

Advanced Nuclear Devices Corporation - Spectroscopic Detection Instrument



GENERAL DESCRIPTION:
 The Spectroscopic Detection Instrument is embedded in an information and communication system designed to detect and quantify radiologic threats from energetic particles directionally and at a standoff distance and with a minimum of innocent alarms subsequently both notify local responders as to the threat and catalog the incident.



TECHNICAL DESCRIPTION:
 Product is a nuclear hardened, field deployable information system consisting of a computer used for software interpretation of events, a communications system for remote and local reporting, and a sensor consisting of a gas pressure vessel containing a mixture of non 3He gasses deployed under low pressure whose interaction is designed to accurately and quickly detect radiological threats from energetic particles from a wide range of potential threats.

CONTACT INFORMATION
 Advanced Nuclear Devices Corporation
 14 Black Tern Road
 Hilton Head Island, SC 29928
 POC: Christopher J Gintz, CEO

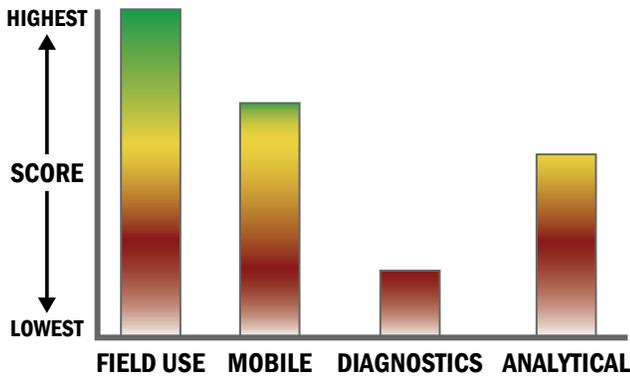
COST
 N/A

Tier Selection			
Final tier assignment is based on overall product score.			
<input checked="" type="radio"/> Top Tier <input checked="" type="radio"/> Second Tier <input type="radio"/> Third Tier <input type="radio"/> Fourth Tier <input checked="" type="radio"/> Bottom Tier			
RANKINGS			
	Biological	Chemical	Radiological
FIELD USE System	<input type="radio"/> N/A	<input type="radio"/> N/A	<input checked="" type="radio"/>
MOBILE Laboratory	<input type="radio"/> N/A	<input type="radio"/> N/A	<input type="radio"/> <input checked="" type="radio"/>
DIAGNOSTIC Laboratory	<input type="radio"/> N/A	<input type="radio"/> N/A	<input checked="" type="radio"/>
ANALYTICAL Laboratory	<input type="radio"/> N/A	<input type="radio"/> N/A	<input checked="" type="radio"/>

Survey Source
 Vendor Supplied Information

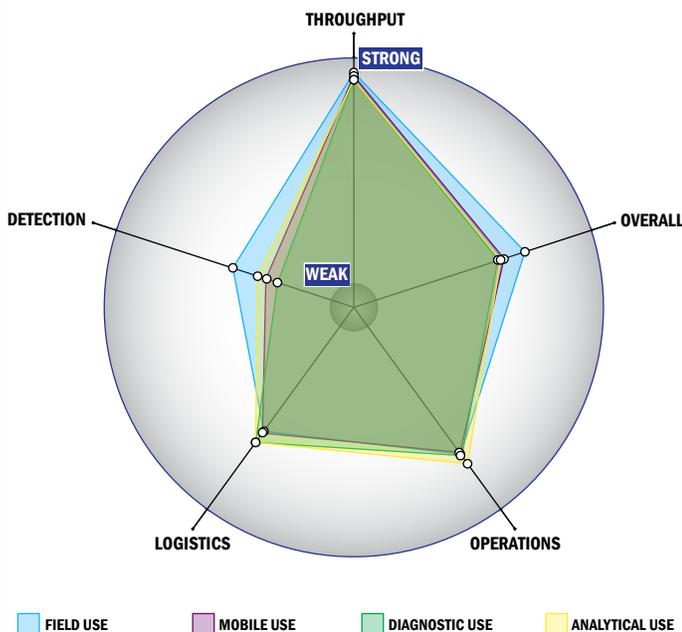
Scoring Analysis

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.



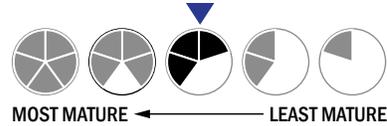
Evaluation Criteria

Throughput:

- Detection is instantaneous
- Continuous operation with no defined runs
- System is continuous and provides real time analysis with no defined tests/samples
- The system could easily be adapted into a fully automated system
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 0 components
- Less than 5 minutes is required for set-up
- Automatic detection

Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Approximately the size of a home dishwasher
- More than 50 kg
- Satellite, wireless and wired connections are available
- System or device has 110V electrical requirement
- 2-4 hours battery life



Operations:

- Can be used from -21 °C to 41 °C
- Greater than 10 years expected life
- Results can be viewed in real-time
- The system could be adapted to a fully autonomous system with some effort
- The system software is open but modification requires licensing
- The system hardware is open but modification requires licensing

Detection:

- This system does not test liquids
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)
- Total dose, dose rate and count rate with simultaneous display readout and automatic differentiation between types of radiation detected
- Down to background level radiation for count rate
- System is used for surveying