



ACCELERATE. INNOVATE. COLLABORATE.

BLAZING A TRAIL

Hull-based iMist make fire suppression systems to protect homes and businesses around the world. Their systems use just 10% of the water required by traditional sprinklers, so they're already doing their bit for the environment, but they want to increase their sustainability and adaptability by bringing their component testing and design in-house.

Can the Aura Innovation Centre help them with the engineering knowledge and resources they need to do this?

CASE STUDY: iMist

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THE CHALLENGE

Money to burn.

There's a lot of regulation in the fire suppression industry and, understandably, a huge emphasis on safety.

This means that all the components that iMist use in their systems have to be independently tested. This can be really costly - nearly £200,000 for one component to be tested for the UK market - so iMist need to make sure they have complete confidence that the components they use are up to spec.

They currently buy in components from external companies, but this means issues in product quality and timescales are out of their control, as well as making them vulnerable to disruptions in the supply chain - and the pandemic and Brexit have shown us recently how damaging supply chain issues can be.

iMist want to develop the ability to design and test their components in-house. This will allow them to design, innovate, test and build components themselves, as well as make them more sustainable by using less material, water and energy.

THE SOLUTION

A baptism of fire.

The ideal solution would be for iMist to develop its own test rig. But this would involve months of work, and specialist expertise.

Aura's Innovation Manager Anthony Harford met with iMist CEO Tony Sims to see if the University of Hull could help. They found that certain skills found in the University's Faculty of Science and Engineering would be ideal. Louis Johnson, an Engineering Masters student, was assigned the project, supervised by Professor Philip Rubini. Louis's background in computer-aided design (CAD) and project management made him the perfect fit to work on this complex project.

The team brainstormed ideas for a bespoke, computer-controlled rig for testing components to their limits, so iMist could design, test and adapt parts of their system.

THE RESULT

Getting along like a house on fire.

The iMist team now know what they want, but how can they bring it to life?

Over several months, Louis created a CAD model, then designed, assembled, tested and commissioned the physical rig. Now iMist have their own testing rig in-house, and can rapidly innovate, and reduce their overall carbon footprint.

Component design is faster, so they can adapt quickly to changing demands, and building their own parts gives huge financial and carbon savings.

"Having our own test rig will save us £500,000 in the first year and transform our innovation capacity, costs and market confidence," says Tony Sims, iMist's CEO.

"Working with academics from the University of Hull through the Aura Innovation Centre has been so important to the future and growth of our business. If you want to be the best in your field you really do need the help of the best people - the guys who do R&D for a living and who can help smaller companies like ourselves to innovate and lower our carbon footprint through applied science."

Professor Rubini added: "This is about more than just a smart engineering solution, this has provided an opportunity for one of our students to work on a real industry challenge. It is about working with business to find innovative solutions to climate change challenges."



LEAD ACADEMIC/ RESEARCHER

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