



Topcon GPT Total Stations Allow Us to Constantly Maintain Positioning Accuracy within Millimeters

'After-sales service and technical support expertise offered by Al Fajer – a Topcon dealer in UAE – made our choice easiest'

Dubai Metro project is one of the largest construction projects in history. This huge project is incorporating the most advanced technologies available today.

Dubai Metro partially opened its new driverless urban metro network in the Gulf's Arab states on Sept. 9, 2009. At this first stage, the 70km metro has two lines with a total of 13km underground portions. The 52.1km long Red Line has 29 stations, four of which are located underground. The 17.6km long Green Line is under construction and will have 14 stations, including six underground stations. Design, construction and rail vehicle systems for this

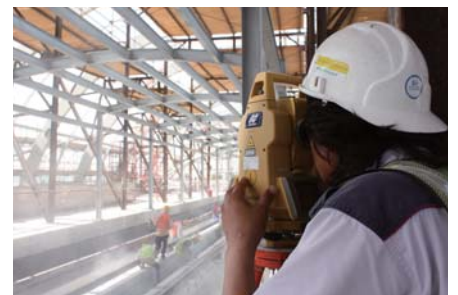


George Tsang, chief surveyor of JTM JV (left)

massive project were awarded to the Dubai Rail Link (DURL) Consortium in May 2005. The main contractor was the JTM JV (Japan Turkey Metro Joint Venture) comprised of Obayashi, Kajima in Japan and Yapi Merkezi in Turkey.

Construction work officially commenced in March 2006, with a goal of achieving the highest possible construction standards and norms. According to Tunnels & Tunnelling magazine, "The structural design of the segmental lining was conforming to the British Standard BS 8110." "The lining was fire-rated to four hours in fulfillment of the contract." This high standard was applied to "provide the 100-year design life durability."

Positioning and surveying accuracy must be in line with this high construction standard. George Tsang, chief surveyor of JTM JV, said, "When we selected the positioning equipment for this work, we placed top priority on product quality, accuracy and after-sales service capability so that we may achieve high-quality, high-precision construction right on the time schedule. After-sales service and technical support expertise offered by Al Fajer – a Topcon dealer in UAE – made our choice easiest."



"Accurate and powerful non-prism EDM of the GPT-7500 total station was a key to success in the construction and monitoring of the Metro mega steel structures," Tsang said. "Our tasks included accurate positioning of bolts and binders. Among others, determinations of tie points and deflections from the original design were particularly important." "Topcon GPT-7500 and GPT-7000 allow us to constantly maintain positioning accuracy within millimeters. As a matter of fact, the results exceeded our expectations. The overall distortion in the 3D control point network was extremely low, although we took numerous observations in different times over the construction period," Tsang said.