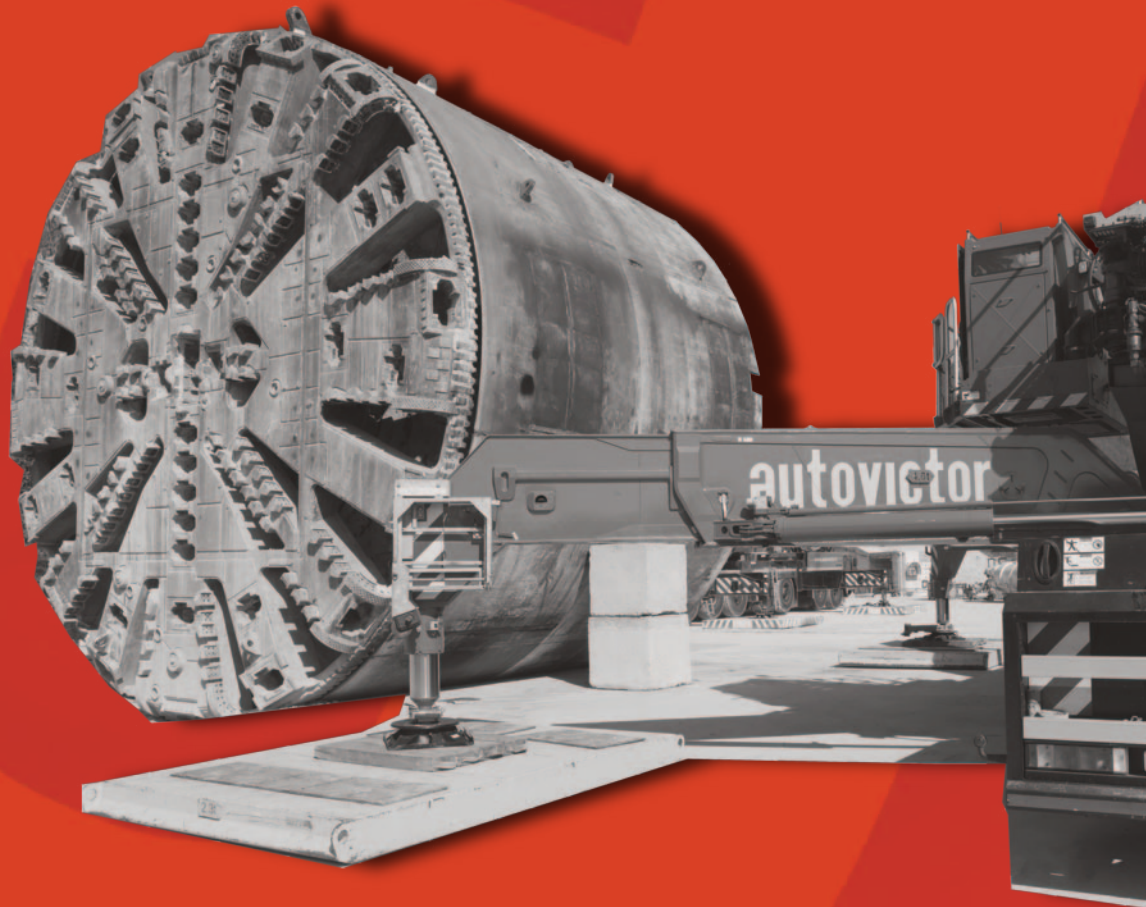


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 *Keep on moving to the future.*

Tunnel Boring Machine



- Transport
- Handling
- Lifting
- Installation / Removal

Tunnel Boring Machines (TBMs) are among the most complex and impressive pieces of equipment used in major infrastructure projects. Thanks to a fleet of more than 400 vehicles, including heavy cranes, modular trailers, SPMTs, specialised transport vehicles, aerial platforms and telescopic handlers, Autovictor delivers a fully integrated service covering every stage of the operation—from the TBM assembly site through to its final transportation, handling and installation.

01 Transport

Transporting a TBM requires meticulous engineering and logistical planning. Every project begins with a detailed study of the TBM's dimensions and individual components, including the shield, cutterhead and other major assemblies. Autovictor carries out comprehensive route surveys, evaluating bridges, curves, infrastructure load capacities to identify the safest and most efficient transport solution. With its dedicated fleet of low-bed trailers, conventional modular trailers and SPMTs, Autovictor is able to transport even the largest and heaviest TBM components. The company also manages the entire exceptional transport process, including transport permits, escort services where required, and coordination with the relevant public authorities.



02 Handling

Once the equipment arrives on site, the TBM components must be accurately transferred to the launch area. Autovictor employs SPMTs, all-terrain cranes and specialised handling equipment to move the various sections from the unloading area to their installation position. Dedicated transport and handling solutions ensure efficient operations throughout the construction site.



autovictor
TBM

03 Lifting

Lifting operations represent the most critical stage of the project, as TBM components are characterised by extremely high weights and complex geometries. Autovictor deploys high-capacity all-terrain and crawler cranes to handle the main modules safely and efficiently. Where required, tandem lifting operations are performed using two or more cranes working in perfect synchronisation to distribute the load evenly and maintain maximum stability throughout the lift. Every operation is supported by Autovictor's in-house engineering department, which develops detailed lift studies, CAD simulations, capacity calculations and comprehensive engineering verifications to minimise operational risks and ensure the highest safety standards.



