

FACTS AT A GLANCE

Company: FLSmidth

Website: www.flsmidth.com

Description: FLSmidth is a leading provider of engineering and design services to the global cement and minerals industries. The company's 15,000 employees in 50 countries are engaged in developing new solutions to meet the world's future energy and emissions challenges, with 99 percent of projects outside its Denmark home market.

Industry: Metals & Mining

Country: Kazakhstan

PRODUCTS USED

- CADWorx® Plant Professional
- CAESAR II®

KEY BENEFITS

- Addressed design standardization challenges on a fast-track copper mine project.
- Achieved a collaborative design solution.
- Saved 700 man-hours.

FLSMIDTH SEES RESULTS WITH CADWORX® ON FAST-TRACK SCHEDULE

EPC designs a copper concentrator for new processing plant

IDENTIFYING GOALS

A global leader in copper, Kazakhmys PLC operates 16 mines, eight concentrators, and a copper smelter. Kazakhmys awarded FLSmidth a US\$63 million contract to design a copper concentrator and provide all of the process technology for a new plant at the company's Bozshakol copper mine in Kazakhstan to provide 5 million tons of ore per year, a project with \$1.9 billion in capital cost.

FLSmidth's assignment included basic and detailed engineering, plus the company's proprietary technologies for crushing, milling, flotation, thickening, filtering, cycloning, and pumping. It also included regrind mills, conveyors and feeders, and erection supervision, start-up, and commissioning services.

OVERCOMING CHALLENGES

As part of detail engineering, FLSmidth brought in a US engineering firm with expertise in fire protection systems and engaged its own offices in Salt Lake City, Utah, US, and Chennai, India, with each entity concentrating in its process expertise to enhance project synergies.

The challenge was that each was using a different design platform. The FLSmidth India office was running a previous version of CADWorx. The US office had the current version of CADWorx. The US subcontractor had no CADWorx experience.

Proceeding with these different platforms would complicate communications and be detrimental because pipe material and support data, isometric configurations, and other information would vary and, if left unchecked, would result in a nonstandard design from each stakeholder. This would make it difficult to stay within budget and could delay the schedule. FLSmidth would then face monetary sanctions according to the contract's terms.

Lacking the uniform and efficient design CADWorx offered, the three design teams at three different locations could not have produced such a highly integrated and coherent plant design and would have risked the project deliverables not meeting the client's expectations. Information management would have been chaotic when trying to reconcile each team's final deliverables, and each design team would not have been able to concentrate in its process expertise and task, being distracted by configuration issues.

With 30,000 piping components to deal with, accuracy would have suffered and expenses would have increased. The overall cost of not having this improved work flow, based on a uniform Intergraph platform, would have added an estimated 600-700 man-hours for all three design teams.

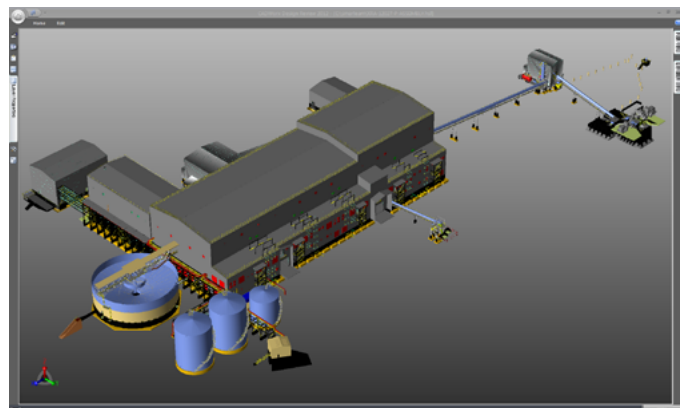
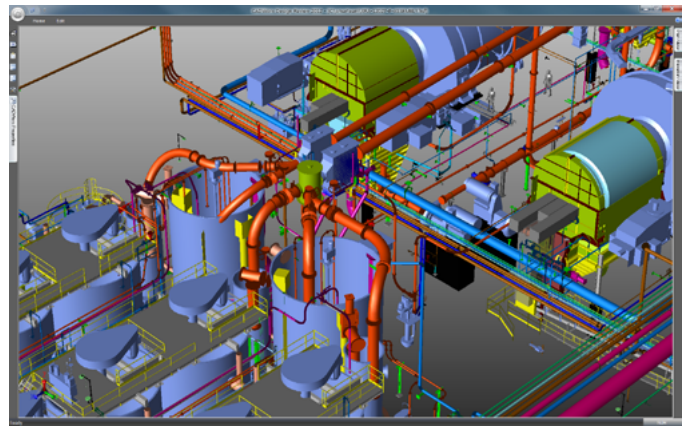
REALIZING RESULTS

With an aggressive schedule and the need to integrate each player into one platform, the project leaders knew they needed CADWorx to standardize the design and promote effective design collaboration across all teams.

“CADWorx allowed for standardization plus effective management of engineering design data by providing three pillars: a common design platform, information sharing, and information flow,” explained Javier Barros, staff designer of mechanical and piping at FLSmidth.

“We achieved platform integration by allowing the India office read-only access to the Salt Lake City office’s configurations in the current version of CADWorx,” he added.

The team in India had easy access to files located on US servers to complete design work, avoiding delays. With CADWorx, FLSmidth centralized control of material specifications, updated the configuration files immediately, and completed work on schedule.



AWARD-WINNING PROJECT

FLSmidth received the 2014 CADWorx Drivers of Success Runner-Up Award for its use of the software. The annual Drivers of Success competition recognizes innovative applications of Intergraph products, impressive project results, and significant benefits from collaboration among disciplines and the integration of the products.

ABOUT INTERGRAPH

Soon to be known as Hexagon Process, Power & Marine, Intergraph Process, Power & Marine is the leading global provider of engineering software for the design, construction and operation of plants, ships, and offshore facilities.

Hexagon Process, Power & Marine is part of Hexagon (Nasdaq Stockholm: HEXA B; hexagon.com), a leading global provider of information technologies that drive quality and productivity improvements across geospatial and industrial enterprise applications.



© 2016 Intergraph Corporation. All rights reserved. Intergraph is part of **Hexagon**. Intergraph, the Intergraph logo, CADWorx, PV Elite and CAESAR II are registered trademarks of Intergraph Corporation or its subsidiaries in the United States and in other countries. Other brands and product names are trademarks of their respective owners.

