

F.L. SMIDTH & CO. A/S

Integrating global cement plant development with SolidWorks Enterprise PDM



F.L. Smidth uses SolidWorks Enterprise PDM to manage data generated for the development of cement plants by more than 400 users around the world.

F.L. Smidth & Co. A/S is the leading manufacturer of cement plants and production equipment, and the principal builder of cement plants around the world since 1882. With engineering operations in Denmark, India, and the United States, the company introduced one of the world's largest document management systems—named “Documentum”—to manage the large number of 2D equipment drawings and plant layouts it accumulated during the construction of cement plants globally. In 2003, however, F.L. Smidth adopted a 3D CAD strategy to increase productivity, foster collaboration, and secure a competitive advantage, according to Sture Plaugmann, executive assistant.

“As part of our evaluation of the best 3D CAD package to support our 3D strategy, we also investigated available product data management (PDM) systems,” Plaugmann recalls. “Having introduced the 2D drawing management system, we understood the importance of controlling revisions as well as accessing and reusing design data. Our Documentum system could not manage the many references among parts, assemblies, and drawings that a 3D CAD system generates. We realized we needed a PDM system that could manage our 3D design data as well as integrate with our legacy 2D system. In addition, we wanted to maintain Documentum since it links to our enterprise resource planning (ERP) system and supports a number of internal business procedures and IT systems.”

Plaugmann says that before implementing a 3D CAD system, F.L. Smidth assessed potential PDM solutions so the company could implement 3D CAD and PDM concurrently. “We decided to use the SolidWorks® 3D CAD software system because of its superior capabilities for handling a large volume of assemblies and machinery designs, which are common elements in cement plants,” Plaugmann explains. “Once we settled on SolidWorks software, we began evaluating PDM systems that would complement it.”

F.L. Smidth chose SolidWorks Enterprise PDM—installing 400 seats to support its SolidWorks 3D CAD software users worldwide—because of its ease of use, direct integration with SolidWorks software, and ability to connect and operate with existing document management and legacy systems. The number of 3D CAD and PDM seats is expected to increase dramatically in the coming years, reaching an anticipated level of nearly 4,000 seats.

Results:

- Reduced mechanical equipment engineering effort by 30 percent
- Decreased cabling development costs
- Integrated global engineering organization
- Established a global PDM system supporting multiple languages

Cementing a foundation to boost productivity

Since implementing SolidWorks 3D CAD software and SolidWorks Enterprise PDM, F.L. Smidth not only has realized immediate productivity gains in the design of mechanical equipment, but also has established a framework for refining workflows and standardizing development processes worldwide. The three main areas devoted to cement plant development include mechanical equipment design, plant layout, and the development of electrical, cabling, and cable tray systems.

"We have experienced an increase in productivity in mechanical equipment design, reducing the engineering effort by as much as 30 percent, which is our final goal, while simultaneously improving design quality and minimizing errors," Plaugmann notes. "But the mechanical equipment is only the first stage in the development of a cement plant. We anticipate additional productivity gains because SolidWorks Enterprise PDM provides the data foundation through which we intend to refine workflows and introduce lean manufacturing initiatives. It enables us to re-evaluate our business processes on a global scale."

Ease of use reduces training demands

By choosing SolidWorks Enterprise PDM, F.L. Smidth encountered minimal training demands. Because the software utilizes a familiar Windows® Explorer-like interface and is configured to support six languages, the company was able to address training internally.

"Our training manager identified a 'super user' in each department of our global engineering group, developed training materials, and had these super users provide user training locally," Plaugmann says. "The feedback is that users are very positive about the system because they can access and search for designs on a wide range of properties, and no longer have to concern themselves with manual revision control. With SolidWorks Enterprise PDM, it's easier to find designs and the system handles revision control automatically."

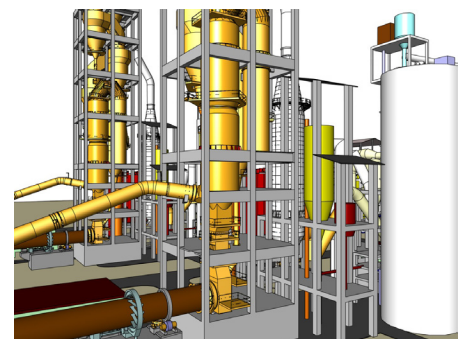
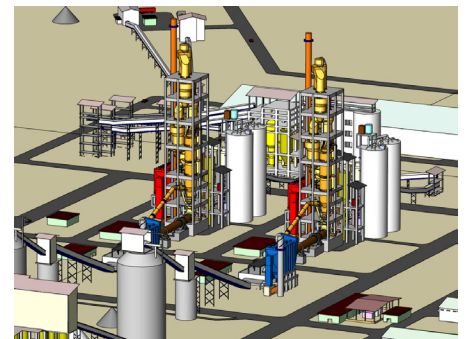
Flexibility supports customization, system integration

The combination of SolidWorks Enterprise PDM and SolidWorks 3D CAD software provided F.L. Smidth with the flexibility it needed to integrate 3D design technology with its existing global network and business systems, as well as automate customized tasks using the SolidWorks software Application Programming Interface (API). SolidWorks Enterprise PDM manages all the 3D design data: when a design is approved, the system pushes 2D drawings into Documentum to support the company's ERP and web-based transmittal system.

"In addition to integrating with our existing data systems through SolidWorks Enterprise PDM, SolidWorks software also allows us to automate and optimize the development of plant cable trays through a custom application developed with the SolidWorks software API," Plaugmann points out. "Cable trays used to be a huge effort, but we have now reduced them substantially in terms of effort and cost."

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Sture Plaugmann
Executive Assistant



In addition to enabling productivity gains in the design of mechanical equipment, SolidWorks Enterprise PDM is helping F.L. Smidth to refine workflows and standardize development processes worldwide.



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