



Disaster brought to life

Incident Commander students arriving on-scene are confronted with a chaotic catastrophe. The Molenbeeke quarter, located in the Dutch city of Arnhem, has been devastated due to a massive ammunition train explosion.

The explosion has destroyed many buildings and has blown out many windows, casualties are spread all over the place and debris blocks the streets, citizens cannot evacuate easily and responders have difficulties to get to the scene with their vehicles. It is a real disaster!

Decisions are needed! Trainees have to respond, and command dozens of responding vehicles to save lives and mitigate damage. The fire service will focus on rescue and firefighting. The ambulance service will focus on conducting triage, life saving treatment, and hospitalisation of casualties. The police will guide traffic and response vehicles, as well as control the crowd, and investigate the situation.

The exercise is actually a “golden-oldie” and has been in existence for over 20 years. It has been developed as a paper-based table classroom disaster management exercise that includes a field tour of the trainees into the actual city area. The disadvantage of this exercise is that it is very hard for the instructors and trainees to imagine a citywide destruction based on drawings, text and a city tour. At the bottom of this way of

exercising is a subjective interpretation of information. Now this exercise has been transferred to ADMS (Advanced Disaster Management Simulator), which has been in use by the fire training academy NIFV (Netherlands Institute for Physical Safety) for eight years, and the exercise has now come to life. Students are actually immersed into the simulated disaster and they experience the effect of their decisions, because the virtual resources dealing with the incident are based on their commands. Good judgement results in good outcomes.

The incident scene replicates several building blocks with enormous fires that are eating throughout the city. The fire can only be stopped by the trainees deploying over 40 resources, and of course by the exercise staff, as it is designed as an educational tool to improve the learning experience. During the exercise trainees and instructors can draw on the computer-based maps, and these can be used after the exercise as part of the review.

Marco van Wijngaarden, president of ETC Simulation explains: “I remember doing this exercise myself when I was a student at the Fire Academy in 1990. Although I was also with Arnhem Fire Brigade at that time, it was still hard for me to visualise what this exercise would be like in the real world. This Disaster Area simulation is again a good example of how the use of photo-realistic virtual reality simulation can enhance the overall training experience.”

Eric Dideren, project-manager and instructor at NIFV says: “The power of ADMS-simulation lies in the fact that you can create scenarios that you would not be able to carry out in real life. Plus it provides all important indicators to make decision as an officer. Another positive factor is that instructors can focus on facilitating the learning process instead of keeping the exercise going and clarifying what the paper-based script actually means. Now there is no doubt about the common picture and the effect of the decisions.”

Above: The exercise displayed at the high-end immersion theater in the ADMS Innovation center, Orlando, Fl, USA.

Below: NIFV's new Virtual Reality Training Center in Arnhem, Netherlands.



NFIV – the lowdown

NIFV is the Netherlands national centre of expertise and consists of four Academies: Fire Academy, Academy for Crisis Management, Emergency Medical Service Academy, and Academy for Leadership. The Netherlands National Institute for Safety (NIFV) develops expertise, contributes to the professional development of the fire service, as well as delivers training on medical assistance in accidents and disasters, and crisis management.