

啟德鑽油台？ An Oil Rig in Kai Tak?



大家或會留意到，觀塘避風塘最近出現了兩座看似鑽油台的裝置，其實，它們是為T2主幹路工程進行海床地質勘探的「頂升平底船」，會在海底鑽15個探孔，為施工提供重要工程資料。

One may have noticed recently two conspicuous set-ups in Kwun Tong Typhoon Shelter which resembles, to a certain degree, an oil rig. These are actually jack-up barges conducting marine geological investigations along the Trunk Road T2 tunnel alignment. They will be sinking 15 drill holes into the seabed to gather essential information for the construction works.

為何要進行地質勘探？ Why is geological investigation necessary?

地質勘探會提供地層特性——如岩石力度和節理——的詳細資料，有助工程師設計出合適的隧道鑽挖機。除此以外，通過勘探可以得知隧道沿線的斷層或脆弱地帶，以制定相關控制措施。

Geological investigations will provide detailed information about the types of ground the TBMs will have to bore through, together with their properties like rock strengths and jointing, to facilitate the design of the TBMs. Furthermore, the investigations will reveal the presence of any fault or weak zones along the tunnel alignment for control measures to be implemented accordingly.

勘探如何進行？ How does it work?

要進行海床地質勘探，先要設置一個穩定的水上平台。頂升平底船配備四條伸縮支柱，可按需要伸延及坐落於海床上。在完成一個探孔後，頂升平底船會收回支柱，拖往下個鑽探位置繼續作業。

The provision of a stable working platform is necessary for drill holes to be sunk. The jack-up barge has four retractable legs that can extend onto the seabed in case of need. The barge moves, with any extended legs retracted, from one location to another by being towed.

啟德 KAI TAK 新里程 On the Move

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T2 主幹路工程全速推展 貫通中東九龍 指日可待

Trunk Road T2 project rolling full steam ahead

Connecting central and east Kowloon;
coming soon



只需 3 分鐘
only 3 minutes

啟德
Kai Tak

藍田
Lam Tin



T2主幹路：城市未來大動脈 Trunk Road T2 A Major Road Link in the Making

在不久的數年後，往來啟德與藍田之間的交通時間，會由現時約15分鐘縮減至3分鐘，因為屆時車輛可使用新建成的T2主幹路。這項工程（當中涵蓋東面的茶果嶺隧道）已於2019年11月展開，預計在2026年完成，屆時觀塘繞道、觀塘道及九龍東區內主要道路的交通情況將得以顯著改善。

T2主幹路屬六號幹線的中間路段，西接中九龍幹線，東連將軍澳—藍田隧道。六號幹線是香港策略性道路網絡的一個重要部分，整條幹線通車後，於繁忙時段往來將軍澳市中心與油麻地的車程，會由現時大約65分鐘，大幅減少至12分鐘。



In just a few years' time, travelling between Kai Tak and Lam Tin will take substantially less time, from the present 15 minutes reduced to 3 minutes, thanks to Trunk Road T2 which will by then be newly completed. Works for the project – including the Cha Kwo Ling Tunnel at the eastern end – commenced in November 2019, with anticipated completion in 2026. The road will significantly improve the traffic conditions of Kwun Tong Bypass, Kwun Tong Road and other main roads in Kowloon East.

Connecting to the Central Kowloon Route on the west and the Tseung Kwan O – Lam Tin Tunnel on the east, Trunk Road T2 constitutes the middle section of Route 6, a major component of Hong Kong's strategic road network. Upon commissioning of the entire Route 6, travel time during peak hours between Tseung Kwan O Town Centre and Yau Ma Tei will be substantially shortened from about 65 minutes now to 12 minutes.

