

TERRATEC TBMS BREAKTHROUGH ON PUNE METRO



Gulermak-TATA Projects JV celebrates the breakthrough of TBM tunnelling on the underground works on Line 1 of the Pune Metro, in India.

In early-November, TERRATEC joined officials from Maharashtra Metro Rail Corporation Limited and workers from Gulermak-TATA Projects Joint Venture to celebrate the breakthrough of a 6.61m diameter TERRATEC Earth Pressure Balance (EPB) Machine, named 'Mula', Pune Metro Rail Project, in Maharashtra, India. The machine holed through the underground Civil Court Station on Pune Metro's 16.56 km Line-

1 (Purple Line).

The major milestone saw Gulermak-TATA Projects JV complete twin-tube tunnels between the start of the ramp at chainage 10950 and NATM section at the start of Civil Court Station at chainage 12600, a total of approximately 1650 metres of TBM tunnelling. The TBM's excavated through Shivaji Nagar Station.

The two 6.61m diameter

TERRATEC Earth Pressure Balance (EPB) Machines, the S78 TBM named 'Mutha' and the S79 TBM named 'Mula', broke through at the end of Sept. and early Nov. at the northern end of a 155-meter scissor crossover, built by the NATM at the start of Civil Court Station launched from near the College of Agriculture at the end of 2019, completing their second drives of the project. It was a good achievement considering the hard rock and

being in a densely populated area. Also, during the difficult time of lockdown, Terratec's field service team was available at the jobsite to support the JV team and the JV team achieved the best monthly progress of 301 metres.

In 2019, Maharashtra Metro Rail Corporation Limited (MahaMetro) announced that the joint venture had won both of the twin-tube tunnel packages on the new 16.56km-long north-south metro corridor. The 5km underground section – which runs from the College of Agriculture in Shivajinagar to Swargate and has five stations – is considered the most challenging portion of the line, as it passes under the densely populated areas of Kasba Peth, Budhwar Peth and Mandai market.

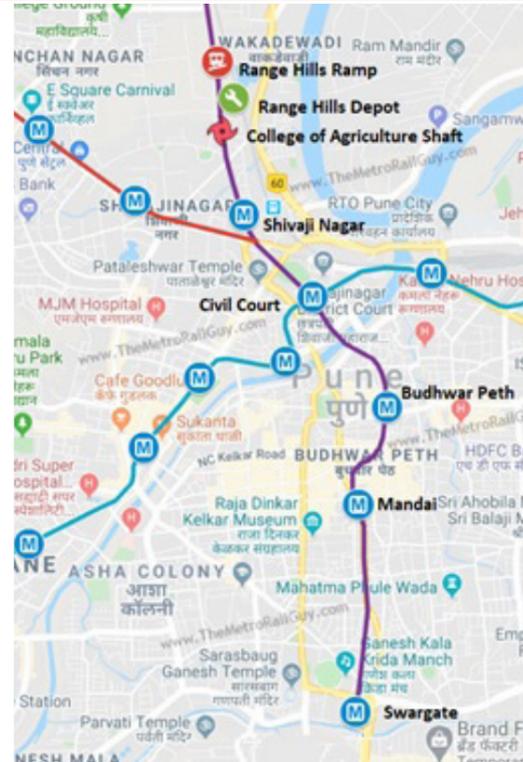
The TERRATEC EPBMs feature robust mixed-face dome-style cutterheads designed to work effectively in the compact Basalt that is expected on these contracts at pressures of up to 4 bar. As the TBMs progress, 1,400mm wide by 275mm thick pre-cast concrete lining rings will be installed, which consist of five segments plus a key.

Meanwhile, the city's third TBM (S81) is expected to be launched northwards towards Mandai Station early next year with assembly commencing in December 2020.

Earlier in August, Larsen & Toubro also celebrated the breakthroughs of two 6.57m

diameter Earth Pressure Balance machines supplied by TERRATEC for Package 2 (East-West Corridor) of the 20.7km long Line 1 of the Ahmedabad Metro, in western India. Both machines completed their second drive and the final drive of 1.4km from underground Stations Gheekanta to Shahpur.

TERRATEC's continuing success on projects such as Phase III of the Delhi Metro, Lucknow Metro, Pune Metro, Ahmadabad Metro and Mumbai Metro is a result of tailor-made robust TBM design, prompt onsite assistance, readily available stock of TBM spares and highly-skilled specialised TBM support throughout tunnelling operations.



TERRATEC MTBM SYSTEM BREAKS THROUGH IN AHMEDABAD, INDIA

In early December, a TERRATEC Micro Tunnel Boring Machine (MTBM) achieved a major milestone on the city Ahmedabad's new sewage tunnel system in India. The first time, the city uses the microtunnelling method to lay trunk-lines underground for transferring sewage water.

TERRATEC MTBM has been selected by the ITD Cementation India Limited to build a new sewage system in the western part of the city Ahmedabad. The city's existing

drainage system struggles to keep up with the current demand and suffers from frequent floods.

