

Top 10 Reasons Why Checkpoint Security Scanners/Screeners Fail to Accurately Detect Explosives and Weapons:

Despite millions of dollars spent on R&D and upgraded scanner equipment since 9/11, airport security checkpoints have repeatedly failed to detect explosives and weapons. Here are some reasons why:

- 1) Scanner manufacturers' operator assist threat detection functionality generates such a large volume of "false alarms" that TSA deactivates it, leaving threat identification to screener personnel.
- 2) TSA does not require checkpoint scanner hardware to have explosives or weapon detection capabilities or meet any threat detection accuracy standards.
- 3) Many explosives or threat items can be molded or integrated into common non-threat or undefined shapes, making screeners' shape recognition capabilities ineffective.
- 4) Most explosives are organic. Scanners colorize organic items, but cannot distinguish between organic threat/non-threat items of similar densities. Explosives are easily mistaken for cheese, honey, chocolate, water, peanut butter and other common organics in scanned images.
- 5) Dense objects can cover or hide threat items in scanned images.
- 6) A [study funded by the Department of Homeland Security](#) found that when something, such as explosives, is difficult to find and is found only rarely, screeners are more likely to fail to find it when it is present. ([NPR story](#))
- 7) Cluttered baggage makes it easy for threat items to blend in within scanned images.
- 8) Millimeter wave scanners cannot accurately detect low-density materials such as liquid, powder and thin plastic explosives, according to [studies](#) by a leading British defense research firm. When they make low-density clothing invisible in order to see items underneath, they also make the low-density threat items invisible.
- 9) Scanners can't accurately distinguish between water, liquid explosives or other liquids and human screeners can't make that distinction from scanned images because they often appear so similar – even when they are in 3-oz bottles of liquids allowed by TSA's 3-1-1 liquid carry-on rule.
- 10) Distractions, eye fatigue, inexperience, inattentiveness and boredom often cause screeners to fail to detect threats even when they are visible in the scanned images.

As part of a comprehensive security program, baggage scanners and whole body imagers are needed...they just need to add advanced image analysis capabilities.

Advanced machine recognition/image analysis software is the ONLY SOLUTION today that can reliably and consistently detect explosives and weapons in scanned images; compensating for scanner limitations, the limits of human vision and operator inexperience, inattention, visual fatigue, and level of training.

Guardian Technologies International's security team members are available to serve as expert resources on security screening and explosives detection challenges and solutions.
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