News Brief

Tracense Develops New Explosive Detector

Scientists at Tracense, a technology company in Tel Aviv, Israel, created a new nanotechnology explosive detector. Tracense CEO Richard Osiroff says the apparatus can detect even the smallest explosive material.[1] According to the *Counter IED Report*, the new device has an electronic chip that detects airborne traces of explosives at concentrations as low as several molecules per quadrillion.[2]

A team of researchers, directed by Professor Fernando Patolsky of the chemistry department at Tel Aviv University and its Center for Nanoscience and Nanotechnology, helped develop the nanosensing technology.[3] Capable of detecting specific smells, the detector is built with a system of receptors that detect explosive chemicals by observing how molecules bind to each receptor.[1]

With its high level of accuracy and sensitivity, this laptop-size portable detector can instantly pick up chemical traces of explosives in devices that stronger chemicals would otherwise hide.[3] Patolsky says his team is working on making the technology the size of a mobile phone.[4] Current methods of detection can be bulky, tedious to prepare and may only detect a few types of explosives.[5]

Since its creation, the detector found TNT, cyclonite and octogen, as well as peroxide-based explosives such as acetone peroxide and hexamethylene triperoxide diamine, illustrating its ability to detect military and commercial explosives as well as homemade devices.[2]

Trancense is working to develop more sensors to meet growing needs of public safety, security and threat detection.

See endnotes page 65

~ Julie Hirschhorn, CISR staff