Innovation

OxonGreeve | Mid and West Wales Fire and Rescue Service

Improving the safety of firefighters with digital tracking technology.

Key achievements:

- Significant investment of – aligning closely with the Welsh Government's Economic Action Plan to increase the number of public contracts won by Wales-based business.

- Collaborative partnership developed from the GovTech Challenge – demonstrating shared goals and ambition to succeed, in line with the aspirations of the 2015 Wellbeing of Future Generations Act for a more prosperous Wales and sustainable communities.

Every year, the UK's Fire and Rescue Service tackle over 55,000 incidents inside buildings or structures, but until recently, operators have been unable to monitor and track the location of the firefighter crew in real time.

Tragic incidents such as the Manchester Arena bombing and Grenfell Tower fire in 2017 have brought firefighters and emergency responders into extremely dangerous environments, making it increasingly important to have abilities to live-stream the location of staff in unknown hazardous locations.

As a result, in November 2017, a new challenge was developed and commissioned through the *UK Government's GovTech Catalyst scheme*, which uses a £20 million fund to pay suppliers to solve public sector problems using innovative digital technology and is delivered by the Government Digital Service (GDS), as part of the Cabinet Office. In relation to the programme, UK-wide businesses were offered the opportunity to bid for a share of a £1.25 million R&D contract to develop a deployable tracking system to ensure the safety of staff at fire-related incidents. Successful bidders for the phase one of the scheme included Welshpool-based engineering company, Greeve Systems, working closely alongside project leaders from Mid and West Wales Fire and Rescue Service to develop this never-before-seen technology.

Not only did this success align closely with the Welsh Government's Economic Action Plan to increase the number of public contracts won by Wales-based business, helping organisations compete with confidence, but also secured an opportunity for Welsh businesses to be at the forefront of cutting-edge technology designed to find positive solutions to world-wide problems.

In November 2018, an international collaboration consisting of five partners – including US-based company, Brandwidth – was developed. Using a mixture of 3D mapping, virtual and augmented reality and a digital network to share live information, all partners have each been crucial to the successful solution which allows incident commanders to see through buildings and know instantly where members of their crew are in hazardous situations.

After demonstrating significant progress during phase one of this *GovTech Catalyst* Challenge, collaborative partners moved into phase two of the programme in November 2019. This step has allowed real-life firefighters and emergency services team members to trial the devices, after which it is hoped the product will be suitable for commercial use.

This second stage saw the alliance of two 'phase one' competing companies, Oxford-based Oxon Technologies and Greeve Systems (OxonGreeve), who, using multiple technologies including advanced movement measurement using advanced computer algorithms and 'bleeding' edge radar, are now working to refine the solutions devised in phase one, after being eligible to apply for an additional £500,000 in *GovTech Catalyst* funding.

Since the start of 'phase two', project leaders have widened the stakeholder and partnership base to include other UK Fire and Rescue Services — to test the solutions in real incidents and share best practice and learnings. Further support from Fire Service College, Draeger Safety Solutions and representatives of the Emergency Services Network Programme have also been acquired.

Project Timeline:

- **November 2017**: £20 million fund announced by the Chancellor, helping public sector bodies take advantage of new and emerging technologies to solve policy problems.

- **November 2018**: GovTech awarded £1.25 million to fund the Transformation2020 project, with organisations asked to apply for a share of the fund for an 'instantly deployable solution' to the problem.

- **November 2019**: were selected to progress to phase two of the programme, with an additional £500,000 funding to further and test the new tracking systems.

"Thanks to the UK GovTech Catalyst Challenge funding with support from Welsh Government, we have been able to successfully progress a lifesaving safety solution for our firefighters. The ground-breaking technology our partners have developed should not be underestimated, and we are very confident that in 12 months, we'll have commercially viable solutions to make firefighters feel much safer on operations and that they can be used by other public sector bodies who are dealing with similar circumstances in the future."

**Steve McLinden,
Transformation2020 Programme Manager & GovTech Challenge Owner**

"We were delighted to see a large number of high quality applications from suppliers across the UK for this challenge, and very excited by the prototypes we saw demonstrated at the end of phase one. We are looking forward to seeing further testing and development towards production-ready versions in phase two. We're confident we'll see truly innovative products emerge that could transform operational safety for firefighters and other first responders."

**Ian Tester,
Head of Product from the GovTech Catalyst team**

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Prosperity for All: economic action plan is the Welsh Government's national strategy. Find out more about the funding and support available from the Welsh Government:

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