



CIO Issues

Caterpillar CIO John Heller on Moving I.T. Forward

By Pam Baker

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"Technology is no longer an impediment to driving business," said Caterpillar CIO John Heller. "Technology wasn't mature enough to deliver on all its promises earlier, [but] now we are beginning to see results. In fact, technology is the DNA of business strength."

➤ I.T. doesn't get much more earth-shaking than at John Heller's job. In December 2003, Caterpillar, the world's leading manufacturer of construction and mining equipment, named Heller as chief information officer and vice president of the Systems and Processes Division. The company's name instantly conjures images of big yellow machines, but Caterpillar also is the world leader in manufacturing diesel and natural gas engines as well as gas turbines.

In fact, Cat engines power many trucks, diesel railroad engines, and large transport ships. In just about any city in the world, skyscrapers and hospitals rely on Caterpillar generator sets to supply emergency power.

Heller is responsible for the company's information technology, dealer business systems, e-business, and the implementation of 6 Sigma, a corporate methodology that seeks to eliminate defects in manufacturing and service-related activities. Heller previously directed Caterpillar's Global Information Technology Solutions group.

The Illinois-based company has 300 facilities in more than 40 countries with about 84,000 employees worldwide, up from 77,000 a year ago. The company is coming off of an all-time record year in 2004 for both earnings (\$30.3 billion) and profits (\$2.0 billion). Its long-term strategy is to reach \$50 billion in sales and revenues by 2010, and \$100 billion by 2020.

Heller joined Caterpillar in 1973 and held a variety of accounting, manufacturing, and planning positions at the Decatur, Illinois, manufacturing facility. For the majority of his career, he has focused on information technology. He spent three years as a division information-systems manager in Geneva, Switzerland, before returning to the U.S. in technology-management assignments with Caterpillar's Corporate Services and Engine Products divisions. In 2001, he was named director of Caterpillar's Global Information Technology Solutions, the largest division of the company's Systems and Processes Division.

Heller earned a BA in business administration from Millikin University in Decatur, and an MBA from the University of Illinois at Urbana-Champaign.

He spoke with CIO Today about how he helps his company move mountains of data and dig deeply for solutions to [security](#) risks. He is 100 percent business, speaking with clipped efficiency in clear and direct tones.

CIO Today: What are your top concerns as CIO?

Heller: Information security is at the top of my list as, I am sure, it tops everyone else's. But also, I am intensely focused on ensuring we

reach deep into the marketplace to create every possible competitive advantage.

CIO Today: Has the I.T. environment changed from five years ago?

Heller: Yes. Technology is no longer an impediment to driving business. Technology wasn't mature enough to deliver on all its promises earlier, [but] now we are beginning to see results. In fact, technology is the DNA of business strength.

Everything is coming together now from our supply base, to manufacturing, to distribution and finally to our customer base.

CIO Today: How have new legislative demands affected the I.T. department and the CIO in particular?

Heller: Sarbox has helped us improve in a number of areas and we are pleased to comply. However, the legislations that affect products -- such as emissions, data privacy, and product liability -- are more difficult to deal with simply because there is so much technology in our products.

We have more than 200 control modules on a single product necessitating considerable effort to comply with all the legislated requirements. Nevertheless, we do it well ... thus further ensuring our customers have excellence in terms of both compliance and performance.

CIO Today: Which enterprise component or technology will be growing most in terms of its slice of your company's budget pie in the next 12 months?

Heller: That's a harder question to answer simply because we don't really think or buy in terms of components anymore. I think that's probably true in several large companies.

Instead, we look at investing in systems and processes such as collaboration, supply-chain management, and overall work-flow management.

We are very committed -- and we realize we are not just competing with our direct competitors, but with their supply chain as well. So there is a process transformation in progress. I no longer know of a technology initiative -- I only know of a business-transformation initiative. That

represents a completely different way of looking at things and it manifests in information as a product.

For example, we now think of our vehicles as nodes on the network rather than machines with mounted technology.

CIO Today: Can you walk us through the decision-making process of implementing a large-scale business-process management initiative?

Heller: We start with the 6 Sigma methodology. We are a benchmark company. We have a set of filtering questions and we incorporate all the factors of 6 Sigma.

That framework is used to prioritize project process with senior management, and then we validate the output to ensure strategic alignment and value creation. This also defines the metrics for the post-implementation assessment.

CIO Today: What are one or two software or hardware products your company uses that you would describe as outstanding?

Heller: We have a policy against naming brands, but I think open [infrastructure](#) offerings, or asset-management offerings, are excellent. It removes the FUD (fear, uncertainty, and doubt) factor.

On the software side, virtual process planning and virtual product planning are excellent offerings. Both render incredibly improved product quality and create a safer workplace because plans are perfected long before we ever go to the shop floor with them.

CIO Today: Which emerging technology do you see as most important to the enterprise?

Heller: Two are specifically interesting: Net-centric, or info-centric, technologies, and software as a service.

Ten years from now, no one will know what an application suite looks like.

CIO Today: Where do you go to do your research on new technologies?

Heller: I am a member of the Research Board in New York and I sit on the CIO Strategy Exchange, which gives me insight into venture capitalists and what is emerging on the horizon. We also tap our own corporate executive board for information as well as a number of research companies of the Gartner and Forrester vein.

