Tunneling and mining
Computer controlled operation in tunnelling and mining

Drill control system

**Bever Control AS** is a company specialising in computer based guidance and control systems for drilling jumbos, used in the tunnelling and mining industries.

Bever Control system offers high user friendliness with functionality adapted to the user.

AMV drilling jumbo equipped with **Bever Win** system for drilling and profile scanning. The drilling operator monitor and control the drilling operation in his safe and comfortable cabin. No marking on the face, reduced overbreak and safe blasting.

In combination with Bever 3D profiler the user can experience fast and simplified navigation of the drill rig.

**Blast drilling** can be guided or automatically controlled by our computer system. The display shows accurate design of drill pattern and gives the operator the necessary tool to operate the positioning system.

Unique features for drill pattern handling of complex road systems.
Office drill & blast planning software

Our **Bever Team Office** planning software is ideal for all kinds of tunnel projects, from the smallest to the most complex ones. Modern tunnelling in highway construction is often designed with underground crossing and ramps, requiring complex blasting control for optimised results. The underground highway system to the right is located in the city of Kristiansand – Norway.

Reporting and drilling analysis using **Bever Team Office** To the left is a bolting report and right is a blast hole round report. Bever Team offers a complete solution to cover the high requirements of operation rates and documentation that leading entrepreneurs face today.

Tunnel profiler

**Bever 3D Profiler** scans the excavated tunnel from the jumbo. The drill rig operator verify the contour geometry and scans the last round while drilling next round.

The use of the profiler reduces the need for surveying work.

Documentation and mass calculation is provided in **Bever Team Office**
Shotcrete thickness measurements

Shotcrete thickness scanned using Bever 3D Profiler and data analysis in Bever Team Office. To the left a thickness map. Blue is 0 and red is 10 cm thickness.

Geological documentation from MWD - Drill and blast

MWD is integrated with Bever Team software:
- Automatic synchronisation of measured data between drill rig and planning office
- Geometry defined in Bever team
- Integration with Novapoint tunnel software possible

System for MWD measurements are installed on more than 50 drill rigs delivered by:
- AMV
- Atlas Copco
- Sandvik
Bever Control Story
Norwegian contractors introduced the concept of computer controlled drilling as early as 1979 when the first AMV computer controlled jumbo was set in operation. Bever Control is the pioneer company for this technology world wide. We have delivered our system to more than 140 drill rigs and has set the standard for the performance of computer controlled drilling rigs system.