Mobile Source Transit Security System (MSTS) Overview

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Office of Radiological Security

National Nuclear Security Administration

Global
Material
Security

ORS
Office of Radiological Security
Protect · Remove · Reduce

Office of Radiological Security

- Mission: ORS enhances global security by preventing high activity radioactive materials from use in acts of terrorism.

PROTECT	REMOVE	REDUCE
PROTECT radioactive sources used for vital medical, research, and commercial purposes	REMOVE and dispose of disused radioactive sources	REDUCE the global reliance on radioactive sources through replacement with viable non-isotopic alternative technologies

Mobile Radioactive Source Risks and Threats

Worldwide 10,000 comercial mobile sources in use

Portability increases the vulnerability of devices during trans port and field use

Number of "incidents" involving mobile sources since 2012 (RadTrax)
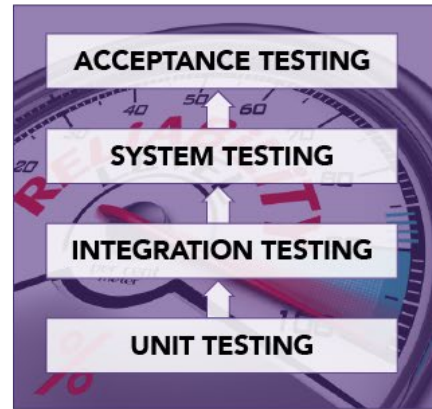
>55

Mobile Radioactive Source Risk

Developing an Effective Solution

Enhanced Security of Device

Cost Effective

Reliable & Robust

- ACCEPTANCE TESTING
- SYSTEM TESTING
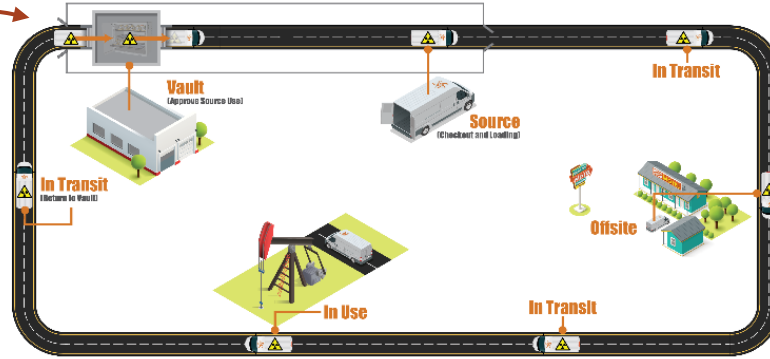- INTEGRATION TESTING
- UNIT TESTING

Alert/Alarm Communication

Characteristics of an Effective Solution

Reducing The Risk With Technology

Traditional Security Practices

Additional Mobile Source Monitoring

Job Cycle

🔒 Improved Security

👁 Enhanced Situational Awareness

🕐 Real-Time Event Monitoring

INDUSTRIAL RADIOGRAPHY

WELL LOGGING

Mobile Source Transit Security (MSTS) Solutions
  » **Industrial Radiography MSTS Technologies** | IR-MSTS
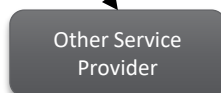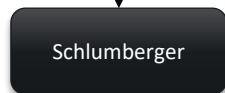 » **Well Logging MSTS Technologies** | WL-MSTS

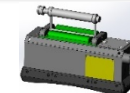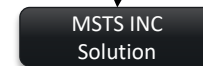# Mobile Source Transit Security Solutions

Well Logging

Industry Engagement/User Needs

Industry driven MSTS solution

MSTS WL Industry Solution

- Baker Hughes
- Schlumberger
- Other Service Provider

Industrial Radiography

Industry Engagement/User Needs

Device specific MSTS solution

- MSTS QSA Solution
- MSTS INC Solution
- MSTS SPEC Solution
- MSTS Bolt-On Solution

Source Security
Improved Security
Enhanced Situational Awareness
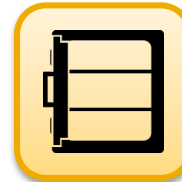Real-Time Event Monitoring

