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**Engineering leader supports industrial experience for university students**

Global engineering company, [Renishaw](https://www.renishaw.com/en/graduates--6875?utm_source=CS&utm_medium=PR&utm_campaign=REC447), is collaborating with [Loughborough University](https://www.lboro.ac.uk/study/undergraduate/courses/a-z/mechanical-engineering-beng/) to provide industry experience to students completing their undergraduate mechanical engineering degree module. As part of the module, students are given the opportunity to gain expertise and knowledge from current Renishaw graduates and senior management, developing their presentation, problem-solving and teamwork skills.

**Background**

Loughborough University can trace its technical roots back to 1909, when it founded an institute to teach technical subjects, such as engineering. The university has since grown to be one of the largest engineering universities in the UK, offering a range of degrees that rank highly in league tables, such as mechanical, electrical and building engineering.

Loughborough University’s mechanical engineering degree includes an optional placement year, but for students who do not choose this option, it is also offers an industrial placement module to its second-year students. The module gives students the opportunity to collaborate as a team on real-life projects and gain valuable insight and knowledge from large engineering businesses. They are also supported by the module convenors and some fourth year Loughborough students.

**Challenges**

Data from Engineering UK’s report ‘*The State of Engineering’* showed there is an annual demand for 124,000 engineers and technicians. In the current market, there is an anticipated shortfall of around 59,000 engineering graduates and technicians, causing a large skills gap in the industry. It is therefore important that undergraduates gain the skills and practical knowledge during their degrees to quickly thrive in their first roles. Having greater industry knowledge allows them to quickly apply their theoretical knowledge to practical situations.

One way to gain knowledge and reduce the problems caused by an industry skills gap is through real-life industry experience. Unfortunately, adding an additional year placement to an undergraduate degree may not suit all students' financial situations or their career and life aspirations. Undergraduate students still need to gain experience during their period in full-time education, so they need the option to enrol on industrial modules to gain the industry experience, without adding an additional year to their studies.

“Students who do not complete an industrial placement year need exposure to real industrial experience that helps them apply what they learn during their degree to future real-life engineering projects,” explained Dr Manuela Pacella, Lecturer and Programme Leader of the Manufacturing degrees at Loughborough University. “It is therefore crucial to expand their practical employability skills by finding complementary solutions that allow the students to gain the vital industry experience, embedded through their degree programmes.”

**Solution**

Renishaw has invested heavily in its early career programmes since 1979 to support the future of its workforce. Most of its education outreach programmes take place with schools in Gloucestershire, Bristol and South Wales where its main UK operations are located. To further its outreach and support aspiring engineers just about to enter the workforce, Renishaw decided to reach out to Loughborough University, a pioneer in STEM education. This collaboration ensures recent graduates are knowledgeable and skilled, even before their first day at work.

At the start of the module, five Renishaw graduates present the students with four real-life projects that have challenges to solve. The students can ask any immediate questions before they are tasked to come up with initial solutions. The groups of students present their ideas to the Renishaw graduates and are given feedback and pointers about which of these they should develop and how Renishaw’s customers might respond to their suggestions.

The students continue to work on the project, with the support of the Renishaw graduates and some fourth year mechanical engineering students at the University who are taking a leadership module as part of their degree. The second-year students then present a feasibility report about their chosen solution and are given more in-depth feedback about their ideas. A few months later the students present a final solution presentation and report to Loughborough’s module supervisors, the Renishaw graduates and senior engineering managers at Renishaw.

“Watching the final presentation gives us an opportunity to see the promising new talent that Renishaw so strongly values,” explained David Miles, Manufacturing Engineering Manager at Renishaw. “We can also get to fully understand the student’s innovative solutions and see how we can implement some of them into the business.”

Miles continued, “Loughborough University offers excellent manufacturing and mechanical engineering degree courses, so this collaboration is a great opportunity for the undergraduates and our own graduates to develop and learn new skills, such as presenting, problem solving and mentoring.”

**Results**

Renishaw has now been collaborating with Loughborough University for five years.

“The collaboration has exceeded Renishaw’s initial aims because the students gain an understanding of what the industry is like and complete projects that help to solve the types of real-life problems that they are likely to face in their future careers,” explained Ben Grimshaw, Graduate Manufacturing Engineer at Renishaw. “Mentoring the students helps contextualise their theoretical degree knowledge in a real-world environment. The scheme has also given me the opportunity to develop my own mentoring skills and pass on my knowledge to the next generation of engineers.”

The largest benefits from this collaboration are the student’s improved development, employability skills and industrial knowledge. The undergraduates have been given the opportunity to connect with a global engineering business and potentially progress their engineering career by choosing to apply for Renishaw graduate schemes.

“This module has improved my teamwork skills because I am collaborating with other students to come up with the most effective solution to an industry challenge,” explained Chris Entwisle, Undergraduate Mechanical Engineer at Loughborough University. “At the start of the module, I expected the project to be a time intensive challenge. However, with the support from Renishaw and my university lecturers, our team used our newly developed management skills to solve the challenge in a timely and collaborative way.”

“The industrial experience module has allowed me to gain invaluable experience with Renishaw,” commented Oli Taylor, Undergraduate Mechanical Engineer at Loughborough University. “The module exposes us to industry early on in our degrees and helps us learn what is expected of us in our future careers. The real-world challenge also made me apply my learnt knowledge and consider the wider implications of Renishaw’s projects, such as mass manufacturing and costing.”

“During the module, Renishaw graduates have the opportunity to talk with our Human Resources department and highlight any promising students who are interested in joining Renishaw,” explained Grimshaw. “The students and Renishaw both benefit from the collaboration because the students’ innovative ideas can be implemented into our business and the students can start on the right path for their future career.”

“Renishaw has seen many positive outcomes from this collaboration, such as Loughborough University students who have taken the module successfully applying to our engineering graduate schemes,” concluded Miles. “This is a collaboration Renishaw will certainly continue and develop over the coming years.”

To find out more about Renishaw’s engineering graduate schemes, visit [https://www.renishaw.com/en/graduates--6875](https://www.renishaw.com/en/graduates--6875?utm_source=CS&utm_medium=PR&utm_campaign=REC447).

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**Notes to editors**

UK-based Renishaw is a world leading engineering technologies company, supplying products used for applications as diverse as jet engine and wind turbine manufacture, through to dentistry and brain surgery. It has over 4,500 employees located in the 37 countries where it has wholly owned subsidiary operations.

For the year ended June 2020 Renishaw recorded sales of £510.2 million of which 94% was due to exports. The company’s largest markets are China, the USA, Japan and Germany.

Throughout its history Renishaw has made a significant commitment to research and development, with historically between 13 and 18% of annual sales invested in R&D and engineering. The majority of this R&D and manufacturing of the company’s products is carried out in the UK.

The Company’s success has been recognised with numerous international awards, including eighteen Queen’s Awards recognising achievements in technology, export and innovation.

Further information at [www.renishaw.com](http://www.renishaw.com/)