

New scanner aims to make liquids on planes safer

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Writer



Stephen Surko, program manager of the Homeland Security Advanced Research Projects Agency, explains during a demonstration in Albuquerque, N.M., on Wednesday, Oct. 13, 2010, the workings of a new machine developed at Los Alamos National Laboratory that can detect whether a passenger is carrying liquid explosives. (AP Photo/Susan Montoya Bryan)

The latest airport security technology being developed at Los Alamos National Laboratory could open the door for airline passengers to bring their soft drinks and full-size shampoo bottles on board again.

Homeland security officials put the latest generation of the bottled liquid scanner to the test Wednesday during a demonstration at Albuquerque's international airport. Everything from bottled water and champagne to shampoo and pink liquid laxatives were scanned to make sure explosives

weren't hiding inside.

The device, about the size of a small refrigerator, uses [magnetic resonance](#) to read the liquids' [molecular makeup](#), even when the substances are in metal containers. Within 15 seconds, a light on top of the simple-looking metal box flashes red or green, depending on whether there's danger.

The device is so sensitive it can tell the difference between red and white wine, and between different types of soda.

"What we're doing is really looking for the real dangers, like liquid homemade explosives," said Stephen Surko, program manager of the Homeland Security Advanced Research Projects Agency. "We're just real excited at the progress we're making."

The technology is still a few years from being deployed in the nation's airports, where fears of liquid explosives have stopped passengers from bringing more than small amounts of lotions and other toiletries in their carry-on bags. Surko said the lab will have to partner with a manufacturer, and the machines will have to go through testing and certification.

With the bottled liquid scanner, Surko said Transportation Security Administration officers would be able to quickly check the liquids that are allowed in carry-on luggage. If the technology is successfully implemented, it may eliminate the need for passengers to stuff all their toiletry bottles - each no larger than 3.4 ounces - into a single quart-sized plastic bag.

Travelers had gotten used to being scanned, swabbed and patted down since the 9/11 attacks, but it was an alleged plot to blow up 10 trans-Atlantic airliners with liquid bombs in 2006 that prompted the U.S. to

clamp down on liquids.

The restrictions have inconvenienced passengers and resulted in longer lines, but officials at the demonstration acknowledged they have yet to achieve what they call a full measure of security.

Several passengers flying out of Albuquerque got a sneak peak of the new technology as they were passing through a security checkpoint. Most said they would feel better if the liquids allowed on a plane could be scanned, but they also hoped that the technology would some day allow them to take their drinks along.

Barbara Riegelsberger of Cleveland, who travels several times a year, said she has become accustomed to the hassles of packing her shampoo and leaving behind her water bottle.

"I'm willing to do what I need to do to be safe," she said.

Tomas Hora, a balloon pilot from Germany who was in Albuquerque for an international balloon event, doubted whether the new technology would make things safer.

"It won't make a difference," said Hora, who was traveling with his wife and young child. "I think if somebody wants to do harm to an airplane, he can do harm no matter the security you do here at the beginning."

Federal officials are hoping otherwise. They have already spent more than \$14 million developing the liquid scanners, and the Obama administration has committed tens of millions of dollars to deploy more state-of-the-art equipment to U.S. airports, such as body-imaging scanners and chemical analysis machines that check for explosives in medically necessary liquids like prescription drugs.

Over the last two years, researchers have been able to make the bottled liquid scanner about 90 percent smaller and six times faster. The goal is to make it even smaller so it can fit beside other equipment at airport checkpoints.

Los Alamos scientist Michelle Espy said she knows what it's like to be in a checkpoint and have her young daughter's bottle taken away.

"This would be a very great solution, a quick solution," she said.

"Obviously, the end goal is to be able to seamlessly, without slowing anything down, just let people take their liquids on."

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