ITT Corporation - Raman Shifted Eyesafe Aerosol Lidar (REAL)

GENERAL DESCRIPTION:

REAL is an eyesafe lidar system capable of detecting and tracking bio- and nonbio-aerosols and clouds at distances of several km with resolution of a few meters. It does not distinguish bio- from nonbio- aerosols. It is currently deployed as part of Pentagon Shield.

TECHNICAL DESCRIPTION:

REAL is an elastic backscatter lidar operating at an eyesafe wavelength of 1.54 microns.

CONTACT INFORMATION

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COST

N/A

Tier Selection

Final tier assignment is based on overall product score.

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

RANKINGS

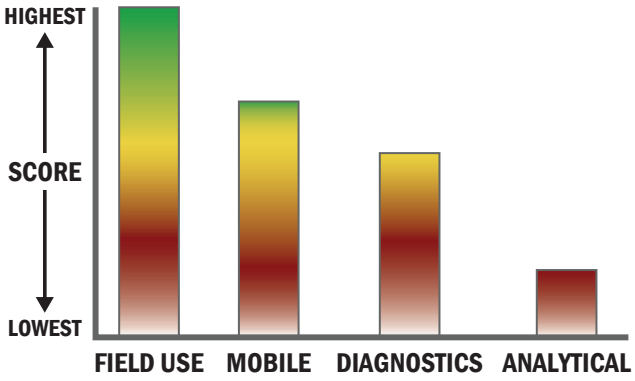
	Biological	Chemical	Radiological
FIELD USE System	Fourth Tier	Bottom Tier	N/A
MOBILE Laboratory	Bottom Tier	Bottom Tier	N/A
DIAGNOSTIC Laboratory	Bottom Tier	Bottom Tier	N/A
ANALYTICAL Laboratory	Bottom Tier	Bottom Tier	N/A

Survey Source

Vendor and Internet Supplied Information

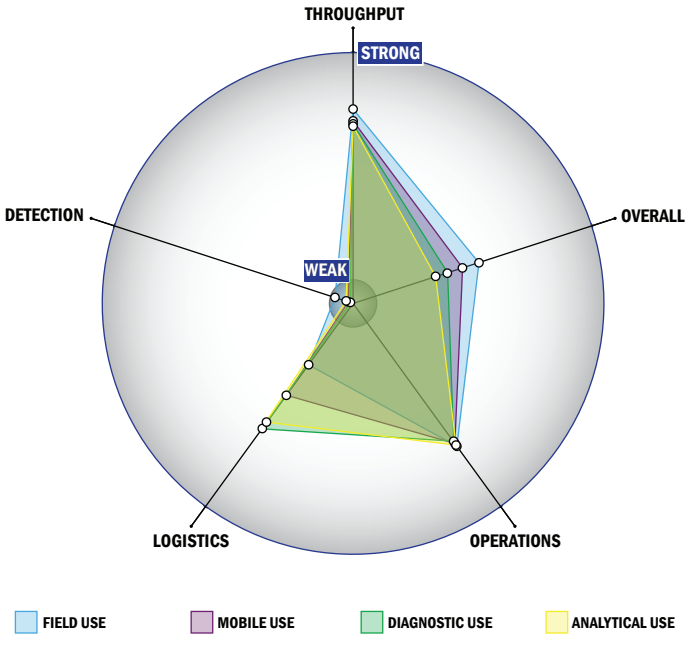
Scoring Analysis

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.



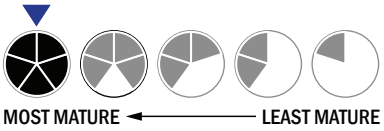
Evaluation Criteria

Throughput:

- 2 minutes or less for detection
- Multiple samples, multiple tests/sample per run
- 95-32 samples every 2 hours
- The system or device is currently semi-automated
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 1 component
- Greater than 20 minutes is required for set-up
- 1-2 steps are required for detection

Logistics:

- A day of training and technical skills are required
- Larger than a home dishwasher
- More than 50 kg
- Wired connections are available
- System or device has 220V electrical requirement



Operations:

- Can be used from 4°C to 41°C
- Components must be stored at room temperature (27°C)
- Device or system has peak performance at normal relative humidity conditions
- Greater than 3 years shelf life
- 3-5 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 closed and not available for modification
- The system hardware is closed and not available for modification

Detection:

- This system does not test liquids