

Partner Airogistic, LLC - DCI-I



GENERAL DESCRIPTION:

DCI-I is a complete biological, chemical and radiological detection, collection and Identification system. It combines into a 19" rack mount chassis a laser induced fluorescence (LIF) detector, wetted walled plastic cyclone collector (WWPC), a rapid presumptive identifier based on "Canary" technologies, and an interface to a confirmatory PCR identifier. This system also scales optional interfaces to government chemical detectors and industrial radiation detectors using existing and established software drivers to these devices. The DCI-I includes a video surveillance option that allows triggered events to be correlated with live video recording and real-time image recognition.



TECHNICAL DESCRIPTION:

A laser induced fluorescence detector (LIF) searches for bio signatures examining each particle for the presence of metabolites by correlating size and fluorescence. If a statistical match occurs, the detector triggers the presumptive "CANARY" identifier and a wetted wall plastic cyclone collector (WWPC), which efficiently collects airborne aerosolized particulates into a phosphate buffer solution. The system provided video monitoring of the location for play back and determining the source of the event. The system communicates to authorities through network software as it prepares samples for on-site confirmatory and forensic PCR analysis.

CONTACT INFORMATION

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COST

- \$75,000-\$200,000/system
- \$96.10/analysis

Tier Selection

Final tier assignment is based on overall product score.

- Top Tier ● Second Tier ● Third Tier
◐ Fourth Tier ● Bottom Tier

RANKINGS

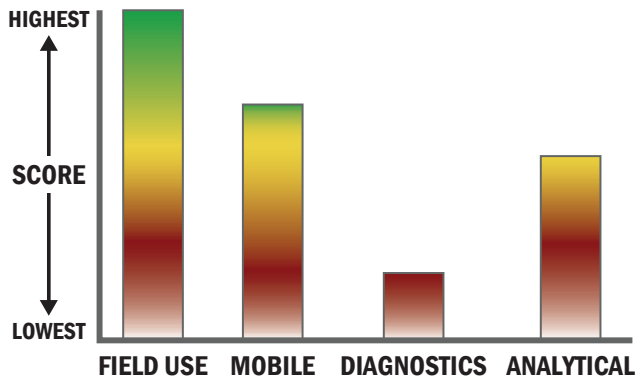
| | Biological | Chemical | Radiological |
|------------------------------|------------|----------|--------------|
| FIELD USE System | | | |
| MOBILE Laboratory | | | |
| DIAGNOSTIC Laboratory | | | |
| ANALYTICAL Laboratory | | | |

Survey Source

Vendor Supplied Information

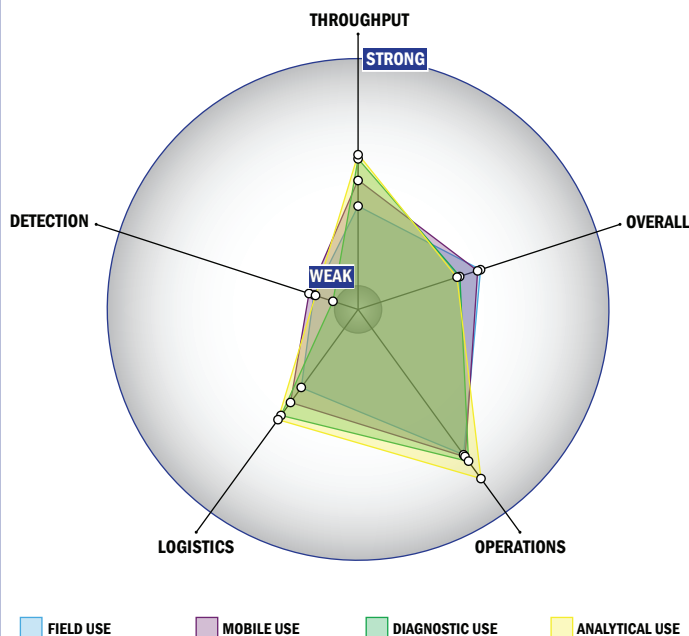
Scoring Analysis

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.



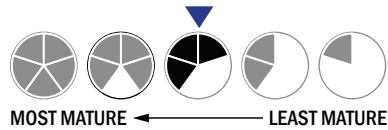
Evaluation Criteria

Throughput:

- Between 2 and 15 minutes for detection
- Multiple samples, multiple tests/sample per run
- Less than 32 samples every 2 hours
- The system or device is currently fully automated
- Device or system is intended for multiple detection assays
- 5 or more solutions, buffer, eluents, and/or reagents
- 4 components
- Less than 5 minutes is required for set-up
- 1-2 steps are required for detection

Logistics:

- An afternoon of training and some technical skills required
- More than 50 kg
- Wireless and wired connections are available
- System or device has 110V electrical requirement
- 1-2 hours battery life



Operations:

- Can be used from 4 °C to 41 °C
- Components must be stored at 4 °C
- Performance is not influenced by relative humidity
- Between 1 to 6 months shelf life
- 5-10 years expected life
- Results can be viewed in real-time
- The system or device is currently fully autonomous
- The system software is open but modification requires licensing
- The system hardware is open but modification requires licensing

Detection:

- Not possible for the system to achieve 510K clearance
- Not possible for the system to achieve FDA approval
- Less than 100 µL
- 1-100 CFU per mL
- 100-1,000 PFU per mL
- Spore lysis not necessary for detection by system