



SLURRY AUTO

Automated Slurry Circuit Control System

Slurry Auto is an advanced control system that fully automates the management of slurry circuits in tunnel boring machine (TBM) operations. Developed on more than **20 years of field expertise** and **8 years of advanced hydraulic simulations (COMSOL)**, it replaces complex manual pump and valve adjustments with a single, reliable and automated control logic. What was once a labor-intensive and error-prone process becoming **simple, stable and predictable**.



Key benefits

- ± **One interface, full control**
All slurry pumps and valves are managed from a single interface, simplifying operations and reducing operator workload.
- ± **Automatic, synchronized pump control**
A dedicated algorithm automatically coordinates pump speeds to maintain the required flow rate or pressure across the slurry network.
- ± **Reliable and safe operations**
An AMESIM-based digital twin validates up to 95% of system behavior before commissioning, ensuring high reliability and safe operation on site.
- ± **Reduced human error and less intervention**
SLURRY AUTO eliminates cascading manual adjustments, significantly reducing operator intervention and operational instability.



Advanced & Patented Slurry Management Capabilities

Built on **proprietary and patented algorithms**, SLURRY AUTO goes beyond basic pump control. Acting as a true **co-pilot for the TBM operator**, it provides intelligent, real-time control of the entire slurry network.

- › **Safe network start-up and shutdown** through optimized pump, valve and bypass control
- › **Automatic valve sequencing** to prevent human error and mitigate water hammer effects
- › **Tunnel bypass management** ensuring continuous and flexible operations
- › **Comprehensive pump control** (local/remote, manual/automatic) for easier commissioning and maintenance
- › **Optional vibration monitoring** supporting predictive maintenance and reduced downtime

Differentiating Features

- › Single-screen operation with integrated HK VISU
- › Advanced slurry network modelling (COMSOL & AMESIM digital twin)
- › Full automation of feed and return lines with real-time flow and pressure regulation

Operational Impact

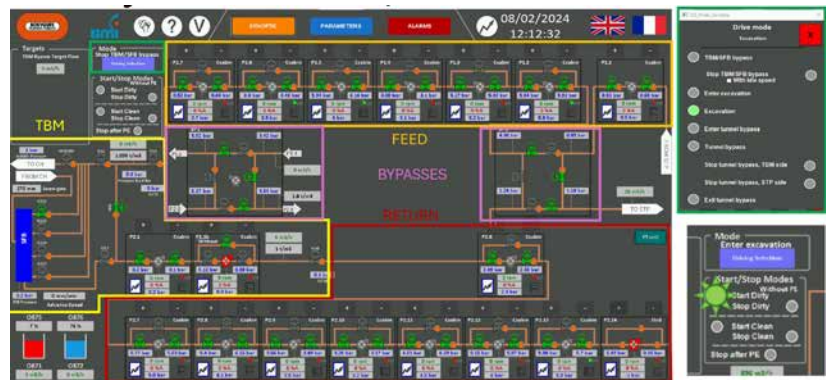
With SLURRY AUTO

- › One operator, one interface, one set-point
- › Fully automated pump and valve coordination
- › Fewer interventions and more stable excavation
- › Improved safety for personnel and equipment

Value for projects

SLURRY AUTO delivers:

- › Increased TBM productivity
- › Stable and consistent slurry pressure control
- › Reduced downtime due to misadjustments
- › Safer, simpler and more reliable operations



Our Slurry Auto Circuit: One unique interface

Drive Selection



Adresse
Contact

www.tunnelbytp.com

