

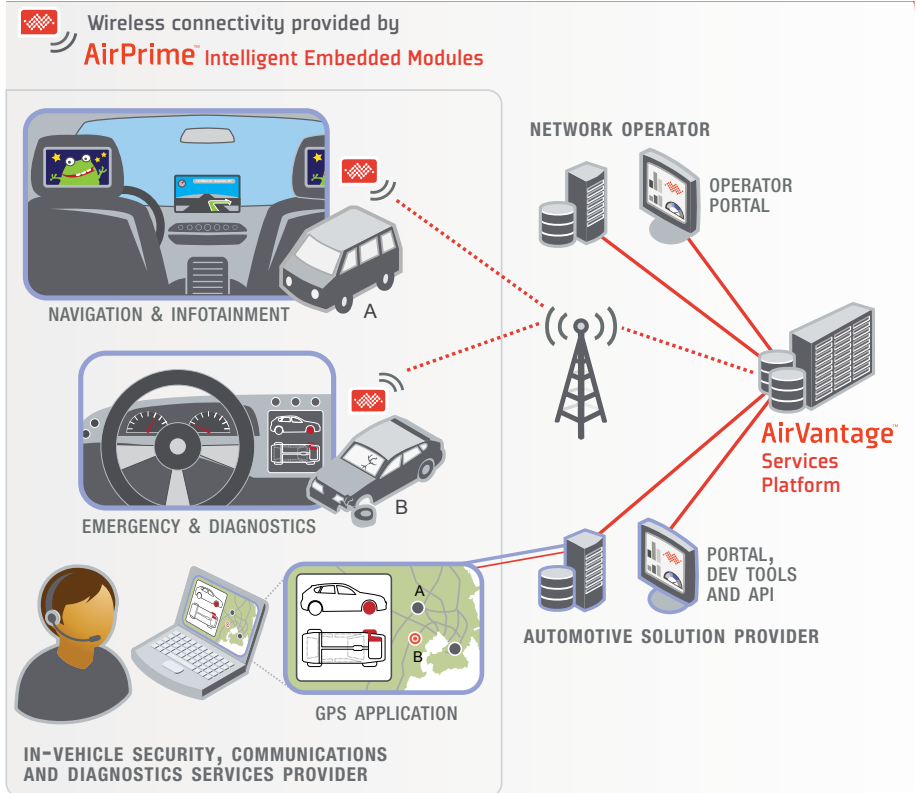
Automotive Solutions

Solutions for a Connected Automotive Industry

Automobile manufacturers are incorporating wireless communications into both economy and luxury vehicle models as safety regulations and consumer expectations of anytime anywhere connectivity increase demand for vehicle assistance services, location-aware applications, and infotainment. To compete successfully, manufacturers not only need reliable wireless connectivity to cellular networks but also wireless technology that minimizes total cost of ownership, from production to customer service. Manufacturers need a quality driven technology partner they can count on from concept to end-of-life.

Wireless Automotive Applications

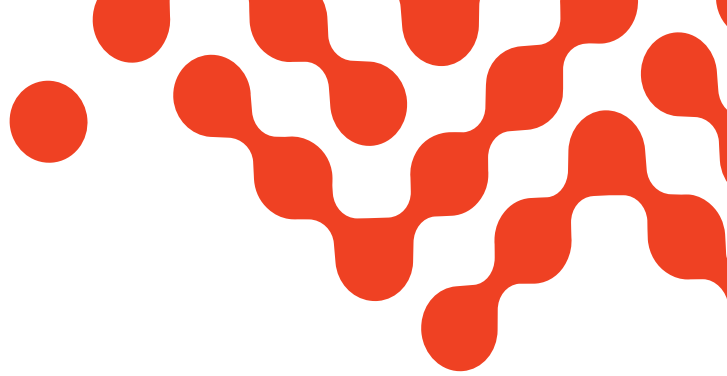
- eCall
- Driver/Roadside Assistance
- Stolen Vehicle Tracking and Recovery
- Navigation
- Remote Vehicle Immobilization/Door Lock Controls
- Remote Diagnostics
- In-Vehicle Internet and Entertainment