IR MSTS

Industrial Radiography
Source Security

Camera | Persistent Monitoring Tag
Track the Camera
Monitor the Source

Storage | Integrated Site Security
Secure the Camera(s)
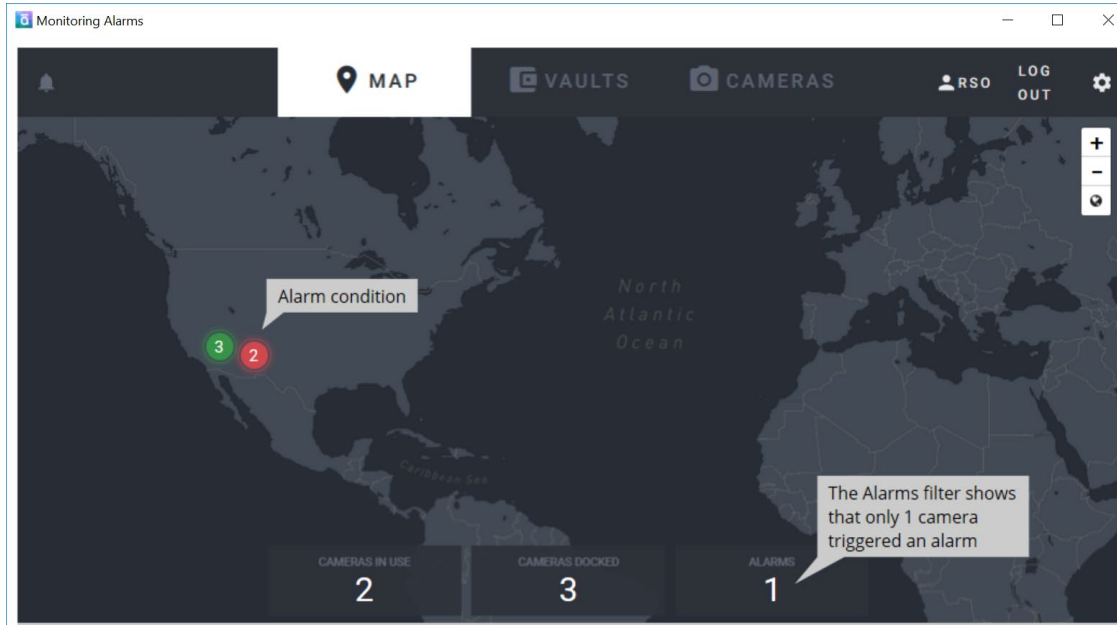Monitor the Camera(s)

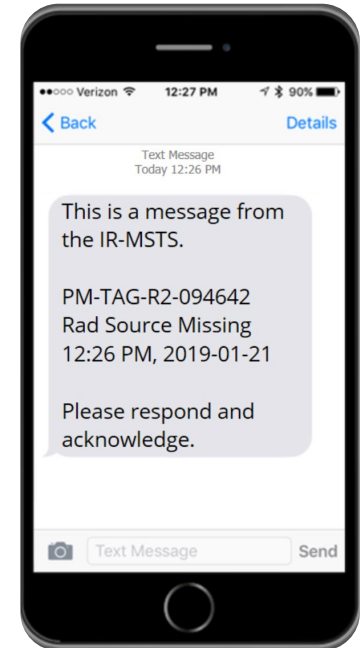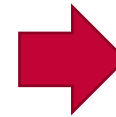**Truck** | Secure Transport Box
Track the Truck
Monitor the Camera

Notifications and Alarms
Receive Wireless Comms
Alert Users

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IR-MSTS Alarm

IR-MSTS alarm condition

Text and email sent to user

Well Logging
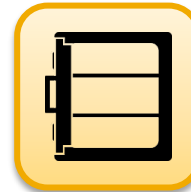## Source Security

Source Security

Improved Security
Enhanced Situational Awareness
Real-Time Event Monitoring

WL MSTS

Shield | eTag(s)

