B&G Manufacturing: Retooling for Strategic Planning and Real-Time Shop Floor Control

B&G Manufacturing Company

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B&G Manufacturing Company

Industry

Industrial Machinery and Components

Products and Services

Production and distribution of threaded fasteners and machined parts for use in power generation, mining, transportation, medical applications, and more

Web Site

www.bgmfg.com

SAP® Solutions

SAP® Business All-in-One for Industrial Machinery & Components solution
SAP Manufacturing Integration and Intelligence application

Partners

Dell Inc. and Answerthink

Smart planning, forecasting, and clear visibility into operations and finances are essential at B&G Manufacturing Company. SAP® solutions have helped B&G keep its balance since 1998, bringing unified insight into customer management and sales performance. Recently, the company extended this **deep intelligence to the factory floor**. Now workers have instant feedback on their value contribution.

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Growing strong but staying agile

Family-owned B&G Manufacturing, headquartered in Hatfield, Pennsylvania, has grown since 1946 into a US$40-million business with 170 employees. President Bill Edmonds credits mainly the firm's willingness to change. "We've had to adapt to new industry technology and fickle customer demand several times since my grandfather's day," he recounts.

In 1998 B&G operated with a homegrown, flat-file infrastructure. The business was prepared to react to present circumstances but not to plan for future possibilities. In addition, long-term strategy at B&G included viewing real-time performance and consumption history and using deep analytics to match capacity with customer demand and forecast future consumption. So Edmonds ventured into the world of enterprise resource planning by purchasing software now part of the SAP ERP application: "One of the reasons we selected the SAP software is its bulletproof tracking of our business, from procuring materials to invoicing customers."

B&G must stay agile in such volatile industries as power generation, aerospace engineering, and medical device design. But in an unforgiving economy, it must also address cost pressures. So B&G uses the data from its SAP software to support comprehensive modeling, forecasting, and planning. "Now we constantly compare performance with plan," says Edmonds. "If we see deviations, we can make appropriate adjustments on the spot."

"When managers saw their first automated financial reports from SAP, they wondered about a set of blank columns. We had to explain they were for comparing actual results to plan – what a concept!"

Bill Edmonds, President, B&G Manufacturing

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Evaluating performance minute by minute

B&G upgraded its existing enterprise resource planning solution from SAP a few years ago to the SAP Business All-in-One for Industrial Machinery & Components (SAP Business All-in-One for IM&C) solution. With the assistance of implementation partner Answerthink, preparation for the upgrade was completed in just three months, and the solution went live over a single weekend. "We were astonished with its seamlessness. There was absolutely no disruption in business processing," says Edmonds. "After just a couple of hours of training, our employees understood what the new software could help them do and how accessible the user interface was."

Edmonds meets regularly with a management group that runs the day-to-day business at B&G. They use a video display to pull up real-time information on operational and financial performance. If questions arise, the answers are right there. Unfortunately, this real-time oversight did not at first extend to the shop floor, so work scheduling and capacity planning were becoming leaky points in the information flow. Paper documents printed in the office were traveling around manually from station to station. "And we were using a third-party system for labor and quantity confirmations. It just batched information to the database for SAP Business All-in-One for IM&C every 10 minutes or so," adds Edmonds. That made the confirmation process awkward, error prone, and slow.

"We could bring up all the detail we wanted about finances and operations, but we needed to know where things stood in the plant as well."

Bill Edmonds, President, B&G Manufacturing

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Choosing the winners

So when Edmonds visited a machine tool show in Chicago, he was on the lookout for ways to streamline shop floor control. He saw an SAP representative demonstrate the functionality in the SAP Manufacturing Integration and Intelligence (SAP MII) application and was excited about its fit with his vision. Given the ready acceptance of SAP Business All-in-One for IM&C, he was sure he could introduce SAP MII successfully to his user base. He purchased a multiuser license and came back to headquarters to search for an implementation partner.

Edmonds and his management team eventually interviewed three candidates recommended by the company's SAP support personnel. Based on industry experience and fit with B&G culture, a team from Dell Infrastructure Consulting Services carried the day.

"As soon as I saw SAP MII in action, I knew it was what we needed for shop floor control. It would integrate work in progress right into the big picture we already had everywhere else."

