



Internet of Things Powers Connected Surgical Device Infrastructure

Medical device manufacturer partners with Cognizant to create IoT network

Maintaining its thousands of medical devices in the field was creating a strain on a U.S.-based multinational medical devices manufacturer.

As a producer of endosurgery equipment and other surgical instruments, the company needed to regularly capture important data about the health and status of the equipment. The devices could already capture this data, including surgery type, tool usage sequence, the time used for incision, ablation, and cautery, and total lifetime usage. However, all information was stored internally on the device, which required highly trained personnel to visit each customer site, and tend to each one.

The manual nature of the monitoring caused numerous challenges - first, the field personnel responsible for collecting data were also the sales representatives, and they were spending time on data collection rather than with the customers they were responsible for serving.

Additionally, this manual process meant a slow response to failure as the manufacturer waited for a response to errors.

AT A GLANCE

A leading U.S.-based medical devices and consumer goods manufacturer needed a better way to monitor, provision, and maintain thousands of its endosurgery devices in the field.

The company engaged Cognizant, an expert in the Internet of Things, to assist in the design of a connected device infrastructure.

Cognizant led as system architect, and the engagement features an IoT-enabled monitoring instrument that can plug into the company's thousands of devices in the field.

Projected Results:

- Savings of \$6 million annually.
- Return on investment in under one year.
- Improved customer satisfaction.
- Faster deployment of software updates.
- Better device performance overall.

The delay in receiving data made optimal device use challenging, since it was difficult to track or improve performance and promote best practices.

The company needed a better way. It valued Cognizant's experience with Internet of Things (IoT) strategy and implementation, and after discussions on the future of IoT, the company embarked on a large-scale initiative to create a connected product and business plan.

Remote monitoring saves time and enables proactive maintenance

Collaboration across multiple divisions was needed to develop the hardware and co-design the software for the system. Cognizant led much of the process design as the overall system architect, and provided design and application implementation assistance.

“The manufacturer expects this initiative to save at least \$6 million annually. It will recoup costs in a year or less, but the benefits extend far beyond savings.”

A Scalable Approach to Connectivity

With over 30,000 devices in the field, the company quickly realized that updating the actual endosurgery hardware would cause major delays and difficulty because it would mean recertification. Any changes to the existing equipment would require a lengthy process to ensure the new configuration would comply with medical regulations.

To simplify this, Cognizant helped devise a second, IoT-enabled instrument that would plug into the existing equipment, to gather and automatically transmit important data. Since this new equipment was IoT enabled and could

stand alone, it would be usable for all of the company's multiple types of surgical devices, and ultimately lay the groundwork for a larger connected device network.

IoT Drives Simplicity and Savings

With new IoT capabilities for its devices, data about the health of the devices is transmitted automatically, saving thousands of man hours each month. Instant and reliable data collection and analysis will enable commercial option deployment, new business models and improved strategic planning around the devices.

The connected devices also enable remote provisioning. Fast and automated software updates via the Internet minimize human involvement. Greater flexibility in software deployment means hardware can be updated sooner. Most important, problems can be caught and communicated immediately, and downtime can be reduced.

Monitoring extends to the performance of the device as well. Warnings can be issued to users to perform preventive maintenance on the devices and their tools - to ensure optimum performance at a critical time in use or in surgery, improving patient experience.

The manufacturer expects this initiative to save at least \$6 million annually. It will recoup costs in a year or less, but the benefits extend far beyond savings.

With a better way to provision updates and enhancements, and a better understanding of device performance, the medical device maker will provide more effective tools, which will deliver better customer and patient experiences to thousands of people worldwide.

Learn More

To learn more about Cognizant, visit us at www.cognizant.com/internet-of-things or contact us at internetofthings@cognizant.com.

ABOUT COGNIZANT

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process outsourcing services, dedicated to helping the world's leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work. With over 100 development and delivery centers worldwide and approximately 221,700 employees as of December 31, 2015, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world.

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