

Keynote Paper

## **Tunneling with Roadheader technology**

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### **ABSTRACT**

Roadheaders offer a versatile alternative for part face mechanical excavation in both underground mining and civil tunneling applications. Developed in Europe and Russia during the 1930's. Based on its ability to cut virtually any tunnel profile, Roadheaders have steadily gained acceptance by civil construction who are looking for ways to improve productivity and reduce costs.

Modern Roadheaders provide a safe and cost-effective, yet very flexible way of mechanical tunneling and roadway excavation.

The actual challenges in tunneling and the increasing demand of underground space, demand new and innovative approaches also in the field of mechanical excavation equipment.

The requirements of reliability, productivity and safety are the key drivers for new developments and machine technologies.

Today's Roadheader are high tech excavation machine with an advanced level of integrated automation.

Automated cutting processes, tele-operated Roadheaders from surface and self-learning cutting cycles will increase excavation productivity, safety, serviceability, reduce human errors, decrease cost, and try to overcome the lack of expertise on tunneling sites.

Fleet data monitoring of mechanical cutting machines and equipment applied in tunneling is state-of-the-art-technology and has the ability to improve quick decision finding processes.

A Roadheader with its new technologies can be an attractive choice a tunnel excavation when restrictions prevent a drill and blast application.