

**Information Management** software

## Vicor evaluates business performance in realtime using IBM Cognos software

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### Overview

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#### ■ **Challenge**

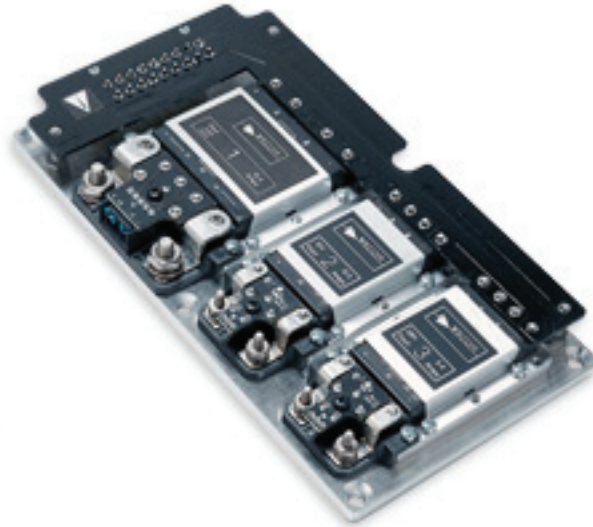
*Track and analyze production processes and issues more effectively*

#### ■ **Solution**

*A business intelligence (BI) solution that provides a framework for performance management and accountability, allowing the organization to tie together strategic goals, major initiatives and improvement efforts*

#### ■ **Key Benefits**

*Improved business outcomes through greater insight; enabled business process improvements; increased staff efficiency*



Vicor Corporation designs, manufactures, and markets modular power components and power systems used in the communications, data processing, industrial controls, test equipment, medical, and defense electronic markets. Headquartered in Andover, Massachusetts, the company also maintains offices in North America as well as across Europe and Asia. Vicor has annual revenues approaching \$200 million and employs more than 1,000 people worldwide.

Vicor decided to implement a business intelligence (BI) solution to track and analyze production processes and issues more effectively. Cognos provides Vicor with a framework for performance management and accountability, allowing the organization to tie together strategic goals, major initiatives, and improvement efforts.

### Challenges faced

For Vicor, the goal was simple: focus on breakthrough improvement in measures designated within the strategic objectives for each year's operating plan. Many different techniques and technologies were used to achieve the objectives, including Hoshin Breakthrough Planning, Kaizen, 5S, and statistical process control.

Ultimately, the company adopted annual improvement themes to stimulate the full involvement of all employees. These included the "4 x 50s" (50 percent improvement across four strategic objectives in one year), "10 bucks a brick" (pull \$10 of cost out of each product), and "faster, better, cheaper" (build the product more efficiently). These initiatives helped to bring Vicor's gross margins from percentages in the mid-20 range to current levels in excess of 40 percent.

The next challenge was to find a business intelligence solution that would help Vicor track, measure, and report on their progress. In addition, access to real-time information was a critical requirement.

"We needed to correlate a set of objectives with the initiatives that would accomplish these objectives and apply them through successive levels of planning," states Joe Jeffery, director of manufacturing systems at Vicor.

### Strategy followed

Vicor's operating environment is complex. Their business model is one of mass customization, which involves high-volume production and a complex mix of individual models. The company routinely ships more than 8,000 different products to 8,000 customers each year. This is accomplished using onshore manufacturing, based in Andover.

Bills of materials are highly complicated (indented up to eleven levels), and manufacturing routings include up to twenty tracked operations, as well as many information tasks. Vicor's manufacturing systems include integrated robotic assembly, as well as supply chain applications, engineering systems, and operational systems for storage and shipping. All planning, costing, inventory management, and master recipe generation data is managed through a PeopleSoft ERP system.

*"Cognos has really become a way of life. We wouldn't think of launching any initiative if we did not agree from the outset on what we wanted to measure, how we were going to assess it, and how we would improve it over time. Cognos is our key to staying on track and ahead of the competition."*

*~ Joe Jeffery, Director of Manufacturing Systems, Vicor Corporation*

The organization initially deployed Cognos PowerPlay in 2002 to provide metrics and analytics capability on top of the ERP environment. This activity has led to the creation of 75 production data cubes that act as a robust content store for the new deployment of the Cognos 8 reporting suite. The integration of these new tools has led to 36 production dashboards that are used on a daily basis by the various functional arms of the business

Jeffery notes that the benefits of Cognos 8 BI were immediately apparent. "With Cognos PowerPlay, we were able to take a single metric and analyze it in depth, which was great. Now, with Cognos 8 BI, we are able to integrate several data models behind a single dashboard. Basically, we can take a business entity, like a family platform or a business unit, and build a dashboard for several metrics that relate to that specific entity. This results in a very intuitive process for managers because they are assessing the health of a business entity."

#### **Benefits realized**

Cognos is now used across the organization on a worldwide basis to align strategy with tactics in areas such as labor productivity, inventory

management, purchasing, and manufacturing. One of the company's goals is to improve on-time delivery for customers. With Cognos, users can track activities and do root-cause analysis of delinquent backlogs or other issues that affect deliveries.

Jeffery points out that this timely, in-depth insight has brought efficiency gains across the business. "Let's say the user sees an anomaly in the metrics data that he or she would like to investigate," he explains. "The user can simply drill into the information and continue chasing the anomaly down to the individual work order, sales order, or event that caused the problem. This has been a great productivity gain compared to our old method of compiling static metrics with tools like Excel. With our Cognos investment, we can now use our resources to solve the problem, not just to understand that it exists."

In addition to process improvements, metrics and analytics reach across different functional areas, which increases cross-communication and decreases silo-based thinking. More importantly, in-house analysts are now able to view data in real time and develop new metrics and models to further support strategic and tactical initiatives as needs and ideas arise.

“As an output from our nightly MRP process, engineers and analysts can view upcoming factory production requirements and examine historical yield trends in a single, comprehensive dashboard. This facilitates proactive problem solving in the prevention of potentially low yielding, work order dispatch. This increases factory productivity and avoids disappointing customers with respect to delayed deliveries”, remarks Jeffery.

Vicor has future plans to use Cognos 8 BI to help manage its CRM initiatives and develop forecasting of worldwide activities further. In addition, Vicor would also like to take its newfound data wealth to create a predictive business model to help forecast financial values and the cost of back-end measures.

Jeffery concludes, “Cognos has really become a way of life. We wouldn’t think of launching any initiative if we did not agree from the outset on what we wanted to measure, how we were going to assess it, and how we would improve it over time. Cognos is our key to staying on track and ahead of the competition.”



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