BBE releases SCADA-compatible VUMA Live

With the release of the upgraded VUMA Live software solutions, Bluhm Burton Engineering (BBE) has delivered its best-yet solution for monitoring mine ventilation systems. BBE Director, Christo Visagie, explains.

BBE, a mine ventilation and refrigeration engineering firm, recently released the latest version of its VUMA Live software offering, a solution that enables real-time monitoring of mines' underground ventilation and cooling systems.

According to Christo Visagie, Director at BBE, the latest version of VUMA Live was developed with the assistance of ventilation and refrigeration industry experts to bring its user interface in line with that of traditional Supervisory Control and Data Acquisition (SCADA) tools used by mines.

"Vuma Live now has a similar control interface, alarming, and historical trending, and enables open communication with various industrial hardware systems, without the need to deploy any other third-party development tools or purchased systems," he says.

"The VUMA Live interface makes use of a 3D environment that our ventilation clients are familiar with, having previously used the VUMA ecosystem. With the latest version of VUMA Live, we can monitor and control underground ventilation equipment remotely and control philosophies can be programmed using standard Programmable Logic Controllers (PLCs) that are already being employed at the mines."

Ahead of its time

Visagie explains that when initially launched into the market, VUMA Live was ahead of its time in terms of technology, resulting in its adoption being limited by the technologies already implemented at mines and within their underground environments.

"However, as the equipment and communication systems at mines became more modernised, we were able to develop VUMA Live as an integrated ventilation control system – a digital twin of the underground mine environment. We put a lot of effort into the latest version, updating our user interface and integrating it with other subsystems, making sure it works correctly."

Visagie says VUMA Live is an invaluable tool that may be used both to monitor and to simulate working conditions in underground mines because it is integrated with the rest of the ecosystem, enabling users to simulate, predict and foresee specific scenarios accurately using live information. Traditional SCADA tools used for ventilation systems were mainly monitoring systems that allowed an operator to see live information.

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"VUMA Live feeds information into our VUMA Network solver, and with that we can flag changes in the environment and even predict timelines to raise awareness and prompt investigations. Based on predefined criteria, the system can also adjust the ventilation system automatically, if needed, to mitigate the predicted changes before they occur," says Visagie.

He adds that while similar systems have been operating around the globe for some time, it is a fairly new technology in South Africa, so adoption and understanding of the system among local mining companies is a relatively slow process. "Our biggest hurdle is the infrastructure within existing mines. South Africa has a lot of older mines that do not necessarily have the infrastructure and equipment needed to adopt VUMA Live," he says.

"Because of this, BBE has taken a keen interest in environmental monitoring solutions that are able to integrate with advanced controls, such as VUMA Live, for their ventilation systems."

BBE's goal for VUMA Live is for it to become a complete ventilation monitoring and control system that integrates seamlessly into existing SCADA systems. "Our ultimate goal is to provide a complete solution to control the underground mining environment, so integration with other systems and technologies is truly key to the future of VUMA Live," he concludes.