

Date: 4 February 2026

IRSE(HK) Technical Forum - Introduction of DRL Perception-based Train Autonomous Control System

- Date:** 6th March 2026 (Friday)
Time: 18:00 hrs. to 18:45 hrs.
Venue: Auditorium, 2/F MTRHQs Building,
Telford Plaza, Kowloon Bay, Kowloon.
- Speakers:** **Mr LAU Ming Cheung Dennis**
Chief Signalling Design Manager
MTR Corporation Limited
- Support for Q&A:** **Mr TSANG Kai Yu Isaac**
Chief Construction Manager-Signalling (Operations)
MTR Corporation Limited

Abstract: The presentation will provide an overview of the **Perception-Based Train Autonomous Control System (PB-TACS)** implemented on the **Disney Resort Line** as part of its resignalling project. The presentation will begin with an introduction to the PB-TACS system architecture, with focus on its train-to-train communication concept under the TCT Signalling framework, and the role of perception-based technologies in enabling autonomous train operations. The presentation will also cover the system's compliance with international standards, such as IEC and EN, as well as relevant GB standards, ensuring full alignment with functional safety per international standards. In addition, the presentation will provide a progress updates on the Disney Resort Line resignalling works and the challenges during the implementation and customization.

Biography of Speakers

Mr. LAU Ming Cheung Dennis is currently the Chief Signalling Design Manager at MTR Corporation. He is responsible for overseeing the design, renewal, asset management and I&T projects of the signalling and electronic control systems for all MTR's operating metro lines and high speed rail in Hong Kong. Mr. Lau is a Chartered Engineer, a member Institution of Railway Signal Engineers and Institution of Engineering and Technology. He is Young Expert Member of China National Engineering Research Center



of Rail Transportation Operation and Control System and he is a member of China Association of Metro (CAMET).

Mr. TSANG Kai-Yu Issac serves as the Chief Construction Manager – Signalling (Ops) in the Hong Kong Transport Services Signalling Design Team, where he supports the design and delivery of the Disney Resort Line re-signalling project and provides day-to-day technical and system support for the signalling system across MTR railway lines. With experience in both brownfield and greenfield signalling works, he has contributed to major programmes including the Tuen Ma Line Signalling Upgrade and the East Rail Line re-signalling project. Prior to returning to Hong Kong, Isaac gained practical engineering experience in Canada through CBTC development at Thales (now Hitachi Rail) and avionics systems work at General Dynamics. A certified PMP, MIET, and MIRSE, he aims to support safe, reliable railway operations through steady, collaborative engineering practice.

No. of Participants: 80

Admission Fees: Free-of-charge.

Registration Methods: **Prior registration is required.** Applications will be accepted on a first-come, first-served principle.

Current members of IRSE(HK) are invited to make on-line registration via the [Activity] page of the IRSE(HK) website. The IRSE(HK) website will offer a free service to record the CPD hours for registered members who have attended the activity as scheduled.

URL: <https://irse.org.hk/activity/>

Successful registrants will be notified by a separate e-mail.

MTR Staff are welcome to attend the Technical Forum. Please send your **FULL Name, mobile no.** and **e-mail** to **Mr. CHEUNG Pan Yeung** (E-mail: pycheung@irse.org.hk) for registration.





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**Closing Date of
Registration:** **2 March 2026 (Monday)**

Activity Mr. SUNG Yuen Fat (E-mail: yfsung@irse.org.hk)
Coordinators: Mr. CHEUNG Pan Yeung (E-mail: pycheung@irse.org.hk)

****** All current IRSE(HK) Members and MTR Staff
are welcome ******

