



CUSTOMER CASE STUDY

Seamless information handover delivers operational agility at K+S Potash Canada

K+S Potash Canada - www.ks-potashcanada.com
Industry - Mining

Goals

- Develop a strategy for a smooth, complete information handover to accelerate time to start-up
- Ensure consistent data between the engineering, procurement and construction team, the construction site and K+S Potash's operations leadership
- Enable real-time information sharing across a shared platform
- Foster transparency and trust between all parties to help ensure teams met project targets

Solution

- AVEVA™ Asset Information Management (formerly AVEVA NET)
- AVEVA™ Engineering
- AVEVA™ 3D Asset Visualization (formerly AVEVA Engage)

Challenges

- Lack of complete end-to-end project design, commissioning and operations support
- Information handover from EPC to K+S Potash was hampered by different data sources
- Lack of asset visualization made minor design edits cumbersome to execute accurately

Results

- Quick and easy access to integrated, real-time information
- Smooth, clear and consistent information handover from the EPC team to K+S Potash's operating leaders
- Seamless implementation of operations change management best practices



AVEVA's progressive handover solution ensures smooth handover from EPC to owner operator

K+S Potash Canada is part of the K+S Group, an international resources company that has been mining and processing mineral raw materials for more than 125 years. Their products are used worldwide in agriculture, food and road safety and are important elements in numerous industrial processes. With more than 14,000 employees, K+S Potash is the world's largest salt producer and one of the world's top potash providers.

Working with the major Engineering, Procurement and Construction (EPC) firm, AMEC Foster Wheeler, K+S Potash Canada is now bringing the group's experience and world-class expertise to the legacy project potash mine and production facility, now known as Bethune mine. Located near Moose Jaw, this is the first greenfield potash mine built in Saskatchewan in more than 40 years.

The project, which is valued at more than €3.1 billion, uses a process called solution mining, where in situ bore holes deliver water to dissolve minerals, making up a solution called brine, which is then extracted and processed at the nearby plant.

The problems of size and scale

The completion of the project required a very large workforce. At one point, 11 different EPC firms from around the world worked simultaneously on the engineering, design and development aspects of the construction of the legacy project mine.

These stakeholders quickly built up a vast quantity of documents and data, including piping and instrumentation diagrams (P&IDs), engineering datasheets and electrical, instrumentation and piping data.

Bringing the information together

It would have presented a major challenge to use a standard handover approach to provide consistent data from the design houses at the EPC to the construction site itself, and then pass on this data accurately to the operating teams.

The importance of a smooth handover from EPC to owner operator

Due to the global, segmented project team, K+S Potash determined that a successful project handover would require constant sharing of information across a common platform amongst all project teams and disciplines within the teams, allowing the company continuous visibility throughout the project.

This project execution strategy would allow the owner to oversee the ongoing construction progress and to plan for the subsequent maintenance activities using trusted, live-action data at any time throughout the project, without interrupting the EPC teams to provide such updates.

Without this shared platform, the owner operator's on-site teams would have limited trust, understanding and appreciation of the project milestones and completions. They would also have to work without the benefit of accurate 3D models, increasing the likelihood of late project changes and rework.

Meeting the challenges with AVEVA solutions

Orlando Amaral joined K+S Potash as Engineering Systems Administrator for the legacy project in the early stages of the project handover. Upon starting with the company, his first task was to establish a satellite connection to the site using a shared platform to give the K+S Potash project teams access to global servers and networks, allowing communication with the global EPC teams.

To enable the transfer of data across all parties working on the project, K+S Potash implemented AVEVA NET to compile all the data into one common format, using the ISO 15926 standard, and provided a single source of access to data using a distributed infrastructure.

AVEVA Engage was also implemented on site to allow operations and modifications teams visual access to the asset digitally via a simple, intuitive, touch-driven interface. The teams mastered this very quickly, with minimum training, and it is still being used to manage day-to-day modifications and maintenance.

This workflow, enabled by AVEVA solutions, allowed K+S Potash to achieve their desire for a common platform; it provided ungated access to all project data as required, and fostered transparency between K+S Potash and their many EPCs. Regular access reduced the handover process to a minimum, as K+S Potash had already been reviewing the data throughout the project.

Supporting the change management process in operations

Following the final handover from the project teams to K+S Potash, it was vital to create a change management process to ensure all information and data remained up to date and accessible into operations. Fortunately, AMEC Foster Wheeler had employed AVEVA Engineering from the start of the project.

This meant that the K+S Potash team already had detailed engineering information such as line lists, equipment lists, valve lists and instrumentation drawings in a clear, consistent format, greatly benefitting the change management process. Further integration with the 3D model and schematics data ensured clear and consistent trails for each change, and versioning trails tracked effectively.

“Thanks to the continued application of AVEVA solutions throughout the project we are now able to utilize consistent information to establish realistic change-management procedures and keep the digital asset of our plant evergreen.”

—
Orlando Amaral, Engineering Systems Administrator
K+S Potash Canada

Mr. Amaral is also enthusiastic about the way that AVEVA Engineering is being used as the master tag registry, complementing the EPC firm's use of this solution as their master tag index. This means that all the information is available to K+S Potash in a predefined format and in-house engineering teams can continue to use AVEVA Engineering for all their internal maintenance, modification or shutdown projects.

For K+S Potash, efficient access to trusted data and the seamless interoperability of AVEVA's tools is one of the key benefits of employing the portfolio of AVEVA solutions.





“AVEVA Engineering is an extremely versatile tool, especially aiding in organizing and querying data and compiling useful reports. Without it, I would have to deep-dive into 3D models to locate particular assets such as storage tanks, and then investigate the detail of that asset to calculate its volume. There might be more than 30 such tanks within one section of the plant, and each one would have to be identified individually and matched with its desired criteria before its volume could be calculated. Creating such reports would take up to four hours. With AVEVA Engineering, a simple query function identifies the information I need and reports take me just 20 minutes.”

—
Orlando Amaral, Engineering Systems Administrator
K+S Potash Canada

Handover and beyond

K+S Potash’s use of AVEVA solutions does not end with the handover and change management. The company is now planning to upgrade all their 3D design model users to AVEVA™ E3D Design, which easily integrates with the tools already in use. This will ensure the safety and productivity of future CAPEX projects and help facilitate and streamline future maintenance management of this complex undertaking.

To learn more, please contact your AVEVA representative or visit us online at [aveva.com](https://www.aveva.com)