

A Sandvik automated LHD proves its precision in a glass labyrinth

In recent years, self-driving vehicles have become a popular discussion topic. Sandvik has had automated loaders and trucks working in mines for over 20 years — with zero accidents involving people. To prove its capabilities, Sandvik moved things above ground and put its latest generation of automation to the test.

In a new film, an 11-meter-long Sandvik LH514 self-navigates through a labyrinth of glass. While glass is clearly a different material to the rock walls the laser sensors are designed for, the loader detects the fragile labyrinth and maneuvers through its narrow aisles.

To prove the feat's realness, Sandvik Group CEO Björn Rosengren takes over the driving at the end of the film and crashes into the glass labyrinth.

Click here to see the film: <https://youtu.be/7B2s6C1IAoQ>

Click here to see the documentary about the project: <https://youtu.be/MdohlxevoT0>

“Sandvik automated loaders have been in use for more than 20 years, with over 2 million operating hours underground,” says Jouni Koppanen, Senior Systems Engineer for Automation at Sandvik Mining and Rock Technology. “Autonomous systems improve safety and productivity for our customers. For the first time ever the entire cycle can be automated, from loading to hauling and dumping. Nobody has been able to do that before.”

For Rosengren, the glass labyrinth test was obviously a special day at work. The unique filmed feat also demonstrates Sandvik's view on innovation.

“Some of today's most sophisticated technology is found within Sandvik's different business areas,” Rosengren says. “We've always worked close to our customers developing new products and technologies. Going forward we clearly see digitalization as a key area. It will help both us and our customers to be more productive, efficient and sustainable.”

While a glass labyrinth might not be a traditional operating environment for a mining loader, such unconventional thinking has seen Sandvik stay at the forefront of technologies like automation.

The AutoMine® system means that Sandvik loaders and trucks learn the safest and most efficient route the first time they enter a tunnel. Guided by a set of lasers, the equipment's intelligent system maps out and records a path. Sandvik's patented algorithms, together with its sensors and gyroscopes, ensure the machine knows where to go underground, where GPS is not possible.