CONTROL TECHNIQUES

Control Techniques, working alongside the best people for the last 50 years and beyond.

The University of Nottingham

Newcastle University

Opening the lines of communication with institutions developing the next generation of engineers.

In October 2023, students from Newcastle University and the University of Nottingham, who have all enrolled in the EPSRC Centre for Doctoral Training for Sustainable Electric Propulsion visited the global drives company, Control Techniques.

The Sustainable Electric Propulsion Centre for Doctoral Training (CDT), directed by Professor Volker Pickert, aims to create new generations of UK specialists driving the electric revolution in the transport sector. The goal is to cultivate a new school of thinking amongst engineers and scientists, capable of leading the transformation from fossil fuel transport to sustainable and environmentally friendly electric transport. CDT is a collaboration between two of the UK's largest and most forward-thinking research groups in electric propulsion: the Electrical Power Group at Newcastle University and the Power Electronics, Machines and Control Research Group at the University of Nottingham. Together, they have developed a radical new training programme that will equip the students with a new school of thinking for solving problems to ensure maximum research impact.

CDT is keen to head up the industry and wants students to gain valuable insights into handling real products and get to grips with real manufacturing processes. At the same time, building good working relationships between the Universities and industry professionals.

What did the student's day look like?

Jon Holman-White, Vice President of R&D welcomed the guests to Control Techniques and provided them with a company overview. After this Ricky Gibson, Product Development Director and Glenn Galea, sponsored PhD student, gave tours of the Research and Development sites, after which Nick Ong, Manufacturing Process Development Manager and Arran Davies, Manufacturing Engineering Support Manager provided tours of the Power Electronics Manufacturing site. Rhys Owen, Principle Mechanical Engineer then led the students in a Mechanical Design Considerations for ease of Manufacture of Drives talk before Ricky led a talk in Project Management / Working across Multi-Disciplinary Teams.

After half a day of in-depth insight into the running of a manufacturing company this size, Rhys Williams, Project Engineer let the students get their hands on a Drive Teardown Activity. Enabling the students to gain real hands-on experience, Glenn stated he'd *"never seen so many PhD students so engaged on one thing at the same time, all excited to get their hands on a practical project!"* To round up the day, some of the students then gave presentations to the R&D Engineers on the Optimisation of DC-DC Converters, Modular Multi-Level Converters, and Wireless Charging.

Was it beneficial?

Let's see what some of our students had to say -

"We were taken for a tour of Control Techniques manufacturing site and Research and Development site and were told the complete story of the manufacturing process of high-end electric drives. We particularly enjoyed the visit to their quality control facility where x-ray and micrometry machines were shown to be used for quality checks and post-mortem of damaged products. We appreciate the openness of Control Techniques in showing us their facilities without much restrictions, not many companies would do that."

"The visit was a great experience! it was very useful to gain an insight into the work done at Control Techniques, and the challenges of creating innovation in the industry. The hands-on teardown of the Frame 10 in particular was a more engaging way of gaining an appreciation for the complexity of the devices. The Engineers and staff there were friendly and more than happy to answer any questions and discuss their work."

Here's to strengthening relationships between CDT and industry leaders like Control Techniques.