

# Mitigating Insider Threat

with HEXWAVE™  
Walkthrough Screening



## Strengthen aviation worker screening vulnerabilities with next generation HEXWAVE detection—a seamless, tested solution.

**Liberty Defense's HEXWAVE™** walkthrough screening portal detects non-metallic and metallic threats—such as liquid, powder, and plastic explosives, incendiary devices, and unauthorized weapons like 3D printed ghost guns and more. HEXWAVE's next generation detection is an important part of insider threat countermeasures and your comprehensive layered security plan.



There are approximately **1.8 million aviation workers** at US airports.



Nearly **one million workers** have access to secure areas at **450 US airports**.



Insider threat poses a real risk with the **potential for employees to exploit secure access and insider knowledge** to smuggle contraband and weapons.

### Past aviation employee incidents include:

- Airport employee arrested after gun found inside her purse at Austin, TX airport
- Baggage handler repeatedly smuggled guns onto flights at Atlanta, GA airport
- Technician with access to the tarmac smuggled materials to plant bomb at Wichita, KA airport

Liberty Defense was awarded a development contract with TSA's On-Person Screening Capability Program, with the HEXWAVE selected for demonstration and evaluation in screening aviation workers at TSA-designated locations to enhance security detection and throughput performance.



Images of HEXWAVE at Toronto Pearson International Airport

## KEY ADVANTAGES



### IMPROVE SECURITY DETECTION AND OPERATIONS

- **Touchless, seamless, high throughput** flow (700+ ppl/hr)
- **Non-metallic and metallic threats detected** including liquid, powder, and plastic explosives, incendiary devices, and unauthorized weapons like 3D printed ghost guns, etc.
- **No required divestment** of benign items like cell phones, keys, wallets, jackets, steel toe boots, or other clothing
- **Real-time automatic** go/no-go decision for operator indicating type and location of threat
- Maintains **personal privacy** and no images are seen or stored
- **Portable, flexible, cost-effective** deployment. Can be used indoors/outdoors (covered), attended/unattended, inside/outside of the checkpoint

### NEXT GENERATION PEOPLE SCREENING TECHNOLOGY

- **Millimeter wave** technology is proven safe and effective for people screening
- Video-rate **3D imaging powered by AI** delivers enhanced threat detection
- **Switchable AI algorithms** for operational flexibility and threat levels
- Software updates provide **future proofing** to incorporate emerging threats and new requirements
- **Integrates Smart IoT** functionality for connectivity to existing security systems (VMS, access control)

## HEXWAVE



# HEXWAVE FEATURES and SPECIFICATIONS

## Open Design

No overhead structure,  
no floor cabling between panels.  
Wireless setup configurable

## Alarm Indicator

Threat indication  
at exit. Audible  
alarms optional

## Depth Camera

Auto-triggered by  
person walking through  
(no operator intervention)

## Pacing Indicators

Proceed/Wait  
indication at  
entrance

## Barrier Integration

Retractable barrier  
belt integration

## Power

Power is required  
to each HEXWAVE  
device

## Mobile

Wheels and  
handle holds allow for  
relocation. Wheels lockable

## Walk-Thru Spacing

Easily adjust the distance between  
the devices, ADA wheelchair compliant

## Enhanced Detection

Powered by 3D video  
rate imaging and AI deep  
learning to capture and process  
~400,000 datapoints per image

## Safe

Uses millimeter wave,  
low power radar and emits  
non-ionizing radiation, much  
less than cell phones and Wi-Fi

## Connected

Smart IoT functionality for  
connectivity to existing security  
systems (VMS, access control)

## Dashboard

Supports  
data analytics  
and reporting

## Future Proof

Over the air AI algorithm  
updates for threat updates  
and software upgrades

## Automatic Alerts

Gives operators a clear go/no-go  
decision, location of threat,  
and visible/audible alerts

## Flexible

Portable/Fixed deployment,  
indoors and outdoors (under cover)

## THREAT ALERTS METALLIC and NON-METALLIC

### IEDs

Plastic  
Liquid  
Powder explosives



### RIFLES

### SHOTGUNS

### HANDGUNS

Full-size  
Compact  
Sub-compact  
3D printed/ghost



### KNIVES

Ceramic  
Plastic  
Metal



## NO DIVESTING



## PHYSICAL SPECIFICATIONS

Panel Height – 1.86 m (73.3")

Panel Width – .91 m (36")

Panel Depth – 0.2 m (8.2")

Base Width – 1.11 m (43.8")

Base Depth – .66 m (26.1")

Weight – each panel is ~140 lbs (~63 kg)

Wheelbase locks for stability

Optimal panel placement – 1.62 m to 1.82 m  
(64" to 72") apart (portal); 1.75 m (69") apart  
(S Configuration)

## CONNECTIVITY

Ethernet (IEEE 802.3)

WIFI (IEEE 802.11 a/b/cg/n/ac)

System supports open standards  
for cyber security

## ENVIRONMENTAL DATA

Unaffected by proximity to EMI or metal

Power Supply:  
100 to 264 VAC, 47 to 63 Hz, 2000 VA

Operating Temperature: 42°F to 95°F/ 5°C to 35°C

Storage Temperature:  
32°F to 113°F/ 0°C to 45°C

Relative Humidity:  
20 to 80% (without condensation)

## CERTIFICATION AND COMPLIANCE

Compliant with applicable  
FCC regulatory standards

Compliant with safety standard UL  
62368-1:2019 Ed. 3

Compliant with applicable International  
Standards for electrical safety and EMC\*

\* in progress



## HEXWAVE WALKTHROUGH DETECTION OF CONCEALED THREATS

Using millimeter wave and advanced 3D imaging, HEXWAVE is powered by Artificial Intelligence to detect all types of concealed metallic and non-metallic IEDs, weapons, and other prohibited items. The system allows for rapid, automated screening using a high throughput, contactless, walkthrough portal.

**Tighten gaps with seamless employee screening deployed with flexibility throughout the airport to reduce vulnerabilities.**



Learn how HEXWAVE can help you meet any forthcoming aviation worker screening mandates.

Contact sales to schedule an online demo:  
**888.617.7226 x3** | [sales@libertydefense.com](mailto:sales@libertydefense.com)

