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Immersion of Giant Pre-cast Tunnel Units to Extend East Rail Line across Victoria Harbour

MTR Corporation is preparing to move 11 giant pre-cast tunnel units for the 1.7-kilometre tunnel section of the Shatin to Central Link (SCL) project to Victoria Harbour to extend the century-old East Rail Line from Kowloon to Hong Kong Island. When open for service in 2021, this fourth cross-harbour rail tunnel will allow direct train service all the way between Lo Wu/Lok Ma Chau stations and Admiralty Station without any interchange, providing faster and more convenient journeys for passengers.

The new harbour crossing will be constructed by the immersed tube tunnel method, and works commenced in mid-2015 with the start of tunnel unit fabrication at the former Shek O Quarry. Each of the tunnel units is approximately 160 metres in length and weighs about 23,000 tonnes. Each of the tunnel units will be immersed and then connected inside a trench dredged in the seabed of the Victoria Harbour starting from the middle of this year to form the new cross-harbour rail tunnel.

“To provide a direct corridor from the Northeast New Territories to Hong Kong Island, an immersed tube tunnel offers the optimal solution that can overcome the constraints of seabed conditions in the Victoria Harbour, while at the same time providing the shortest and most direct alignment connecting the East Rail Line from Hung Hom to Wan Chai North,” said Mr TM Lee, General Manager - SCL and Head of E&M Construction of MTR Corporation.

“Minimising any possible impact on the public during the construction is also of our utmost concern. An immersed tube tunnel only requires a relatively small working area in the harbour, and the process can be carried out with the least impact on the operation of vessels and harbour activities. All five of Hong Kong’s existing rail and road cross-harbour tunnels have adopted this method and it is proven to be the most suitable and effective for transport connections across the Victoria Harbour,” Mr Lee further explained.

Having been involved in the construction of three immersed tube tunnels in Hong Kong since 1986, Mr Fumihiko Aikawa, Construction Manager of MTR Corporation said he is proud to apply the expertise to this new cross-harbour rail tunnel. “I am privileged to be given such splendid opportunities to work in these challenging projects which form the most valuable memories in my career. I am now very excited to have the opportunity to build an immersed tunnel in Hong Kong again after 20 years and I am proud to work with the team to further enhance Hong Kong’s transport network.”

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Targeted for commissioning in 2021, the new harbour crossing will form a North South Corridor of the SCL by extending the East Rail Line from Hung Hom Station to connect to the future Exhibition Station in Wan Chai North and the existing Admiralty Station. It will help to relieve cross-harbour traffic congestion, and allow passengers on the East Rail Line to travel from Hung Hom to Admiralty in just five minutes without any interchange; a huge improvement when compared to the current route that requires two interchanges and a journey time of 18 minutes.

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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 ten commuter railway lines, a Light Rail network and a high-speed Airport Express link on which more than 5.5 million passenger trips are made on a normal week day. Another 5 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 Captions:

1. Under the SCL project, the East Rail Line will be extended to Hong Kong Island via a newly built 1.7-km cross-harbour rail tunnel.



2. Mr TM Lee, General Manager - SCL and Head of E&M Construction (left) and Mr Fumihiko Aikawa, Construction Manager (right) of the MTR Corporation strive to overcome the challenges of the immersed tube tunnel construction, with a view to delivering the fourth cross-harbour rail tunnel as soon as practicable.



3. The SCL cross-harbour tunnel consists of 11 pre-fabricated tunnel units, each of which is about 160 metres long on average and weighs about 23,000 tonnes.

