

CLEAR-USE™ THREAT DETECTION SYSTEM

Detects and reports explosive and radiological threats in public transit settings

Cubic Security Systems has teamed with prime contractor Mobile Detect Inc. of Ontario and Raptor Detection Technologies of Maryland to develop a radiological and explosives detection system to meet the unique security needs of public transit.

Public transport moves many more passengers than commercial aviation each year, but has not adopted airport-style threat screening technologies for a number of reasons. One important reason is that passenger throughput and convenience are paramount in public transport operations – slow and intrusive detection systems simply won't work.

The CLEAR-USE™ molecularly imprinted polymer optical explosives and radiological detection system is designed to help both safety and law enforcement teams to prevent/deter and to identify and respond to threats from chemical, radiological and explosive weapons in public transit settings. It is being tested and analyzed in Edmonton, Canada in 2012 under a Canadian government-funded pilot program.

The CLEAR-USE solution includes both radiological and explosives detection sensors and a back-end central command security software system which has the capability to send alerts to safety, security and or law enforcement personnel.

For the Edmonton pilot, existing ticket validators were modified to include the CLEAR-USE explosives analyzer validator. While the existing machines simply date/time stamp a ticket without taking it from the passenger's hand, the modified machines take the ticket from the passenger's hand, laminate it inside the machine with a polymer coating required for explosive residue detection and return it to the passenger with a date/time stamp.

The Cubic analyzer validator has the capability to scan, analyze and process geometric and color changes on the molecularly imprinted polymer coating to detect potential threats. The system uses the jointly designed Cubic and Raptor Detection Technologies polymer tape, the SAFE-T®, which has the capability to identify multiple types of explosives threats on a single ticket. CLEAR-USE then links with Mobile Detect's monitoring and reporting software to transmit threat information in real time to transit security and

Continued on back



The CLEAR-USE™ system starts out with an ordinary transit ticket like that pictured at top. Public transit patrons insert the ticket into a specially modified validator where it is laminated with a polymer that has the capability to detect explosives. If a threat is identified, the system transmits an alert to security and law enforcement terminals and mobile devices. Another layer of security is provided by passive radiological threat detectors located in transit ticketing machines.



Continued from front

to law enforcement via high-speed wired and wireless networks, including smartphones.

The CLEAR-USE system works in conjunction with Mobile Detect's passive RadWatch™ gamma radiological detection technology. RadWatch detectors were integrated by Cubic within the ticket vending machines. When the machines are exposed to even small amounts of radiation, the detector uses TAGS™ to determine whether the radiation is of the type used in nuclear medicine procedures. If the amount of radiation is normal for medical treatment, the system notes it but doesn't issue an alert. If so, the system notes the detection but doesn't issue an alert. If the radiation is determined to be from an illicit source, the system sends an alert to authorities.

CLEAR-USE system has been compared to a silent smoke detector. It creates near-zero complications or time intrusion for citizens, passengers or operators, and sends notification to authorities instantly when an alarm is triggered, providing early warning critical response information. The technology is a significant step towards making public transit safer. It has worldwide potential in other applications such as Border Protection, Building Security and Aviation Security. For example, the CLEAR-USE and RadWatch threat detection equipment could be used to scan boarding passes for explosives traces and also to identify radiological threats. This technology would be less costly, less invasive and also less arbitrary than current passenger screening procedures, without issues of profiling.

