



DIGITAL TRANSFORMATION

A Salt Mine's Path to Production Efficiency and Cost Savings

During an internal audit, a large salt mine identified several key issues related to production and safety. The consensus of the study showed that current work practices are a function of the technological limitations and network connectivity available at the mine. This salt miner operates the largest salt mine in the USA (~3-4MT/yr) and wanted to find a next-generation system that supports their desire to digitally transform their mining operations. After a thorough assessment of available options, including mine site visits, speaking with customers, and attending SME MineExchange conference and technical sessions, their selection team chose IWT as their digital networking partner.

THE CHALLENGE:

During the mine's assessment, the following criteria and issues were identified as key priorities to address with their next-generation, networking solution.

Key Safety Issues:

- Unknown personnel location
- Poor communications between operators and operation
- Machine operators unaware of nearby personnel

Key Production Issues:

- Lack of communication and situational awareness of their underground operation
- Limited or delayed information for most efficient use of equipment & resources

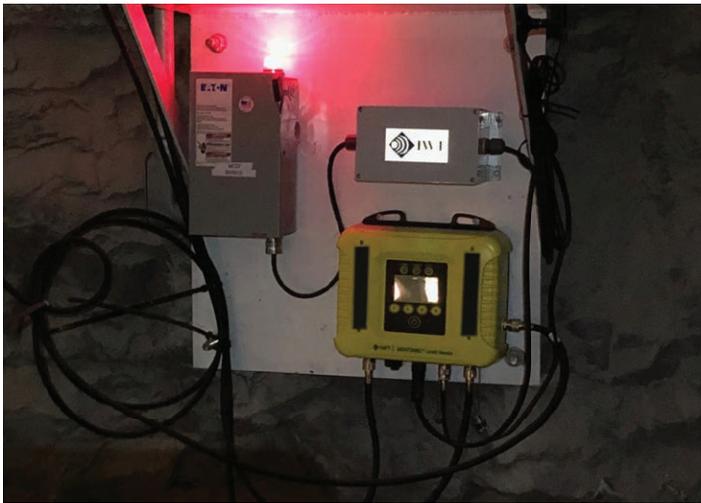
- Real-time status and tracking of resources
- Excessive, inefficient or redundant tasks

The typical Mine Process Steps and Work Codes for this customer included: Cut - Drill - Powder - Blast - Load - Haul - Dump. They were especially interested in measuring short session intervals and time periods for each mining process in order to optimize and drive efficiency in their operations, which is measured by their primary KPI: tons/underground man-hour worked.

After the internal audit was complete, IWT was asked to analyze the data and develop a solution that would address each of these issues and assist the customer in achieving their digital transformation goals.

THE SOLUTION:

IWT presented an aggregate solution including the *SENTINEL*[™] Communications and Tracking System (C&T), along with *SENTINEL*[™] Uniti Nodes and IWT Production Analytics. The C&T System planned to address all of the listed issues in the report, and the *SENTINEL*[™] Uniti Nodes with IWT Production Analytics would automate shift reports and produce electronic forms (E-Forms), ultimately speeding the delivery of production data from the mine to management. An estimated efficiency gain of 5% could be achieved by implementing these IWT products and solutions.



SENTINEL[™] Uniti Nodes were used as part of the solution for this salt mine customer.

REAL RESULTS:

The immediate result of deploying the C&T system was a reduction in downtime. The customer realized that when equipment was down, maintenance could respond quicker with the appropriate parts and tools. McKinsey and PwC yearly mining reports have assessed average production downtime for most underground mining operations runs between 10-13%¹. Miners who adopt digital technologies have the ability to regain this lost production which equates to both top line revenue and bottom line profitability growth.

For this salt mine, equipment utilization and up time has increased by knowing the status and location of assets at all times. Resources can be dispatched sooner to respond to unplanned downtime, resulting in reduced replacement and repair times.

During the first eight months after installation, this mine has seen a total efficiency improvement in their primary KPI (tons/underground man-hours) of +6.57% over the prior year, with an annual projection of +7.54%.

¹Reference McKinsey and PWC mining report

Start the conversation today at iwtwireless.com
sales@iwtwireless.com
+1.434.316.5230

