



Case Study

Stryker®

**Using Silex Embedded Wireless Technology to
Create Safer, More Efficient Operating Rooms**

silex
technology

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The Challenge

There were two challenges that Stryker was looking to solve:

- Replace wires with wireless technology to eliminate clutter in operating rooms.
- Reduce wireless congestion in operating rooms, especially on the 5GHz band, that was causing interference and impacting the wireless equipment performance quality used in critical procedures.

The Solution

Using Silex Technology's high-performance dual-band 802.11n "intelligent" wireless embedded module – the SX-580, the previous version of the new [SX-590 module](#) – Stryker was able to address both the challenges mentioned above.

Finding a Reliable Wi-Fi Embedded Module Solution

Stryker is one of the world's leading medical technology companies and, together with its customers, is driven to improve healthcare. Modern operating rooms have many devices traditionally connected with wires, and these wires can create a hazard for doctors and patients. In addition, skilled technicians are required to set up the operating room for each surgical procedure, increasing the time it takes to prepare for a surgery. In many of these operating rooms, Stryker transmits endoscopic surgical video wirelessly, so it is very important to assess the RF bands prior to, and during, surgery.

Stryker needed a reliable Wi-Fi solution for these mission-critical applications. Not only did they need a fail-proof solution but also a dependable partner with wireless expertise who can help with the integration in the development process. As a worldwide supplier of premium connectivity solutions, Silex Technology was the ideal candidate to address these challenges.

Stryker used Silex Technology's SX-580 embedded intelligent module, which provides a complete solution for integrating wireless networking technology into virtually any OEM product that has an RS-232 or UART serial port. It has a main-printed circuit board that contains a processor, memory, flash memory, and serial ports, plus a USB V2.0 host port and an SPI port. It is the "Swiss army knife" of Silex connectivity solutions.

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Image 1: Clutter and wiring in the operating room

Silex: Committed to Providing Value

Building on more than 40 years of hardware and software connectivity know-how and IP, custom design experience, and manufacturing capabilities, Silex brings value to customers with a foundation of technical expertise. At Silex, our wireless experts can create a customized, reliable network connectivity solution for specific requirements, and support our clients from design through deployment.

Silex customized the SX-580 to meet Stryker's requirements by:

- **Configuring a SX-580 so Stryker could use it as a wireless UART device control. Wireless device control eliminates clutter and wiring in the operating room. Pumps, saws, ventilators, and other medical equipment can be moved more quickly and easily into the operating room as needed. The result is a safer, more efficient operating room.**
- **Enabling the SX-580 to listen for sources of RF interference that would degrade the performance of the system. This feature allowed them to avoid or correct interference, ensuring optimal performance.**

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Image 2: Lack of cables speed setup and tear-down for surgical procedures

With such a custom application, a substantial amount of support was also required. Silex and Stryker worked together to build and develop custom applications for this project. This kind of support provided flexibility and versatility to the solution.

Silex prides itself for providing premier customer support. Silex customers gain direct access to Silex engineers, showing Silex's commitment to understanding and investing in a mutually beneficial relationship.



Image 3. Silex Technology's SX-580 Intelligent Wireless Module, a previous version of the new SX-590 module

Superior Support for a Superior Product

Today, Stryker is known as the leading manufacturers of medical patient handling equipment for hospitals and emergency/rescue operations. Silex's contribution helped to make this possible because of its reliable wireless technology and above-and-beyond support.

Additional Resources

Silex Expertise: [Medical Device Connectivity](#)

[White Paper: Medical Grade Wi-Fi](#)

[SX-590 Product Page](#)

About Silex Technology

Silex Technology is an embedded network technology company specializing in local area network and wireless (802.11 a/b/g/n) technologies providing software, modules or turnkey products. As the world's leading supplier of print servers, Silex Technology is leveraging its technology and know-how into new applications as well as developing new technologies to meet the expanding need for connectivity for consumers and business users. Silex Technology has regional offices for sales, marketing and development in Japan, U.S., and Germany. Silex Technology is vertically integrated to support the customer from design to production maintaining the high quality standard. For more information, please visit

www.silextechnology.com.

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