Brand New "Smart Trainees" Join MTR
Customer Experience and Railway Maintenance also Enhanced and Intensified
with New Technology

Five robotic "smart trainees" will join the station operations team of the MTR Corporation and are targeted to begin service at Kai Tak Station starting from the third quarter of 2020. Meanwhile, with a focus on innovation and technology, the maintenance team is introducing a number of initiatives and new equipment, including the "Underframe Inspection Robot", to enhance the efficiency of railway maintenance. These new initiatives are the outcome of the collaboration with technology partners and of new technology to enhance railway service and operational efficiency.

Five robots (namely: "Finder-T", "Guider-T", "Checker-T" and two types of "Cleaner-T") joined the MTR with the aim of assisting station staff in providing customer service. As the robots are AI-powered, their abilities will grow through on-the-job training. Kai Tak will be the pilot station for smart operations with these "smart trainees" targeted to commence service in the third quarter of this year.

The "Finder-T" and "Guider-T" will answer passenger enquiries about journey planning and, with mapping function, lead passengers to designated locations in the station such as entrances/exits and toilets, while the "Checker-T" will patrol the station at night after the station close and help check on the status of facilities using image analysis. Meanwhile, the two types of "Cleaner-T" which are equipped with water filtration systems will automatically clean the station with eco-technology after daily service (please refer to the annex for the functions of the robots). The "smart trainees" are still in their learning phase with their software and functions requiring continuous testing and adjustment. The Corporation aims to study how these robots help enhance station services and gather passengers' feedback on their services.

With the dedication of MTR staff as well as a stringent railway operations and maintenance regime, MTR maintained a world-class level of passenger journeys on-time at better than 99.9% during the first five months in 2020. The Corporation has been putting substantial resources into railway maintenance and asset replacement, with the amount reaching over $9.8 billion in 2019. The Corporation will continue to invest in technology and innovative equipment to further enhance MTR's capability in maintenance. The "Underframe Inspection Robot" at Pat Heung Depot can scan the underframe of trains with high efficiency using image recognition and artificial intelligence. If any abnormality is found, the robot will alert maintenance staff for appropriate follow up.

The Corporation has also introduced real-time monitoring equipment including devices on the East Rail Line to monitor the condition of pantographs during train operations. In addition, an MTR Data Studio has recently been set up which can analyse big data collected from operations, paving the way towards round-the-clock monitoring of railway facilities.

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MTR Corporation Limited
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"MTR has been making use of new technology and equipment to assist staff in daily routine tasks and enhancing efficiency. Technology enables our station operations team to enhance customer service delivery, and the maintenance team on coming up with more forward-looking maintenance measures using big data and real-time monitoring. Talent remains the core of innovation and technology at MTR. We attach great importance to in-house development and training, and will continue to provide resources to our engineers to encourage them to explore innovative ideas," said Dr Tony Lee, Operations Director of MTR Corporation.

Version 1.0 of the "Integrated Speed and Position Supervision System" (iSPS) developed by the MTR engineering team is patented in Hong Kong and has been adopted across the whole Light Rail network since last year. The team is launching an upgraded version with an additional function of inter-vehicle management and is applying for a patent for the in-house development functions of the 2.0 version.

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About MTR Corporation

Every day, MTR connects people and communities. 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 more than 40 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 40,000 dedicated staff*, MTR carries over 13 million passenger journeys worldwide every weekday in Hong Kong, the United Kingdom, Sweden, Australia and the Mainland of China. MTR strives to grow and connect communities for a better future.

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

*includes our subsidiaries and associates in Hong Kong and worldwide

Photo caption:

1. MTR Operations Director Dr Tony Lee (middle), Chief of Operating Mr Sammy Wong (right) and Deputy Chief of Operations Engineering Mr Lu Wong (left) today introduce five types of "smart trainees" which will receive on-the-job training at Kai Tak Station.
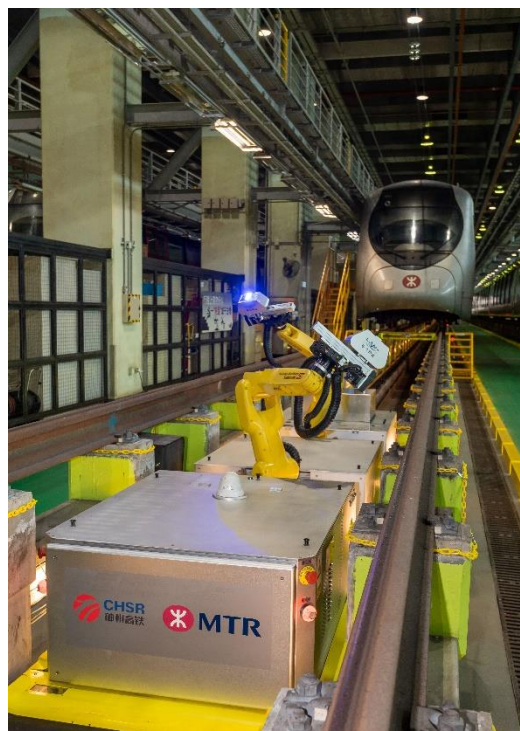

2. "Guider-T", "Checker-T" and two types of "Cleaner-T" (from left to right) will guide passengers in Kai Tak Station and assist in overnight inspection and cleaning.

3. "Finder-T" (left photo) and its "twin brother" will handle customer enquiries at Kai Tak Station and The LOHAS respectively.


4. The Underframe Inspection Robot at MTR Pat Heung Depot can scan the underframe of trains with high efficiency using image recognition and artificial intelligence.

MTR Robots

Robot	Functions
 Finder-T	• Answer passenger enquiries about journey planning and in-station facilities • Identify oversized luggage/baby prams and advise passengers to take the lift
 Guider-T	• Equipped with mapping function to lead passengers to designated locations in station, e.g. toilets, entrances/exits, MTR shops • Broadcast safety messages
 Checker-T	• Patrol station during non-traffic hours • With image analysis function to check status of station facilities e.g. lighting systems, signage and access doors, etc.
 Cleaner-T	• Equipped with water filtration systems, the robots can save more than half of the water consumed by manual cleaning per month • Fully autonomous cleaning of station after traffic hours
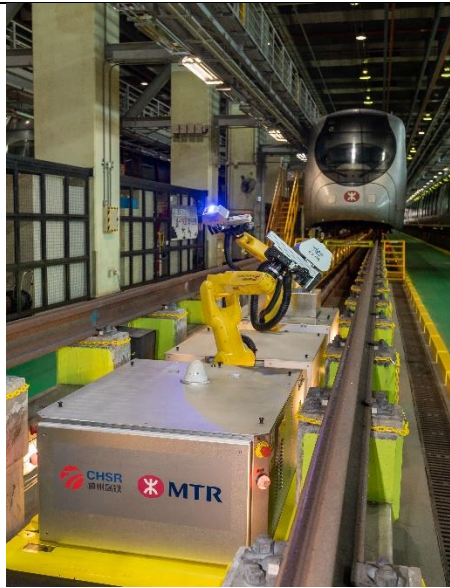
Underframe Inspection Robot	• Multi-angle shooting of train underframe with automated robotic arms • Equipped with image recognition and artificial intelligence to check for abnormalities under trains such as wear and tear of mechanical parts and foreign objects • If abnormalities are found, alert system for appropriate follow-up