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Students have designs on fire safety

Innovative equipment designed by students at Northumbria University could soon be used by firefighters across the country thanks to a partnership with an international safety technology company.

Students from Northumbria's School of Design have been working with Draeger Safety UK and Tyne and Wear Fire and Rescue Service to create innovative new products, which will allow firefighters to communicate with each other safely while working.

The student teams pitched their ideas to project sponsors Draeger during an event at Byker Community Fire Station, in Newcastle, with the top three

designs being selected and progressed into working prototypes.

Senior Lecturer Simon Scott-Harden and Matthew Lievesley, Director for Engagement and Enterprise at Northumbria's School of Design, worked together to co-ordinate the project.

Matthew explained: "Design is a process that begins by understanding the needs of people working in real situations, so a design challenge such as this is fantastic experience for our students, and being able to work alongside industry experts and the firefighters themselves has been of huge benefit."

At the start of the project, the students were visited by members of Tynemouth Community Fire Station's Green Watch and given the chance to try out the safety equipment currently used, as well as ask questions about the conditions faced by firefighters at the scene of a fire.

Northumbria student Siyi Gu said: "When the firefighters visited, our team were surprised at how heavy the equipment they use is. There is almost no space for them to carry more fire-fighting tools, so we wanted to make a positive difference to their high risk work through our design."

Fellow student Dylan Wiener added: "The opportunity to design for a profession that operates in some of the most high-pressure environments was really exciting and an incredible opportunity to gauge just how much thought has to go into making sure these products work day-in and day-out."

Mark Hayes, Station Manager at Byker Community Fire Station, said: "It was an absolute pleasure to be involved in this project and to see so many young people positively engaged in furthering their education.

"I was very impressed with the research the students put into understanding the work we do and the challenges we face as firefighters. They had considered the need for practical robust solutions to using equipment in hostile environments and their finished designs reflected this."

During the design process, students were also supported by Draeger's design team, who gave an initial brief and then provided feedback at the halfway stage. The final designs were then presented to Draeger's Product Designer Jason Allan and Systems Engineer James Docherty, who will now chose a

number to take forward in the next stage of the project.

Jason said: "It's obvious that the students have enjoyed working on the project and have given serious consideration to the concepts that they have proposed. They have displayed considerable creative skill as well as the ability to thoroughly research the technical requirements and the habits and preferences of the firefighters. I think it is fair to say that the quantity, quality and variety of work produced has been first class and I am really looking forward to the next phase of the project."

Speaking about the experience, student Harriet Johnson said: "As an aspiring Industrial Designer, working on a real-world challenge alongside Draeger has been a very beneficial and exciting opportunity, resulting in helping me to build and develop my design skills and also aiding me in becoming better prepared and ready for industry."

Fellow student Oliver Rees added: "Working alongside Draeger was extremely beneficial. It gave us a professional insight into the way design projects in the real-world are approached and how crucial aspects of research have such a big impact on the way the user feels, the overall outcome and the experience made."

In total, 36 second-year Design for Industry students took part in the project, working in 12 teams of three. This is the second time Northumbria has worked with Draeger on design projects following a successful partnership two years ago.

This most recent project involved addressing design challenges such as finding materials that not only withstand high temperatures and standing water, but are also anti-static and non-sparking to reduce the risk of igniting gases. The students also had to consider how firefighters work in the urgent and disorienting environment of a fire-scene.

Matthew Lievesley said: "When we have the support of a company like Draeger, the students benefit from a richer learning experience, a real-life challenge and research input from their tutors, as well as a wealth of expertise from Draeger and the Fire and Rescue Service.

"It is fantastic to think that firefighters up and down the country could soon

be using sophisticated Draeger communications equipment, which incorporates the innovative work of students here in the Design School.

“We are very grateful to both Tyne and Wear Fire and Rescue Service and Draeger Safety UK for their support with this project and are very excited about seeing how the designs progress.”

To find out more about Northumbria’s Design for Industry course visit <https://www.northumbria.ac.uk/study-at-northumbria/courses/design-for-industry-ba-hons-uusdfi1/>

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