Tektronix®
KEITHLEY

Case Study

Investing in education is the key to the future of innovation. Tektronix is committed to helping university engineering programs around the world give their students and faculty the tools they need to own the future.

Problem Solving Every Step of the Way
Chalmers University

THE CUSTOMER CHALLENGE

Chalmers Formula Student is a team of 33 engineering students in Sweden who were designing and building an electric, all-wheel drive race car to compete against other engineering students.

With four different motors plus a 600v battery in their car, it was a complex project, and they had limited access to the test and measurement equipment they needed. As students, they also had limited experience and were still learning some of the foundational skills in electronics testing and system design.

"I can't tell you how helpful [different probes, source measure units (SMUs) and a 5 Series MSO scope] have been as we've been bringing together these four different motors — and a 600v battery on top of that. It's a lot of power. We couldn't build the car without a scope in particular; the pain would be very high if you took it away."

THE SOLUTION

Chalmers Formula Student partnered with Tektronix who provided them with a 5 Series Mixed Signal Oscilloscope along with power supplies, source measure units, and probes so they had everything they needed to test and measure their racecar motor and battery designs accurately and efficiently.

The 5 Series MSO's user-friendly interface and touchscreen design significantly flattened the students' learning curves, allowing them to spend less time understanding the equipment and more time innovating in their designs.

With test and measurement equipment that was both accessible and cutting-edge, complex and daunting tasks in their project became simpler and easier to master.

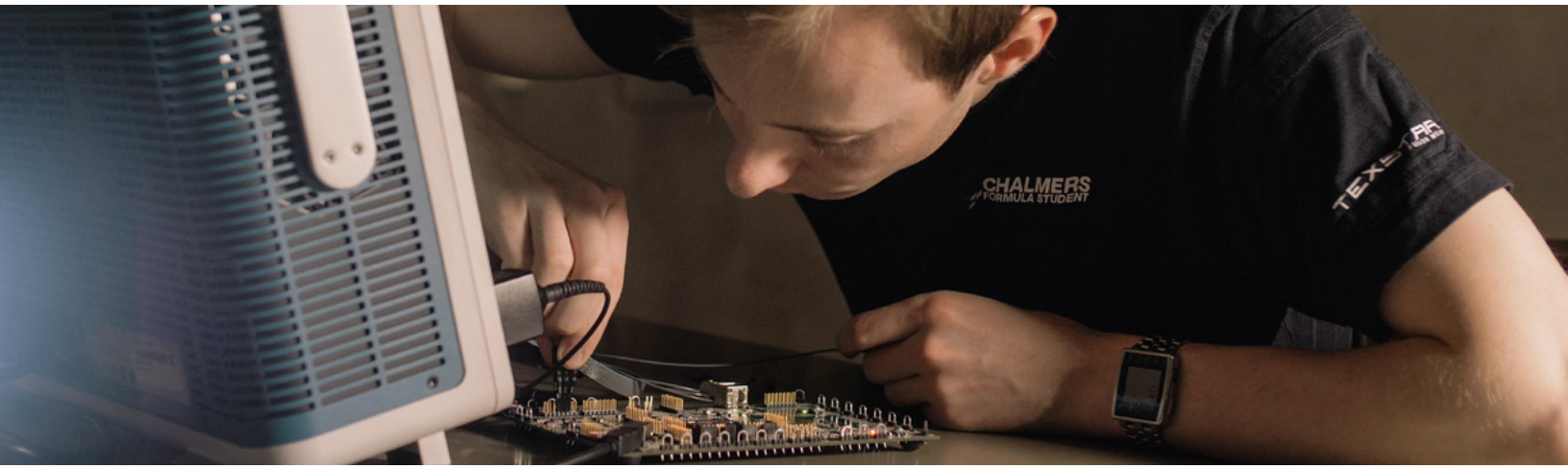
To learn more about the partnership with Chalmers University, check out our video at tek.com/stories.

STUDENT HIGHLIGHT

When Alexander Andersson was a kid, he wanted to become a “Lego engineer” — the person who designs the Lego houses and trucks and lanes.

As he got older he decided Lego was too restrictive. Since everything came with pre-made blocks, he was limited by what those blocks could do. He began looking for new materials to work with and ended up studying engineering at Chalmers University in Sweden, where he joined the Chalmers Formula Student team to build a competitive race car.

In an interview, Andersson said engineering is the thing his brain does when it’s not doing anything. It’s not even conscious or deliberate. When his mind wanders, he’s thinking about ways to improve everyday things around him.



PRODUCTS, SOFTWARE, AND SERVICES PROVIDED

Hardware	Description
	**MSO58 5-BW-2000 ››** View On Tek.com Whether you’re measuring switching loss and safe operating area, bode plots, power supply rejection ratios, or in-circuit inductor and transformers and more, the 5 Series MSO is an integral component in power supply measurement, design, and analysis.
	**DMM6500 ››** View On Tek.com The DMM6500 is a touchscreen bench/production test DMM with more measurement capability - including transient capture, data visualization, `and analysis – at the price of other 6½-digit DMMs with far less performance.
	**SMU2450 ››** View On Tek.com The 2450 SMU Instrument offers four-quadrant precision voltage and current source/load coupled with measurement on a touchscreen user interface.

If you want to learn more about solutions for the education lab or this project, visit tek.com/education or give our team a call at +7 495 664 7564.

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