

Case Study

Embedded electronics applied to healthcare technologies are rapidly growing. Tektronix accelerates this growth by enabling technology innovation.

Empowering New Technology Novioscan

THE CUSTOMER CHALLENGE

Novioscan is a medical technology company who developed an innovative product called the Sens-U, a wearable ultrasound device designed to help school-age children dealing with incontinence by measuring their bladder size and using discrete tactile feedback to notify them when they should use the restroom.

When Sens-U became an enormous success, Novioscan began developing a similar product for adults. Designing this new product created a number of technical challenges combining a high number of complex electronics in a small, battery powered, wearable ultrasound device.

To overcome these challenges, Novioscan needed to upgrade their test and measurement equipment. Specifically, they needed an oscilloscope with at least 4 channels, a large display, the ability to save data onto a PC, save/recall capabilities, well-documented API for measurement automation, and a device they could rely on for the length of the product development journey.

One of their engineers, Dario, reached out to a Tektronix application engineer he knew for help finding the scope they needed.

THE SOLUTION

Tektronix provided Dario and Novioscan with a [TBS2000 Series oscilloscope](#) including all the features they needed to develop their new product.

It was the perfect tool for gathering the enormous amount of data needed to test and measure all the blocks of the new architecture in their prototypes. The ability to save data in CSV format directly on a PC allowed Dario to present that data in interactive reports, with automatic plot generation and filtering based on parameter selection.

Saving and recalling scope settings was also a helpful feature – allowing Dario’s colleagues who had less experience with the new scope to easily perform the measurements necessary to move development forward.



“From the moment we could add the new oscilloscope to the existing setup, the development of the project had a huge boost. Getting support on selecting the right product was very helpful and our team was thrilled about the choice we made.”

DARIO'S ENGINEERING JOURNEY

Dario began his journey as an engineer at 17 years old when he became interested in hardware hacking. He had a popular videogame console at the time and wanted to be able to run homebrewed, unsigned code on it.

He found a handful of online forums and newsgroups discussing hardware hacking for gaming consoles and spent significant time learning from them. He also began playing with electronics, using his savings to buy a soldering station and a multimeter. With lots of practice, his understanding grew. And, the more he learned, the more he enjoyed his new hobby.

When he finished high school, he decided to study electronics engineering at university. With his degree and a few jobs in Italy under his belt, Dario began



working as a senior applications and design engineer at NXP Semiconductors in the Netherlands.

He worked there for 5 years before joining Novioscan – a medical technology company that became a perfect fit for his growing passion and skills in engineering.

He loves being motivated by the passion for his work, working with people from a variety of disciplines, learning every day and being a part of a solution to a widespread social and medical problem.

Even when he is not working, he loves tinkering with side engineering projects and sharing the results on social media. He is proud to know his own grandmother would have loved the product he's helping create.

PRODUCTS, SOFTWARE, AND SERVICES PROVIDED

Hardware	Description
	TBS2000B Oscilloscope » View On Tek.com A reliable, efficient entry-level oscilloscope with a 9-inch display and 15 horizontal divisions for more time per screen.
	Keithley 2230G Power Supply » View On Tek.com Programmable power supply with up to 375 W of power in a compact 2 U high, half-rack wide enclosure.

TO ROUND THIS OUT, CONSIDER THE FOLLOWING EQUIPMENT FOR CONNECTED MEDICAL / LIFESCIENCE EMBEDDED DEVICE AND IOT / RF DEVICES:

31000 Series Arbitrary Function Generator »

with patented real-time wave monitoring and new double pulse test software



SignalVu PC Software »

for easy validation of RF Designs

6500 Series Digital Multimeter »

High-performance, low-cost, touch screen multimeter



Kickstart Software »

for quick and efficient data capture

If you want to learn more about solutions for this project, give our team a call at 1-800-833-9200