Dycor Technologies Ltd. - C-FLAPS Biological Detection System

GENERAL DESCRIPTION:

C-FLAPS is a non-specific bioaerosol detector which was specifically designed for use as a point detector, deployed either on mobile platforms (reconnaissance vehicles, naval ships) or networked in a fixed site (military critical infrastructure, sporting events, mass gatherings, etc.) to assist in surveillance for the presence of anomalous bioaerosols. Operating on the principle of fluorescence of specific enzymes present only in living organisms, the C-FLAPS provides increased confidence in determining live particles as opposed to other aerosolized particles, and when coupled with automated sampling systems, becomes a key tool in enhancing situational awareness for military, civilian security, and public health surveillance capability. C-FLAPS is usually deployed as part of a custom-designed turnkey monitoring, detection, sampling and identification capability within either bio-specific or CBRNE surveillance requirements. C-FLAPS has been extensively and widely deployed, beginning with its role as a major component of the referee system at the US Army West Desert Test Center and DRDC Suffield in Canada, through operational deployments with North American and European defense, security and public health clients. An extensive library of background bioaerosol environments has been compiled, and continues to expand, providing continuous refinement of alarming algorithms for reduction of false alarms.

TECHNICAL DESCRIPTION:

Fluorescence excitation of NADH and Riboflavin, and measurement of their fluorescence emissions along two wavelengths, along with scattered light intensity readings, provides exceptional discrimination and rejection of interferents. Integrated alarming algorithms give the operator the ability to vary parameters based on background conditions, minimize false alarms and differentiate between non-living/harmless interferents and actual biological events.

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	N/A
MOBILE Laboratory		N/A	N/A
DIAGNOSTIC Laboratory		N/A	N/A
ANALYTICAL Laboratory		N/A	N/A

CONTACT INFORMATION

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COST

N/A

Notes

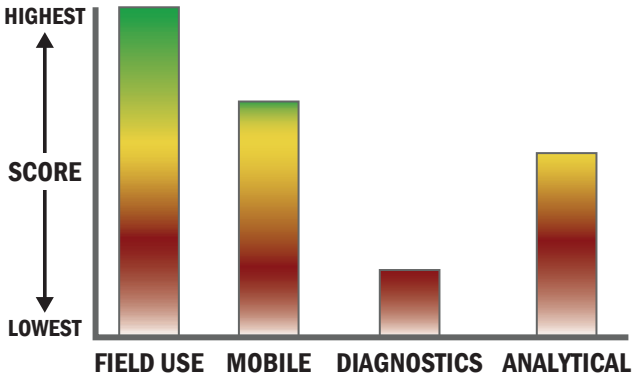
Generic non-specific bioaerosol detector fielded by the Canadian Military.

Survey Source

Vendor Supplied Information

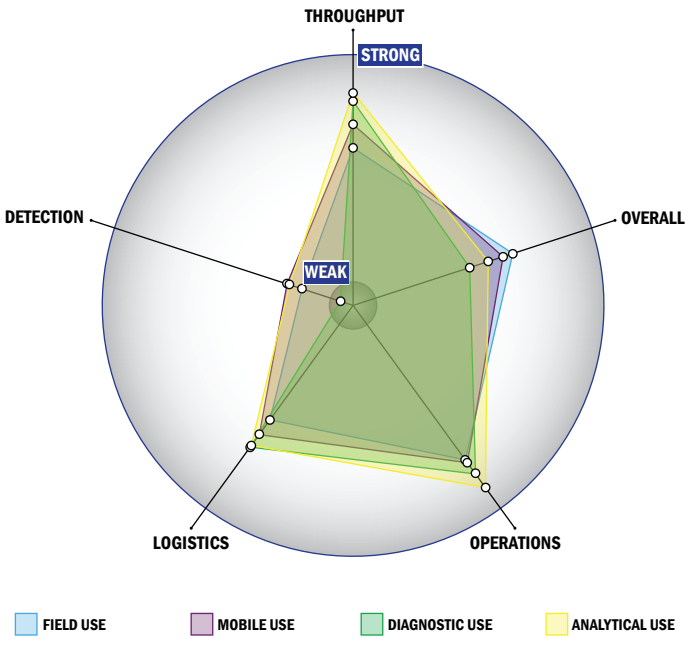
Scoring Analysis

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.



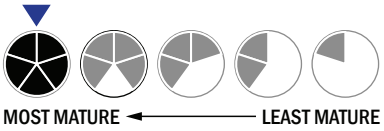
Evaluation Criteria

Throughput:

- 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
- 10-20 minutes is required for set-up
- 3-5 steps are required for detection

Logistics:

- A day of training and technical skills are required
- Approximately the size of a carry-on luggage suitcase
- Between 25 and 50 kg
- Satellite, wireless and wired connections are available
- System or device has 110V electrical requirement



Operations:

- Can be used from 4 °C to 37 °C
- Performance is not influenced by relative humidity
- 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
- This system does not test liquids
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)
- Spore lysis not necessary for detection by system