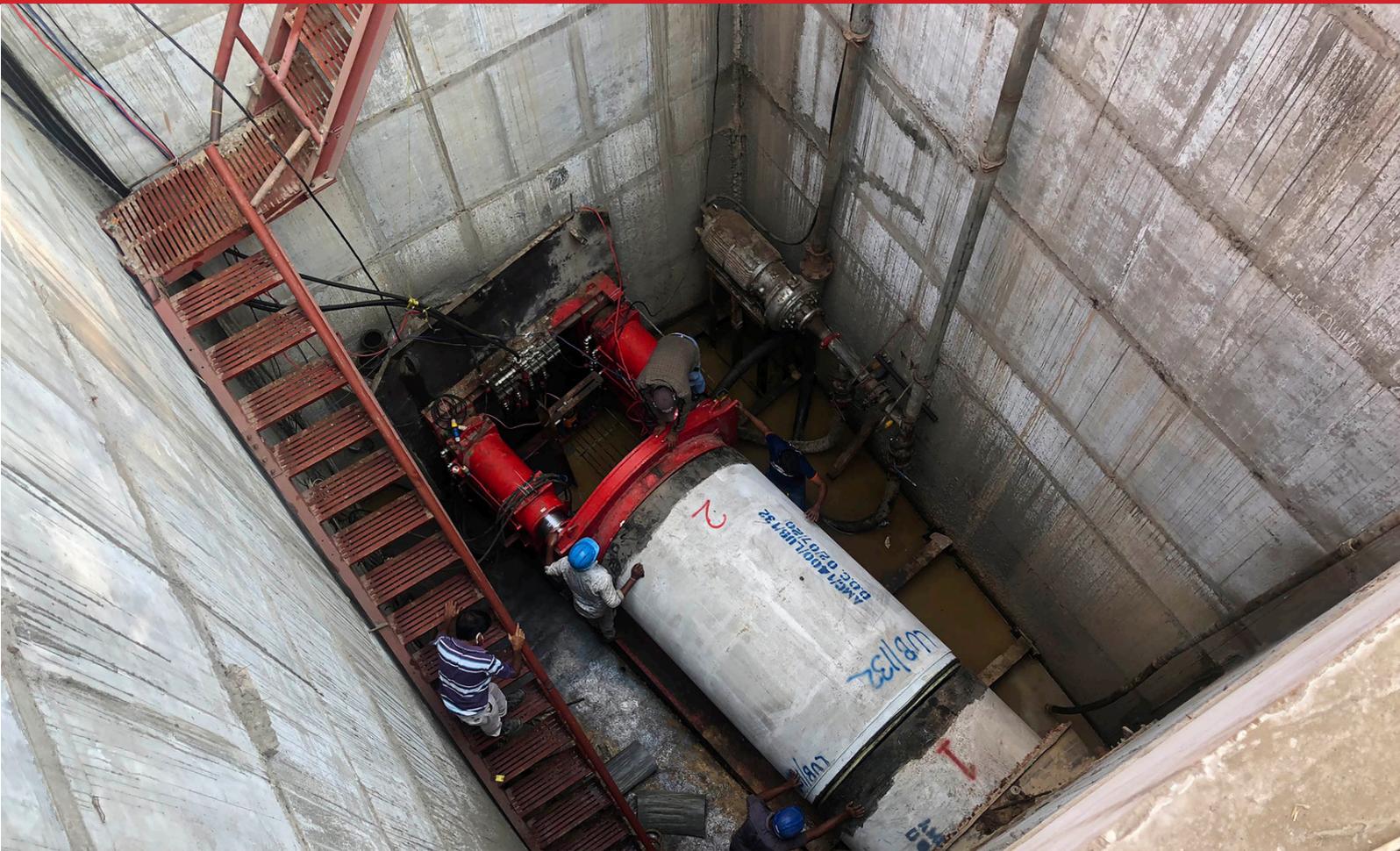
The new trunk-line in the western part of the city will cover the area from Vadaj Circle to Mahalaxmi Char Rasta – a stretch of about 6.5km. Sewage water from existing lines will be diverted into this line and transported to the Sewage Treatment Plant (STP) at Vasna for treatment. The transport capacity will also be increased to 550 million litres of sewage

water per day upon completion of the project.

This MTBM System was designed for DN1400 concrete pipes with the option of a later size increase and upgrade for DN1600 pipes. TERRATEC's scope of supply includes the MTBM Shields, Main Jacking Stations, Intermediate Jacking Stations, Slurry Transport and Lubrication Systems, digital Guidance Systems and Control Room. In addition, TERRATEC also provided ITD a service package on site which included

TERRATEC Microtunnelling System achieved swift progress on major sewage project in Ahmedabad, India. The first time this versatile technique has been used in the city.





the dispatch of key engineers and MTBM operators.

The project has begun in Vadaj area and it will take about 2 years for completion of the trunk-line. The lines will include different diameters of 1400mm and 1600mm.

The machines are to bore in the Ahmedabad soil composed of clay, stiff clay and sand. Some state-of-the art features include a Cone Crusher integrated into the CutterHead structure and Terratec laser guidance system.

“Being the leading TBM supplier to Indian Tunnelling (Metro, Hydro, Sewerage) industry, TERRATEC continues

to perform well with another MTBM breakthrough in the country.” says Gulshan Gill, Managing Director of Terratec in India. “In the past 10 years, TERRATEC has supplied TBMs, MTBMs, rolling stock systems to contractors in the tunnel construction industry including LNT, TATA, ITD, HCC, J.KUMAR, PATEL, SOMA, GULERMAK and SAMSUNG. As a matter of fact, TERRATEC TBMs has completed over 70 km of the accumulated tunnel in a timely and safe manner.”

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