

Advancing tunnel construction with gantry cranes

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Overall Project Manager, ARGE H53 BBT





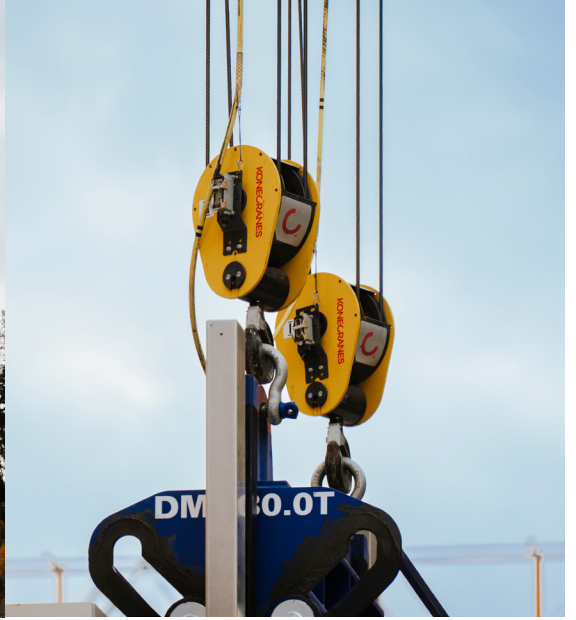
Three Konecranes gantry cranes support logistics for the Brenner Base Tunnel project

Deep beneath the Alps, one of Europe's most ambitious railway projects is taking shape. The Brenner Base Tunnel will link Austria and Italy through the world's longest underground railway tunnel.

On the Austrian side, the ARGE H53 BBT consortium — comprising PORR Bau GmbH, Marti GmbH Österreich, and Marti Tunnel AG — is responsible for constructing the Pfors–Brenner section. For this, ARGE H53 turned to Konecranes, a partner the consortium has worked with for over two decades.

“This project includes approximately 50 kilometres of inner lining and 25 kilometres of preliminary works. That's a substantial scope, and logistics are a crucial part — without delivery and removal, there is no construction. For us, Konecranes is an important partner on site. So far, they have always been reliable and ready to support us.” says DI Sebastian Dietrich, Overall Project Manager, ARGE H53 BBT.





A lifting solution built for the job

Pre-cast concrete tunnel segments, known as tubbing, are transported to the construction site by rail and must be transferred onto trucks for transport to the tunnel entrance. With limited space on site and a demanding construction schedule, material handling needs to run with precision and reliability.

Konecranes supplied three purpose-built gantry cranes, each with a lifting capacity of 40 tonnes. One crane, spanning 34 metres, is dedicated to unloading arriving trains. Two further cranes with a 9-metre outreach support material handling within the construction area. All three can be operated from a cab or via radio remote control.

"The requirements were clearly defined. They were based on the large quantities of tunnel segments delivered here by rail. Based on these volumes and the calculated service life required for use on site, the crane systems were specified and designed to meet the requirements of the joint venture. We equipped the crane systems with two-hook synchronous operation and a mechanical grab, so that packs of tunnel segments consisting of three units can be lifted and moved simultaneously. We also selected a dual configuration with cab operation and radio remote control, allowing operators to choose how they want to operate the system," says Markus Köcher, Director Industrial Cranes, South East Europe, Konecranes.



Just-in-time handling in a space-constrained environment

Space on the construction site is limited, and the logistics schedule leaves little margin for delay. The rail-based delivery concept also supports more sustainable site operations, reducing the number of truck movements required to supply the project.

“We have installed three special cranes from Konecranes. That is very important for us, because there is simply very little space. Handling has to work on a just-in-time basis. The gantry crane solution contributes to sustainability. Every day, a train arrives here to unload segments. Later, during the peak phase of inner lining production, a significant amount of binder will also be delivered here.” says DI Sebastian Dietrich, Overall Project Manager, ARGE H53 BBT

Careful planning for delivery and installation

Delivering and commissioning three large gantry cranes on an active construction site required meticulous preparation. Konecranes began with a site visit to understand the local conditions before developing a detailed installation schedule, assembly plan, and storage concept for the incoming crane components.

“The first step in the erection planning was to visit the site and get an impression of the local conditions. Afterwards, we drew up a schedule and a plan for the assembly resources. Based on the required sizes of the mobile cranes, we developed a storage concept, which is very important for a project of this scale. There were eleven truckloads per crane, four of which were special heavy transports weighing up to 113 tons.” says Martin Kern, Project Manager Industrial Cranes, Konecranes.



Ongoing service to support reliable operation

Once installed, the cranes became a central part of the project's material handling operations. To support reliable performance throughout the multi-year construction phase, Konecranes provides quarterly servicing by dedicated technicians. A pre-agreed package covering spare and wear parts availability, along with committed technician support, helps minimize unplanned downtime and maintain the continuous flow of materials on site.



Supporting a milestone for European transport

When complete, the Brenner Base Tunnel will significantly improve rail connections across the Alps, helping to shift freight transport from road to rail. By providing lifting solutions designed for demanding construction logistics and supporting them with structured service agreements, Konecranes contributes to the efficient material handling operations that keep this major infrastructure project moving forward.

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Key facts at a glance

CUSTOMER

ARGE H53 BBT consortium – consisting of PORR Bau GmbH, Marti GmbH Austria and Marti Tunnel AG

REQUIREMENTS

Material handling during the construction phase
Availability of spare parts and wear parts

SOLUTION

- Three custom-built gantry cranes with a lifting capacity of 40 tonnes
- One crane with a span of 34 meters for unloading incoming trains
- Two additional cranes with a 9-meter outreach for material handling in the construction area
- Synchronized dual-hoist operation
- Mechanical grab for lifting and handling segment (tubbing) packages (three units)
- Dual operation: cabin-operated and radio remote control

[Watch the video](#)





Konecranes is a global leader in material handling solutions, serving a broad range of customers across multiple industries. We consistently set the industry benchmark, from everyday improvements to the breakthroughs at moments that matter most, because we know we can always find a safer, more productive and sustainable way. That's why, with around 16,500 professionals in over 50 countries, Konecranes is trusted every day to lift, handle and move what the world needs. In 2024, Group sales totaled EUR 4.2 billion. Konecranes shares are listed on Nasdaq Helsinki (symbol: KCR).

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