidiaries, associates and joint ventures in Hong Kong and worldwide

Photo Caption:

1. Mr Tim Leung, General Manager – Railway & System Integration of MTR Corporation, briefed the media on the newly established Capital Works Integration Lab, an innovative initiative in E&M construction for new railway projects.



2. By adopting an innovative mindset to create a “virtual station”, the Capital Works Integration Lab has transformed the traditional construction sequence to successfully advance the E&M system integrated testing for Kwu Tung Station on the East Rail Line. This approach is now being extended to the Tung Chung Line Extension project.

