

\$200 Million Investment in New Rail Maintenance Vehicles for Continued Safe, Reliable and Comfortable Journeys for MTR Passengers

They are big, they are yellow and they work only during the small hours of the night. This is the fleet of heavy machines at the heart of MTR Corporation's stringent track maintenance regime which inspect, grind and transport equipment to keep rails across the city in good shape. The work done by these machines along with continuous investment to upgrade and expand maintenance activities is critical to upholding MTR's high 99.9% on-time train performance.

As part of its overall asset renewal and upgrading strategy to maintain safe, reliable and comfortable passenger service, the Corporation is this year introducing about \$200 million worth of new track maintenance vehicles to add advanced capabilities and additional working capacity to the existing fleet.

The new vehicles are:

- Two Rail Milling Trains which move along tracks and polish them with state-of-the-art precision. The new trains offer a 40% increase in efficiency compared with existing grinding machines. They will be responsible for re-profiling tracks to maintain the proper shape and surface of rails on all 10 MTR heavy rail lines;
- an additional Turnout Grinder for re-profiling of turnout rails at track intersections on the East Rail, West Rail, Ma On Shan lines and Light Rail;
- a replacement Tamping Machine for packing and consolidating ballast (small stones) to maintain good alignment of East Rail, West Rail and Ma On Shan line tracks;
- a new Long Welded Rail Train to transport pre-welded long rail sections to facilitate faster replacement on the East Rail, West Rail and Ma On Shan lines.

(See Annex 1 for more details on the functions and procurement of the new maintenance fleet vehicles)

"Since 2007, when the MTR and KCR systems were merged, the amount of car-km we operate in our train service has increased by more than 11% while passenger numbers have grown by 28%. This puts more pressure on the track, so it is critical that we invest continuously to upgrade and expand our track maintenance activities, including the purchase of new machinery to ensure we keep our system in top condition. We have also adopted other measures including scheduling more frequent inspection and maintenance for turnouts and identifying additional standby locations for our maintenance Rapid Response Units," said Dr Tony Lee, Chief of Operations Engineering of MTR Corporation.

Among the new maintenance vehicles, Dr Lee said the most notable were the two Rail Milling Trains purchased from Austria at a cost of about \$72 million each. The new machines offer more advanced milling technology, higher cutting power and higher precision controlling the final profile of tracks. In addition, they need only one pass to finish a rail profile whereas the existing Rail Grinding Machines require five to eight passes.

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“While the existing grinding machines are able to re-profile 700m of rails in one overnight maintenance period of three hours, the new Milling Train can process 1km in the same time. This is a big increase in efficiency which provides us with a lot more flexibility in scheduling other maintenance tasks along our tracks during the small window that we have every night to do our work during non-passenger service hours,” he said.

The investment in the rail maintenance fleet forms part of the more than \$6 billion that MTR spends every year to upgrade, renew and maintain its railway assets and infrastructure.

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About MTR Corporation

MTR Corporation is regarded as one of the world’s leading railway operators for safety, reliability, customer service and cost efficiency. In its home base of Hong Kong, the Corporation operates nine commuter railway lines, a Light Rail network and a high-speed Airport Express link on which more than 5.4 million passenger trips are made on a normal week day. Another 4.9 million passenger trips are made on the rail services it operates outside Hong Kong in the Mainland of China, the United Kingdom, Sweden and Australia. In addition, the Corporation is involved in a range of railway construction projects as well as railway consultancy and contracting services around the world. Leveraging on its railway expertise, the Corporation is involved in the development of transit-related residential and commercial property projects, property management, shopping malls leasing and management, advertising media and telecommunication services.

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

Photo caption:

1. Mr Terry Wong, General Manager-Infrastructure Maintenance (left) and Dr Tony Lee, Chief of Operations Engineering (right) introduce the new Rail Milling Trains. They move along tracks and polish them with state-of-the-art precision. The new vehicles offer a 40% increase in efficiency compared with existing grinding machines and will undertake rail re-profiling on all 10 MTR heavy rail lines.



2. Rail surface finishing of rail milling



1. Rail Milling Train



Cost: Approximately \$72 million each

Quantity: 2

Commence service in July 2015

Service area: Tsuen Wan Line, Kwun Tong Line, Island Line, Tseung Kwan O Line, Tung Chung Line, Disneyland Resort Line and Airport Express, East Rail Line, West Rail Line and Ma On Shan Line

Function: The Rail Milling Train (RMT) is used for re-profiling of rail head surface in track.

Enhanced features of new Rail Milling Train:

- The RMT it is designed to finish the process in one pass and re-profile 1km of rail in three hours, an over 40% increase in efficiency compared to existing grinding machines.
- This frees up more time for other inspection and maintenance works.
- More environmentally friendly due to less grinding action and over 90% of removed metal is collected for recycling.

2. Turnout Grinder



(Turnout rails)

Date of Delivery: April 2015

Cost: Approximately \$3.9 million

Service area: East Rail Line, West Rail Line, Ma On Shan Line and Light Rail

Function: Re-profiling of turnout rails

3. Tamping Machine



Date of Delivery: August 2015

Cost: Approximately \$29 million

Service area: East Rail Line, West Rail Line and Ma On Shan Line

Function: Re-packing ballast (small stone) to maintain good alignment of tracks.

4. Long Welded Rail System



Date of Delivery: May 2015

Cost: Approximately \$23 million

Service area: East Rail Line, West Rail Line and Ma On Shan Line

Function: Transports pre-welded long section of rails to facilitate faster replacement at site.

Photographs show models of rail maintenance vehicles that are similar to the one ordered by MTR Corporation.