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Steel quality gets high-tech help

*OG Technologies develops control systems, seeks to help U.S. industry remain competitive
Special to The Detroit News*

Tom Henderson

ANN ARBOR - A tiny, 10-employee Ann Arbor company hopes its new visual-monitoring quality-control systems will help the beleaguered U.S. steel industry remain a competitive giant.

Industry and government officials say systems made by **OG** Technologies Inc. drastically reduce scrap both in the making of raw steel, and later when it is forged into products by auto parts suppliers and other manufacturers.

"We're excited because the real significance of their systems is that they improve the products of American manufacturers," said David Hermreck, a project manager with the Advanced Technology Program of the National Institutes of Standards and Technology, known as ATP.

In 2001, ATP awarded a \$2 million grant to **OG**, which also won a \$2.4 million grant earlier this year from the Department of Energy.

"**OG** was superlative in getting close connections to real users to prove their technology in real situations," Hermreck said. "They're moving rapidly toward adoption by an industry that typically is slow to adopt new technology."

Tzzy-Shuh Chang, **OG**'s chief technology officer, describes the company's patented technology as "very simple."

He compares it to flying over Lake Huron and being able to distinguish deep water from shallow water based on differences in color. **OG**'s technology can detect variations in surface smoothness on precision parts such as engine bearings, Chang said.

Robert Kittridge, a quality engineer at steel maker Ispat Inland Inc. in East Chicago, Ind., has been using an **OG** system since late last year under terms of a \$500,000 grant from the Department of Energy. Kittridge said the plant uses it in a no-twist mill, which makes 3-ton coils of steel bar that vary from three-eighths of an inch in diameter to thirteen-sixteenths of an inch.

"It helps us identify the source cause of defects," he said.

If a defect is a result of something gone wrong in the line, it can be shut down and the situation rectified.

Previously, defects in coils of that size often weren't found until they had reached the end-user. That's the "worst-case scenario," Kittridge said, because the customer is unhappy and because other coils with the same defect would have been turned out in the meantime.

After evaluating the savings associated with **OG**'s system, Kittridge expects the plant, which bought the **OG** system at the end of its Department of Energy contract, will be interested in buying a second system.

Plymouth-based Metaldyne Corp. has been helping test **OG** prototype systems for two years at the company's hot-forging facility in Royal Oak, which takes raw bar stock from steel mills and converts it into such things as gear blanks, transmission parts and tire hub assemblies.

Bryan Sutton, electrical manager at the Royal Oak plant, said the company liked what it saw from the test versions so well that it recently bought a \$50,000 system, has another on order and plans to buy a third.

Sutton said it is crucial that parts not be forged from two different pieces of raw stock. Traditionally, as the 30-foot bars went through the line at 30 feet a minute, a foot and a half at each end was lopped off and thrown into the scrap pile, to insure that parts wouldn't be made from two separate bars.

OG's camera and sensing system allows Metaldyne to cut far closer to the end of the bar, Sutton said.

"We've reduced waste a lot," he said. "Exactly how much, I can't tell you yet, but a significant amount. They're going to find a lot more applications for their technology. It's pretty unique in the marketplace."

OG Technologies grew out of a conversation between two of its founders, President Terence Liddy and Chairman Patrick Long, who were partners in the mid-1980s at a now-defunct Ann Arbor high-**tech** firm called KMS Fusion.

Chang, **OG**'s technology officer and third partner, said a Ford Motor Co. official meeting with them about a proposed project told them that if they were so smart, they'd come up with a way to visually monitor hot steel.

KMS Fusion didn't survive, but the Ford official's idea did. Late in 1997, **OG** Technologies Inc. was formed. Chang says the name sprung from the reaction of the Ford official to their idea: "Oh, gee," he reportedly said.

OG customers also include St. Paul, Minn.-based 3M, Charter Steel in Saukville, Wis.; Timken Steel in Canton, Ohio; and iFire Technology Inc. of Toronto, a maker of flat-panel displays.

OG Technologies Inc.

Location: Ann Arbor

Employees: 10

Product: Visual-monitoring quality-control systems for the steel-making and hot-forging industries

Customers: Ispat Inland Inc., Metaldyne Corp., 3M

OG Technologies Inc.