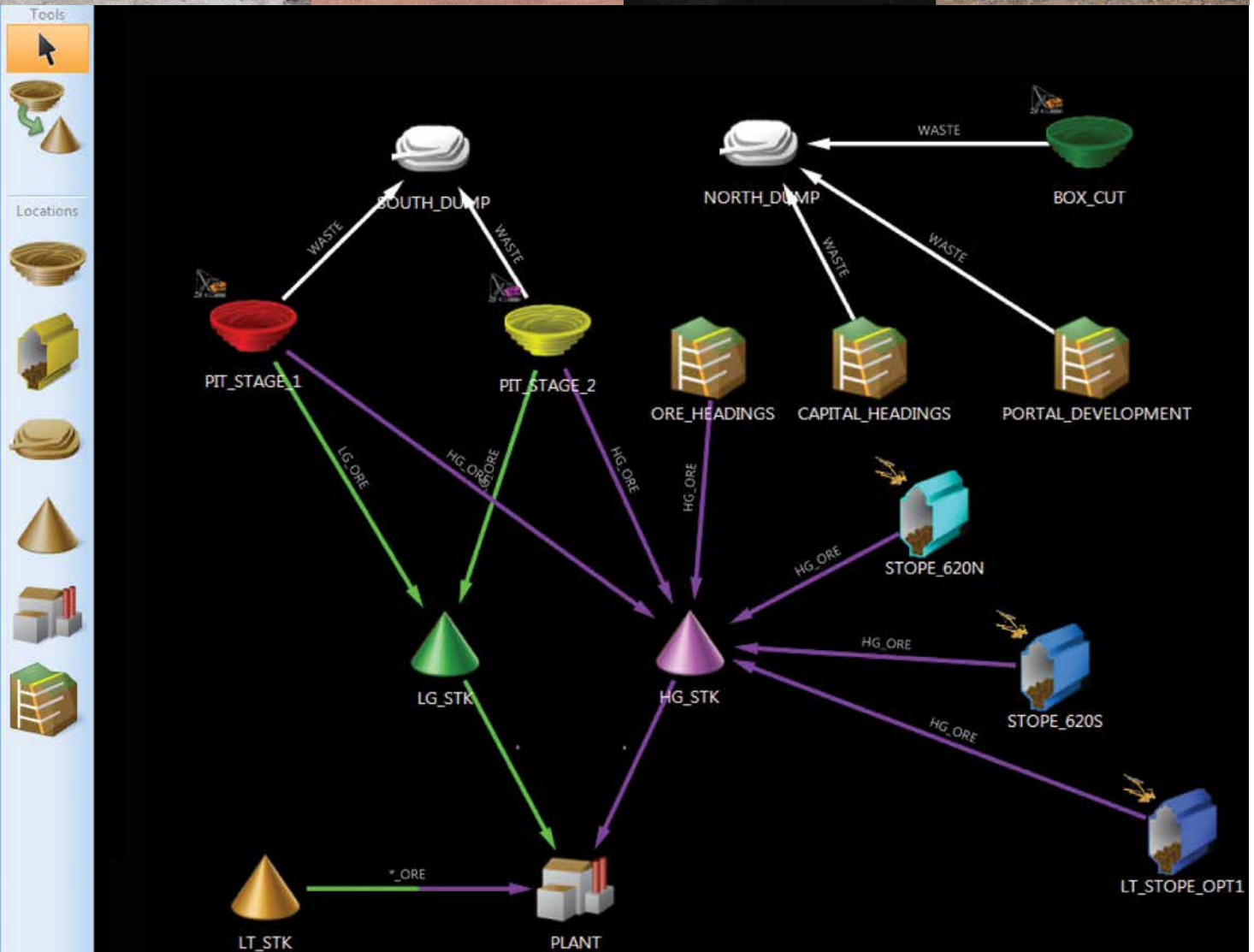




# ADVANCED SCHEDULING FOR SURFACE AND UNDERGROUND MINES



# THE WORLD'S MOST ADVANCED SCHEDULING USER EXPERIENCE

GEOVIA MineSched™ – The most innovative scheduling software experience for mining puts you in the driver's seat to maximize productivity and profits. Intuitive, rapid setup and guided workflows take the complexity out of scheduling, putting real decision-making power back in the hands of engineers and mining operations.

