TUNNELLING WORKS ON SCHEDULE: Assembly of a main shield of the variable density tunnel boring machine (TBM) in preparation for the tunnel drive for the Klang Valley Mass Rapid Transit (KVMRT) Sungai Buloh-Kajang line from Cochrane station towards Pasar Rakyat station. Currently, 4 TBMs are already in the ground and mining, 2 from Cochrane to Pasar Rakyat and 2 from Semantan to KL Sentral. To date, tunnelling contractors MMC Gamuda KVMRT (T) Sdn Bhd have not encountered any major issues in the tunnelling works. SEE P4

MRT tunnelling progress is at 35%

Malaysia's largest rail construction project by value approaching half-way stage

by JOHN GILBERT

THE Klang Valley Mass Rapid Transit (KVMRT) Sungai Buloh-Kajang Line, the country's largest rail construction project by value, is approaching the half-way stage, with 35% completion for the underground section.

A total of four tunnel boring machines (TBMs) are currently deployed for the underground tunnelling works, with two TBMs from Cochrane to Pasar Rakyat and two from Semantan to KL Sentral.

"Since tunnelling works began at the end of May 2013, our tunnelling contractors MMC Gamuda KVMRT (T) Sdn Bhd have not encountered any major issues and tunnelling works are progressing smoothly with four TBMs in action now.

"Overall progress of the KVMRT Sungai Buloh-Kajang line is currently at 24%," Mass Rapid Transit Corp Sdn Bhd (MRT Corp) CEO Datuk Azhar Abdul Hamid said.

MRT Corp is the project owner of the KVMRT system and MMC Gamuda is the contractor handling the underground works package of the project.

The 51km MRT line will run underground for a distance of 9.5km and will have seven underground stations.

Touching on the ground geological conditions, Azhar said MRT Corp contractors are working in two very different geological formations, the first part is of Kenny Hill formation and the second-half (2H) of the underground alignment, which is from Bukit Bintang to Maluri, is of karstic limestone formation.

"Kenny Hill formation is relatively easier to bore through and we will be using the earth pressure balance (EPB) type of TBM for Kenny Hill.

"For the 2H of the underground alignment, we have extreme karstic formation, which is a type of geology that is riddled with cavities (voids) and mining that has to be carefully undertaken," he said.

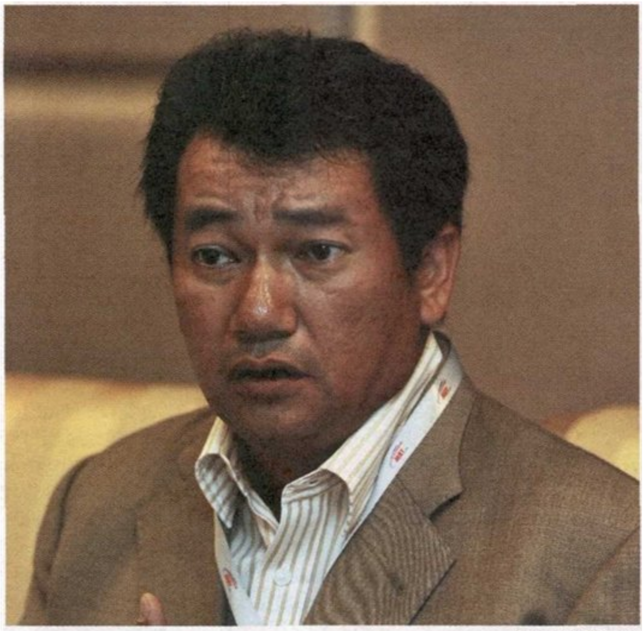
For this geology, MRT tunnelling contractors are using the variable density machine (VD), a type of slurry machine with modifications to alter the density of the slurry used.

The machine, the first of its kind in the world, uses sophisticated technology and will reduce the risk of sinkholes, subsidence and settlement on the ground.

"We are using four EPB TBMs to tunnel through the Kenny Hill formation part of the alignment and six VD TBMs to tunnel through the Kuala Lumpur limestone part of the alignment," he said.

The total number of TBMs for the construction of the KVMRT Sungai Buloh-Kajang line is 10 units, with eight already delivered while two are currently being shipped here.

Eight TBMs are manufactured by German-based company Herrenknecht AG while the remaining two are by Chinese company, China Railway Engineering Corp.



Pic by Hafzi Mohamed

According to Azhar, overall progress of the KVMRT Sungai Buloh-Kajang line is currently at 24%