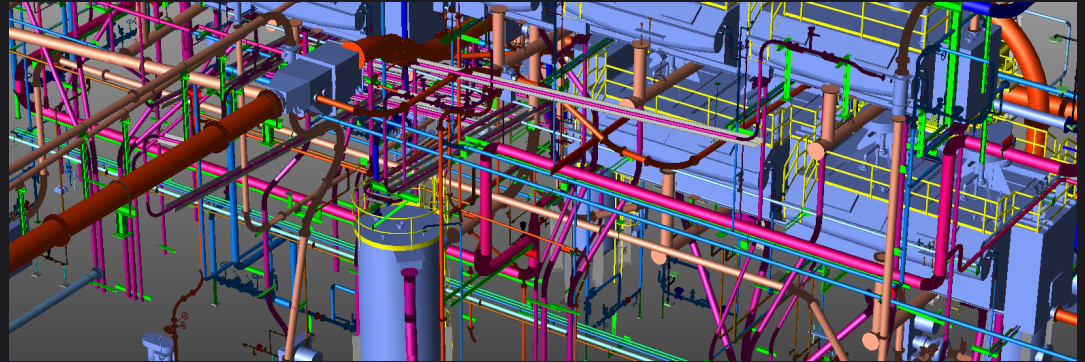




CASE STUDY

FLSmidth sees results with Octave Forte 3DWorx on fast-track schedule



Key facts:

Company: FLSmidth

Website:
www.flsmidth.com

Industry: Metals & Mining

Country: Kazakhstan

Octave products used:
Forte 3DWorx (*CADWorx Plant Professional*), Aspect Pipe Stress (*CAESAR II*)

Key benefits:

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

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% of projects outside its Denmark home market.

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, in addition to start-up and commissioning services.

Overcoming challenges

As part of detail engineering, FLSmidth brought in a U.S. engineering firm with expertise in fire protection systems and engaged its own offices in Salt Lake City, Utah, United States, 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 Forte 3DWorx, the U.S. office had the current version of Forte 3DWorx and the U.S. subcontractor had no Forte 3DWorx 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. If left unchecked, this 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.

“Forte 3DWorx allowed for standardization plus effective management of engineering design data by providing three pillars: a common design platform, information sharing and information flow.”

Javier Barros

Staff designer of mechanical and piping, FLSmidth

Lacking the uniform and efficient design Forte 3DWorx 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.

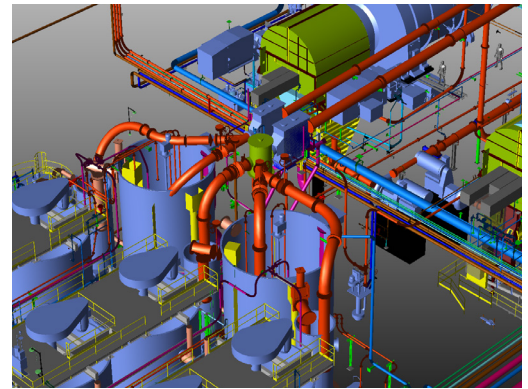
Information management would have been chaotic when trying to reconcile each team’s final deliverables, and each design team would not have been able to concentrate in its process expertise and task, being distracted by configuration issues.

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 Octave platform, would have added an estimated 600-700 work hours for all three design teams.

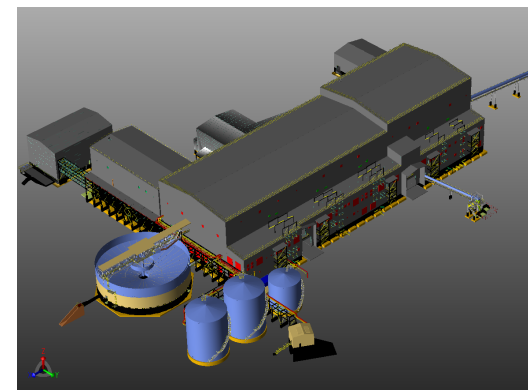
Realizing results

With an extremely aggressive schedule and the need to integrate each player into one platform, the project leaders knew they needed the capabilities of Forte 3DWorx to standardize the design and promote effective design collaboration across all teams.

“We achieved platform integration by allowing the India office read-only access to the Salt Lake City office’s configurations in Forte 3DWorx,” explained Javier Barros, staff designer of mechanical and piping at FLSmidth.



The team in India had easy access to files located on U.S. servers to complete design work, avoiding delays. With Forte 3DWorx, FLSmidth centralized control of material specifications, updated the configuration files immediately, and completed work on schedule.



About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we’ve partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what’s possible from day one onward.

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