## BENEFITS

- Achieve scheduling objectives by quickly and easily creating and comparing scheduling scenarios.
- Increase productivity and efficiency by directly reading from all of the popular mine planning solutions or combinations thereof for a data-conversion-free advanced scheduling user experience.
- Reduce mining costs by preparing practical schedules through the use of rules, constraints and capacity targets.
- Lower processing costs by meeting your feed grade requirements through MineSched's target scheduling algorithms.
- Validate schedules by visualizing them in 3D animations and sharing them via the standalone Interactive Viewer application.
- Collaborate with others by publishing your schedule results to Microsoft® Excel®, Microsoft® Project®, and database for GEOVIA InSite™.

MineSched is employed by surface and underground mining operations of all types and sizes to produce long-term and short-term schedules that meet capacity and material quality targets. MineSched can schedule from pre-created block, grid, and polygon models that originate from many different mine planning systems, including GEOVIA Surpac™, GEOVIA GEMS™, GEOVIA Minex™ and other industry geology and mine planning (GMP) products. MineSched creates schedules that improve mine site operational productivity and profitability.

## SURFACE MINE SCHEDULING

From copper to coal, open pit to strip mining, MineSched provides complete long-term and short-term schedules. With MineSched you can schedule pit push backs and mining benches with ease.

- Prepare practical schedules quickly by having MineSched automatically sequence your mining bench by bench.
- Minimize the amount of contaminants sent to the plant by targeting contaminant values as well as grade values.
- Blend material from other mines, stockpiles, and processing plants through multiple stages in the material flow network.
- Compute all ancillary equipment requirements including haulage, drilling, explosive charging, and much more.
- Schedule dumps geometrically, and watch the dump advance progress concurrently with in-pit and stockpile locations.
- Create end-of-period face position surface triangulations of the pit and dump that can be used in other geology and mine planning packages.

## UNDERGROUND MINE SCHEDULING

From heading advancement to stope production, MineSched generates practical and integrated underground development

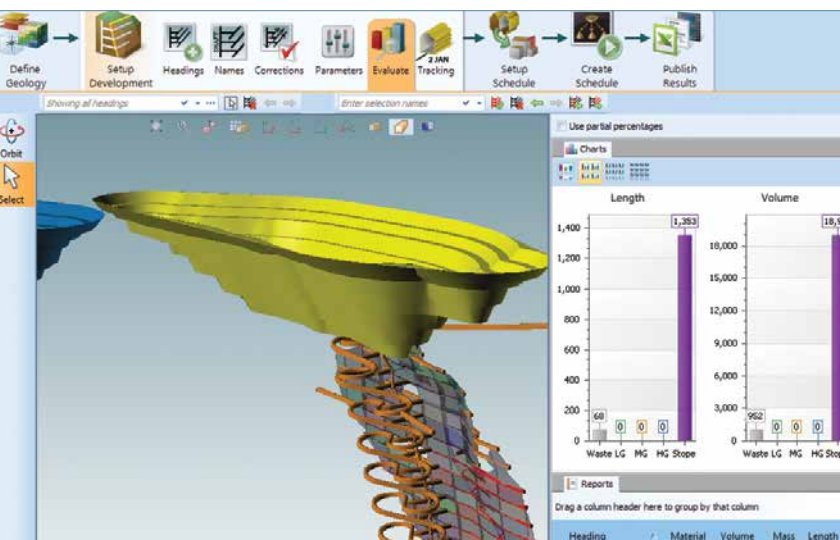
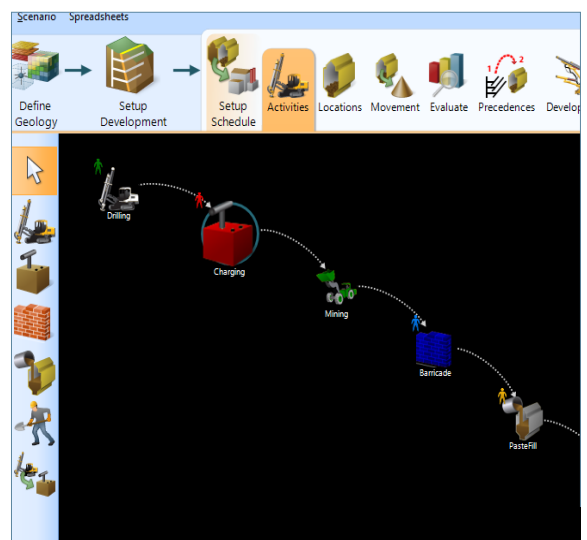


Chart and report on data prior to scheduling.



Create activities and assign resources intuitively using MineSched's Activities Canvas.

“MineSched is an amazing tool - if you don't manage your time and schedule effectively, you won't be able to meet your mine objectives. Managing all of this in a spreadsheet would be impossible.”

– Stephane Frechette, Engineering Assistant Superintendent Agnico Eagle Meadowbank mine.

