General Dynamics Armament and Technical Products (GDATP) - JSLSCAD

GENERAL DESCRIPTION:

The Joint Service Lightweight Standoff Chemical Agent Detector developed and produced by General Dynamics Armament and Technical Products provides ground platforms of the 21st century with state-of-the-art remote chemical agent detection. The unit uses a passive infrared detection system that automatically searches the 7- to 14-micron region of the surrounding atmosphere for chemical agent vapor clouds. Using sophisticated pattern recognition algorithms, JSLSCAD detects, classifies and identifies chemical agents while discriminating against both natural and manmade battlespace interferents. Once detection is made, JSLSCAD identifies the agent cloud and alerts operators with audible and/or visual alarms. It also indicates the direction and extent of the agent cloud on a graphical computer display and forwards the Nuclear, Biological and Chemical report details through the Joint Warning and Reporting Network. The JSLSCAD is the first chemical detection system to furnish 360-degree coverage for ground platforms for a detection range of up to 2 kilometers, allowing personnel to avoid contaminated areas or don protective masks and clothing. The JSLSCAD is currently in full rate production and is fielded on the Stryker-NBCRV (Nuclear Biological Chemical Reconnaissance Vehicle).

TECHNICAL DESCRIPTION:

The JSLSCAD uses a passive Fourier Transform Infrared (FTIR) technology to allow detection of Chemical Warfare Agents (CWA) and Toxic Industrial Chemicals (TIC) at standoff distances.

Tier Selection

Final tier assignment is based on overall product score.

Top Tier | Second Tier | Third Tier | Fourth Tier | Bottom Tier

RANKINGS

	Biological	Chemical	Radiological
FIELD USE System	N/A	Second Tier	N/A
MOBILE Laboratory	N/A	Third Tier	N/A
DIAGNOSTIC Laboratory	N/A	Fourth Tier	N/A
ANALYTICAL Laboratory	N/A	Fourth Tier	N/A

CONTACT INFORMATION

General Dynamics Armament and Technical Products (GDATP)
4205 Westinghouse Commons Drive
Charlotte, NC 28273
POC: Boyd Despard
980-235-2348
bdespard@gdatp.com

COST

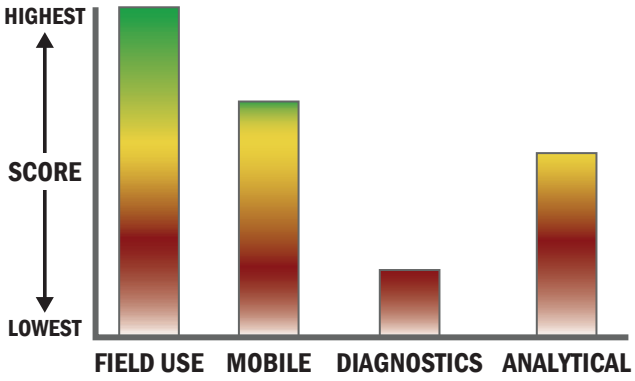
- $290,000-$330,000/system
- $0/analysis

Survey Source

Vendor and Internet Supplied Information

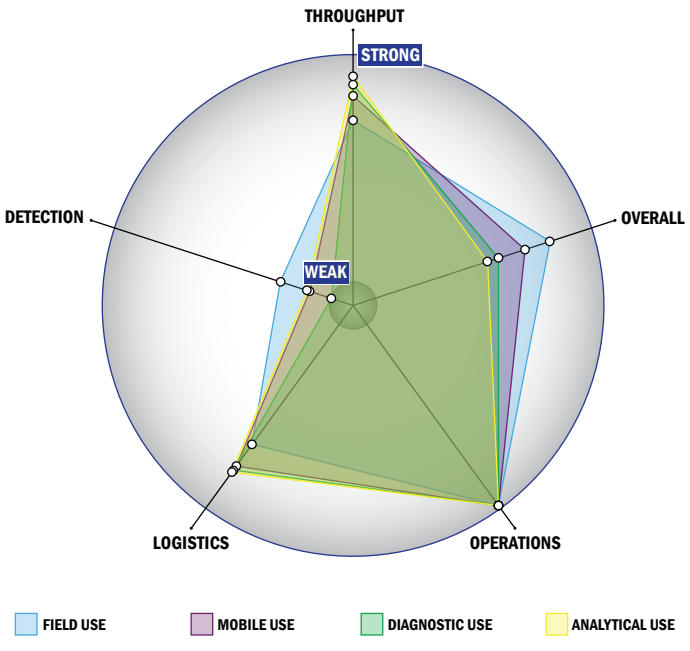
Scoring Analysis

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.



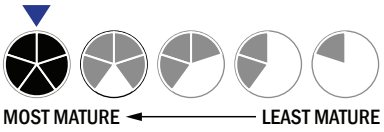
Evaluation Criteria

Throughput:

- 2 minutes or less for detection
- Multiple samples, multiple tests/sample per run
- System is continuous and provides real time analysis with no defined tests/samples
- 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 carry-on luggage suitcase
- Between 5 and 25 kg
- Satellite, wireless and wired connections are available
- System or device has 110V electrical requirement



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
- Greater than 10 years expected life
- Results can be viewed in real-time
- The system or device is currently fully autonomous
- The system software is open and available for modification
- The system hardware is closed and not available for modification

Detection:

- This system does not test liquids
- Superior specificity. System has a false alarm rate approaching zero (~0%)
- System currently can identify aerosolized chemical agent