

Automotive News

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Automakers go wireless to find cars in plants

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The use of wireless systems to locate parts and vehicles in vast assembly plants is expected to grow rapidly now that technology standards have been established.

The InterNationalCommittee for Information Technology Standards in Washington developed the standards over the past two years. They were approved in August by the American National Standards Institute.

Ford Motor Co. already uses wireless systems in most of its assembly plants in North America and Europe. Ford uses a system from WhereNet Corp., of Santa Clara, Calif., to locate vehicles in shipping yards and inside plants.

"We were already big believers in this technology," says Tony Cataldo, manager of Ford Motor Co. network engineering and network operations. "But it was critical that a standard be developed. Now I would expect a flood of new end users in a variety of industries — from automotive to retail to health care."

Likewise, General Motors expects the standards to generate more interest in the auto industry.

"This will encourage widespread adoption of wireless location systems," says Larry Graham, global manager of manufacturing technologies at GM. "The technology has already been proven to deliver tremendous bottom line cost savings for enterprises around the world."

Ford uses a vehicle locating system to pinpoint the location of a vehicle awaiting shipment — often in a lot filled with 2,000 to 3,000 nearly identical models.

Ford attaches a low-power radio frequency tag to each vehicle that comes off the assembly line. Antennas inside and outside the factory receive transmissions from the tags and deliver tracking information to a computer. The system can track a vehicle to within 10 feet of its position.

For example, Cataldo says Ford could use the system to find a Mustang that had a paint blemish or other defect before it is shipped to the dealer.

"Just imagine walking out the door and seeing 1,000 or 2,000 cars," he says. "You can put runners out there who probably can find a car in a half hour."

But he says a tagged vehicle can be found in a few minutes.

Ford assembly workers also use a wireless WhereNet call button to request replenishment for parts stock.

The wireless setup replaces a hard-wired system that had to be installed each time the assembly line was altered, Cataldo says.

With a wireless system, the worker places the call button — with fabric fastener or sticky tape — where it's most convenient.

Compared with hard-wired systems, WhereNet says automakers and suppliers save approximately \$200,000 to \$500,000 per plant.

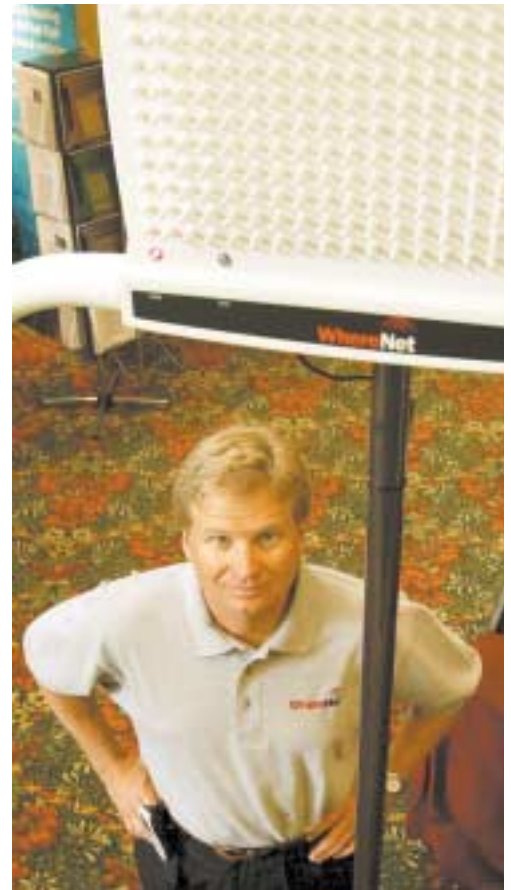
"Every time the line changed configuration you had to spend thousands of dollars moving those wired buttons around," Cataldo says. "With the WhereNet system, the operators can put the buttons where they are most convenient."

The InterNational Committee for Information Technology Standards approved standards that define two air interface protocols and an application programming interface for real-time locating systems. More than 20 organizations, including GM, Ford and WhereNet, helped develop the three standards.

About 80 percent of WhereNet's business is in the automotive sector, WhereNet President Dan Doles says. The company's systems are used in about 80 automotive plants.

WhereNet says it can install its call buttons and antennas in a plant in fewer than 90 days.

"That's really the critical thing with solutions today," Doles says. "No one has the patience with these multiyear type of applications. If you're not under a year in your return-on-investment today, you can just forget about it. It's not going to happen. There's just too little new projects being funded." **C**



JOE WILSSENS

WhereNet President Dan Doles with a wireless antenna that tracks cars to within 10 feet of their positions.

Tagging it

Here's how Ford uses wireless systems at plants and parking lots to locate vehicles.

- A low-power radio frequency tag is attached to each vehicle that rolls off the assembly line.
- Antennas at the factory receive transmissions from the tags. The system can track a vehicle to within 10 feet of its position.