

# Advanced THz Imaging Systems to Intercept Soft Target Attacks and Facilitate Rapid Response

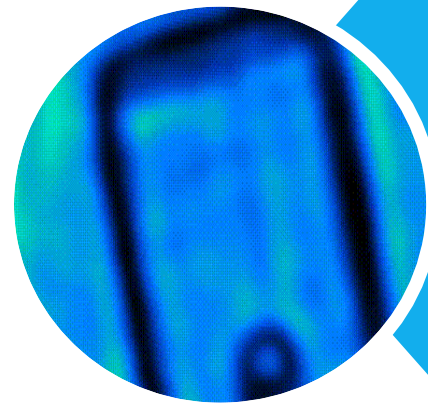
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# Detecting Threats Concealed in Physical Goods

*Revealing hidden threats and illicit items **BEFORE** they become a problem with advanced THz imaging and automated response systems.*

## Space:

- CBRNE threats, drugs, and illicit items concealed in mail and physical goods.

## Problem:

- Threats and hoaxes delivered to facilities undetected **10 times per day** on average according to **2021 USPIS<sup>[1]</sup>** and **USBDC<sup>[2]</sup>** data.

## Solution:

- Desktop THz scanners provide real-time imaging of concealed items.

## Results:

- Detection of all 9 DHS-listed hazardous substances contained in mail.
- DHS **Safety Act Designated** Qualified Anti-Terror Technology (QATT).

## TRL:

- TRL 9
- Used by Government and Fortune 500 customers across 4 continents.

[1] <https://www.uspis.gov/wp-content/uploads/2022/07/USPIS-FY2021-Annual-Report.pdf>

[2] <https://www.atf.gov/explosives/docs/report/2021explosivesincidentreporteirpdf/download>

# USDHS Screening Guidelines

## Technology Gap

Table 5-1. Common Screening Technology Applications

Rapid Screening  
Solution

SUBSTANCE	VISUAL INSPECTION	AUTOMATIC SENSORS	HANDHELD SENSORS	CANINE TEAMS	X-RAY SCANNERS	AIR SAMPLING SYSTEMS	CDC LRN® Tests	AUTOMAT IC BIO ID SYSTEMS
Chemical	X	X	X	GAP		X		
Biological	X	X	**			X	X	X
Radiological		X	X					
Nuclear		X	X					
Explosives	X	X	X	X	X			
Dangerous Items	X				X			
Contraband	X		X	X	X			
Suspicious powders	X	Most Postal Threats		GAP			X	
Threatening Content	X							

Current Solutions



Best Practices for Mail Screening and Handling Processes: A Guide for the Public and Private Sectors

September 27, 2012  
1st Edition



Homeland Security



Interagency Security Committee

# Seeing Inside Mail Items with Safe T-Rays

## RaySecur Terahertz Imaging

Easily scale to every facility across the organization.



50 mg Powder in Motion



Liquid in Motion

## The Future of "Seeing Inside"

X-Ray-like imaging without harmful x-rays.