04 Installation / Removal

The final phase consists of assembling and positioning the TBM inside the launch shaft or tunnel. Millimetre-accurate alignment of the cutterhead and the individual modules is achieved using advanced control systems. Assembly is carried out progressively on site, with each heavy component installed according to a carefully planned sequence coordinated by Autovictor's engineers, supervisors and specialised lifting crews. Thanks to its extensive fleet and multidisciplinary expertise, Autovictor has successfully completed numerous turnkey TBM installation and removal projects throughout Italy, providing clients with a fully integrated service from transport and handling through to final assembly and commissioning.



RECENT PROJECTS

A list of the main projects recently completed by Autovictor using its own equipment for the handling, transport, lifting, and installation of TBM

OPERA TERZO VALICO DEI GIOVI – COCIV

Lifting for unloading, handling, and assembly of No. 4 Herrenknecht TBMs, serial numbers S974 - S1003 - S979 - S1044. Extraction from the chamber with SPMT convoy and dismantling of two TBMs, S974 - S1003.

POLCEVERA (GE) TBM HERRENKNECHT

Unloading and assembly operation for excavation in Polcevera (GE). Approximately 2,500 ton of pushing work was performed to unblock the machine using Enerpac hydraulic jacks.

VARIANTE DI VALICO AUTOSTRADA A1 - BARBERINO DI MUGELLO

All unloading, handling, and assembly operations for the largest TBM in the world: the HERRENKNECHT S-900 "Santa LUCIA".

OPERA CEPAV CONSORZIO ALTA VELOCITA' BRESCIA – VERONA

Unloading and assembly of TBM CREG S/N 699 for excavation of the first section. Tunnel extraction with winches and SPMT TBM, dismantling and subsequent reassembly for excavation of the second section. Tunnel extraction with winches for translation to the final dismantling position and final dismantling with subsequent loading onto a trailer.

OPERA CONSORZIO TRIDENTUM – TRENTO

Unloading and assembly of no. 4 TBMs (2 HERRENKNECHT and 2 CREG)

OPERA CONSORZIO DOLOMITI

Unloading, assembly, tunnel extraction with SPMT and dismantling of TBM CREG S/N 1084 in Varna. Unloading and assembly of TBM CREG S/N 1282 in Funes.

OPERA ACQUEDOTTO DI CAPOSELE MATERDOMINI - AVELLINO

Assistance with TBM pushing operations following the impact using an Enerpac hydraulic power unit and hydraulic jacks.

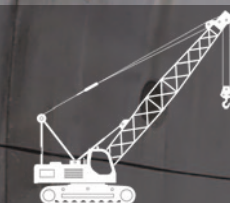


The installation of Tunnel Boring Machines (TBM) is a highly complex operation requiring multidisciplinary technical expertise, highly specialized lifting and transport equipment, meticulous operational planning, and the highest standards of safety.

Autovictor brings together all these capabilities.

Equipment

Heavy Lifting



CRAWLER CRANE



ALL TERRAIN CRANE



ROUGH TERRAIN CRANE

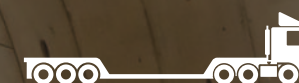


PICK & CARRY CRANE

Heavy Transport



SPMT



STANDARD TRANSPORT



OVERSIZE TRANSPORT



TRACTOR WITH CRANE

Aerial Platforms



TRUCK-MOUNTED AERIAL PLATFORM



SCISSORS AERIAL PLATFORM



ARTICULATED BOOM AERIAL PLATFORM



TELESCOPIC BOOM AERIAL PLATFORM

Technical solutions



MACHINERY MOVEMENT



ASSEMBLY OF PREFABRICATED STRUCTURES



LIFTING WITH HYDRAULIC JACKS



LOAD TESTS

Telescopic Handlers



FORKLIFTS



TELESCOPIC HANDLER FIXED BOOM



ROTATING TELESCOPIC HANDLER



TELESCOPIC HANDLER OPTIONAL

Van



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Group-Owned
Equipment
with / without
Operator



HSE

The transport, handling, lifting, and installation of Tunnel Boring Machines (TBM) are high-risk operations involving complex machinery, confined work environments, and often the coexistence of ongoing industrial or construction activities. For this reason, safety management plays a central strategic and operational role.

Construction Site Safety Management

Risk Assessment and Planning:** every operation is preceded by a detailed technical and HSE assessment, including:

- * Site analysis and evaluation of environmental conditions.
- * Identification of potential interfaces and hazards (confined spaces, overhead power lines, operating equipment, and on-site personnel).
- * Assessment of access and emergency evacuation routes.
- * Evaluation of residual risks and implementation of specific mitigation measures.
- * Careful planning and control of the lifting, transportation, and final installation sequence of the TBM in confined areas within fully operational industrial facilities
- * Continuous coordination of on-site activities, including equipment condition monitoring, kick-off meetings, risk assessments, evaluation of environmental conditions, and verification of the personal protective equipment (PPE) used by each Autovictor operator.



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Tunnel Boring Machine



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