

# Bristol firm partners with National Manufacturing Centre on innovative railway security project

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A fast-growing Bristol firm which specialises in Intelligent Video has partnered with the pioneering Manufacturing Technology Centre near Coventry to develop a safety system which can spot anti-social behaviour or emergency incidents on station platforms.

One Big Circle, in partnership with the MTC, was awarded the funding for the project - named Project DETER - through the Network Rail Small Business Research Initiative competition.

The competition was launched to enhance safety and reduce delays created by station incidents such as unusual, unsafe or dangerous behaviour. The OBC-MTC consortium secured a place in phase one of the competition to build and test a system on pre-recorded video data from Network Rail stations.

The consortium has now been successful in reaching the final round as one of two winners, after competing against seven other organisations across the UK. Phase two of the funding competition sees Project DETER being deployed in a real-life environment.

Project DETER (crowD bEhaviour and object dEtecton for Railway station security) uses OBC's data capture and video analysis technology – AIVR – in the development of a 'behaviour engine' alongside the MTC's research and development capability and cutting edge IT infrastructure. Advanced machine learning is used to identify unusual behaviour and suspicious objects. Once detected, the system will automatically raise alerts for station staff and enable timely and appropriate responses to ensure passenger and staff safety.

In phase two of the competition, the project team will be given access to stations, to live CCTV data feeds and to Network Rail's telecoms resource.

This will enable the team to create real time data-driven safety alerts for unusual movements, dangerous incidents and crowd flow and density.

The OBC and MTC team brings a blend of research and practical applications in a rail and real world environment. The team combines a breadth of knowledge in video analysis and applied research expertise on AI methods with a deep understanding of web-based architecture.

OBC co-founder Emily Kent said: "We are excited to work closely with the MTC on this project to improve safety and security for passengers and staff on railway platforms, and we are making significant advances despite the challenges of Covid-19. As a UK SME, combining our advanced technology with the industry reach and research capacity of the MTC has huge benefits. This will ensure we help meet the challenges faced by the rail industry, advance our growth and ultimately create more jobs and opportunities in the Bristol area."

Paulino Rocher, MTC technical liaison, said: "We're looking forward to working on the next phase of this project with One Big Circle to drive safety at train stations of all sizes. The MTC has a skilled team of data scientists that, in combination with OBC's architecture and infrastructure design and software implementation capability, can really deliver this project."

The MTC aims to provide a competitive environment to bridge the gap between university-based research and the development of innovative manufacturing solutions, in line with the Government's manufacturing strategy. The MTC is part of the High Value Manufacturing Catapult, supported by Innovate UK. Its industrial members include some of the UK's major global manufacturers.

Click [here](#) for more details.

*Photo credit: One Big Circle*

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