

## Logan looks for new ways to catch terrorists

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After terrorists hijacked two planes out of Logan International Airport and crashed them into New York's World Trade Center in 2001, well-meaning and entrepreneurial vendors and inventors started coming forward with products and ideas to improve airport and port security.

Some of the ideas initially proposed just didn't work.

So, with no vetting process in place, in 2002 the Massachusetts Port Authority formed the Center of Excellence to test and evaluate them. A wealth of potential technological advances was at play, and MassPort could offer an airport, cargo container terminal and its own experience to put ideas to the test.

"The intellectual energy in this area is phenomenal," said Dennis Treece, Massport director of corporate security. "They have all that technological expertise, but they don't have an airport. Their ideas might not have any utility in our world, and that's the thing they don't know."

Companies and inventors start the process by submitting a white paper outlining their technology or suggested new process and what problem it will resolve. It's not necessary that the products be tailored for Massport use.

"If it helps the security of this port authority or this country, then we want to help them," said Treece, a 30-year U.S. Army veteran and colonel who worked in military intelligence. "They can come, they can fail, no problem."

Facial-recognition technology was one of the first things that Logan tested prior to starting the Center of Excellence, and what happened validated the need for the formal screening process, according to Treece.

"First of all, it didn't work very well," he said. "But it wouldn't have found terrorists anyway, because no one had pictures of the terrorists."

Most proposals filtered through the center are discarded because Massport invested heavily in new security technology after the terrorist attacks. "Some things scare lawyers as well," Treece said.

So-called layered voice analysis technology - developed by Madison, Wisc.-based Voice Analysis Technologies LLC - can determine if a speaker is under mental stress and what words trigger it.

Prisons use the product, as do insurance companies to detect customer fraud during phone conversations.

Massport tested the technology in 2006 and 2007, and the Transportation Security Administration is considering using it when its workers verbally interact with airport passengers. Treece also is hopeful that the State Police troop that protects Massport properties will adopt the technology.

"It listens better than any cop could listen, and it listens at fundamentally different levels," he said. "It helps you know what the next question ought to be."

Massport also is planning a pilot program with the Coast Guard to deploy what's known as a passive Fourier transform infrared spectrometer. Its developer claims the instrument can detect chemical weapons and other biohazards based on their molecular structure. The Coast Guard would use it to check cargo containers headed into the port of Boston.

"This device actually sees (the biohazards) optically, which means you can do it from a distance," Treece said.

Last year, Logan tested a counter-flow technology system, developed by Natick's Cognex Corp., that helps detect passengers who walk out of secure airport areas and try to re-enter through exit lanes. Such a situation requires Logan to shut down the secured area and stop planes from taking off until the person is located, and it's determined whether they're a security threat. The system includes audible alarms and cameras that produce video and still photos of the offenders, who often prove to be innocent.

"It worked brilliantly, and we're buying three," Treece said.

Massport's Center of Excellence is believed to be one-of-a-kind. "Other ports try things from time to time, but they don't have a (formal) program like this," Treece said. "That's the difference."

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