With over a decade of experience, award-winning expertise, and more than two million automotive-grade wireless modules shipped, Sierra Wireless is the market leader in wireless technologies for the automotive market. Our engineers and specialists have experience in both the automotive and telecommunications sectors and understand that wireless functionality involves more than just adding a modem to the vehicle. Count on Sierra Wireless to help you meet the challenges of automotive M2M:

- Depend on high quality with intelligent wireless modules manufactured in an ISO/TS 16949 certified facility
- Reduce cost with compact modules designed to support high volume production

- Ensure durability that lasts the lifetime of the vehicle with ruggedized designs that meet the industry's toughest quality and life span requirements
- Simplify integration with programmable features and an open, comprehensive development environment
- Get to market faster with guaranteed connectivity to major wireless network operators
- Reduce recall campaigns, speed up deployment, and allow over-the-air upgrades with powerful device and service management capabilities



Connecting Vehicles to Wireless Services

Trends	Challenges	Meeting the Challenges with Sierra Wireless
<p>In-vehicle wireless communications as a competitive differentiator</p>	<ul style="list-style-type: none"> • Modules and production which allow cost-effective wireless functionality for vehicles of all price ranges • Easy application integration into software and components • Device components that last the lifetime of the vehicle • Time-to-market 	<ul style="list-style-type: none"> • Reduce cost, size, and integration complexity with automotive grade microprocessors that combine wireless communications, GPS, and programmability in a single embedded module • Reduce development costs and time-to-market with highly programmable intelligent modules, a real-time open operating system, development tools, APIs, and plug-ins for easy integration and compatibility • Support high volume production, eliminate internal connectors, reduce size, and increase durability using modules with solder-down form factors • Depend on wireless components trusted by emergency and first responder services for session persistence and consistent performance • Minimize quality issues with modules manufactured in an ISO/TS 16949 compliant facility, and designed to meet industry processes, quality, and life span requirements • Use modules pre-certified with network operators, or leverage Sierra Wireless credibility and long-standing relationships with leading wireless network operators to facilitate network certification and connection
<p>eCall initiatives</p>	<ul style="list-style-type: none"> • Real-time data collection and monitoring 	<ul style="list-style-type: none"> • Deliver real-time monitoring of multiple parameters with wireless devices that support broadband IP connectivity, secure layer protocol, and images/video transmission
<p>Driver/roadside assistance subscription services</p>	<ul style="list-style-type: none"> • Data security and transmission reliability • Global wireless mobility • Cost-effective maintenance and management 	<ul style="list-style-type: none"> • Ensure accurate data transfer with secure, mission-critical wireless data performance and real-time operating system functions
<p>Stolen vehicle recovery programs</p>		<ul style="list-style-type: none"> • Ensure security with jamming detection and theft-proof embedded SIMs • Get wireless connectivity anywhere a mobile phone works with interfaces that support all major cellular networks
<p>In-vehicle Internet</p>		<ul style="list-style-type: none"> • Reduce cost of service and warranties with components ruggedized to withstand extreme temperatures, vibration, and humidity • Minimize maintenance costs of managing large device populations with AirVantage™ Management Services for remote diagnosis and over-the-air software patches



Automotive industry commitment

After shipping more than 2.5 million automotive-grade wireless modules and delivering award-winning innovations to the automotive industry, Sierra Wireless brings more than a decade of automotive and wireless expertise to customers and partners. All automotive industry modules are manufactured in a facility that is ISO/TS 16949 certified, and automotive products are designed to meet the toughest processes, quality, and long life span requirements.

End-to-end applications

From ruggedized embedded modules, software suites, and development tools to services platforms, Sierra Wireless is the only company that can offer all the wireless broadband technology you need for building end-to-end automotive applications.