Track the Shield
Monitor the Shield Proximity

Vault | Homebase Security System

Monitor the Shields(s)
Local Alarm Connections

Truck | MCU and rTag

Track the Truck
Monitor the Shield Proximity
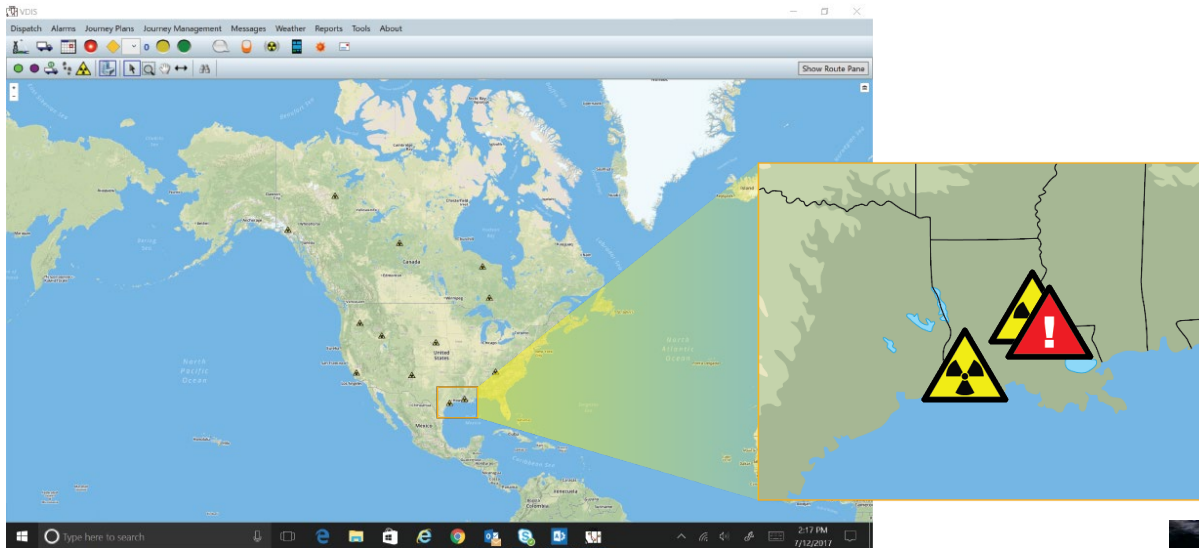Monitor Source Levels

Notifications and Alarms
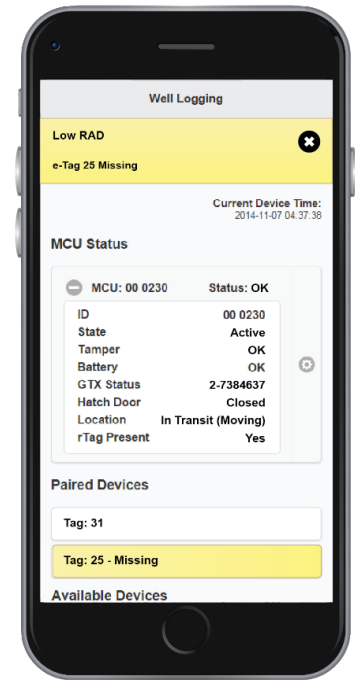
Receive Wireless Comms
Alert Users

Overpack | MCU, rTag, and eTag(s)

Track the Shield(s)
Monitor Source Levels

NNSA
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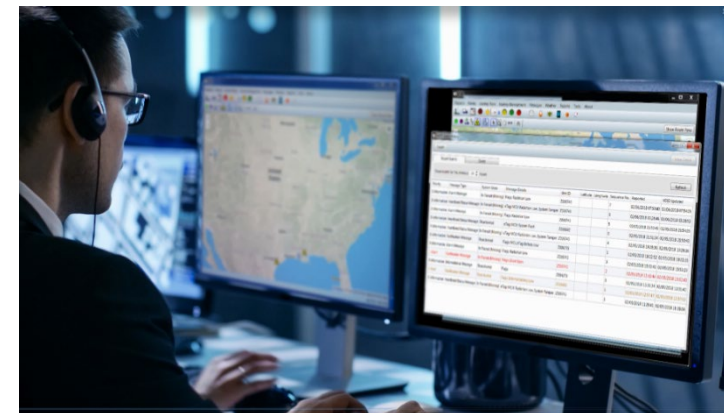Protect · Remove · Reduce

WL-MSTS Alarm

WL-MSTS alarm condition

Local alarm sent to device

24hr alarm monitoring

Summary

- Mobile sources and their use create unique technological, operational, and security challenges.

- Mobile sources continue to be at risk of loss or theft.

- The MSTS solution improves security of mobile sources through enhanced situational awareness.

- Industry adoption of MSTS will reduce likelihood of this material ending up in the wrong hands and used for malicious intent.