Adaptive Automation for Face Drilling
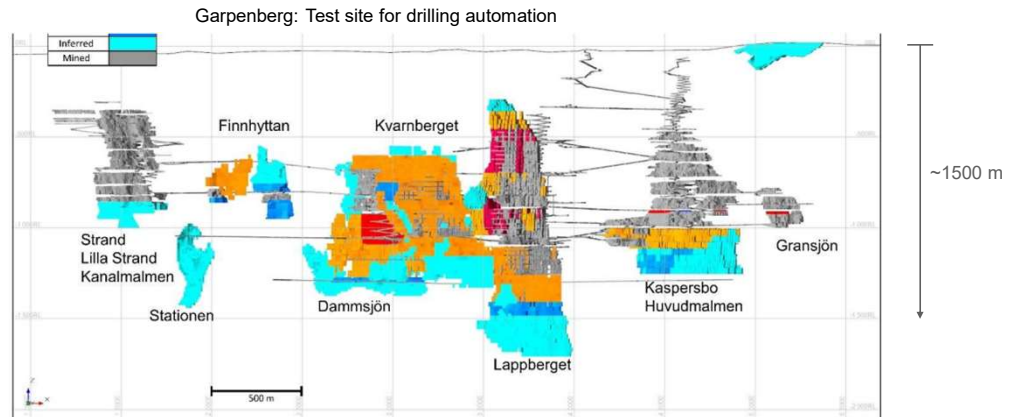
Project leader
Oskar Lundberg, Epiroc

Partners
Algoryx, Örebro Universitet, Boliden

Project duration
20220301 - 20250228

Partners

Garpenberg: Test site for drilling automation
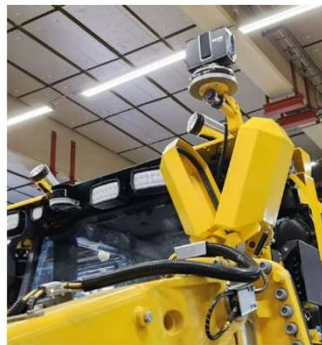
Goals of the project – Building blocks for drilling Automation

- Cutting edge industrial robotics algorithms for optimized autonomy of the rig's booms

- Use of high-definition scanning and machine learning algorithms for environment awareness
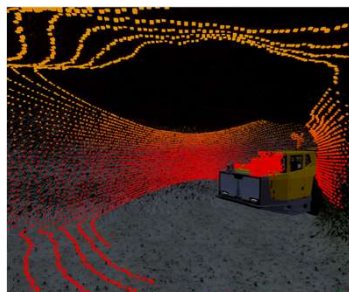
Results so far - Simulations

• Simulation is an enabler for automation as a natural toolbox in the development journey and, in fact, simulations are built into the system of future mining machines

Unreal

Real

Animations to align and guide the team

Physics-based simulations to learn, test and verify

Simulated (measured) reality as input for machine decision making
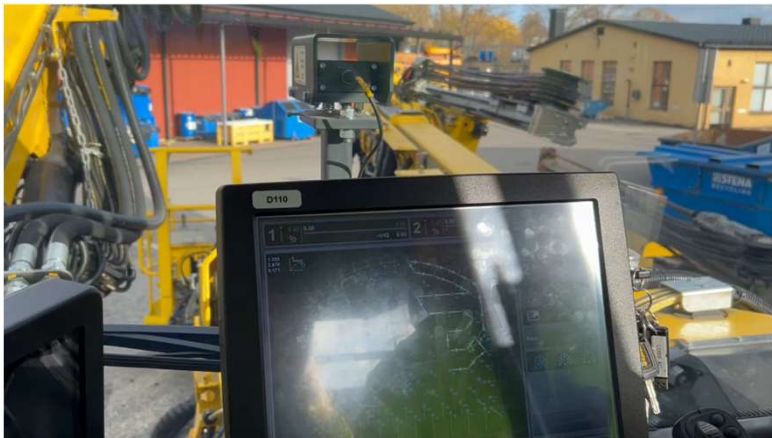
Tests in real environment

Today

| 2022 | 2023 | 2024 | 2025 |

SWEDISH MINING INNOVATION

Boom automation

Simulation in drill rig
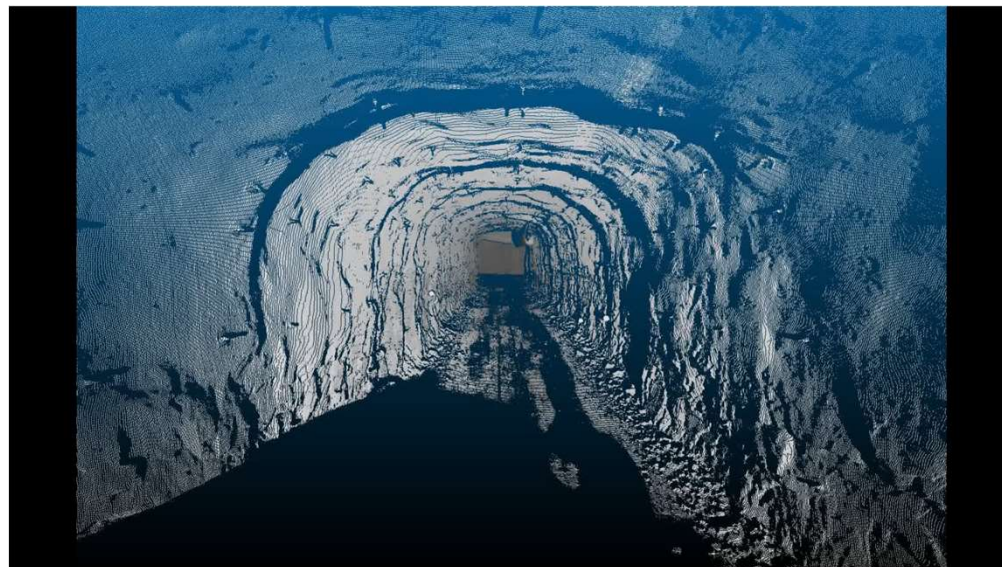

Simulation of control system

Building awareness of environment

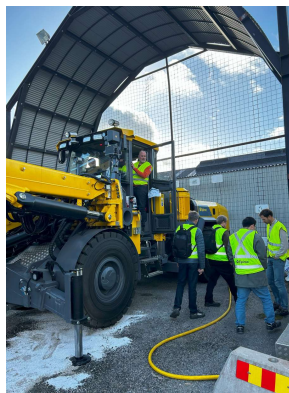**High resolution mapping of environment**

Building awareness of environmental features

Upcoming activities and next step

Final demo in Garpenberg mine, February 2025

Workshops and physical meetings drives success!

Mining innovation for a sustainable future