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Epiroc's ground-breaking drill rig Pit Viper celebrates 25 years including a decade with autonomous operations

Stockholm, Sweden: After 25 years since the launch of the Pit Viper, Epiroc's largest surface blasthole drill rig continues to outperform. For the past decade, this now-legendary drill rig model has been drilling autonomously, significantly boosting productivity and lowering emissions for mining customers around the world.

"The iconic Pit Viper rig has set the standard for a quarter of a century when it comes to powerful surface drilling, and for a decade when it comes to autonomous operations," says Helena Hedblom, Epiroc's President and CEO. "Customers trust the reliable Pit Viper because it delivers safety, productivity and energy efficiency. With continuous upgrades, the rigs keep getting better, regardless of their age."

Key take-aways from a decade's use of autonomous Pit Viper rigs include:

- **Increased productivity**. The depth accuracy of the drilled holes has increased by an average of 85%, leading to more than 8 million wasted overdrill meters being avoided. The spatial accuracy of the drilled holes has increased by an average of 60%.
- **Higher utilization**. More than 90 million meters have been drilled autonomously. The average utilization of a Pit Viper rig in autonomous mode is 17% higher than in manual mode.
- **Lower emissions**. Around 85 million liters of fuel have been saved, and CO₂ emissions have been reduced by around 225 000 tons. This equals more than 10 million trees worth of CO₂ reduction, or removing almost 50 000 passenger vehicles for a year.
- Safer operations. Autonomous Pit Viper rigs enhance safety by operating unmanned, and with the Automatic Bit Changer (ABC), safety is further elevated. With a single touch of a button, the quick automatic bit changes eliminate human exposure and maximize uptime. Since the launch of the ABC in 2022, more than 7 000 tricone bits have been replaced automatically.

From the start, the Pit Viper rigs were designed to be very powerful, flexible and mobile. With onboard computers, the drill rigs over the years moved from manual operation to automated, and eventually to fully autonomous. The autonomous journey started a decade ago when a mining company ran a successful trial of Epiroc's autonomous technology on two Pit Viper 271 rigs at an iron ore mine in the Pilbara region of Australia. Since then, the usage of autonomous rigs in the Pit Viper series has exploded at open pit mines, now being used at dozens of mining sites across the world for such applications as copper, gold, platinum and phosphate.

The autonomous machines are carrying out complex drilling plans consistently and safely, typically operated from an off-site control room, sometimes more than a thousand kilometers away from the site.

Read more about the Pit Viper, and Epiroc's other rotary blasthole drill rigs here.







The model that started the Pit Viper journey - and keeps outperforming: the Pit Viper 351.

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Epiroc is a global productivity partner for mining and infrastructure customers and accelerates the transformation toward a sustainable society. With ground-breaking technology, Epiroc develops and provides innovative and safe equipment, such as drill rigs, rock excavation and construction equipment and tools for surface and underground applications. The company also offers world-class service and other aftermarket support as well as solutions for automation, digitalization and electrification. Epiroc is based in Stockholm, Sweden, had revenues of around SEK 64 billion in 2024, and has around 19 000 passionate employees supporting and collaborating with customers in around 150 countries. Learn more at www.epirocgroup.com.