

# Deswik.OPS providing operations efficiency through collaborative operational scheduling and tracking

 OPERATIONS SCHEDULING & TRACKING | UNDERGROUND MINING | Agnico Eagle - Kittila, Finland

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Many mines today are struggling with complex processes to align long-term schedule objectives with medium-term and operational schedules. This can result in inaccurate schedules, manual and time-consuming scheduling, limited data integration across functions, a lack of decision support capability, and limited feedback on schedule performance.

Agnico Eagle in partnership with Deswik have been implementing an approach to solve these problems at their Kittila mine in Finland.

Kittila mine is an underground gold mine that uses a sublevel stoping (with delayed backfill) mining method. The Kittila ore deposit is complex. The average stope turnover is roughly 200 to 220 stopes per year, with an average stope size of approximately 8,200 tonnes. In 2021, Kittila anticipates roughly 15.8 kilometers of development for the year.

Kittila follows a schedule-driven operations approach where mine plans are updated yearly, quarterly, monthly, weekly, daily, and live within each operational shift, all using the Deswik suite of mine planning software.

Since 2010, underground ore production at Kittila has increased gradually from 100,000 tonnes to nearly 2 million tonnes in 2021.

In August 2017, the Deswik.OPS Implementation at Agnico Eagle Kittila went live, and production planners seeded the first Deswik.Sched import into Deswik.OPS for full multi-user, real-time scheduling and tracking from monthly and weekly tasks down to shift and intra-shift work items.

"All work is collaboratively planned in Deswik.OPS at Kittila mine with full visibility on location, equipment, and personnel interactions and activities," explains Mining Engineer, Sofia Veki. The short-term planner imports the initial months of the Deswik.Sched short-term schedule and proceeds to detail the monthly plans for stopes and development. The production planner then refines these as weekly plans that include diamond drilling, cable bolting, raise boring, production drilling, backfill, infrastructure (ventilation and water), and maintenance. Then control room personnel and shift supervisors refine these weekly plans into shift plans for continuous, 12- to 24-hour live planning using Deswik.OPS.

## Delivering value through change

Through the implementation of Deswik.OPS, which utilizes an integrated planning, scheduling, and tracking approach, Kittila has managed to achieve faster shift changes, centralized planning, increased visibility on plan conformity, an improved ability to react to changes through dynamic planning. Other benefits include higher face and equipment utilization, and improved communication and collaboration between production, planning, maintenance, geology and services. The end result is a realistic and achievable production plan that drives conformance and productivity.

Operators report work starts and stops, achievements and delays continuously throughout the shift. This allows live and continuous planning by control room personnel. As soon as the last piece of information from the current shift is captured, the next shift plan is ready, leaving shift supervisors more time for actual supervising, and ensuring safety and work quality. A live planning approach, including a better overview of all work plans, and a platform for central communication, ensures that everyone has the same up-to-date information. There is no need to go hunting for information because everything is available in the Deswik.OPS live web environment or in the reporting database.

Today, Kittila has more than 122 total Deswik.OPS users with a typical average of 39 concurrent users. They manage more than 9,000 activities per month in Deswik.OPS and have accumulated approximately 125,000 comments related to managed and reported work activities since initial use in 2017. Deswik.OPS data is the source of truth for all production reporting.

## The key to a successful implementation

Through the course of the Deswik.OPS implementation, Kittila and Deswik have developed a number of suggestions that may benefit other sites in their implementation of Deswik.OPS. These key takeaways are:

- Involve all user groups in the implementation scoping phases, including operators.
- Implement change management on site, for example, involve the control room, shift supervisors and engineers in the implementation.
- Have superusers and an adequate number of sufficiently skilled resources on site who are essential for successful implementation.
- Build a strong relationship between site superusers and Deswik.
- Have site visits to increase mutual understanding.



Figure 1 - Production Planning and Scheduling in 2019 prior to the Covid-19 pandemic.





Figure 2 - Control room personnel in 2019 prior to the Covid-19 pandemic.

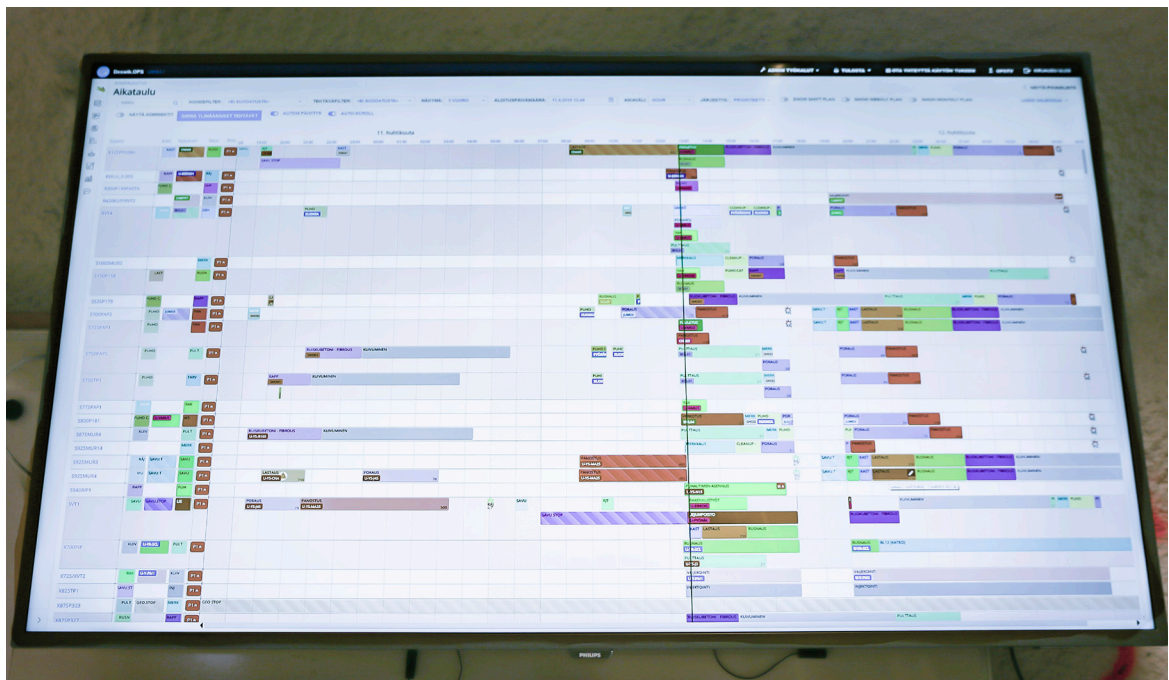


Figure 3 - Real-time monitoring.



*Figure 4 - Field operations personnel in 2019 prior to Covid-19 pandemic.*

## **Delivery through partnership**

In summary, Deswik.OPS has helped Kittila achieve better planning through reported daily data, better communication, and visibility of planning information via the Deswik.OPS collaborative web-based platform, and integration across departments, including Production, Planning, Maintenance, Services, Geology and contractors.

Moving forward, Kittila and Deswik will continue to work together to ensure the continued support and expansion of Deswik.OPS at Agnico Eagle.