- 工程範圍**
Scope of Works
- 長約3.4公里的雙程雙線主幹路，其中2.1公里設於海床之下
A 3.4 km long dual two-lane trunk road, with 2.1 km routed under the seabed
- 交通管制和監察系統
Traffic control and surveillance systems
- 相關的土木、結構、機電及環境美化工程
Associated civil, structural, landscaping, electrical and mechanical works
- 兩座通風大樓
Two ventilation buildings



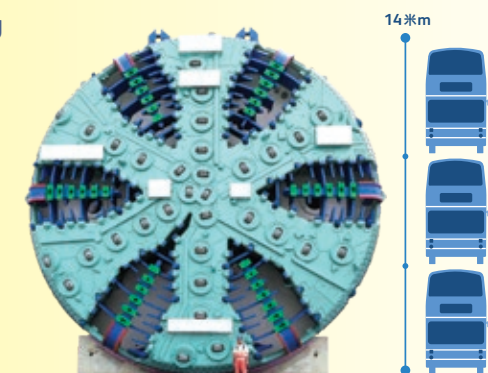
先進建造技術 State-of-the-art Construction

T2主幹路工程將使用兩台隧道鑽挖機，同步建造隧道的兩條管道。

隧道鑽挖機技術在世界各地的大型隧道項目中均有採用，鑽挖機構造相當複雜，具有雙重功能——鑽挖隧道、並同時安裝隧道襯砌預製件，以組成隧道壁結構。利用隧道鑽挖機建造這項工程，可減免在觀塘避風塘及維多利亞港海面施工的需要。

The Trunk Road T2 project will be constructed using two Tunnel Boring Machines (TBMs) deployed concurrently, one for each tunnel tube.

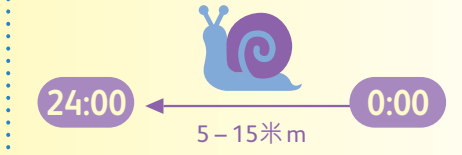
TBM is a safe and efficient tunnelling technology adopted in major tunnelling projects worldwide. The machine is a highly sophisticated construction plant that serves dual purposes – as it bores the tunnel, it also installs precast tunnel lining segments to form the tunnel structure. The use of TBMs in this project minimizes the need for marine construction works in Kwun Tong Typhoon Shelter and Victoria Harbour.



隧道鑽挖機現正在製造階段，工程團隊引進了多項先進技術，讓它不僅能應付預期之中從堅石到軟土以至泥石流夾雜多變的地質，並可克服在海平面以下超過40米深度建造隧道的各種挑戰。

The TBMs are currently under fabrication. The project team will be equipping them with state-of-the-art technologies for tackling not only the anticipated diverse geology from hard rock to soft and mixed ground, but also challenges arising from sub-sea tunnelling at depths exceeding 40 m below sea level.

隧道鑽挖機的直徑為14米，高度比拼三輛疊在一起的雙層巴士。有趣的是，如此強大的機器在運行時，前進步伐僅為每天5至15米，速度比蝸牛還要慢！



14 m in diameter, the TBM is as tall as three double-decker buses stacked up. Interestingly, in operation, such a powerful machine moves forward at a pace of only 5 to 15 m daily, even slower than a snail!



社區聯絡中心 Community Liaison Centre

為加強與公眾的溝通，土木工程拓展署在九龍灣臨澤街設立了T2主幹路社區聯絡中心。訪客可透過多樣互動展品及模型，增加對工程項目和隧道建造的瞭解，歡迎各界人士蒞臨參觀。

配合這項工程提升建造技術的大方向，社區聯絡中心亦是以高效能的「組裝合成建築法」建造而成。

To enhance communication with the public on the Trunk Road T2 works, the Civil Engineering and Development Department has set up a project Community Liaison Centre (CLC) at Lam Chak Street, Kowloon Bay. Visitors will be introduced to the project and tunnel construction through various interactive exhibits and models. We welcome all interested to come and visit us*.

In line with the technology advancement initiatives of the project, the CLC was constructed using the innovative Modular Integrated Construction (MiC) method.