### Conventional X-Ray

120 Years Old

Ionizing Radiation

Static 2D/3D Images

Trained Operator

Detect 30,000+ mg powder or liquid

### RaySecur THz

Emerging Tech + AI

Safe Radio Waves

Real-Time 3D Video

Anyone Can Use

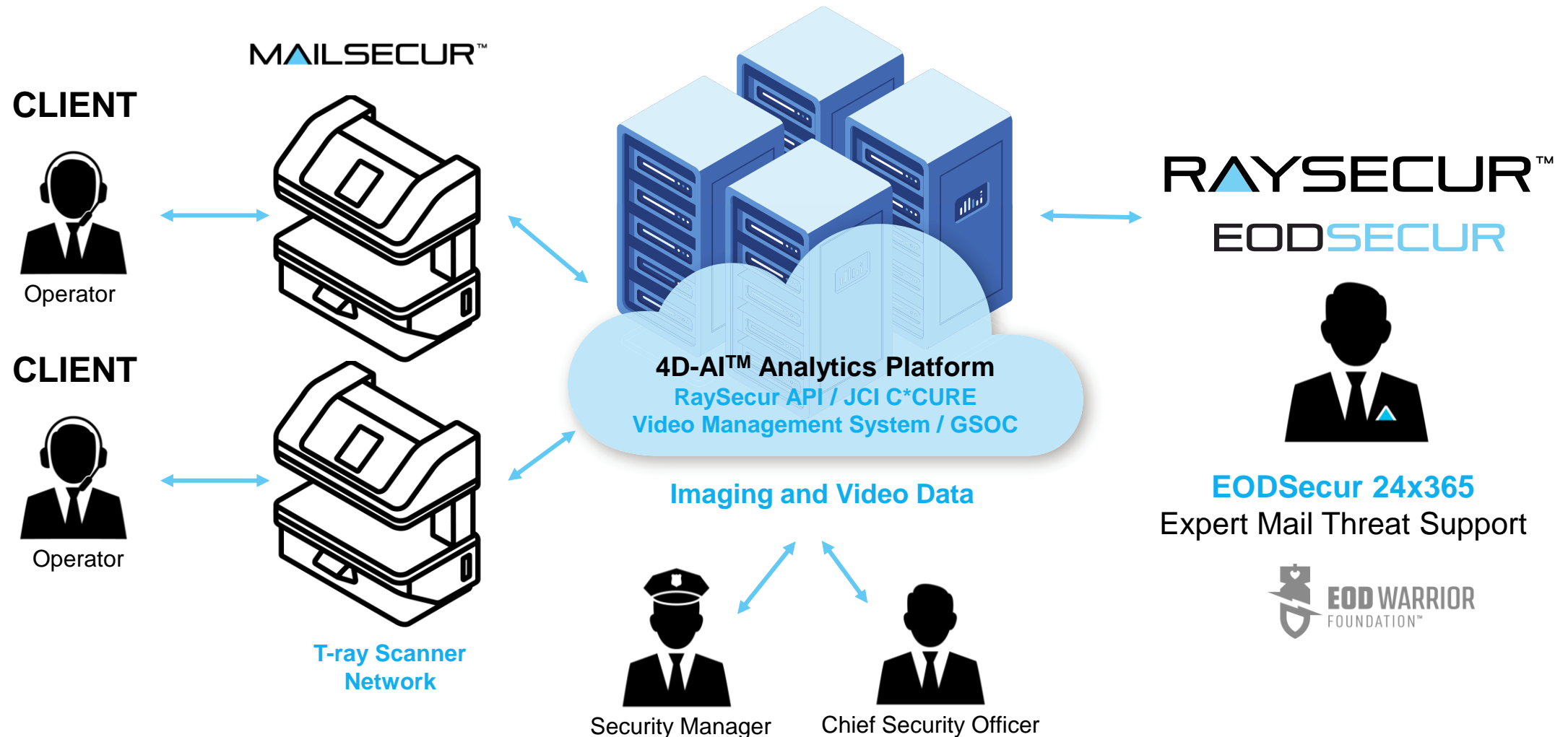
Detect < 100 mg powder or liquid

+ Integrated Radiation and Metal Detection

# Network-Enabled 24/7 Remote Analysis Services

RAYSECUR™

THz Imaging Tech + Data Integration for a Smart Response



# Example Automated Event Responses

## Scenario: Weapon Detected



Operator Help **Warning: Insecure environment detected!**

View Preferences Take Snapshot Record Screen

Explorer Bar

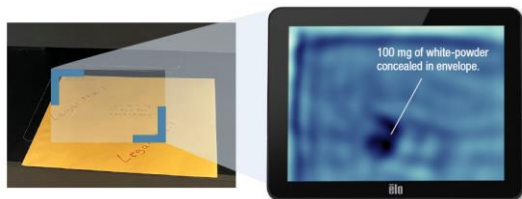
Date - Time	Activity
3/18/2022 12:38:...	Operator "test" logged in on computer "[4E54A0E4-6532-4435-8513-23DC83F8EAF2]" using RaySecur.
3/18/2022 12:38:...	Operator "test" logged out on computer "[4E54A0E4-6532-4435-8513-23DC83F8EAF2]" using RaySecur.
3/18/2022 12:38:...	Operator "test" logged in on computer "[4E54A0E4-6532-4435-8513-23DC83F8EAF2]" using RaySecur.
3/18/2022 12:38:...	Operator "test" logged out on computer "[4E54A0E4-6532-4435-8513-23DC83F8EAF2]" using RaySecur.
3/18/2022 12:38:...	Manual action by "test": momentarily activate Event "mailsecur-weapon-event-EMU001".

**Event Communications & Automated Response**

- > Trigger Alarm
- > Video / Data Feed
- > **Trigger Locks**



## Scenario: Liquid or Powder Detected



Operator Help **Warning: Insecure environment detected!**

View Preferences Take Snapshot Record Screen

Explorer Bar

Date - Time	Activity
3/18/2022 12:38:...	Operator "test" logged in on computer "[4E54A0E4-6532-4435-8513-23DC83F8EAF2]" using RaySecur.
3/18/2022 12:38:...	Operator "test" logged out on computer "[4E54A0E4-6532-4435-8513-23DC83F8EAF2]" using RaySecur.
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3/18/2022 12:38:...	Manual action by "test": momentarily activate Event "mailsecur-weapon-event-EMU001".

**Event Communications & Automated Response**

- > Trigger Alarm
- > Video / Data Feed
- > **Trigger HVAC OFF**



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