

Teaching Excellence Case Study

Real-world group projects in industrial product innovation

Practitioner: [Patricia Ashman ab7176@coventry.ac.uk](mailto:Patricia.Ashman@coventry.ac.uk),

Nick Golsby ab9617@coventry.ac.uk, and David Parfitt ac0783@coventry.ac.uk,

School of Mechanical, Aerospace and Automotive Engineering, Faculty of Engineering, Environment and Computing

Courses: BEng/MEng Mechanical Engineering; BEng/MEng Automotive Engineering

Student level: Undergraduate (Level 6)

LINKS TO EDUCATION STRATEGY PILLARS

- Embedded employability
- Community contribution and responsibility
- Creativity and enterprise

AIMS

The course team wanted students from both courses to be able to develop their **professional and technical skills** in a real-world, but “safe”, environment.

ACTIONS

A range of semester-long projects were devised in which students would work to solve **real-life challenges for industry clients**. Participating companies were sourced via professional networks (e.g. Jaguar Land Rover, Lotus Cars, Tata, AGA) and a wide range of projects were identified. In each case, students would need to engage with all aspects of **product development**, from design concept to launch (e.g. computer aided simulations, manufacturing analysis, business case presentation). Students were presented with the list of projects, and formed groups of four based on whichever initiatives appealed to them.

IMPACT

Multiple stakeholders have reaped rewards from the scheme. Students are able to **enhance their professional networks and skills** (e.g. teamwork, communication, technical). Indeed, the projects often help students to determine their future career path. **Employers** are able to benefit from students’ solutions to their challenges, as well as gaining access to a pool of talent for future student placements and longer term employment. A PhD studentship has even been established with one participating company.

Meanwhile, **CU alumni** have been able to bring projects back to the university, acting as mentors and/or leading initiatives with existing students. This supports their professional development after graduation (e.g. it may support their application for chartered engineer status).

There is considerable potential to **scale up the model**. Currently, plans are being developed to sell student projects to companies, and to develop **international variants** of the scheme, as well as **cross-faculty versions**.

STUDENT FEEDBACK

- “Working in a team helped me to understand the importance of **communication**, giving feedback and treating people with respect. Gaining real industry experience also helped to inform my **career choice**. I have been able to draw upon the project in interviews and on my CV, and I now have a graduate job lined up.” - [Joyce Tang](#)
- “It was great to gain insights into all stages of the **manufacturing cycle**, and to have the opportunity to influence the process- even when things went wrong, we could decide how to improve! It was really valuable to ‘**learn by doing**’ and this increased my confidence as well as technical skills.” - Emily Leather

FEEDBACK FROM CLIENTS

Clients were very impressed by the **degree of industry readiness** that the students had already attained. They commented that the students demonstrated **high levels of competencies**, especially their understanding and application of computer aided engineering software.

TOP TIPS

- **Reach out to colleagues** to tap into their networks (e.g. on LinkedIn)--you may be surprised just how extensive these are! You could also use LinkedIn to advertise the opportunity to businesses, as the course team did [here](#).
- Take advantage of the support offered **by professional services teams** (e.g. EEC Futures) to help source further industry contacts.



Students at Lotus Cars HQ. Image: Patricia Ashman.