

# ABB Xiamen Switchgear

ABB Xiamen Switchgear cuts product development time by 30% with ENOVIA SmarTeam



## ABB

## Overview

### ■ Challenge

*Disconnected data negatively impacted quality control. With no link to the ERP system, in addition to separate mechanical computer-aided design (MCAD) and electronic computer aided design (ECAD) databases, data was manually re-entered a number of times.*

### ■ Solution

*ENOVIA SmarTeam delivers multi-CAD data management of SolidWorks mechanical design and AutoCAD PromiseE electronic design files in a single repository, fast retrieval of data through powerful search capabilities and tight linkage to the SAP ERP system.*

### ■ Benefits

*ENOVIA SmarTeam shortened product development time by 30 percent, improved bill of material (BOM) accuracy by 40 percent and improved mechanical design quality by 70 percent.*

### Manual process slows growing business

ABB is one of the world's leading manufacturers of electrical equipment. But as orders grew at the company's switchgear plant in Xiamen, China, the challenge of hand-copying data among the site's disparate mechanical CAD, electronic computer aided design (ECAD) and ERP databases became overwhelming. "Each group managed its own data on different systems," explains Engineering Manager Andrew Xu. "Information was passed around in serial fashion on paper documents. People would extract what they needed by hand and manually enter the data required for their part of the project."

### ENOVIA SmarTeam pulls it all together

ABB Xiamen found its answer in the ENOVIA SmarTeam family of product data management solutions. Groups use ENOVIA SmarTeam to collaborate and work with a concurrent engineering approach.

Xu explains that the system's primary advantage for ABB is that it can manage both mechanical and electrical design files on the same system in a single unified database while also serving as a seamless link to their ERP system. Integrating the company's design databases with its ERP system, SmarTeam Gateway eliminates the manual copying and re-entering of data from one system to another, cutting product development schedules and reducing errors.

The company also implemented SmarTeam Workflow for revision control and ECOs, and Web Editor, which permits engineers to access the database from remote locations. ABB's site service engineers also have access to the central database, entering and retrieving information as needed for improved customer service. Using ENOVIA SmarTeam, they access data quickly for maintenance, field service and other after-delivery PLM support activities.

"With ENOVIA SmarTeam, the groups collaborate and work in a concurrent engineering approach. Change orders flow through the cycle much faster."

Andrew Xu, Engineering Manager,  
ABB Xiamen Switchgear



Xu said SmarTeam Gateway has bridged the gap between engineering and manufacturing by passing design data, triggering the production system and synchronising engineering changes. "Before implementing SmarTeam Gateway, electrical engineers and mechanical engineers manually compiled separate lists of components that would then be combined into a bill-of-materials (BOM) and manually entered into the ERP system," Xu said.

### **Error-free BOMs in minutes**

SmarTeam Gateway eliminates these problems by automatically extracting the BOM structure from the CAD systems and transferring the data directly into SAP. An intuitive graphical mapping tool easily defines links between ENOVIA SmarTeam, the CAD systems and ERP. Processing of ECOs is automatically synchronized. "The SmarTeam Gateway product significantly reduces the time to prepare and send information to manufacturing," Xu said. "The BOM used to take weeks to do and considerable time was spent correcting mistakes. Now the automatic process takes place in just minutes and is virtually error-free. This dramatically reduces lead times and improves design quality."

### **Impressive results**

Overall, product development time was reduced by one third and BOM accuracy improved 40 percent. The mechanical

design error rate dropped from 9,446 defects per million opportunities (DPMO) to just 2,749, a quality improvement of more than 70 percent. As a result, ABB Xiamen Switchgear has been able to handle more work faster, accommodating a 30 percent increase in business volume since implementing ENOVIA SmarTeam.

"We made this investment and it is paying off in significantly increased revenues for our company, which is the goal of any effort such as this," said Matti Meurman, Operations Manager at ABB Xiamen Switchgear. The improvement in design cycle time and reduction in errors "is the essential justification for this effort."

### **Easy to learn, easy to use**

Xu said the entire system was functional in only two months and that users were quickly able to work productively using the software on their routine projects. Bilingual operation in Chinese and English is another advantage. "We found ENOVIA SmarTeam and all the related packages easy to learn," he said. "Training time was only a few hours for each individual, and our engineers were glad to have such powerful tools to automatically handle many of the tasks they used to do manually."

Xu said, "ENOVIA SmarTeam represents a powerful technology that met all our needs and was implemented quickly."

**"With SmarTeam product development time was reduced by one third and BOM accuracy improved 40 percent."**

Andrew Xu, Engineering Manager,  
ABB Xiamen Switchgear



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