



Press Release

HERRENKNECHT

83.4 kilometers through alpine rock

November 17, 2025

Schwanau, Germany / Innsbruck, Austria

Eight tunnel boring machines manufactured by Herrenknecht have so far excavated around 83.4 kilometers of tunnel for the Brenner Base Tunnel in Austria and Italy. On Tuesday, November 11, 2025, representatives of the project owner, construction companies, and other project partners celebrated the next significant milestone in the construction progress deep beneath the Alps: the breakthrough of the machines named “Lilia” and “Ida” in the main tunnels of construction section H41 Sill Gorge-Pfons south of Innsbruck.

“Lilia” and “Ida” are far less cute than their names suggest: the Single Shield TBMs (tunnel boring machines) machines weigh over 2,400 tons and are around 160 meters long. All this with a remarkable diameter of 10.25 meters and a drill head with a drive power of 4,550 kW (6,050 hp). With these powerhouses, the construction companies Implenia, Webuild, and CSC (ARGE H41 Silschlucht-Pfons) have excavated over 8 kilometers of tunnel since the start of tunneling in May and June 2023, respectively, and lined it with precast concrete segments.

“Lilia” is the sixth Herrenknecht TBM to have successfully completed its work on the Brenner Base Tunnel in the eastern main tube at the beginning of October. Its sister machine, the TBM “Ida,” celebrated its breakthrough in the western tube of the same construction lot at the end of August. Two further machines (Double Shield TBMs, Ø 10,330mm) are currently still advancing on the H53 Pfons-Brenner construction lot further south. In the end, the kilometers of tunnel (main tunnel + exploratory tunnel) driven by Herrenknecht machines under the Brenner will total around 90.

At the breakthrough ceremony, the BBT’s CEOs Umberto Lebruto and Martin Gradnitzer highlighted this year’s successes: “2025 was an extraordinary year for the Brenner Base Tunnel in terms of construction progress. Not only the two TBMs in this construction lot, Ida and Lilia, but also the TBM Flavia in the Mauks construction lot have successfully completed their tunnelling work.”

Dr.-Ing. E.h. Martin Herrenknecht, founder and CEO of Herrenknecht AG, expressed his pride: “The long machine drives at the Brenner are a tough challenge. Thanks to

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the bravura with which our customers are leading the way here, we are jointly writing a top reference in the history books of tunnel construction.”

Bernhard Wienhold, head of the responsible project management at Herrenknecht AG, assesses the performance of the teams on the construction site: “Every day, true specialists are at work—both on the part of our service teams and the construction companies. I am always impressed by the expertise and commitment I see on the machines in the tunnel.”

Equipment and service

For the construction of the Brenner Base Tunnel, the Herrenknecht Group is supplying not only the eight tunnel boring machines but also a comprehensive package of additional equipment and support from experienced service specialists: systems for segment production (Herrenknecht Formwork), systems for TBM navigation and ring sequencing (VMT GmbH), and conveyor belt systems several kilometers long (H+E GmbH).

Alpine crossings

The Alps represent a natural barrier to the expansion of trans-European long-distance transport networks. Previous rail connections across the Alps had some extremely steep gradients, which slowed down trains and limited their capacity. In 2016, Switzerland inaugurated the Gotthard Base Tunnel, which crosses the Alps between Erstfeld in the canton of Uri and Bodio in the canton of Ticino over a length of 57 kilometers with much less gradients than the older summit tunnel. The two main tubes were excavated between 2003 and 2011 by four Gripper TBMs manufactured in Schwanau.

Following the Gotthard Base Tunnel and the Brenner Base Tunnel, the next major railway project under the Alps is the Mont Cenis Base Tunnel. It will be the key structure in a new, more efficient rail link between Lyon in France and Turin in Italy. The tunnel construction specialists commissioned by the client TELT have so far ordered six TBMs from Herrenknecht for over 70 kilometers of tunnel, as well as a large amount of technology for upstream and downstream processes in mechanized tunnelling.

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PROJECT DATA BRENNER BASE TUNNEL H41 SIL GORGE-PFONS

- › Client: Galleria di Base del Brennero – Brenner Basistunnel BBT SE
- › Contractors: ARGE H41 Silschlucht-Pfons (Implenia, Webuild, CSC)
- › Application: Railway
- › Drive length: 8,107m + 8,396m

MACHINE DATA

- › Machine type: 2 x Single Shield TBM
 - › Diameter: 10,250mm
 - › Cutterhead drive power: 4,550kW
 - › Torque: 22,16kNm
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Photos



Photo 1

The proud miners after “Lilia’s” breakthrough in the eastern tunnel of the construction lot H41 Sil Gorge-Pfons (photo: BBT SE)



Photo 2

Machine assembly of “Lilia” in the underground cavern before the start of tunnelling

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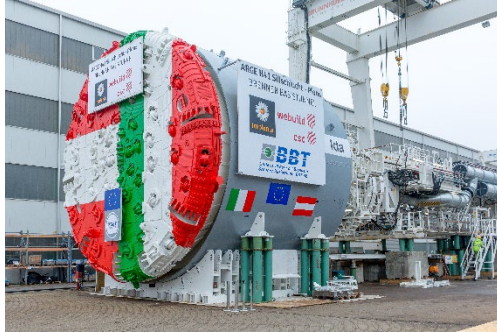


Photo 3

The Single Shield TBM “Ida” for the western tunnel of the construction lot H41 Sil Gorge-Pfons, here at the Herrenknecht workshop in Schwanau-Allmannsweier, Germany

For further information: Please contact us.

Herrenknecht AG

Herrenknecht AG is the only company worldwide to deliver tunnel boring machines for all geologies and in all diameters – ranging from 0.10 to 19 meters. The product range comprises tailor-made machines for traffic, supply and disposal tunnels, technologies for pipeline installation as well as additional equipment and service packages. Herrenknecht also manufactures drilling equipment for vertical and inclined shafts as well as deep drilling rigs.

In 2024 the Herrenknecht Group achieved total output of 1,394 million euros. The independent family business employs about 5,000 people worldwide, including approximately 200 apprentices and trainees. With more than 60 domestic and overseas subsidiaries and associated companies working in related fields, Herrenknecht provides comprehensive, fast and targeted services close to each project and contractor.

› <https://www.herrenknecht.com/en/references/>

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