Emergency workers and other professionals (e.g., in public transport) regularly face stressful situations in which negative emotions and time pressure often cause suboptimal decision making.

Is it possible to improve (1) security worker’s decision making behaviour in, and (2) resilience to stress induced by, crisis situations by means of an intelligent VR based training environment?

VIRTUAL ENVIRONMENT
The trainee will be engaged in a 3D virtual reality environment, while being monitored by an intelligent training agent.

PHYSIOLOGICAL MEASUREMENTS
The trainee is connected to various HCI devices to measure (physiological) states related to arousal and stress.

ANALYSIS
Data measured is used in the affective model to assess the trainee’s mental state, while the decision making model monitors whether (and why) certain mistakes are made.

SUPPORT
With this information, the scenario development module modifies the running scenario to ensure optimal learning, while the feedback determination module generates explanations of mistakes and advice to improve performance.

An iterative approach is used, interchanging development and validation per module.

DEVELOPMENT
A training environment is created to develop each of the modules separately, after which they are integrated into a single training agent.

VALIDATION
Each module, as well as the overall environment, is validated separately using three different groups of people to ensure generality.