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Tier One Gold Miner Improves Fleet Efficiencies with HAULSIM

"HAULSIM delivers results almost immediately. It's 3D graphical nature, and intuitive interface, means users can be delivering real value based on informed decisions around haulage. Everyone globally wants HAULSIM on their site."

Senior Mining Engineer

Overview

A Tier One gold producer with operations in Canada, Finland and Mexico and exploration and development activities extending to the United States chose HAULSIM to deliver greater productivity, reduce cost and increase efficiency in mine haulage. Our customer's operational excellence mandate was to build a growing, high-quality, low-risk, sustainable business with mine haulage at the forefront of this improvement initiative. In order to deliver on these performance and growth expectations, our customer introduced HAULSIM as their haulage simulation solution.

Case Study

Commodity	**Gold**
Solution	**HAULSIM**
Location	**Toronto, Canada (head office)**

Challenge

Our customer's Support and Development Department was charged with identifying areas for operational improvement at each of their operating sites. The particular improvement initiative that forms the basis of this case study was optimising fleet selection across each site to achieve set production targets. In particular, our customer needed a way of finding definitive answers to the following questions:

•   The impact a shaft would have on productivity levels.

•   Identifying optimal fleet size both with and without a shaft.

•   Understanding truck cycle times from a cost and distance perspective during haul routes using individual truck specifications.

•   Identifying the cost and impact on newly acquired fleet to haul ore from pit to mill across a distance of approximately 70kms (Mexico operation only).

•   Pinpointing congestion points throughout haul cycles.

"The business impact HAULSIM makes is almost immediate. It takes minutes to run scenarios giving operations greater visibility of where they can optimise production and still maintain the highest safety standards."

Senior Mining Engineer

Impact

Using HAULSIM, our customer was able to build a base model for their Finland operation within 5 days. This model confirmed the outputs of a consulting study done by a third party of their haulage routes which took over 6 months to prepare.

Following this, subsequent models for each of the mining company's other operations were created in HAULSIM and no longer in spreadsheets or by 3rd party consulting firms. From these models, HAULSIM users were able to specify parameters to achieve production targets through optimal fleet selection and haul route setup and development. Specifically, HAULSIM has delivered the following benefits:

•   Identifying an ore pass would significantly reduce congestion resulting in significant capital savings and increased production.

•   Creating 10 scenarios within one week leveraging the one, pre-calibrated model for each mine site. Prior to using HAULSIM, spread sheets were used to perform this task taking an average of 3.5 weeks to develop 2 scenarios per site.

•   Identifying the optimal size of fleet (namely trucks and scoops) for each operation, prior to production.

•   Plan validation.

Additionally, as HAULSIM is intuitive to use, it is possible for users to be active and up and running with 3 days. This gives our customer the ability to have one stardardised approach to haulage simulation across their entire global operations.

Solutions

Our customer identified HAULSIM as the most comprehensive and dynamic haulage solution on the market. Using HAULSIM's discrete event simulation functionality, our customer can now analyse the behaviour of equipment over time, and ask "why" or "what if" questions and create multiple scenarios to suite different operating environments.

Based on the analysis of each scenario, users can adjust processes accordingly before plans are put into production, without any financial implications.

"Using HAULSIM, we can identify areas for improvement, make necessary changes and see the immediate financial impact these improvement have on our operation."

Senior Mining Engineer

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