* 社區聯絡中心一般開放時間為週一至週六；惟鑑於2019冠狀病毒病疫情，訪客宜事先致電6130 8155聯絡我們，查詢最新安排。
The CLC is open from Monday to Saturday generally. Nevertheless, in view of COVID-19, visitors are requested to contact us at 6130 8155 in advance for the latest arrangement.

項目模型 Project Model

一座按1:1500比例構建的T2主幹路模型，配備「擴增實境」技術，以互動方式展示主幹路的走線以及交通交匯處。

A 1:1500 scale project model equipped with Augmented Reality to show interactively the alignment of Trunk Road T2 and traffic movements at the interchanges.

趣味角 Fun Corner

「趣味角」設有隧道組裝遊戲，讓訪客親身體驗如何以「隧道襯砌通用組件」巧妙地建造不同彎曲度的隧道。

At the Fun Corner, visitors can explore with their hands a tunnel lining puzzle to find out how the ingenious universal lining segment design allows the tunnel to negotiate bends large and small!

3D 全息投影 Hologram Projection

3D全息投影裝置，展示工程項目的特點及建造技術。

A 3D holographic projector visualizing particular features of the project and its construction.

電視幕牆 TV Curtain Wall

電視幕牆會播放相關工程資訊及短片。

A TV wall displaying interesting information and videos about the project.

隧道鑽挖機模型 TBM Model

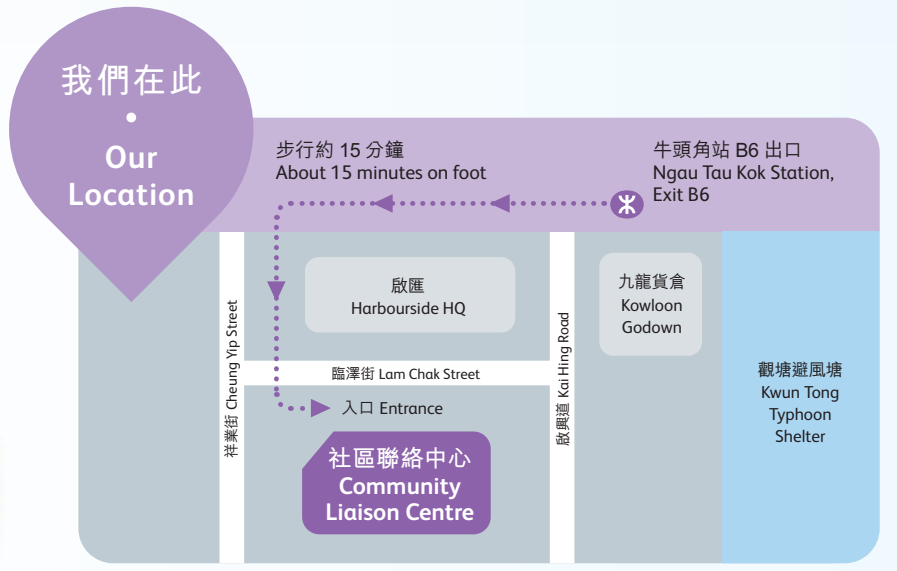
一台按1:50比例構建的電動隧道鑽挖機模型，詳細展示鑽挖機的組件及操作。

A 1:50 scale motorised TBM model, showing in detail the components and operation of the machine.

「組裝合成建築法」 Modular Integrated Construction

佔地210平方米的社區聯絡中心，只用了3天時間便完成組裝。「組裝合成建築法」以「先裝後嵌」的概念達至多重效益，既能加強工地安全、令施工過程更為環保，亦同時提高工程質素及生產效益。

Erection of the 210 square-metre CLC has taken only 3 days to complete, thanks to the “factory assembly followed by on-site installation” methodology of MiC, which brings about enhanced works safety, more environment-friendly construction, as well as better works quality and higher productivity.



查詢有關參觀社區聯絡中心事宜，可致電 **6130 8155**
For details of visit, please contact the CLC at **6130 8155**

