

Sierra Wireless AirVantage™ Smart Automation Industrial Control Connectivity

Connecting Industrial Products to Develop, Deploy and Operate M2M Applications

AirVantage Smart Automation powers a new generation of intelligent communication between industrial machine control systems and business or consumer applications. Smart Automation allows manufacturers, service providers and maintenance companies to connect industrial products to the AirVantage Services Platform and create M2M applications to reduce equipment operation and maintenance costs, and to develop new services for their industrial customers.

OEMs, System Integrators, Network Operators

- Increase machine uptime and performance and reduces expenses by reducing routine maintenance, field visits and outage time.

Municipal Services, Energy Companies, Machine Manufacturers

- Create new services and business models while reducing deployment and operations costs.

NEXT GENERATION APPLICATIONS

Current industrial automation systems are typically connected with fixed, one-way communication of data from the machine control system to the business application. Changes to the quantity and type of data collected require machine-level programming and frequently require a site visit. This model makes broad deployments too costly due to high development, deployment and management costs.

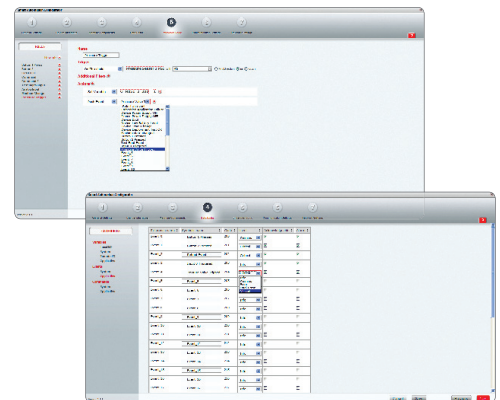
Smart Automation simplifies connecting wireless communications to industrial control systems, removing the need for computing, network infrastructure and wireless experience; and automating subscription and connection management functions. Smart Automation lets System Integrators:

- Quickly configure wireless connectivity to any industrial control system
- Quickly develop, deploy and operate new connected M2M applications
- Reduce and manage data sent over the network
- Maintain separate control logic from business logic for improved machine uptime and customer service
- Quickly deploy business logic over-the-air to field equipment
- Eliminate M2M infrastructure development required to add business applications to field equipment



KEY BENEFITS:

- Quickly create new revenue generating services
- Reduce system operations and support costs
- Reduce M2M application development and deployment costs
- Simplify deploying mobile devices onto the network
- Remotely manage and operate wireless connections, mobile devices and connected assets
- Eliminate M2M application infrastructure development



Sierra Wireless

AirVantage™ Smart Automation

Industrial Control Connectivity

Smart Automation builds on the AirVantage Platform to provide an out-of-the box solution for creating new business services for industrial equipment.

SMART AUTOMATION CONFIGURATION WIZARD

- Easy-to-use, 7-step wizard easily connects PLCs and sensors to AirVantage Services Platform.
- Extension to Asset Management to connect the control system, create and deploy Ready Agent business logic and configure communications system.
- Enables electricians, automation technicians and instrument mechanics to simply update logic in communications devices to extract the desired data from control system.
- With limited knowledge of control system logic, application developers can create and deploy simple or sophisticated logic to Ready Agent to meet needs of the M2M application.

SMART AUTOMATION READY AGENT

- Supports logic engine that enables data filtering, Modbus machine protocol and tools to connect to the network.
- Business logic to filter data, create alarm thresholds and otherwise manipulate data before it is sent to server.
- Highly configurable Modbus machine protocol to connect to Modbus programmable logic controllers or Modbus instrumentation.
- Communications configuration capability to enable primary or secondary connectivity to wired or wireless networks.

SMART AUTOMATION BUSINESS LOGIC

- Add business logic to control the amount of data sent over the wireless connection, reducing data costs.
- Enable data manipulation and filtering using different logic operations and inputs from the system.

EASILY DEVELOP EMBEDDED APPLICATIONS

- Extract machine control system data easily without the need to change machine control system logic.
- Web Services API allows users to extract data from AirVantage Services Platform to create rich web applications.
- No complex programming required.
- Enable business logic to change data collected from the control system based on cost, connection type, bandwidth, etc.
- Easily deploy business logic to each device with over-the-air update campaigns.
- Remotely update business logic without changing critical control system.

CREATE UNIQUE SERVICES

- Quickly create value-added services for additional revenue opportunities.
- Leverage Asset Management capabilities of AirVantage Operating Portal to group machines (assets) and deliver unique business logic to each machine as required by the end customer.
- Flexible communications models to meet the cost and data acquisition needs of the HMI

CONTROL MACHINES REMOTELY

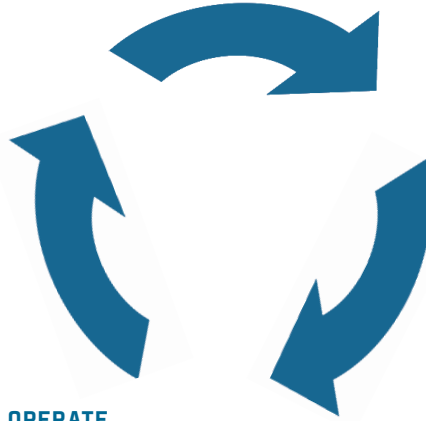
- Remotely control logic to reduce field maintenance trips
- Include Modbus coils or registers within the simple and easy-to-configure business logic.



