Industry
Industrial machinery and equipment

Business challenges
Shortened design cycles coupled with more diversified and complicated products
Need for increasingly sophisticated software tools to adapt to more rigorous design demands
Increasing requirements for the accuracy and preciseness of design data

Keys to success
Technological and functional capabilities of Teamcenter
The synergy between the capabilities of Teamcenter and the company's business objectives
Timely, effective technical support provided during implementation

Results
Improved product development process
Notably upgraded standard parts library

Use of Siemens PLM Software enables firm to significantly enhance standardized management practices

“Changed our way of thinking”
Shanghai Railway Communication Factory (SRC), a subsidiary of China Railway Signal and Communication Corporation, is a designated unit in the nation's industrialization of railway communication and signal equipment. With 2012 sales of ¥800 million and more than 1,000 employees, SRC is primarily engaged in research, development, manufacturing and system integration of communication and signal equipment for railway and urban rail transit.

With a more diversified and complicated portfolio, ever-increasing product design requirements, a notably shorter design cycle, and the rapid development of modern communication technology, the company's conventional practice of managing product development files was no longer sufficient.

After evaluating the best product lifecycle management (PLM) software solutions available, SRC selected Teamcenter® software from Siemens PLM Software, and UDS, a global platinum-level partner of Siemens PLM Software, to implement the new system.

“The excellent capabilities of Teamcenter, along with UDS’ promotion of relevant concepts and the direct experiences of our implementation personnel, greatly changed our way of thinking about how to look at and solve problems,” says Zhang Jian, the director of Ministry of Equipment at SRC.

Establishing control over product data
SRC’s goals for the PLM project were closely correlated with the company's business objectives. It wanted to build a standard product data platform for the effective management of research and development (R&D) data generated throughout the product lifecycle, thus enabling the strong organization and efficient sharing of product data, increasing design re-use and reducing product development costs.

The company wanted to ensure product data accuracy, completeness and consistency, especially relative to change management. This would enable protection of intellectual property as well as allow the continuous build-up of its knowledge assets and experiences.

Furthermore, SRC aimed to create a collaborative product development process at the enterprise level to improve the design team’s collaboration and shorten the product development cycle.

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It also wanted to integrate other systems, including its enterprise resource planning (ERP) and computer-aided process planning (CAPP) software, to cut data maintenance costs while increasing data consistency, standardization and accuracy.

Finally, SRC wanted to train and cultivate a group of maintenance and operational personnel that would quickly grasp and utilize the system’s capabilities. Their successful use of the technology and positive influence would facilitate deployment (planned in stages) and optimal use of the PLM system.

Delivering “fast time-to-value”
SRC implemented Teamcenter based on the Value Delivery Methodology (VDM) developed by Siemens PLM Software. This is a repeatable services delivery process and checkpoint methodology to make certain the customer’s PLM solution meets requirements and delivers fast time-to-value, providing real business impact with minimum project risk.

The project implementation team and key user representatives from various departments carried out research and held discussions in order to get familiar with the company’s method of operation and the concerns of users, as well as their requirements and expectations with respect to the application of the system.

Based on the research results and contents of the requirement analysis reports, the project team designed a business model and system configurations in combination

**Results (continued)**

Significantly enhanced standardized management practices
Employees gain an increased understanding of both the enterprise’s systems and business

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with the functionality of Teamcenter, defined attributes of business objects in the system and established templates for the electronic process. The team used this information to formulate the system design structure and detailed design structure.

The project team then constructed a testing system and developed configurations in this testing system according to the detailed design scheme, and carried out secondary development in line with the company’s specific business requirements and methods.

Upon completion of the testing system, testing was conducted at the functional, integration and user acceptance testing (UAT) level. The official system configuration was then performed according to the configuration of the testing system, and data import was initiated. At the same time, large-scale user training took place as the final preparation for going live.

When the system went live, the project implementation team and the system maintenance team completed a work handover, presenting the maintenance team with the administrator’s maintenance manual, the user manual and other guide documents.

**Improved data use efficiency**

By following this meticulous implementation of PLM, SRC achieved many enhanced capabilities, including the following.

File management: By using Teamcenter to categorize various data and business objects, all of the files, drawings and reports from the design process are now stored in a database and uploaded onto the file server in an orderly way, thus advancing data safety and accuracy.

Integration of mechanical computer-aided design (MCAD) and electronic computer-aided design (ECAD): Teamcenter is integrated with Solid Edge® software from Siemens PLM Software and other design software used by SRC. This allows 3D model data to be readily used for the numerous tasks involving bills of materials (BOMs).

Integration of ERP and CAPP: Teamcenter is used to provide models, BOMs, engineering changes and other data created during design to be utilized by the ERP and CAPP systems. Such effective data integration between production systems allows knowledge assets to be aggregated at the enterprise data. This significantly facilitates information sharing and collaboration, and speeds up overall project turnaround.

“...resulted in outstanding efficiency improvements at many levels, and most importantly, boosted our competitiveness in this increasingly sophisticated and demanding industry.”

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“By adopting Teamcenter, we’ve greatly enhanced our product development best practices.”

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Teamcenter also provides far-reaching data search and view functions, and can output reports in-line with SRC’s business model, substantially speeding up data acquisition for greater efficiency across operations.

Enhancing the product development process
The implementation of the PLM project enabled SRC to achieve a number of significant achievements.

The company established a technical data platform with PLM at the core. After the PLM system went live, its folder-based storage approach for documentation was gradually discontinued. All technical data is now stored and distributed using Teamcenter.

SRC improved the enterprise’s standard library system. The company organized its diverse parts and electronic components, building a standard parts library and a standard electronic components library. Users note that the new standard library system has greatly accelerated their ability to easily search and find the standard technical data sought.

Using Teamcenter, SRC also significantly enhanced its standardized management-level processes, visibly improving workflow efficiency. Moreover, the use of Teamcenter enabled the company to dramatically enrich its knowledge asset management. Now, a key group of employees have an acute understanding of the enterprise’s systems and business.

“By adopting Teamcenter, we’ve greatly enhanced our product development best practices. This has resulted in outstanding efficiency improvements at many levels, and most importantly, boosted our competitiveness in this increasingly sophisticated and demanding industry,” says Zhang.