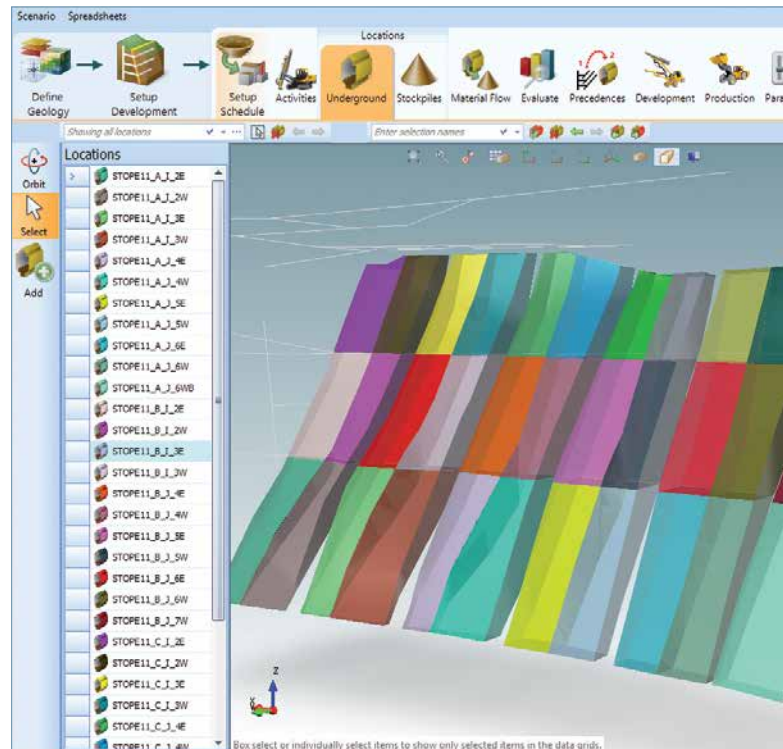
and production schedules for long and short-term scheduling.

- Model material flow through remucks, ore passes, and material transport levels.
- Setup primary to secondary stope dependencies quickly, and in a single pass.
- Quickly add and accurately model ancillary activities such as drilling, explosive charging, blasting, stope barricading, and backfilling.
- Accurately predict stope opening dates by scheduling production and development simultaneously.
- Schedule development directly from a centerline model.
- Use precise development intersection rules to allow time for installing vent pipes and service lines.
- Create end of period solids representing exactly where development and stopes will be at the end of each period.

### SCHEDULING RESULTS ARE INSTANTLY PRESENTED ON MINESCHED'S DASHBOARD

Scheduling results are updated during scheduling on MineSched's unique dashboard.

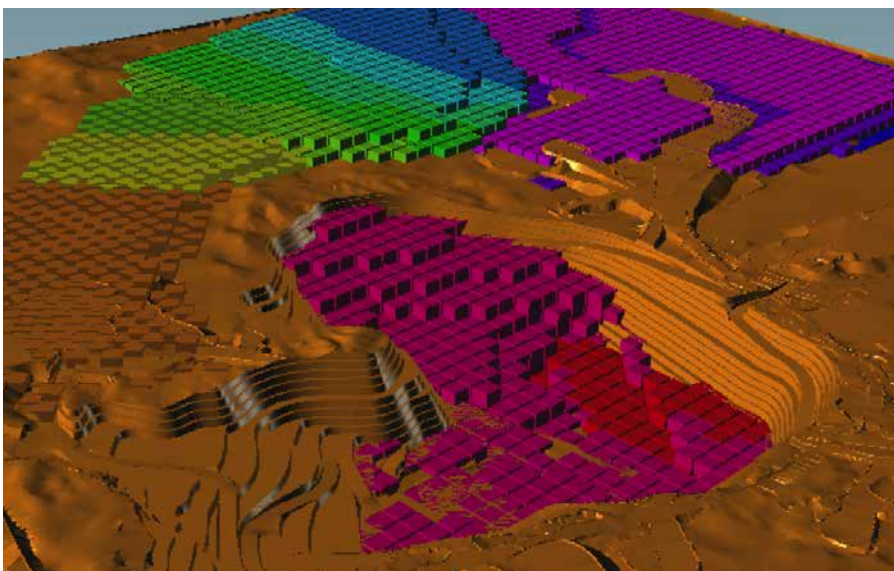
- View pre-defined reports and charts showing per-period material and grades mined, stockpile balances and work quantities for each activity.
- Add a configurable Gantt Chart View and/or 3D Animation Canvas to the dashboard.
- Customize the layout of the dashboard to display several key scheduling results simultaneously.



