SIEMENS

Oil and gas

Weir Valves & Controls UK

Single data source results in significant time and cost savings

Products

Teamcenter, Solid Edge

Business challenges

Enhance efficiency through a single, integrated BOM

Improve company-wide access to information

Rationalize the use of standard parts

Implement electronic sign-off and audit trail tools

Keys to success

Quick and secure access by all departments to the same, accurate master data

Results

Half an hour of paperwork, per engineer, eliminated each day

Greater re-use of standard parts

Minimized potential for error in the engineering release process

Systematic control of both data and design processes

Greater innovation

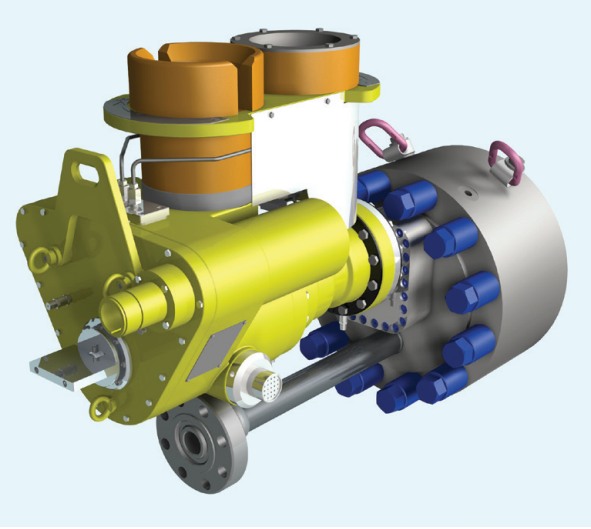
Flexibility to collaborate across sites

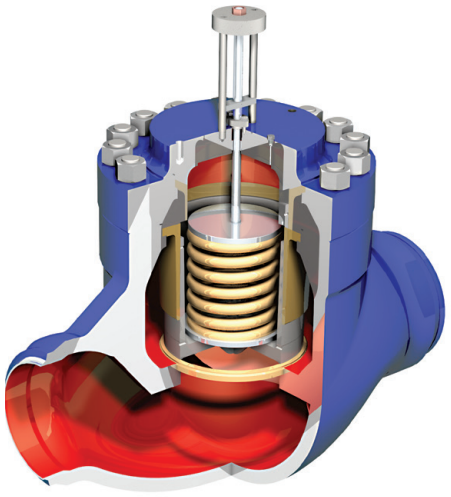
Weir Valves & Controls UK uses Teamcenter and Solid Edge to create shared access, one synchronized BOM and streamlined electronic sign-off

Handling pressure with precision

From steam ships built on the River Clyde in Scotland to the latest power station in Asia, and from the height of Victorian engineering innovation to the rise of China as manufacturer to the world, the story of The Weir Group PLC spans time and place. Today, Weir Valves & Controls UK Limited (WVC UK) – a subsidiary company of the Power & Industrial Division of The Weir Group PLC – supplies its offerings to the power generation, oil and gas exploration and general industrial sectors.

WVC UK first installed 10 seats of Siemens PLM Software's Solid Edge® software in 2000. In 2005, it went through a major reorganization, which involved focusing primarily on designing, outsourcing manufacturing and developing a new facility where it could assemble and test products before delivery to customers. At this time, Solid Edge became an even more critical business tool, with the company spending time consolidating the CAD skills of its engineers. "Solid Edge is easy to learn, user friendly and intuitive," notes Jonathan Mills, engineering manager at WVC UK. "This is important to us as we often take on placement students and apprentices; we want them to be able to effectively use the software."