Bill Edmonds, President, B&G Manufacturing

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Bringing real-time oversight to the shop floor

Edmonds has high praise for the implementation team for SAP MII. They brought a formalized approach to project management and an online collaboration tool that were crucial to success. "The Dell people were able to translate our idea into a manageable, scalable project that fit the software onto the production line," Edmonds adds.

As the key strategists behind the project, Edmonds and his management team were involved from the start. Along with three Dell coordinators, his internal team included the operations director, the chief information officer, and the SAP support contact. He describes their methodology this way: "We met weekly to keep paring down the rough template into something that would actually work on the shop floor. We went back and forth with mock-ups, screenshots, and prototypes several times."

2 weeks

Time for the pilot of SAP MII to prove its worth

After about six months of careful design and development, a pilot went live in roughly 20% of work in progress. The partial rollout went so smoothly that within two weeks the solution was migrating to the rest of the factory.

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Establishing a culture of collaboration and planning

Besides bringing the features of SAP MII to business users quickly, the Dell team built an attractive and powerful operator console for the master schedulers and production foremen on the front line. A real-time list of current assignments for each resource and a dispatch list on future jobs for each machine are also available in the employee portal.

SAP Business All-in-One for IM&C had indeed brought powerful insight to the financial and sales teams, but as Edmonds says, "SAP MII also gives our people on the plant floor real-time feedback on their performance. They can see the value they're contributing to the whole business and the impact their work has on our customers." This level of engagement has tightened the team spirit throughout B&G.

Edmonds believes that the integrated SAP solution at B&G combining SAP MII and SAP Business All-in-One for IM&C has in fact changed the entire corporate culture. "In the past, we didn't understand the way to set a course and then keep correcting it, and we paid a price for that lack," he explains. "But now we are all about working together to plan and then fine-tune performance against plan."

"There's often a cultural wall as well as a physical one between front offices and shop floors. The integration among SAP MII and our other solutions helps everybody feel like we're all on the same team."

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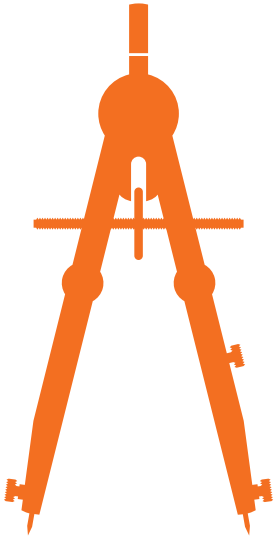
Realizing the benefits

Since the confirmation system on the shop floor has been automated, B&G has 99% accuracy on quantity and labor inputs. Manufacturing staff have a better understanding of their daily responsibilities and their relationship to downstream tasks like marketing and sales. The factory floor and the front and back offices share a single powerful database, so oversight is consistent for all stakeholders. "We've definitely seen an improvement in productivity through the instant feedback on performance," adds Edmonds.

The mobile application lets supervisors pull up summary information on handheld devices. So they can now consult real-time reports before they walk through the plant checking on progress face-to-face. And best of all, the conference room screen now brings comprehensive visibility to Edmonds and his management team.



99%

Accuracy of labor and quantity data with SAP MII

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Fine-tuning success for sustainability

B&G will implement additional functionality from SAP MII in six phases. Objectives include integrating information related to kitting tools and gauges, managing tool offset data, and recording inspection results in the display in the employee portal. Supported by an integrated enterprise-wide overview, the company will also continue to operate a wholesale distribution business along with its manufacturing business.

The philosophy at SAP favoring scalability for the long term is one Edmonds shares wholeheartedly. "We try to maintain a strong financial position to make sure we're going to be around for the future, for our employees and for our customers," he emphasizes. B&G will thus continue to seek niches where its products are competitive and will outsource production whenever it makes good business sense to do so. SAP software is there to help discover and evaluate opportunities – today and tomorrow.

And as new processing needs come to light, Edmonds will turn to SAP first for solutions to respond to them. "We know that we can work with SAP software to help align operations with strategy. And we're always impressed with the amazing SAP product," concludes Edmonds.

"I can't recall one lost day of production since the first implementation of SAP software in 1998. Our SAP solutions simply don't give us any problems. They just quietly do what they're supposed to."

Bill Edmonds, President, B&G Manufacturing

CMP15443 (11/11)