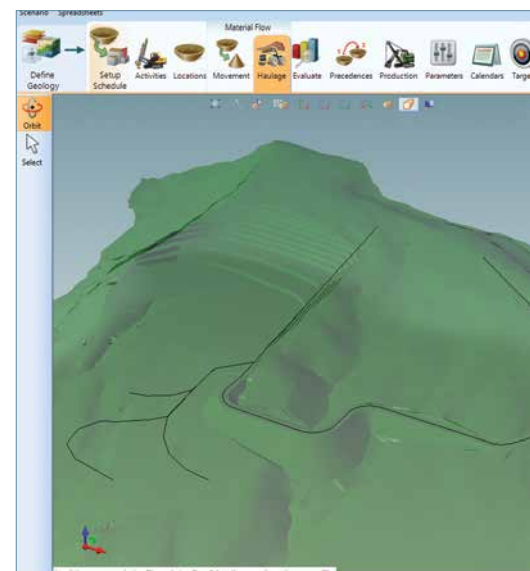
Locations tab, underground scenario.



Material Movement tab.



Share your scheduling results with non MineSched users with the MineSched Interactive Viewer.



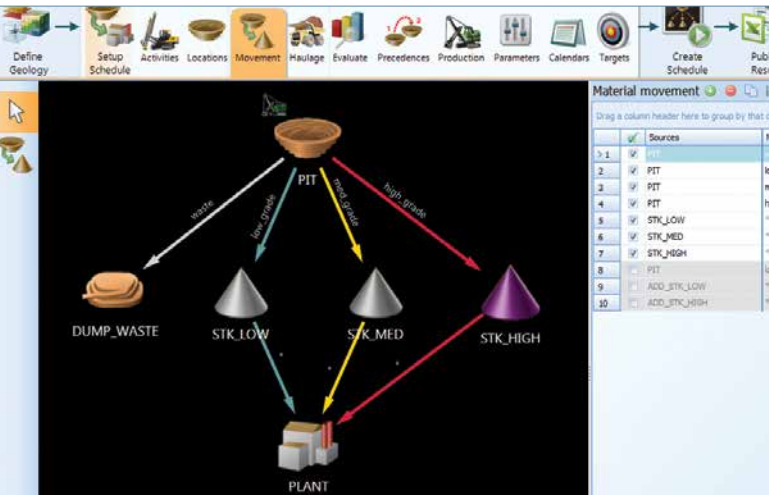
New Haulage routes (routes with velocities).



## SCHEDULE ANIMATION

MineSched has two tools to provide schedule animation; the Animation Canvas in the dashboard and the MineSched Interactive Viewer application. Both deliver a purpose-built 3D display environment specially designed to analyze the sequence of the schedule with a full 3D navigation capability.

- Display scheduling as blocks, solids or polygons that are geometrically subdivided and coloured by period.
- Animate mining using different paradigms, such as depletion or additive methods of display.



MineSched's Canvas allows material movement to be defined from surface and underground mining locations to stockpiles, processes and waste dumps.

- Animate ancillary activities realistically using additional geometry such as blastholes.
- See your stockpiles grow and shrink as their inventory changes over the schedule.
- Include reference geometries, such as surface topographies and solids models of other infrastructure.

MineSched's Schedule Animation features are first setup using the 3D Canvas in the dashboard. Once the user is happy with the schedule and its animation, schedule results are saved to a compact MineSched animation file. This file can then be distributed to other users, such as managers and consultants, who can then use the MineSched Interactive Viewer to play the schedule while viewing it dynamically using operations such as zoom, pan and orbit.

## REPORTING AND PUBLISHING

In addition to the MineSched Interactive Viewer, MineSched supports several methods for distributing scheduling results.

- Microsoft Excel reports and charts use all the attribute data in the schedule to create period by period reports as either columns or rows.
- MineSched can output a scenario to Microsoft Project Gantt Charts at the click of a button.
- Scheduling results can be output to a set of tables in Microsoft® Access or any ODBC compliant database.
- MineSched can export scheduling results to GEOVIA InSite™, allowing the comparison of scheduling results with actual production data.
- Powerful geometric tools create end-of-period face positions as triangulated surfaces or solids for graphical output.

For more information email [GEOVIA.MineSched@3ds.com](mailto:GEOVIA.MineSched@3ds.com) or visit [www.3ds.com/GEOVIA/MineSched](http://www.3ds.com/GEOVIA/MineSched)

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Dassault Systèmes, the 3DEXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit [www.3ds.com/GEOVIA](http://www.3ds.com/GEOVIA).

