

Transforming the Business and IT in Gas Turbine Manufacturing

Siemens Power Generation optimizes its global supply chain processes and SAP system supported by Capgemini

The Situation

Turbine blades—supported by complex, global supply chains—are the most success-critical components in gas turbine manufacturing at Siemens Power Generation. One blade requires up to seven steps in the supply chain, with a mixture of in-house and external production in North America and Europe. Its high intrinsic value and long production time put the supply chain management focus on continually reducing lead times and inventories.

In addition to an optimally configured global supplier network, a precisely planned and operated supply chain offering end-to-end process transparency in real-time is a prerequisite for effective performance. With this in mind, Siemens Power Generation, supported by Capgemini, has designed and implemented a global business transformation program making optimal use of SAP.

The Solution

Joint teams, covering order and supply management, production and controlling at Siemens, were formed, augmented by IT resources from Siemens and consultants from Capgemini. Project teams

in Berlin, Orlando, and Hamilton (Canada) ensured global process and system harmonization between Europe and North America. They developed a target process model based on analysis at all three locations, comprising six end-to-end main processes with clearly defined sub-processes and activities:

- Forecast-to-supply chain planning
- Order-to-cash
- Purchase-to-pay
- Production-to-cost settlement
- Master data maintenance
- Supply chain reporting.

The Result

The optimized and harmonized business processes and SAP support led to precise supply chain planning and processing, with end-to-end, real-time transparency in gas turbine manufacturing at Siemens Power Generation. Increased process accuracy and speed optimize supply chain performance and provide a competitive edge in the global gas turbine business.

One special feature was defining key figures for measuring implementation progress and process accuracy. Key figures for implementation progress are vital to running the operational processes accurately.



How Siemens Power Generation and Capgemini Worked Together

Collaboration from all team members across both sides of the Atlantic and from the two partners was seamless and intimate. Siemens Power Generation brought deep business acumen; Capgemini added process expertise, program management methods and SAP expertise. This facilitated innovation and industrialization as watchwords to steer progress.

End-to-end process chains with specific SAP functionalities

A standard global process was defined across departmental boundaries to optimize medium and long-term planning of requirements and capacity. The SAP long-term planning function supports this process in conjunction with a specially developed capacity planning tool. It is now possible to compare global supplier capacity and simulate various business scenarios. Standard global rules have also been defined for using the planning run for Material Requirements Planning (MRP). This option for dual sourcing in material planning can eliminate bottlenecks by using alternative supply chains, without major manual input.

An e-business controller completes the SAP-based process and accelerates processing for "simple" orders—those that don't require complex checks are sent directly to production. In a complex supply chain, it is important to track the turbine blades through all stages and intervene where necessary. This is made possible by linking the Siemens supplier portal with the new SAP-supported standard system for serial-number tracking. When suppliers forward parts to the next stage in the chain, they must enter all the status and quality data for a particular serial number in the portal. Siemens buyers can view this information immediately in SAP, giving complete transparency of the status of parts in the supply chain.

The complex bill-of-material structure for gas turbine production makes accurate master data maintenance a prerequisite to handle day-to-day business efficiently. A global, standard master data maintenance process with clear roles and responsibilities makes this possible. Specialist reports monitor the status of master data maintenance; missing or incorrect entries in critical fields are continually checked using alarm functions.

A standard information system controls the complex procedure across individual operational processes worldwide. Its key-figure tree comprises three levels, from header-level key figures (like costs and delivery reliability) to individual drivers at the operational level (such as material price variances and rework expenses). InfoCubes in SAP Business Information Warehouse enables these key figures to be collected and analyzed rapidly and flexibly.

Employee and supplier skill development

Even the best functions bear results only if business procedures are synchronized with new processes. It was therefore important to introduce an intensive skill-development program for employees and define clear employee roles across the process chain, with corresponding function descriptions. These included Master Scheduler, MRP Controller and Strategic Buyer. A multiphase training program familiarized suppliers with the new processes. The training courses are available on a specially developed intranet to support self learning.

Monitoring the transformation process

One special feature was defining key figures for measuring implementation progress and process accuracy. Key figures for implementation progress are vital to running the operational processes accurately. Examples include "the number of completely maintained material masters" and "the number of materials that are e-business capable."

Key figures for process accuracy provide a clear picture of how employees use the new processes. It is possible to measure the quality of an MRP Controller's operational planning, for example, using the key figure, "development of particular exception messages." Ongoing target/actual comparisons are also possible, since time-based goals are defined for all key figures. These key figures are directly influenced by how the new solutions are used and provide evidence of the ramp-up success. Key figure measurements are included in weekly top management reports—more evidence that the project will produce long-term benefits.



About Capgemini and the Collaborative Business Experience®

Capgemini, one of the world's foremost providers of consulting, technology and outsourcing services, enables its clients to transform and perform through technologies.

Capgemini provides its clients with insights and capabilities that boost their freedom to achieve superior results through a unique way of working - the Collaborative Business Experience® - and through a global

delivery model called Rightshore®, which aims to offer the right resources in the right location at competitive cost. Present in 36 countries, Capgemini reported 2007 global revenues of EUR 8.7 billion and employs over 83,000 people worldwide.

More information about our services, offices and research is available at www.capgemini.com

Capgemini Germany
 Manufacturing, Retail & Distribution
 Consulting & Technology Services
 Supply Chain
 Logistics & Fulfilment
 Business Intelligence

Approved by:

Christoph Wollny, Head of Products, PB,
 Siemens Power Generation

Dr. Gunnar Ebner, VP, Head of MRD,
 Capgemini Deutschland

In collaboration with

SIEMENS

Siemens, headquartered in Berlin and Munich, is one of the world's largest electrical engineering and electronics companies. Siemens provides innovative technologies and comprehensive know-how

to benefit customers in 190 countries. Founded more than 150 years ago, the company is active in the areas of Information and Communications, Automation and Control, Power, Transportation, Medical and Lighting. For more information about Siemens Power Generation, please visit: <http://www.powergeneration.siemens.com/home>