

# Vision 'Measures' Up

Cognex chief says vision is a viable solution to quality needs.

Machine vision technology, long used for such applications as parts recognition and positioning, as well as product identification and quick go/no-go decision-making, is increasingly being called on to gather complex dimensional measurement data.

Cognex Corp. has long been providing machine vision technology as a gaging solution. Started by Dr. Robert Shillman, Bill Silver and Marilyn Katz, the company has gone far beyond its original 1,000-square-foot office, three employees and annual revenue of \$0 in 1981, to a sprawling complex in Natick, MA, 662 employees and 2004 revenue of \$202 million.

In May, *Quality* magazine sat down with Cognex President and Chief Operating Officer Jim Hoffmaster for his views on the industry, technology and the use of high-speed vision in dimensional measurement. Less than one week later, Cognex acquired its largest rival in the vision business, DVT Corp. (Duluth, GA). We went back to speak with Jim about how this acquisition would affect Cognex and the vision business.



*Quality magazine: Let's start with the big news first. You recently purchased one of your chief rivals, DVT Corp. What does that do for Cognex?*

**Jim Hoffmaster:** The most important thing this acquisition brings to Cognex is a large, established and vision-trained network [from DVT] for selling low-cost vision sensors. These distributors, along with the ones we had established, will allow us to grow our new low-cost vision sensors such as In-Sight and Checker.

*QM: Any changes to the products a new Cognex-DVT entity will offer?*

**JH:** DVT customers will experience no changes in the purchase and delivery of DVT products and services. Their authorized provider will still be their primary contact and the DVT organization in Atlanta will continue to provide the same support and service. And, Cognex will continue to supply and update DVT's Legend products and Intellect software.

*QM: There is a perception among manufacturers that machine vision is difficult to implement.*

**JH:** There tends to be highly intelligent and qualified people who develop vision applications. It's difficult for many of those writing the applications to put themselves in the shoes of the engineers on the shop floor who must implement them. But, with newer technology more people can use vision.

*QM: What are some of the changes that make vision more user-friendly?*

**JH:** We've made the systems look more like sensors, something many shop floor engineers are comfortable using. This has taken away some of the mystery. They have ruggedness, and an industrial grade appearance and feel. It's important that they look and feel like what is used on the shop floor.

*QM: How have you addressed ease-of-use issues?*

**JH:** One of the keys has been to make vision more intuitive. We have taken

sophisticated problems and algorithms and presented them in ways that are easy to understand.

*QM: Where is machine vision experiencing increased use?*

**JH:** The areas where we see the most growth include automotive, packaging and pharmaceutical. In the automotive industry there is a competitive pressure to reduce costs while delivering quality.

*QM: What are some of quality assurance applications of machine vision?*

**JH:** A critical aspect of manufacturing is industrial identification, primarily for traceability issues. A manufacturer needs date and lot codes to ensure the correct parts are going to the correct assembly. This is a tremendous growth area, as vision is the only method for reading advanced 2-D identification technology.

*QM: What about the use of machine vision for dimensional measurement?*

**JH:** We have done dimensional measurement for a long time. The biggest challenge is integrating all the data information we collect. The measurement information must follow the part along as it goes through manufacturing. The issue is not measuring the part and collecting the data, but rather the sys-

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**- Jim Hoffmaster, President and COO, Cognex Corp.**

tem's capability to handle all the collected information, at the speed vision collects it, and handle it with integrity.

*QM: So does that mean vision is only suitable for less complex parts and inspecting?*

**JH:** Not really. There is nothing inherently different with measuring vs. inspecting. The bottleneck in measurement applications is the information interchange, not the vision sensors making the measurements. It's getting the information where it needs to be. Despite this challenge, machine vision is a definite in-line measurement solution.