

UNISIGN EXPERIENCE

@WORK



General machining

Case study



Application

Machining of large components for mining equipment

Material

Steel

Customer

Sandvik Mining and Construction G.m.b.H., Zeltberg (Austria)

Machine typ

UNICOM6000

Benefits

- Complete solution for turning, milling, and drilling
- High user-friendliness
- Contributes to a clean working environment
- Demo, time study, and production support

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UNICOM6000 eliminates the need for outsourced machining capacity

About our customer

Sandvik in Zeltweg develops and manufactures cutting and excavation machines for the mechanical extraction of mineral and ore deposits, as well as for the construction of transportation tunnels around the world. The Zeltweg site, with a history of more than 174 years, is home to the competence center for the development, engineering, and production of machines for cutting rock as well as for mobile conveyor belt systems.

The products manufactured in Zeltweg are used both in civil engineering for creating underground cavities—such as tunnels and caverns—and in underground mining for tunnel advancement and the extraction of raw materials such as coal, salt, potash, platinum, diamonds, and more. Typical products from the plant's extensive

portfolio include Bolter miners, Roadheaders, Continuous miners, Borer miners, and others.

“At our Zeltweg site, we employ just over 600 people,” says Elmar Steinwider (Manager Production & Process Engineering). “Our mining and tunneling machines are fully manufactured here—from development and production to assembly.”

Telescopic drums

To further optimize the machining of core components for their mining machines, Sandvik had long been looking for a suitable CNC machine. Peter Bärnthaler (Manager Manufacturing) explains: “Our mechanical workshop operates 35 machines. But we only had one machine suitable for machining specific components of the cutting drums used in our Bolter and Continuous miners.”





These require a high level of manufacturing depth. We've always had the good fortune of having an overload in our mechanical production capacity, which we were able to outsource to local companies. However, for these specialized components, it was nearly impossible to find an external supplier—at least not without significant additional costs and long delivery times. This created a critical bottleneck for us. The UNICOM6000 vertical milling and turning machine with automatic pallet changer solved this problem and brought us one step closer to automating our machining processes.”

3D model, demo, and time study

The main challenge for Sandvik was the size of the components that needed to be machined.

“There aren't many CNC machines capable of internal machining given the diameter-to-length ratio,” says Elmar Steinwider. “Through various contacts, we got in touch with Unisign. They listened to our requirements and tested our specific machining needs using a 3D model. Then, they demonstrated this practically. We provided parts for a trial machining run, which Unisign processed on a similar machine at their production site in Panningen.”

Peter Bärnthaler adds: “We were both there in person and saw everything live. That, of course, is better than relying solely on a 3D model. We reviewed the machined

components and then customized the machine exactly to our needs.”

Elmar continues: “Unisign also conducted a time study on the components. The live demo was crucial in our decision to go with Unisign.”

Installation and production support

In the summer of 2024, the UNICOM6000 was delivered, and installation began.

Elmar Steinwider: “The setup and commissioning of the machine were carried out very professionally and in a very short time. Production support from Unisign was also very important to us. After commissioning, Unisign supported us for two weeks, helping our operators learn to use the machine efficiently and explore its full range of capabilities. That added a lot of value.”

A giant leap

The introduction of the UNICOM6000 opened up new possibilities for machining components for Sandvik's mining machines. Peter Bärnthaler is highly satisfied with the machine's performance so far:

“With the Unisign machine, we've made a huge leap toward shorter lead times. We no longer need to rely on external capacity and can now perform all turning and milling operations on a single machine—operations that previously required multiple machines. This saves us an enormous amount of time. And time is money.”

User-friendly and clean

The UNICOM6000 has also brought many positive changes for Sandvik's employees. Elmar Steinwider: “The machine's unmatched user-friendliness is worth highlighting. Unisign also put a lot of thought into ergonomics during the machine's design.”

It's often the small details that determine how user-friendly a machine really is. One such detail is an integrated vacuum system that allows chips to be easily suctioned from the machine and the setup area into the chip conveyor. This helps keep both the machine and the working environment clean and safe.

Friendly and competent

These are the two words Elmar Steinwider uses to summarize the collaboration with Unisign: “Throughout the entire process—from procurement to commissioning—each Unisign department served as a competent and friendly point of contact. Communication was and remains excellent. We continue to receive outstanding support from Unisign in every aspect.”

