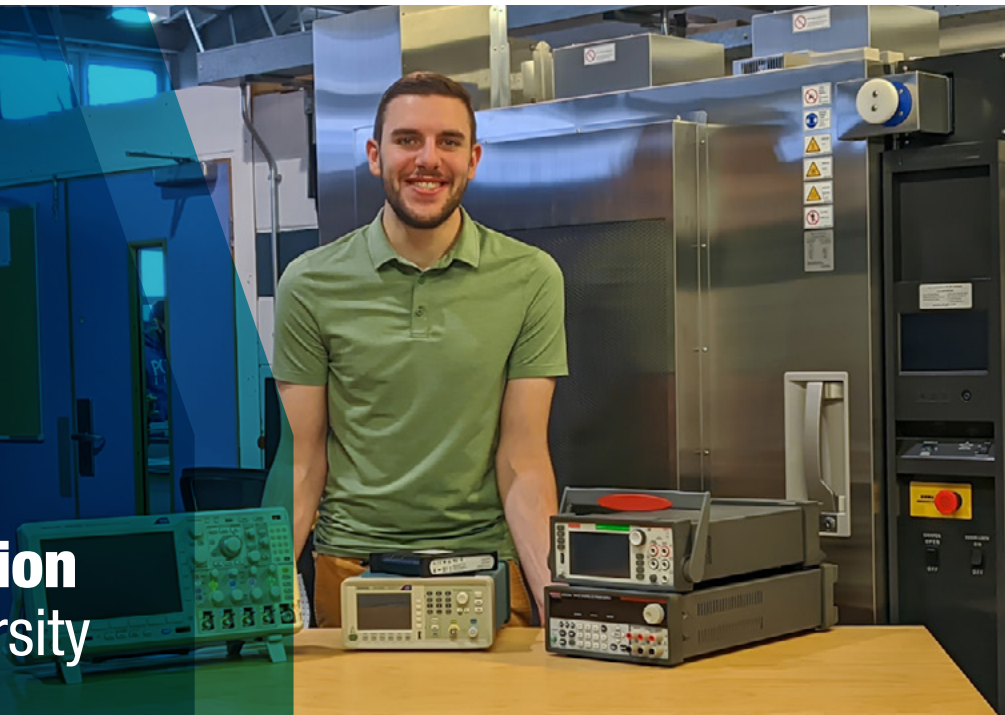


Case Study

Tektronix gave a team of student engineers the tools they needed to build an electric racecar, accelerating their knowledge of engineering. Applying the principles learned in the classroom to a hands-on project gave them valuable experience to gain an edge in the industry.

Accelerating Engineering Education Oxford Brookes University



THE CUSTOMER CHALLENGE

Founded in 1999 in the UK, Oxford Brookes University has a strong legacy in automotive and motorsport research and education.

They encourage their students to practice and apply their growing knowledge of engineering in extra-curricular programs like Oxford Brookes Racing, which builds racecars from scratch and races their creations against other universities.

For many years, their students built a variety of combustion motor racecars, but in the 2019/2020 season they decided to build their first completely electric vehicle.

The problem was that creating an electric racecar required a variety of test and measurement tools to optimize and validate their designs. Developing a cutting-edge electric racecar requires cutting-edge tools. And, since the engineers utilizing the new equipment the most would be students, Oxford Brookes hoped to reduce their learning curve with reliable, user-friendly features and interfaces.

THE SOLUTION

Tektronix provided the Oxford Brookes Racing team with a robust and versatile bench of test and measurement equipment, including:

- [200 MHz 3 Series Mixed Domain Oscilloscope](#)
- [Compact, portable spectrum analyzer](#)
- [25 MHz arbitrary function generator](#)
- [7½-digit graphical sampling digital multimeter](#)
- [High power, three-channel programmable power supply](#)






With these and other high-end tools, Oxford Brookes' engineering students can accurately and efficiently test and validate the prototyped electrical system concepts for their electric racecar. Tektronix's modern and intuitive user interfaces help students spend less time learning the equipment and more time pushing both their skills and their designs to the limits of their potential.

In addition to supporting the students building their first electric racecar, this new equipment also enhances the research capabilities of the engineering program's ongoing research related to advanced energy storage, applied controls, and electro-mechanical innovation.

“The Tektronix equipment has given students the ability to develop the skills and knowledge needed to design and build an award-winning Formula Student vehicle. Additionally, this partnership has furthered the university’s battery electric vehicle (BEV) research by aligning researchers and students with a common interest. We are very exciting to be working with Tektronix and look forward to future success.”

– Brady Planden | Associate Lecturer at Oxford Brookes University

PRODUCTS, SOFTWARE, AND SERVICES PROVIDED

Bench Configuration	
Product	Description
	MDO3024 Mixed Domain Oscilloscope, 200 MHz, 2.5GS/S » View On Tek.com For affordable, reliable, high-accuracy signal measurements
	RSA306B compact and portable Spectrum Analyzer » View On Tek.com For High-fidelity, low noise spectrum analysis
	AFG1022 Arbitrary Function Generator, 25MHz, 125 MS/s, 14-bit » View On Tek.com For flexible, efficient waveform generation
	Keithley DMM7510: 7½-Digit Graphical Sampling Multimeter » View On Tek.com A precise, high-resolution digitizer
	2230G High Power, 3 Channel Programmable Power Supply » View On Tek.com A compact, 3-channel power supply

To learn more about solutions for the education lab or this project, visit tek.com/education or give our team a call at 00800 2255 4835

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