French Telemedicine Program Uses Sierra Wireless® M2M Solutions for Hypertension Screening and Monitoring

A Sierra Wireless® Telemedicine Solution

CUSTOMER CRITICAL CHALLENGE

• Reliable wireless connection for inclusion of remote patients in pilot project
• Access to near real-time patient data from anywhere, at anytime

SOLUTION

• AirPrime® wireless embedded modules supporting Open AT® framework for quick software development
• AirVantage® Cloud for simple, scalable, secure management of collected data and remote medical devices

BENEFITS

• End-to-end M2M solution
• Quick development and simple integration of AirPrime modules
• Sierra Wireless’s expertise in remote management of equipment
• Reliability of AirVantage Cloud and lowered costs associated with its use
• Strong support to enable quick time-to-market of customer solutions
• Reduced maintenance time

BACKGROUND

France has rolled out a pilot telemedicine program aimed at facilitating workplace screening of personnel in high pressure environments and improve patient medical care through home monitoring programs. The pilot program has a parallel goal of reducing the medical costs associated with the treatment of illnesses linked to arterial hypertension, which have risen by almost 40% in six years and affect more than 15 million people in France.
Business Challenge

With the emergence of modern communication solutions, it is becoming feasible to implement telemedicine programs at a reasonable cost. Responding to a call for proposals from the French ministry of industry, the stakeholders involved in the telemedicine program proposed the creation of a large-scale trial for the monitoring of arterial tension to illustrate how technology can be used to assist in medical care using telehealth applications.

Currently, patients living in remote areas are experiencing serious difficulties accessing medical services. The treatment of some diseases, such as diabetes, pulmonary and heart disease, and arterial hypertension—which can advance to cardiovascular disease—requires constant feedback between patients and medical professionals to enable awareness of treatment efficacy. To incorporate remote residents into the telemedicine program, stakeholders realized that they needed a wireless, cloud-based solution to have access to near real-time patient data from anywhere, at anytime.

Sierra Wireless AirPrime® Solution

In creating the program, organizers selected the end-to-end solutions of Sierra Wireless, including AirPrime embedded wireless modules, Open AT development framework, and the AirVantage Cloud for simple, scalable, secure management and administration of both devices and data.

Sierra Wireless’ AirPrime module and Open AT framework allowed a significant reduction in R&D workload, considerably shortening development times for telemedicine communication equipment. Simple to integrate and easy to program, AirPrime modules get solutions to market faster and reduce total costs. The Open AT framework was instrumental in meeting timeframe objectives by providing a rich catalog of software libraries and support for standard programming languages, enabling software developers to spend less time integrating and more time innovating.

The AirVantage Cloud greatly simplifies the transmission of collected data to the program information system, allowing participating healthcare providers to monitor a patient’s state of health and the patients themselves to view their information in near real-time. Units and equipment can also be managed and monitored via the cloud, and—according to program stakeholders—having a single provider and an integrated solution limits risk and guarantees better response times, all while ensuring optimal quality and reliability in the exchange of data.
Results

The pilot phase of the telemedicine program provided almost 1,000 patients with a full range of monitoring tools, allowing the hypertensive patients to be telemonitored at home and data to be collected using a secure cellular connection. In addition, the AirVantage Cloud was critical for program stakeholders to reliably manage remote equipment and regularly collect user data without having to build and manage the infrastructure themselves. With project teams distributed across multiple geographic sites, device and network information must be accessible from anywhere and management capabilities available to quickly resolve any issues detected with equipment in order to maintain high quality service.

With its modular approach and end-to-end capabilities, Sierra Wireless was able to balance requirements from the large number of program stakeholders, who indicated that—while initially being assured Sierra Wireless solutions were the best for the project—they now credit the company with being instrumental to the success of the initiative and admit that they greatly relied on Sierra Wireless’ expertise.