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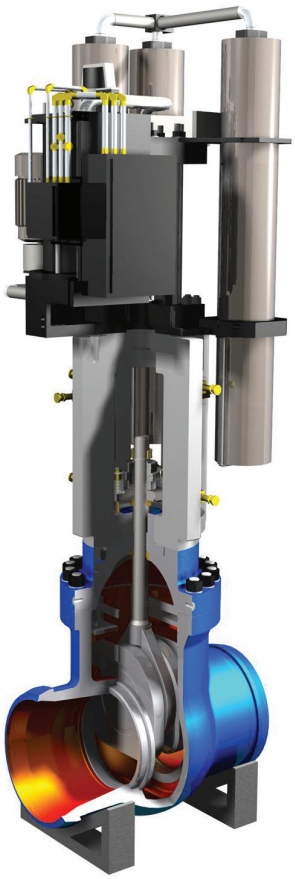
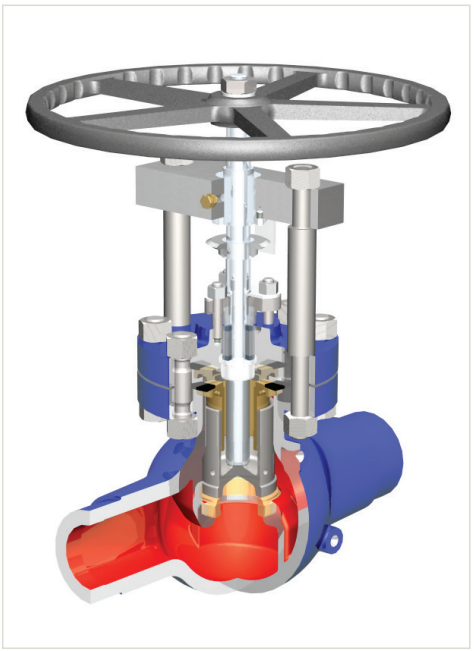


Reducing the time spent on nonvalue-added tasks

By 2007, the company was ready to take another step forward. Mills explains, “We had identified two issues that arose, because information was kept in various places: the inefficient use of time and a negative impact on quality. Engineers, for example, were manually creating spreadsheet parts lists that were independent of SAP and Solid Edge. Our history includes the assimilation of different companies, with different part naming conventions. Components ended up duplicated in stock and searching parts was difficult. We were also rekeying information to do with drawings, bills of materials (BOMs) and change notes.”

WVC UK calculated that its engineers were spending as much as 80 percent of their time using SAP® software, often on clerical activities associated with purchasing and production control. Following the company’s original move to Solid Edge, SAP only controlled 2D drawings, which meant engineers were often spending half an hour a day on paperwork related to nonconformance and engineering change requests. In addition to time spent on nonvalue-added tasks, WVC UK estimated that between 5 to 10 percent of its BOMs in SAP were incorrect. File management was also inconsistent, particularly as some files were stored on local machines.

“It was clear that our data and process ownership and engineering sign-off procedures were not robust,” says Mills. “However, it was difficult to make big changes as these would inevitably involve other departments.”



A threefold mission

To respond to the challenges, WVC UK embarked on a threefold mission: 1) to create shared access to consistent information, 2) to work from a single, integrated and synchronized BOM, and 3) to enable electronic distribution of engineering change management. The company began to investigate product lifecycle management (PLM) applications, with the main requirement being integration with Solid Edge and SAP. After a full evaluation process, Siemens PLM Software’s Teamcenter® software, preconfigured for rapid deployment and fast return on investment, was selected for a pilot project involving five engineers.

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This began in the middle of 2009 and lasted several months, during which nearly 40 full Solid Edge assemblies were loaded into Teamcenter, along with drawings and BOMs. The team created standard parts and associated them with assemblies, found and eradicated errors in existing SAP BOMs and removed duplicate drawings and parts. “The project was a big success,” notes Mills. “When it finished at the end of 2009, we had achieved even more than we had anticipated in terms of creating a common repository of information. We could see that keeping data organized within Teamcenter really would enable us to manage BOMs effectively. We could also see the potential for savings on consumables and stock, because we were doing tasks electronically and not on paper.”

The next phase was to train three more people, add more assemblies and master BOMs to Teamcenter, continue the standard parts rationalization and automate engineering processes. Throughout the implementation process, Siemens PLM Software reseller, Cutting Edge, provided support and training. “Cutting Edge has been extremely proactive and supportive with regard to Teamcenter and effectively fulfills the role of CAD manager,” says Mills. “Our team knows that when they contact the support desk, they receive clear and timely guidance.”

Systematic control of both data and design processes

With the implementation of the next phase in 2010, WVC UK began to control more processes electronically. According to Mills, the key benefit of Teamcenter is clarity and consistency: “Whenever we look for information, we now know we will be seeing live, reliable data. As we track a product and all of its improvements, we will see how these might affect a part or assembly. As specific rules and conventions automatically enforce discipline and support good practice, we will be moving away from the potential for error associated with manual entry. We will systematically be gaining control of our data and creativity, verifying everything that goes into the system and creating accurate, automated BOMs.”

