TARGET: realistic training through Augmented and Virtual Reality simulation

The recent terrorist attacks in London, Manchester, Nice, Brussels and Paris have re-enforced just how important it is for our police and security officers to be not only prepared, but also comprehensively trained in how to deal with both lone and multiple attackers.

Words: ***Rob Munro from ARTTIC, the TARGET Coordinator.***

Within Europe, there are only a few Member States whose police are not routinely armed, including Ireland and the United Kingdom (excluding Northern Ireland) – although specialist firearms units are of course always on standby.

A recent survey carried out by the Metropolitan Police Federation (MPF) in January 2017 on its 31,000 officers indicated a significant change in attitudes towards firearms. Of the 11,000 respondents, a total of 26 percent thought officers should be routinely armed (compared with the 20 percent who said so in an England and Wales-wide survey only last year). 43.6 percent wanted more firearms specialists within the Metropolitan Police and 75 percent believed they should all be issued Tasers as standard. However, 12 percent of respondents said they never wanted to carry a firearm on duty under any circumstances.

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Ken Marsh, MPF chairman, said the proportion of specially trained firearms officers should be doubled to 16 percent after the survey of 11,000 officers was completed[1]. The recent terrorist atrocities in London and Manchester may well add more voices to support his point of view – the following weeks and months will tell.

So although attitudes may be changing within some UK police forces, the Authorised Firearms Officers (AFOs) are highly trained individuals and actually fire their weapons very infrequently. Of the 14,753 times that armed police were deployed in England and Wales in the 12-month period to March 2016, they discharged their firearms on just seven occasions[2]. This low figure is in part because decisions on whether to open fire are primarily made through the chain of command. It is also because the police are highly trained to diffuse a potentially violent situation in other ways.

A screenshot of the TARGET system in action with the view seen through the Microsoft Hololens MR headset.

Hans-Joachim Christe-Zeyse PhD, Vice President of the Brandenburg State Police Academy and College, Germany, wears the Mixed Reality (MR) headset during a demonstration of the system at the project's General Assembly Meeting, which was hosted in June by The Institute for Public Security of Catalonia at the Catalan Ministry of the Interior in Barcelona, Spain.

Serious gaming techniques

But just as we can't afford to stand still as the threats to our civil society are constantly evolving, an innovation is taking place in how our police and other Security Critical Agents (SCAs) are trained. SCAs include counterterrorism units, border guards and first responders (police, firefighters, ambulance services, civil security agencies or critical infrastructure operators).

Innovative serious gaming techniques and a range of training scenarios are being developed as part of TARGET (Training Augmented Reality Generalised Environment Toolkit), a project that has received funding from the European Union's Horizon 2020 research and innovation programme. Using a combination of Mixed Reality, Virtual Reality and Augmented and Virtual Reality, TARGET is delivering a pan-European serious gaming platform that features new tools, techniques and content for training, but also incorporates methodology to assess the skills and competencies of SCAs.

Serious gaming is being used to create more realistic environments and conditions for training SCAs; these scenarios can then be repeated to allow objective assessment of students and will be able to be shared between SCAs across the whole of Europe – something that does not exist currently.

Augmented and Virtual Reality

TARGET will deliver an extremely realistic and flexible Augmented and Virtual Reality (AVR) simulation solution, incorporating a range of dynamic and variable scenarios. Trainees will use a combination of both real and training weaponry, radio equipment, command and control software, decision support tools, real command centres and vehicles. Social and ethical content will also play an important role throughout all aspects of the project. The project will support inter-agency SCA exercising across the EU and act as a serious gaming repository and brokerage facility for authorised agencies to share training material and maximise re-use and efficiency in delivering complex exercises.

Immersive training solution

Mixed Reality experiences will immerse trainees at operational, tactical and strategic command levels with scenarios that will include tactical firearms events, asset protection, mass demonstrations, cyber-attacks and CBRN (Chemical, Biological, Radiological, Nuclear) incidents. TARGET will deliver an extremely realistic and flexible AVR simulation solution incorporating a range of dynamic and variable scenarios. The final outcome will be a highly immersive training solution, resulting in superior and more effective training experiences for SCAs. The vision of the project is to make the TARGET Open Platform the reference for SCA training using serious gaming across Europe.

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A multi-language, online exercise creation and management tool will be available, allowing agencies throughout Europe to use the training content. Special support will also be provided to translators to assist the creation of local language versions of the training content modules.

www.target-h2020.eu

References:

1. Metropolitan Police Federation February 2017

2. Home Office July 2016

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 653350. The views expressed in this press release reflect the views of the authors. The European Commission is not liable for its content and the use that may be made of the information contained herein.