

Case Study

Industry: Mining

Agnico-Eagle Mines

Project: Monitoring mine operations

Major challenge: Harsh environment

Major benefit: Safe computing
Equipment cost savings



There's a lot of gold in Lapland.

Agnico-Eagle is a Canadian-based gold producer with mines in Canada, Finland, Mexico, and the U.S. The company has been mining gold for more than 30 years, mainly in underground mines. The company operates a mine in Kittila, Lapland, in northern Finland. The open-pit and underground operations there are extracting one of the largest known gold deposits in Europe.

Although gold has been mined in Lapland for more than a century, today's mining operations are quite different than the gold washing of yesteryear. In modern production, gold is extracted from the ore in a complicated process. The process control systems at Kittila include Black Box technology to transfer images between the control room and the computer center.

KVM switching in an industrial environment.

Only about two percent of the gold in Kittila is free metallic gold. The rest is locked inside sulfide minerals. As a result, the refining process is much more complicated. The ore is crushed, grinded, floated, oxidated under pressure in an autoclave, and carbon concentrated. It's then refined electrolytically in a solution. Finally, the gold is melted and poured into bars.

To monitor and control the operation and safety of the ore production, Mr. Jorma Rantanen, IT manager at the plant, set up cameras in the production areas. Operators in a process control room, which looks directly out on the operation, can monitor all aspects of production on multiple screens. "We use two to four monitors with each computer to monitor the production," Mr. Rantanen explained.

Although the control room is a closed-in area, it's located next to the production area and is not a clean environment. So Mr. Rantanen put the computer CPUs in a safe computer room away from the refining area. To solve the problem of driving the signals between, Mr. Rantanen turned to Black Box.

"The images, along with the keyboard and mouse signals are transmitted approximately 75 feet with the Black Box® ServSwitch™ Wizard Dual-Access, Quad-Head Extenders (ACU5142A). This ServSwitch provides high-end KVM extension with skew compensation over CATx cable. The ServSwitch solved the problem of how to keep the CPUs safe while using the monitors and keyboards in an industrial environment.

In the plant's computer center, Mr. Rantanen also uses a Black Box ServSelect™ III so two operators can control up to 16 servers simultaneously. The comprehensive features of the ServSelect make control of the servers effective and flexible while eliminating the need for extra equipment and cables, saving a lot of money.

Black Box—an old friend.

"I've known Black Box for a long time," explained Mr. Rantanen. "So I knew who to contact when it was time to put the control system in. The Black Box equipment has been working without a problem since the first floating refinings were done."

"The Black Box equipment may be a small part of the mine's total equipment, but even the small parts have to work flawlessly," emphasized Mr. Rantanen. "Black Box experts understood our needs and were quickly able to propose the best system for our needs. The right equipment and accessories came at the right time, and Black Box proved to be the right supplier in this project."

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Jorma Rantanen, IT Manager, Agnico-Eagle Mine Limited



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