During the pilot project, engineers rationalized all the different versions for one specific part and reduced them from 354 different versions to 104, a 70 percent reduction. “Not only will we know that each product is as good as it can be,” continues Jonathan Mills, “we will also gain file security and traceability. In the past, we have found the drawings we originated have been radically changed after they have left us. This has clear implications for functionality, safety and liability,

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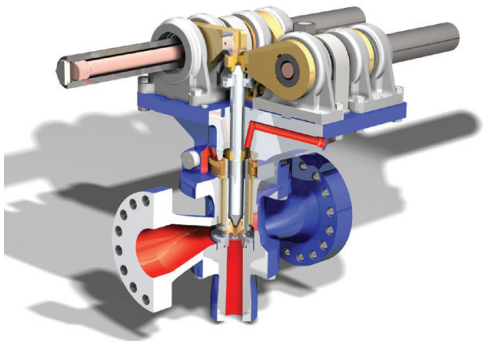
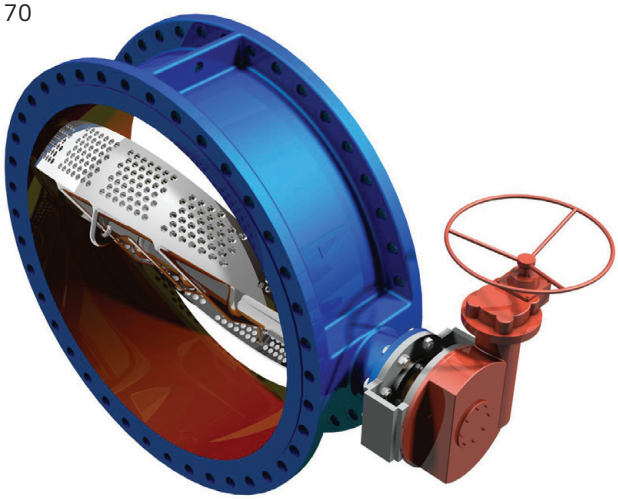




Solutions/Services

Teamcenter
www.siemens.com/teamcenter

Solid Edge
www.siemens.com/solidedge

Customer's primary business

Weir Valves & Controls UK Limited is part of Weir Power & Industrial, a division of The Weir Group PLC. Weir Power & Industrial supplies valves, pumps and industrial steam turbines and hydro turbines, while its global network of service operations specializes in the maintenance, repair and upgrade of flow control and rotating equipment.
www.weirpowerindustrial.com

Customer location

United Kingdom
(multiple sites)

Partner

Cutting Edge

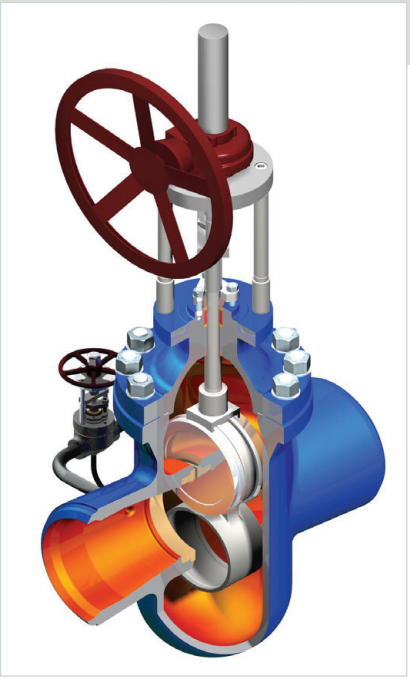
as in the level of pressure that a valve is designed to withstand." He notes that previously any BOM errors were usually only discovered at the assembly stage.

The company plans to continue the roll out within the engineering department, and start the phased integration with other key departments. Investigation into full two-way communication with SAP is also ongoing.

Additional efficiencies

"The case we built for investment in Teamcenter was one of necessity," says Mills. "This is something we had to do for the business. Proper control of data is crucial. If we make a change, it must be communicated as soon as possible. Confidence in our engineering data will increase the possibility of further collaboration. For example, we are looking at working more closely with our site in India and we may extend that to our manufacturing sites in America, Dubai, China and Korea."

WVC UK also expects to see improved efficiencies as a result of standard parts rationalization, the re-use of existing components and paperless sign-off on engineering changes, as well as the removal of duplication and wasted effort.



"We estimate that engineers are saving half an hour per day and we anticipate cost savings from reduced stock inventory, improved delivery time and reduced risk. Such improvements in productivity and work order flow ultimately feed into increased customer satisfaction."

Mills concludes, "One thing is clear, Teamcenter has become our stable foundation for the future."

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