

MIRARCO Introduces Cross-country Virtual Reality

Sudbury, Ontario - On Wednesday, January 22, 2003 Laurentian University's Mining Innovation, Rehabilitation and Applied Research Corporation (MIRARCO) carried out the world's first large dataset remote collaboration.

Using Laurentian University's Virtual Reality Laboratory in Sudbury, Ontario and NewMIC's Immersive Media Lab in Vancouver, B.C., Placer Dome Inc. carried out a mine exploration overview of past and future operations of Placer's Musselwhite mine in Ontario.

The creative energies were not lost in distance, as a mine model was displayed in 3D immersive virtual reality (VR) in both locations, with the dataset residing in Sudbury. MIRARCO's technical team configured the two VR centres so that commands from Placer's geologists and geophysicists in Sudbury were communicated to MIRARCO's "Pilot" and relayed to the Vancouver head office team via broadband internet connection; voice connection was transmitted via telephone.

The above description sounds deceptively simple, as a collaborative effort such as this has never been attempted due to the technical logistics and requirement for a rugged, secure system. After researching available technologies, MIRARCO System Administrator Mike Richer opted to use telephone and broadband to minimize costs and optimize the use of existing hardware. MIRARCO strives to push the envelope of today's technology. However, this exercise showed the value of merging the latest existing technology with a "MacGyver" flair. The result was a stable, secure, immersive collaborative session.

When asked to compare with meeting through regular PC's Mr. Richer was quick to comment, "This is not a meeting concept. This is a collaboration concept, an immersion concept."

He explained that it's very different because the participants are immersed in the 3D models, which are rotated and sliced at the same time. This seamless data review and manipulation allows parties at each location to see exactly the same level of detail. And at the large scale offered by these facilities, "light bulb moments" are inevitable, turning everyday meetings into a profitable virtual excursion through a company's mine planning process.

But aside from that why go through the effort? Peter Kowalczyk, Chief Geophysicist, Placer Dome Inc. shared his thoughts with NewMIC: "[Visualization and collaboration technologies are] a very efficient way to bring a group of experts to a common understanding of complex data, and [are] a good way for people with unique and different skills to share ideas." The objective of this week's training session was to familiarize two teams of Placer Dome experts-in Vancouver and in Sudbury- with new geological modeling technology and to test it using a real example.

"The 3D models themselves are not new; what's new is the cooperative visualization technology that allows them to be viewed simultaneously at remote locations."

MIRARCO strives to help its clients carry out their business more efficiently and profitably. When VR is utilized effectively, MIRARCO assists companies to do just that. According to Kowalczyk, "It is difficult to pin down the future value of this technology to us. An initial review suggests that if we implement it effectively, then it can add one or two hundred thousand dollars per year to the value of our world-wide exploration effort quite easily. The use of cooperative visualization would also mean less travel time and therefore greater availability of key decision makers."

However, technology in isolation is not a panacea for mining innovation. Without expertise, the hardware alone will not mystically spell out the path to higher profits. Placer Dome is one of many companies who have found benefits in taking advantage of MIRARCO's unique mining VR expertise. This expertise facilitates the experience because clients can focus their energies on their data, their models, and their processes - and not on how the technology works.

The New Media Innovation Centre (NewMIC) is a unique collaborative R&D centre that unites industry, academia and government in a mandate to grow Western Canada's new media sector. www.newmic.com

MIRARCO - Mining Innovation is a not-for-profit mining and environmental applied research corporation. MIRARCO has expertise in facilitating its clients to gain from virtual reality using Laurentian University's VRL and other similar facilities in the world. MIRARCO also does industry-government-university research in the areas of geomechanics, mine design and planning, environmental resource monitoring, and mining technology development. www.mirarco.org

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