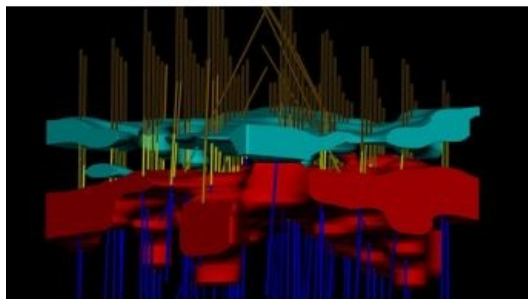# New and Improved Capabilities in Maptek Vulcan 9

New functionality in Vulcan 9, the 3D mine planning and modelling package, targets specific applications in resource modelling and underground design, alongside improvements to software architecture to manage massive databases. Maptek customers attending the 2013 users conference in Brisbane, Australia â€" which was held from 21-23 October â€" heard about the new features first hand, with the product release set for the end of the year.

Vulcan 9 gives users the freedom to apply their expertise to solve tasks in the way they want, said Vulcan product manager, Eric Gonzalez. It has new and improved capabilities for modelling, object attribution, underground design, and a completely new graphics engine. The amount of data users can load and manipulate is only restricted by their hardware. Users will be able to combine implicit modelling with existing Vulcan tools to create their own unique approach for generating complex 3D surfaces. Geologists can spend more time refining interpretations, rather than generating basic models.

The new object attributes feature in Vulcan 9 means that unlimited information about an object is available on demand for making better decisions. Any edits are automatically updated in the downstream process. Instead of re-running reserves based on a new design, a single mouse-over on a point shows new reserve information.

New Tools

A new expressions tool assigns the properties of an object as attributes, for example, tonnage and grade from a block model can be stored against the design object and updated on demand. The Locally Varying Anisotropy (LVA) method can be applied to account for arbitrary search paths for grade estimation, improving results when modelling complex stratiform orebodies. Enhancements to underground ring design and underground mine design tools will streamline workflow and increase productivity.

A new tool for designing highwall ramps will save time, with the sequence of designs saved and easily replicated on different strips. Pit solids can be cut up by the highwall templates, block lines, and horizons to enable individual solids to be created for reserving against a Vulcan HARP model. Strip ratios can be calculated from user-defined block model variables, and strip ratio calculations can be limited to a lowest mineable level, based on elevation, depth, surface or horizon floor.

Enhanced parameters for haul segments take into account the effect of rolling resistance as well as gradient on haulage route times. A new algorithm provides a better estimation for distances based on actual bench geometry at the time of mine haulage.

Maptek maintains its focus on providing operations with decision support tools which play a key role in driving productivity improvements, concluded Gonzalez. There's still more to do. With Vulcan 9 Maptek has provided tools which make customers' work easier and have also set up a platform to deliver a 'wow factor' in the future.

Workshops at the users conference allowed attendees to enjoy some hands-on experience with Vulcan 9.

https://www.gim-international.com/content/news/new-and-improved-capabilities-in-maptek-vulcan-9