

ГОРЯЧАЯ ЛИНИЯ ДЛЯ СООБЩЕНИЙ О НАРУШЕНИЯХ



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SUEK-Kuzbass has received a patent for invention No. 2767723 'Use of digital twins in an automated system for virtual mine training, automated system for virtual mine training and a method for virtual mine training'.

This invention is ground-breaking, as for the first time digital twins have been used for virtual mine training. Developed by SUEK-Kuzbass, this software makes it possible to accurately simulate the objects and production processes found in the mine, to conduct training sessions in the conditions of an existing mine.

"The Live Mine simulator is mainly intended for students of our Personnel Training and Development Centre," said Vitaly Mikhailov, Head of Informatisation at SUEK-Kuzbass. "After putting on a VR headset, people find themselves 'underground'. They see a real-world mine, Yalovsky mine, in front of them. It includes carefully rendered hundreds of kilometres of mine workings with mine equipment inside, which can be operated using a joystick. The system allows for online assessment of all actions and keeping records of the entire 3D model, including equipment status, instrument readings, managing situation changes, adding more conditions to the work process."

Live Mine includes the main workings and interrelated interactive mining equipment. Such a mine can accommodate up to 30 people at a time, who are able to interact. The idea consists in real-time modelling of important environmental conditions and readings of devices, sensors and a monitoring system. All this contributes to non-standard and integrated training, along with comprehensive monitoring.

The simulator makes it possible to effectively train employees in safe behaviour in the mine and master their skills in any emergency. For example, simulation of defects in a stationary sensor, power supply cable route or ventilation system.

"Among those trained on the simulator are members of auxiliary mine rescue teams (AMRT) of mining companies," said Pavel Gusev, Lead Technician at Informatisation Department of SUEK-Kuzbass. "They perfect correct and seamless interaction in the conditions of virtual 'collapses', 'smoke' and 'hot spots'."

The company is constantly developing, improving and expanding the functionality of its automated system. There is now a three-dimensional digital twin of SANDVIK MB670-1 bolter miner located in a blind working. It is used in the Development Face Accidents training course.