



Photos: Harro Meijnen / Blauw

Signalling abnormal behaviour to prevent attacks

The European Patents Office recently received the TNO invention that can predict abnormal behaviour as a method that can help prevent attacks. A smart combination of technologies and expertise on human behaviour will result in new security concepts in the near future.

About a year ago TNO unveiled a system whereby the computer could interpret abnormal behaviours using video images. A lot of progress has been made since, with TNO experts in human, and especially abnormal, behaviour becoming involved in the project. This has created a much more comprehensive and refined method. Very recently TNO gave a presentation to a delegation from the NCTb (the national coordinator for counter-terrorism), including the coordinator himself, Erik Akerboom.

BREAKTHROUGH

TNO researchers Dr Gertjan Burghouts, specialist in observation systems and head of the project 'Hostile Intent' aimed at interpreting behaviour via the computer, and Maaïke Lousberg, expert in human behaviour, work with their colleagues on something that should become an international breakthrough in this field.

Burghouts: 'To develop intelligent software that enables the computer to recognise particular behaviours is already something special. Our colleagues have also compiled a list of nearly two hundred abnormal behaviours. This combination produces surprising new insights.'

Lousberg: 'Since we can combine knowledge of people and technology at TNO, we can make huge leaps forward. Very shortly – the deadline is the end of April – we will be approaching private and public parties to advance the development of the technology and to get it commercialised. The key, of

course, is to make the world a safer place, and in doing so help industry to innovate.'

A COMPREHENSIVE APPROACH

Recently TNO has been working with the NCTb, the police academy, the Royal Military Police, police departments and security experts. Many have become convinced that the prevention of threats and attacks is not so much a question of detecting weapons, liquids or powders but the quick recognition of people that may have evil intent.

Lousberg: 'We have scientifically classified almost two hundred behaviours. Someone's posture, body language or appearance may point to abnormal behaviour, like wearing sunglasses indoors or paying excessive attention to the work of security guards. We have also identified how people treat their baggage: leaving it in the wrong place, the incongruity between the kind of baggage and its weight or constantly checking the baggage. The idea is that the computer will be able to recognise combinations of this kind of abnormal behaviour from camera images and raise the alarm.' The people, in this case the security guard, are still indispensable despite the use of intelligent technologies. If the computer signals something, action is still needed.

'It is a combination of scientific research, the use of technology and human factors and action that makes our approach unique. The whole world is searching for solutions in sensors and detection but we have taken a comprehensive approach. That explains the international interest and our collaboration with the Dutch Ministry of Defence and the NCTb,' say the two TNO experts.

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