Simplify integration and deployment

Get new features and services to market faster with proven products that allow rapid design and easy integration with software suites, development tools, and APIs. and guaranteed connectivity by using modules pre-certified with major network operators. Reduce maintenance cost and complexity with AirVantage™ enterprise grade hosted remote services platform that enables cost-effective remote maintenance and over-the-air upgrades.

Expertise in both automotive and wireless technologies

Our automotive grade solutions are designed by engineers experienced in both the automotive and wireless industries, with in-depth knowledge of the markets toughest challenges. Take advantage of our professional services for engineering, design, and systems integration.

Credibility with wireless network operators worldwide

Leverage Sierra Wireless credibility and long-standing relationships with leading wireless network operators to facilitate network certification and connection. Use pre-certified modules for fast time to market, or let our professional services team help you with network certification expertise and strong wireless operator relationships.

Partner for success with Sierra Wireless

When you need to deliver automotive solutions that are reliable, cost-effective and easy to maintain, contact Sierra Wireless. Reduce risk and development cost, ensure customer satisfaction and low maintenance costs with proven wireless technologies designed for easy integration, fast deployment, and management services platform support.

Sierra Wireless is certified with network operators worldwide including:

- AT&T (USA)
- Bell Mobility (Canada)
- Bouygues Telecom (France)
- O2 (UK and Ireland)
- Soft Bank (Japan)
- Sprint (USA)
- Telecom New Zealand
- Telenor (Norway)
- Telefonica (Spain)
- Telstra (Australia)
- Telus (Canada)
- Verizon Wireless (USA)
- Vodafone



Automotive Solutions

Sierra Wireless Product Advantages

Automotive solution requirement	Sierra Wireless AirPrime™ Embedded Modules
<ul style="list-style-type: none"> • Easy integration of wireless and GPS 	<ul style="list-style-type: none"> • Simple-to-deploy, programmable mobile cellular connectivity for 2G up to the latest 3G air interface support • Modules with reliable, sensitive GPS reception • Open AT™ Location Plug-In for Open AT offer the easiest and most optimized GPS feature integration
<ul style="list-style-type: none"> • Secure, reliable data transmission 	<ul style="list-style-type: none"> • Mission-critical reliability with persistent network connections that reconnect automatically • Open AT® Operating System provides advanced security features such as encryption, SSL, IPsec, WPA Enterprise, firewall, MAC address filtering, and jamming detection • Embedded SIM reduces installation costs, simplifies logistics, and reduces SIM theft security threats
<ul style="list-style-type: none"> • Cost-effective, high-volume components 	<ul style="list-style-type: none"> • AirPrime programmable modules support only essential functions and high-volume production needs • Designed for streamlined product development and easy upgrading, with form factors that enable fully automated surface-mount manufacturing for high-volume automotive production requirements
<ul style="list-style-type: none"> • Rugged, high-quality, long life components 	<ul style="list-style-type: none"> • Ruggedized designs comply with environmental requirements of the automotive market (vibration, extreme temperature of -40C to +85C) • Module qualification process includes Highly Accelerated Life Test (HALT) stress testing and temperature shock tests up to 1000 cycles. • Modules feature low power consumption and standby low power mode to prevent draining battery power when vehicles are immobile for long periods
<ul style="list-style-type: none"> • Flexibility to enter new markets 	<ul style="list-style-type: none"> • Programmable wireless modules that are extensible and form-factor compatible allow a single product design that can communicate on all major cellular protocols, anywhere in the world • Modules pre-certified with major network operators worldwide reduce time to deploy for new markets
<ul style="list-style-type: none"> • Cost-effective maintenance and management 	<h3 data-bbox="483 1562 1520 1596">Sierra Wireless AirVantage™ Services Platform</h3> <ul style="list-style-type: none"> • AirVantage Services Platform provides a comprehensive, scalable and secure services platform with a web portal and powerful tools that allow remote deployment, configuration, and maintenance of automotive solutions and services. • Sierra Wireless professional services offer in-depth knowledge of the automotive industry as well as wireless technologies to help with product design and deployment plans, prepare your solution for certification, and help you through network verification.

For further company and product information, please visit www.sierrawireless.com



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