

RPMGLOBAL SGT



Extracting more value from an underground resource can be an inherently difficult and complex process. With Schedule Optimisation Tool (SOT), users can achieve an optimised net present value (NPV) of an underground mine within minutes.

SOT uses an evolutionary search algorithm to assist with the formulation of life-of-mine schedules that maximise a user-selected objective, such as NPV. Users can select high-value NPV schedules with SOT to get the best result and optimise economic viability.

Benefits

Strategic mine planning decision support

An inherently flexible tool, SOT is a strategic NPV optimisation tool for underground mines. Every underground mining schedule generated by SOT is feasible, adhering to all precedence constraints and operational resource constraints. The tool drives evidence-based decisions that result in reduced operational risk and higher overall value. With SOT, not only can mine planners do more in less time, they are able to work more efficiently, thinking about different strategies rather than struggling to find a single production plan.

Produce high-value schedules

As a robust tool that sits at the edge of mine planning, SOT generates an optimised schedule in minutes, adhering to all operational resource constraints for thousands of activities. Sorting by NPV values ensures that sequences which generate more value in less time are prioritised. This process eliminates unfeasible options, for example going too deep to mine higher grades while lower grades with little investment is on hand. Another example would be a trade-off between sequence of panels or areas. SOT will quickly demonstrate the order to be mined so more value is generated.

Solve complex underground challenges

Underground mines are complex entities with incredibly detailed interdependencies. The application of custom heuristics makes SOT the industry's only practical method of identifying optimised outcomes for challenging underground scheduling problems. Leveraging custom heuristics, SOT produces thousands of different schedules, keeping the highest value schedules while discarding the lowest value options.

This rigorous analysis process is repeated until the value of the schedule ceases to increase, leaving only the best schedules for selection. Complex mining problems are simplified, enabling the end-user to easily identify and adopt the mining schedule with the highest NPV to maximise value.

"SOT has been an essential tool for most Newmont underground operations and projects, providing optimised mine plans with various constraints."

Hongliang (Henry) Wang, PhD, PE. Optimisation Engineer/Scientist, Technical Services, Newmont Mining Corporation

Features

'What if' scenario analysis

Want to increase production and reduce costs? SOT boosts the economic viability of your underground mine and adds more value to the business. SOT is purpose-built for scenario planning and comparisons, making it easy to test and compare all scenarios to identify bottlenecks and boost efficiency. SOT is a quick and iterative process that lets users analyse alternative mine designs. Sequences are generated by SOT to assist in the refinement of strategies and elaborate on one or more mine plans.

Mine planners can also perform sensitivity analysis on items such as operating costs and commodity prices, combining all possible strategies from each different department to create meaningful optimisation scenarios. With SOT, it is possible to understand the world of combinations that a mine planner needs to deal with every day.

Manage bottlenecks

Using SOT, mine planners can look at the detailed schedule report to analyse the optimisation results. This can help determine whether the strategy must change or constraints need to be removed in order to achieve targets. SOT can export a schedule back to the original input format so that the planner may look at Gantt charts and 3D model animations to understand what is constraining production.

The visual feedback is important to quickly identify bottlenecks and find different strategies. Once bottlenecks are adequately managed, planners can be sure that smooth production profiles will be achieved by SOT optimisations.

Simple, easy to use and quick to learn

Get the results you need quickly with minimal training and implementation costs. SOT is quick to get up and running and has a visual UI that makes the tool easy to navigate. Planners will be able to use SOT within a couple of days.

Equipment allocation

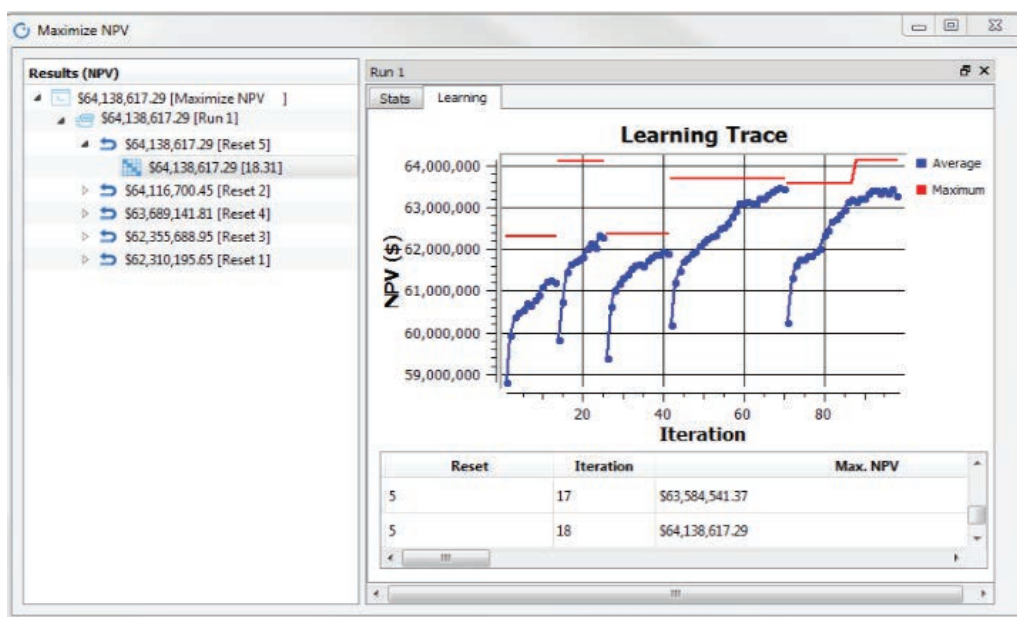
Equipment quantities and capacities are integrated for better performance and ease of use. SOT gives the option to specify alternative equipment sets.

Software support

RPMGlobal's international network gives our customers multiple support options across multiple time zones. Our skilled professionals provide both technical software support and extended implementation support, covering any model or customisation. Access RPMGlobal's comprehensive support service by telephone or email, or get online and talk with our experts on the RPMGlobal forums. No matter where you are, no matter how remote, we can help.

True enterprise mining solution

Optimisation capabilities digest data from any software application across the mining value chain, and together with RPMGlobal's Enterprise Planning Framework (EPF), makes it the only enterprise-enabled software application in mining. It can seamlessly integrate with ERPs and fleet management systems to deliver one source of truth.





About RPMGlobal

RPMGlobal is the global leader in the digital transformation of mining. We provide data with context, transforming mining operations. Our Enterprise approach, built on open industry standards, delivers the leading digital platform that connects the systems and information and seamlessly, amplifying decisionmaking across the mining value chain. RPMGlobal integrates the planning and scheduling, with maintenance and execution, with simulation and costings, on RPM's Enterprise Planning Framework, the mining industry's only digital platform that delivers insight and control across these core processes.

RPMGlobal's Advisory Team advise the global mining industry on their most critical issues and opportunities, from exploration to mine closure. Their deep domain expertise, combined with their culture of innovation, and global footprint, ensures our mining customers continue to lead. RPMGlobal is the global leader in Enterprise mining software, Advisory services and Professional development who operate offices in 23 locations across 13 countries and have worked in over 118 countries.

For more information visit rpmglobal.com or email info@rpmglobal.com.