Sierra Wireless AirVantage™ Smart Automation Industrial Control Connectivity

DEVELOP

- Easy 7-step configuration process to connect industrial controls to network devices.
- No complex programming required for control system interfacing, business logic development and deployment and device connectivity.
- Create web applications with M2M application development tools based on open standards architecture.
- Simplify development requirements with flexible, two-way connection supporting a wide range of Sierra Wireless and third-party hardware.



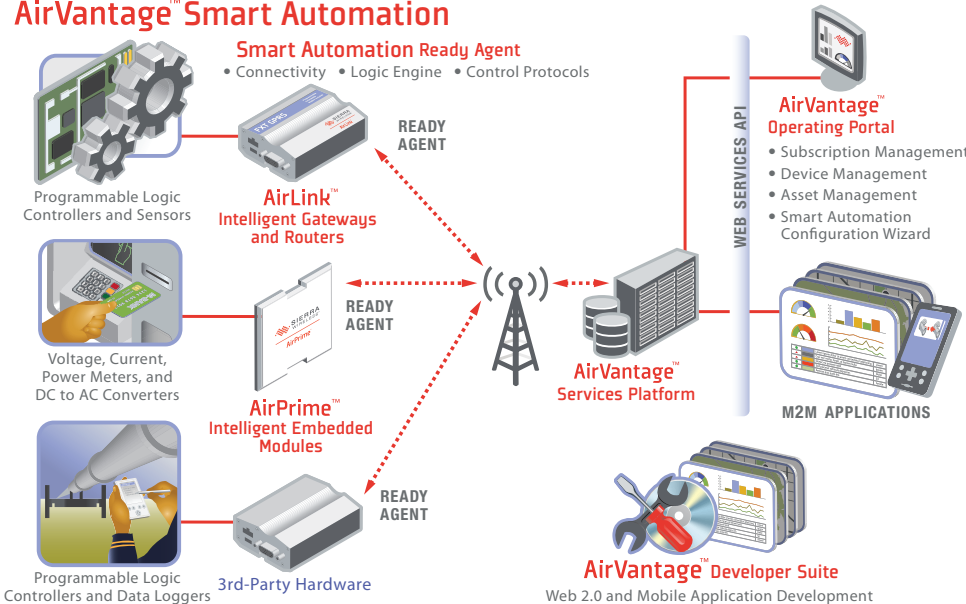
DEPLOY

- Deploy systems quickly with Mobile Network Operator (MNO) Subscription Management services.
- Manage connections, MNO billing plans and data thresholds.
- Configure, manage and control each wireless device with device management.
- Configure wireless network and device parameters for myriad data collection configurations.

OPERATE

- Secure AirVantage Services Platform hosted in North America and Europe.
- Easy-to-use Operating Portal to access Subscription, Device and Asset Management tools.
- Remotely triage network/device issues to resolve network connection issues and reduce field maintenance trips.
- Maintain device software with firmware over-the-air transparent updates and reduce connection downtime.
- With an M2M application that is machine control capable, site visits can be significantly reduced.

AirVantage™ Smart Automation



Faster time to revenue generation and reduced solution costs with:

- Elimination of M2M infrastructure development
- Simplified M2M deployment
- Controlled data usage costs
- Optimized network/device triage and support
- Reduced operational support effort
- Reduction of routine site visits with remote management

Sierra Wireless AirVantage™ Smart Automation Industrial Control Connectivity

AIRVANTAGE SMART AUTOMATION SYSTEMS REQUIREMENTS

- Web browser
- Supported AirLink™, AirPrime™, or third-party hardware

Smart Automation Ready Agent comes pre-integrated into the AirLink and AirPrime products below and is portable to Linux host processors, which interface to all Sierra Wireless products or third-party modules with Linux driver support.

AirLink	AirPrime
Fastrack series (Except CDMA) - with RS485 or Ethernet Modules	WMP series
GL series	Q26 Extreme series
M2M BoxPro	SL6x

Note: Please contact sales for AirVantage Ready Agent roadmap support.

MODBUS SUPPORT

Modbus is a serial communications protocol for use with PLCs and has become a de-facto standard communications protocol in industrial control applications. There are three variants of Modbus protocols supported by AirVantage Smart Automation:

- **Modbus RTU** — Used in serial communication and makes use of a compact, binary representation of the data for protocol communication.
- **Modbus ASCII** — Used in serial communication and makes use of ASCII characters for protocol communication; also uses a longitudinal redundancy check checksum.
- **Modbus TCP/IP or Modbus TCP** — Modbus variant for communications over TCP/IP networks.

AIRVANTAGE SMART AUTOMATION APPLICATIONS

AirVantage Smart Automation targets remote or mobile machines for vending, mobile power generation, mobile lighting and signage, mobile compressed air, water treatment, wastewater management, oil and gas pipeline management, and building energy and water management. Asset data can be connected to SCADA, historians, trending and reporting systems. Rich Web 2.0 applications can be built for businesses or end users to access product or service information.



FOR MORE INFORMATION:

North America & Asia

Tel: +1 510 624 4200

Europe, Middle East & Africa

Tel: +33 1 46 29 08 00

E-mail:

AirVantageSales@sierrawireless.com

www.sierrawireless.com