

PRESS RELEASE

RFI – WEBUILD: FOR THE FIRST TIME IN ITALY, HYPERBARIC EXCAVATION IS BEING USED FOR THE CASALNUOVO TUNNEL ON THE NAPLES-BARI HIGH-SPEED/HIGH-CAPACITY RAILWAY LINE

EXCAVATION OF THE ROCCHETTA AND ORSARA TUNNELS STARTS THIS SUMMER

- *Following best practice in Europe, excavations will be carried out by inserting compressed air to keep groundwater out of work areas*
- *At the end of the work on the entire Naples-Bari line, scheduled for 2028, the two cities will be 2 hours apart, compared to about 4 today, and Rome and Bari will be 3 hours apart.*

Naples, 21 May 2024 — An innovative and sustainable excavation technique is being used for the first time in Italy at construction sites for the Naples-Bari high-speed/high-capacity railway: excavation is taking place in a hyperbaric atmosphere introduced by Webuild on the Naples-Cancello Lot. The work to construct a section of the Casalnuovo artificial tunnel lying partially under the water table was commissioned by Rete Ferroviaria Italiana (RFI), the leading company in the infrastructure hub of the FS Group.

A fundamental characteristic of hyperbaric excavation is the use of compressed air as a method for carrying out excavation operations in the presence of water. In fact, the pressure introduced into the site keeps water out of the work areas, leading to advantages from an environmental point of view, in that the aquifer does not come into contact with cement mixtures and chemical additives. About 650 meters of the new tunnel, which crosses a heavily urbanized region, are being excavated non-stop, 7 days a week, 24 hours a day, thanks to this new technique, which represents one of the few applications for this type of work in Europe.

Adequately trained workers enter the hyperbaric regime through gradual adaptation in a special compensation chamber that provides for a maximum of 20 workers per shift. Gradual compression in the chamber lasts an average of 20 minutes. Depending on the excavation phase, the pressure fluctuates between about 0.3 and 1.2 atmospheres. All activities are carried out following procedures and specific technical and health protocols that ensure the greatest safety and health for workers during the work.

The construction of the Casalnuovo tunnel, which is due to be completed in mid-2025, entailed the preparation of complex and innovative plant engineering developed with the involvement of specialized technicians and highly qualified international suppliers.

The Webuild works, commissioned by Rete Ferroviaria Italiana, are also proceeding in parallel on other Lots of the line. In fact, two new TBMs (tunnel boring machines) are currently being assembled and will be used to start the excavation — scheduled for summer — of the Rocchetta Tunnel (Apice-Hirpinia Lot), about 6.4 km long, and the Orsara Tunnel (odd tunnel of the Orsara-Bovino Lot), about 10 km long. Meanwhile, the excavation of the Grottaminarda Gallery, about 2 km long, is also continuing on the Apice-Hirpinia Lot, with about 60% of the route constructed and expected to be completed by summer.

In total, the future high-speed line between Naples and Bari will be 145 km long, with 9 tunnels (including the Hirpinia Tunnel, about 27 km long, which will compete with the Valico tunnel in Genoa for the record of the longest tunnel in Italy), 25 viaducts and 16 new stations and stops.

At the end of the work on the entire Naples-Bari line, scheduled for 2028, the two cities will be 2 hours apart, compared to about 4 today, and Rome and Bari will be 3 hours apart. The Naples-Bari high-speed/high-capacity railway will also bring significant benefits in terms of environmental sustainability, making it possible to avoid more than 3 million tons of CO₂ emissions in the 2023–2047 period.

On the Naples-Bari high-speed/high-capacity line, Webuild is engaged in constructing four Lots: Naples-Cancello, Apice-Hirpinia, Hirpinia-Orsara and Orsara-Bovino. With these 4 Lots, Webuild is building more than 74 km of new railway line, 6 tunnels — for which 8 TBMs are expected to be built — 10 viaducts — for about 6 km — and 6 new stations and stops: Acerra, Casalnuovo, Hirpinia and Orsara, Shopping Centre and Apice. To complete work on the 4 lots, Webuild currently has more than 1,700 employees, while the production chain since the beginning of the work has involved about 1,500 companies.

The Naples-Bari high-speed/high-capacity line is one of 19 projects that Webuild is carrying out in the South and the islands, involving the construction of more than 300 km of high-speed railway line. It currently employs 5,450 people, including direct personnel and third parties, and has involved a supply chain of 4,300 companies since the start of construction.

Rete Ferroviaria Italiana SpA was founded on July 1, 2001, in response to the need to separate the network operator from the transport service provider. RFI has the responsibility of maintaining the railway infrastructure in full efficiency, allowing over 9,000 passenger trains and tons of goods to travel it every day in complete safety.

Since 2022, RFI has been the leader of the Infrastructure Pole (“Polo Infrastrutture”) of the FS Italiane Group, which also includes Anas, Italferr, and Ferrovie Sud Est. The Pole manages 180 billion euros of investments from today to 2031 (of which 125 billion for railways and 55 billion for roads), 16,800 kilometers of railway lines (with over 1,600 tunnels, 23,000 bridges and viaducts, and 2,200 stations) and 32,000 kilometers of roads (with over 2,000 tunnels, 18,000 bridges and viaducts, and 1,200 road sites). The goal is to update and integrate railway and road infrastructures, making them both more modern, resilient, interconnected, and accessible to all. This synergy must be present from the design phase of the work, defining and specializing the roles of the various infrastructures, but also in those of design, technological development, and maintenance.

Webuild is a global leader in the design and construction of large, complex projects in the sectors of sustainable mobility, hydropower, water management and production, and green buildings. For many years, the recognized leader in the water sector, also ranking among the Top 10 international players in Australia, Europe and the US, the Group has consolidated experience in 50 countries. In almost 120 years of applied engineering on more than 3,200 projects, the Webuild Group has built 14,140 kilometres of rail and metro lines, 82,533 kilometres of roads and highways, 1,020 kilometres of bridges and viaducts, 3,408 kilometres of tunnels, and 313 dams and hydropower plants. Projects include the Bridge over the Danube River in Braila in Romania, and the Genoa Long Beach International Gateway in California; the expansion of the Panama Canal and the Third Bosphorus Bridge in Turkey; the Kingdom Centre skyscraper in Riyadh in Saudi Arabia, and metro lines in Copenhagen, Paris, Rome, Milan, Doha and Riyadh. Projects under construction include the New Genoa Breakwater, the Brenner Base Tunnel, Line 4 of Milan’s metro, and Line C of Rome’s metro, the Genoa-Milan high-capacity railway line, the Snowy 2.0 hydroelectric project in Australia, and the Trojena project for NEOM in Saudi Arabia. As of December 31, 2023, the Webuild Group with 87,000 people, achieved €10 billion in total revenues, and a total backlog of €64 billion, with over 90% of its construction backlog related to projects linked to the advancement of the United Nations Sustainable Development Goals (SDGs). Webuild, subject to the direction and coordination of Salini Costruttori S.p.A., is headquartered in Italy and is listed on the Milan stock exchange (WBD; WBD.MI; WBD:IM). Since 2021, it is member of the MIB ESG, the index of Italian companies with the best ESG practices.

[More information at www.webuildgroup.com](http://www.webuildgroup.com)



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