

Concrete Contracting

SC-130 Tiger Plus for new metro project



By Richard High, 12 March, 2024



Construction of the new Metro C underground station in the central Piazza Venezia is expected to cost €700 million (£598 million) and take 10 years.

A new SC-130 Tiger Plus diaphragm wall cutter working for the Metro C S consortium (Webuild and Vianini Lavori) has arrived in Rome ready to start construction of the city's new Stazione Venezia metro station.

Following its 320km journey from Soilmec's factory in Cesena, the SC-130 Tiger Plus will be used to excavate the perimeter walls of the new station to a depth of 85m.

Commissioned by Roma Metropolitane, the new Piazza Venezia metro station will have six, 4,500-sq-m underground levels, three entrances - Palazzo Venezia side, Auditoria di Adriano, and Vittoriano, and will be the central hub of the new Line C, the capital's first self-driving underground line.

One of the biggest difficulties of working on construction sites in an urban setting, according to Andrea Di Eugenio, Soilmec's head of global product management & service, is the limited surface area available: this is even more true in a city like Rome.

To overcome this problem, the Metro C S consortium decided to use the compact, 185-tonne, 563kW SC-130 Tiger Plus diaphragm wall cutter, which has a footprint of just 6 x 6.7m.

"Hydromill machines are generally used for excavations with a depth that varies between 40 and 70 m. In this case, it reaches up to 85 m, a record for Roman metro stations and a real engineering challenge, considering the context in which it will have to operate," said Di Eugenio.

The Venezia stations will be one of the so-called four 'archaeo-stations' of Line C, together with San Giovanni, Porta Metronia and Colosseo/Fori Imperiali, designed to display the archaeological finds discovered during excavations.



The T3 section, which is currently 91% complete, runs for 3km from the San Giovanni station (operational since 2018) to the Colosseo/Fori Imperiali station (under construction). It includes the Porta Metronia and Colosseo/Fori Imperiali stations, scheduled to open in 2025.

To date, the work in progress employs about 400 people, including direct and third-party personnel, and involves a supply chain of about 1,600 companies since the start of the work. Line C will provide a sustainable and efficient connection between the centre and the suburbs, with positive effects on traffic levels and air quality.

The work also represents a unique opportunity to safeguard archaeological treasures, creating new models for display and enjoyment of cultural heritage that otherwise would not be available to citizens and tourists. Line C will also be one of the most innovative metro lines in Italy, with driverless trains, remotely guided without drivers on board, similar to those used on the metro lines Webuild is building in Milan M4, and Riyadh.