# Thales Group UK - RADIR



### **GENERAL DESCRIPTION:**

A handheld system for the military or first responder which allows the rapid detection, identification and geo-location of multiple radiation sources (Gamma). The system works with gamma radiation predominantly although a neutron module is available. The system uses an innovative processing system that allows the rapid discrimination, location and tracking of multiple sources simultaneously.



### **TECHNICAL DESCRIPTION:**

The system uses a multiple chipset of CZT crystals (exact configuration and numbers is proprietary) which have been bonded in such a way to allow cell discrimination - in a similar manner to the medical imaging industry. This is combined with highly advanced processing software used in advanced sonar systems for detecting and tracking multiple sources.

### **CONTACT INFORMATION**

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### COST

- \$20,000 \$25,000/system
- \$0/analysis

# **Tier Selection**



#### Survey Source

Vendor and Internet Supplied Information

# **Scoring Analysis**

System scores are compared across the four scenarios and ranked from highest to lowest.



### **Impact Chart**

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



# **Evaluation Criteria**

#### Throughput:

- 2 minutes or less for detection
- Continuous operation with no defined runs
- The system or device is currently fully automated
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- Less than 5 minutes is required for set-up
- 1-2 steps are required for detection

#### Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Approximately the size of a soda can
- Less than 1 kg
- Satellite, wireless and wired connections are available
- System or device uses batteries
- · 2-4 hours battery life



#### **Operations:**

- Can be used from < -21°C to > 42°C (All temperatures)
- · Performance is not influenced by relative humidity
- Greater than 3 years shelf life
- 5-10 years expected life
- Results can be viewed in real-time
- The system could easily be adapted into a fully autonomous system
- The system software is open and available for modification
- The system hardware is open and available for modification

### **Detection:**

- This system does not test liquids
- System is used for surveying