

## ENHANCED VISUALIZATION AND OPTIMIZATION

**EVO** is developing the next generation of mine planning tools with the use of advanced visualization techniques and optimization algorithms. EVO's use of information technology can help improve the profitability of marginal claims with improved design and exploration efficiency and compelling investor relations presentations.

### IT'S WHAT WE DO...



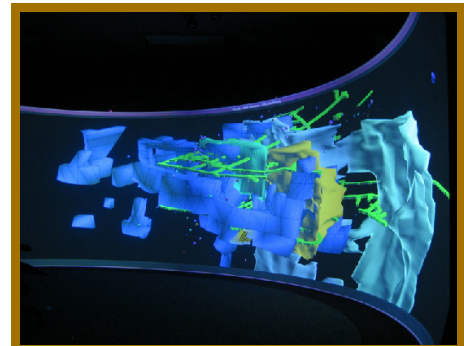
#### **VIRTUAL REALITY**

- Experience an immersive presentation with the Virtual Reality Lab's 3.9 million pixel stereoscopic imagery on a 22 foot concave screen
- Combine several datasets into one comprehensive model for efficiency property and technical reviews



#### **SCHEDULE OPTIMIZATION TOOL (SOT)**

- Uses a genetic algorithm (artificial intelligence) to evolve near optimal schedules that increase a mine's Net Present Value
- Produces hundreds of possible schedules to allow for strategic decision making
- Generates schedules in a fraction of the time required by traditional methods



### CURRENT PROJECTS...

#### **Emerging Economy - Emerging Dimension**

MIRARCO working with Xuzhou Coal engineering and geology staff in China, has completed the transfer of the Pangran Mine's 2-dimensional AutoCad plans into a 4-dimensional model, integrating gas monitoring, subsidence and extractions sequences for display in Xuzhou's Virtual Reality Studio.

#### **MIRARCO's First Commercial Offering**

MIRARCO's research on developing the next generation of mine design software has resulted in a commercial-grade algorithm based software tool. The Schedule Optimization Tool (SOT) is commercially distributed by GijimaAst, and is an integral part of the international PRIMO research consortium (Planning and Rapid Integrated Mine Optimization). SOT has been designed to automate part of the underground mine scheduling task to produce hundreds of valid schedules in a fraction of the time needed by traditional methods, allowing mine planners to better allocate their time.

#### **3D Executive Briefing Centre**

Golder Associates' latest office, in Toronto's financial district, is the site of MIRARCO's most recent Virtual Reality Studio. The stereoscopic display capability provides a new means of communicating complex engineering and financial information to executives. In addition to targeting the mineral sector, the facility will also be used for environmental and urban planning presentations.

#### **Mining Induced Seismicity**

MIRARCO has pioneered the application of virtual reality technology for solving complex problems in the mining industry. It's particularly adept at integrating spatiotemporal data to facilitate understanding how production practices impact the safety and economic viability of the operation.

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