

## **Andrew Antennas Support Ford's Telematics Systems**

As the communications revolution that has transformed every aspect of personal and business life continues to accelerate into the 21<sup>st</sup> century, Ford Motor Company president and chief executive officer Jac Nasser sees his company as playing an historic role in driving this development in the automotive industry. "In the first years of the 20th century, Ford Motor Company pioneered affordable personal transportation for ordinary people," says Nasser. "In this new century, Ford will make affordable, advanced in-vehicle communications technology available to millions of customers. Ford is aggressively developing a unique business model that will deliver these products and services quickly and affordably to large groups of customers, regardless of their vehicle choice."

Underscoring Nasser's statement is Ford's recent announcement that it will equip 2001 model-year vehicles with voice-activated telematics systems offering advanced security features and information access. At the outset, these systems will be standard on select Lincoln luxury vehicles and optional on the Ford Focus in Europe; other applications will be forthcoming shortly.

Ford's development of telematics—advanced in-vehicle communications and information technologies and services—began in the early 1990s. From the outset, Andrew Corporation, Orland Park, IL, has been a committed part of this initiative, supplying Ford with an important telematics component: high-performance antennas.

### **Committed to Delivering Efficiency and Service**

"Andrew was brought into Ford as a supplier in the early 1990s," says Tim Talty, technical specialist, antennas and RF, at Ford.

According to Talty, Ford currently uses three of Andrew's antennas—the single-band cellular ANTS, the dual-band cellular AMPS and PCS, and the GPS.

"We have been Ford's cellular antenna supplier since 1994, and in the last few years we have added active GPS antennas, GPS and cellular coaxial cable

assemblies, and dual-band PCS antennas," says Joe Mockus, business area director, wireless products division, at Andrew Corporation.

These products are used for Ford's cellular-equipped vehicles and for their Lincoln RESCU (Remote Emergency Satellite Communications Unit) program in the United States, as well as their VEMS (Vehicle Emergency Messaging System) in Europe.

"We currently ship products to Ford and Jaguar assembly plants in the United States, the United Kingdom, and Australia, as well as to other Ford suppliers such as Visteon Automotive, Lear Corporation, Johnson Controls, Motorola, Dura Automotive, and Yazaki North America," says Mockus.

Talty says Andrew was selected as a supplier for two key reasons.

"When we chose to use Andrew as a telematics supplier, we did so because of customer service and cost," he says. "They had excellent local support, and their engineering support was timely and responsive. Their antennas saved us money in comparison with the antennas that we were using, and the performance of those antennas clearly met our requirements."

According to Mockus, meeting those requirements demands a dedicated effort.

"In order to maintain our automotive business, we subject our automotive wireless products to even stricter quality guidelines than the rest of our corporation," he says. "Ford's commitment to quality demands that we be equally committed to that goal."

Talty agrees. "Automotive standards are extremely stringent," he says. "Because of this, vehicle-installed telematics systems will outperform any aftermarket retrofit."

Andrew's Addison, Illinois facility, where its automotive products are manufactured, is registered to QS-9000—the ISO 9000 standard adapted specifically to the automotive market. The company has also received Ford's Q1 Preferred Quality Award.

## **Improving the Quality of Life— Providing Better Value**

A major goal of telematics is to improve the quality of the automotive consumer's life as the time spent in automotive transit—both personal and business time—becomes increasingly important.

The types of telematics features that Ford will be delivering in year 2001 models illustrate how the technology is moving toward that goal:

### *Safety and Security Features*

Included among the security telematics in Ford's 2001 models are automatic collision notification, emergency assistance, and roadside assistance.

In collision situations that cause air bags to be deployed, a message will be transmitted automatically to an operator with information identifying the vehicle and its location. A voice call will be made to the vehicle to determine the nature of the accident and any emergency assistance requirements.

For urgent assistance, an emergency button will connect drivers to an operator for immediate police, fire, and medical assistance. In less severe situations—for example, a flat tire or empty fuel tank—a connection can be made to an operator who will provide information on nearby services.

### *Infotainment and Phone Features*

Concierge service, Internet access, traffic information, and personal information management will be standard on some 2001 models. Phone features will include hands-free voice control services and voice-activated speed dialing; and the phone will serve as an information gateway between the driver and all other telematics services.

"We are focusing the development of these systems so our customers get the most value for their money," says Brian Kelley, vice president of Ford Motor Company and president of ConsumerConnectia, the company's e-business and telematics group.

According to Kelley, the majority of Ford customers indicate greater interest in safety and security features than in in-vehicle Internet services, so the company is looking to make the security features standard as quickly and widely as possible.

Key in this effort will be a digital wireless phone connection based on Lincoln RESCU technology, for which Andrew supplies the GPS antennas.

### **Portal to the Future**

Among the future telematics services Ford will be providing are satellite radio, entertainment/multimedia, remote diagnostics, vehicle tracking, and wireless synchronization.

The market potential for such services is huge.

According to The Strategic Group, a Washington-based telecom consultant and analyst, project revenues from automotive telematics services are expected to grow from less than \$40 million in 1999 to more than \$1.7 billion by 2004.

In a recent report, Minneapolis-based analyst Dain Rauscher Wessels asserts that satellite digital audio/radio services (SDARS) will become a major component of in-vehicle telematics over the next several years. (Ford is a major stakeholder in Sirius Satellite Radio, Inc., one of the two FCC-licensed SDARS providers.)

Such growth represents a strong opportunity for Andrew.

"Long-term, increasing amounts of electronics will be packed into vehicles," says Mockus. "We believe we are well-positioned to capitalize on this trend."

Andrew is currently designing multi-band antennas that will operate in multiple modes—cellular, GPS, PCS, and so on—eliminating the problem of vehicles acquiring a "porcupine look" through multiple antennas.

"We are also designing concealed antennas that can be easily integrated into vehicle bodies," Mockus notes.

Examples of this approach include the active GPS antenna that Andrew builds for the Lincoln LS and Jaguar S-type luxury sedans, which is hidden under the back package tray of those vehicles.

"We want all of our cars and trucks to become personalized portals for our global consumers," says Nasser.

A long way from the Model T of Henry Ford's day, today's automotive vehicles will serve as a driver's link to the world around them—a much larger space than could have been imagined at the dawn of the automotive age.

###