

PRESS RELEASE

VIVIANA

THE FIRST OF THE SEVEN NEW TBMs OF THE LYON-TURIN BASE TUNNEL

The TBM was baptised by ministers Salvini and Tabarot in Saint-Martin-la-Porte (Savoie)

Saint-Martin-La-Porte, 1st April 2025 – The first of the seven tunnel boring machines that will excavate the Lyon-Turin base tunnel is named **Viviana**. This powerful machine will excavate the **9 km tunnel between Saint-Martin-La-Porte and La Praz**, in France. In line with the underground work tradition, the TBM was baptised with a female name: Viviana, in honour of the wife of **Mario Virano**, TELT's first general director who passed away in June 2023, a key figure and passionate supporter of the Italian-French dialogue for the Lyon-Turin project. The baptism ceremony organised by TELT (contractor and binational public promoter of the railway cross-border section) was attended by the **Italian Vice-President of the Council of Ministers and Minister of Infrastructure and Transport, Matteo Salvini, and the French Minister of Transport, Philippe Tabarot**, who unveiled the TBM's name and symbolically signed the TBM cutterhead. **Daniel Bursaux and Maurizio Bufalini**, TELT President and General Director respectively, were also present at the ceremony.

The event was held in the presence of Mario Virano family, the Prefects of the Savoie and Turin, François Ravier and Donato Cafagna, the representatives of the *Gruppo Ferrovie dello Stato Italiane*, the French and Italian Intergovernmental Committee Presidents, Josiane Beaud and Paolo Foietta, the CO 6/7 Italian French group of companies directors composed by VINCI Construction Grands Projets (group head), Webuild, Dodin Campenon Bernard and Campenon Bernard Centre Est, as well as the managers of the construction project management SETEC / Systra / Italferr and PINI Group/ARX.

Viviana, a «made in Europe» TBM specially designed for the Lyon-Turin railway line

Viviana, the state-of-the-art TBM that will be used in the construction site of the future Lyon-Turin railway line, is the symbol of the **technological excellence in this field**. Designed, built and assembled in the Herrenknecht factory in Schwanau (Baden-Württemberg), the last TBM factory still in operation in Europe, the new TBM is the result of an international collaboration involving different European companies, a dozen of which are Italian and French.

With a **length of 180 metres**, a **diameter of 10.4 metres** and a **weight of 2,300 tonnes**, this machine is designed and equipped to meet the challenges of this great work. The cutterhead is equipped with 61 cutters that break the rock as they advance through the mountain. After its passage, Viviana directly lays the concrete segments (8 segments) to guarantee the stability of the tunnel where the trains between Italy and France will travel. It is a real travelling factory, with 10 trailers, which transports the rocks to the surface via an integrated conveyor belt system, optimising the excavation process and the reuse of the extracted materials. **With its power of 8,100 kW, Viviana will advance at a speed of 300 to 450 metres per month.**

The construction site is active 24 hours a day: around 15 professionals on board the tunnel boring machine ensure its operation and supervise the operations necessary for the construction of the tunnel.

The 6/7 operational construction site: in the heart of the Mont Cenis base tunnel

The Lyon-Turin railway international section is under construction with **eleven operational construction sites on both sides of the Alps**, above-ground and underground. One of the most important is the **6/7 operational construction site for the excavation of a total of 36 km of base tunnel between Saint-Martin-la-Porte and Modane, to be carried out using the traditional method and three TBMs**: Viviana will excavate 9 km of tunnel, in parallel with the tunnel already constructed in 2019 by the Federica TBM (as part of preliminary works); the other two TBMs will be subsequently used to excavate the twin-tube tunnel in the section between La Praz and Modane.

This construction site, which operates from two main access points, Saint-Martin-la-Porte and La Praz, includes not only the excavation of the two tubes of the base tunnel, but also the construction of service tunnels and the creation of the necessary safety infrastructure, for a total of 46 km of tunnels to be excavated.

A quarter of the Lyon-Turin cross-border section has already been excavated

To date, **more than 41 km of excavation work has been completed out of the 164 km** planned for the new railway line (25% of the work). Of these, almost 17 km concern the base tunnel. The entire project is currently under construction with 11 construction sites operating between Italy and France, employing 2,800 people. In the next years, at the peak of the work, **4,000 people are expected to be employed and seven TBMs will be in operation simultaneously**. Of these, one TBM is in the construction site, four have been delivered to the factory, and the first of the two TBMs for the excavation of the tunnel section in Italian territory has been ordered.

Statements:

Daniel Bursaux and Maurizio Bufalini, TELT President and General Director: *'This baptism marks a decisive milestone for TELT and the Lyon-Turin project. Over the next three years, seven TBMs will be progressively used to excavate the tunnel simultaneously, significantly speeding up the work. We are proud to participate in an initiative that will allow Europeans to be better connected by train in the future. Viviana represents not only a technical breakthrough but also a tribute to Mario Virano, who played a crucial role in our project.'*

TELT is the bi-national public promoter responsible for the construction and the management of the cross-border section of the Lyon-Turin freight and passenger rail link. The company is 50% owned by the Italian state, through Ferrovie dello Stato Italiane (FS), and 50% by the French state.

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