



BHP: Galorath estimation framework identified the cost to build a smart mine



The Challenge

BHP Group Limited is the world’s largest mining company by market capitalization and is based in Melbourne, Australia. In 2015 BHP began development of the [world’s largest potash mine near the town of Jansen](#), near Saskatoon Canada. The Jansen mine is expected to produce eight million tons of marketable potash at full capacity.

To better understand the cost of this multi-billion-dollar project, BHP requested Galorath Incorporated to help generate an estimate for the Jansen Mine data infrastructure. However, this is far from a typical data center. Covering over 9600 square kilometers in size, the Jansen Mine will be an innovative and integrated smart city – underground.

Our Solution

With the boring machines beginning the first of two vertical shafts, Galorath assembled a team of experts that worked alongside the BHP project engineers to capture all the smart city requirements. The team identified what Internet of Things components would make the journey 1000 meters below the surface as a fully connected environment. According to Loren Budd, a Principal Business Analyst in Technology at BHP Billiton, the company was looking for an estimation capability that would provide a steadfast estimate and carry its project forward.

“We were looking for something we could use to build a comparable model for our mine and stand behind the numbers we got out of the model. We also needed to use it on a regular basis for day-to-day work once we’re in construction, as we revise it, as we finish projects, as we change our assumptions, and feed into our next project,” Budd said.

“I’m really looking at this as a total solution to provide process and tooling to create that defensible budget, but also to use long term.”

The Result

Galorath estimation framework allowed BHP engineers to understand the complexity and cost of the thousands of interconnected computers, sensors, safety monitors, and intricate mining pathways. At the end of 2019, BHP CEO Andrew Mackenzie announced the project as 50% complete, with all major items on schedule and budget. This includes the successful delivery of a 975-meter production mine at and service shaft 1,005 meters deep.

BHP is now completing the construction stages of the mine and will create an entire city to house the 2500 operations staff. When complete, the Jansen mine will result in BHP producing fifteen percent of the world’s much-needed potash resources.

Galorath is proud to have been a part of the BHP Jansen Mine success story. Our vast range of experience in large complex projects and IoT technologies positions Galorath to be an invaluable partner for all technology and project types.

The future is now. Let Galorath be your guide as you move onward from the ordinary and begin embracing this new dawn of innovation and smart cities of the future.