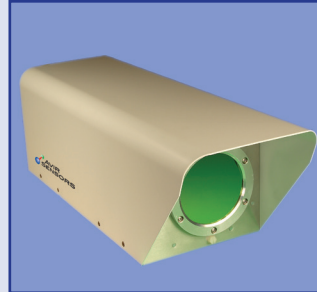


Avir Sensors, LLC - ChemSight



GENERAL DESCRIPTION:

The ChemSight® detector can identify minute quantities of hazardous gaseous chemicals (CWAs and TICs) over a wide coverage area, has minimal operating costs and is designated as a Qualified Anti-Terrorism Technology. The ChemSight® Chemical detector from Avir Sensors puts unprecedented detection and identification capability into the hands of safety officers by delivering comprehensive information about chemical threats in a matter of seconds. The ChemSight® detector is a continuously operating, open path detector that uses infrared spectroscopy. It can reliably monitor lines of sight of up to 45 meters and detect and identify multiple chemicals and interferants. The ChemSight® detector is particularly suitable to monitor large facilities military bases and perimeters, indoor or outdoors, that face constantly varying challenges by multiple threats. It is robust, easy to install and operate — even by untrained personnel. The ChemSight's exceptionally low-maintenance schedule and no consumables make it the only “install-and-forget” detector in the field. Unlike point detectors that can provide only localized snapshot views of the protected area, the ChemSight® detector offers a global view and fast response to nearly all chemical challenges and interferants. The ChemSight® detector can be used with confidence in security applications because it detects and identifies a wide range of TICs (toxic industrial chemicals) and interferants. Identify high and low concentrations without risking poisoning its detector elements. New signatures can be uploaded into ChemSight® detector through standard wired and wireless networks. SiteProtector™ software readily integrates with industry standard security network systems or can act as its own autonomous detector system.



TECHNICAL DESCRIPTION:

The ChemSight® is an open-path chemical detector. It includes an eye-safe IR source that projects a collimated spectrally-broad beam (blackbody emission) towards the detector where the beam is analyzed spectroscopically by a multi-spectral, room temperature detector array. Chemicals intercepting the IR beam absorb portion of the energy and are detected, identified and quantified by matching their IR absorption spectrum against signatures stored in the detector's digital library. By avoiding air sampling it can provide fast detection and recovery (1 sec), months - or even years - of continuous operation with no consumables and only minimal and infrequent maintenance.

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

Survey Source

Vendor and Internet Supplied Information

CONTACT INFORMATION

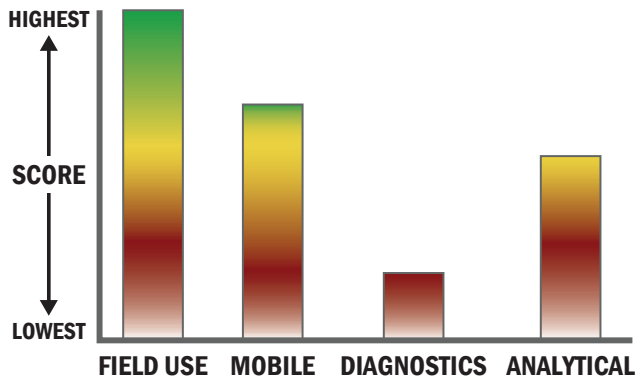
Avir Sensors, LLC
 1484 Greenbrier Place
 Charlottesville, VA 22901
www.avirsensors.com

COST

- \$31,000/system
- \$0.00/analysis

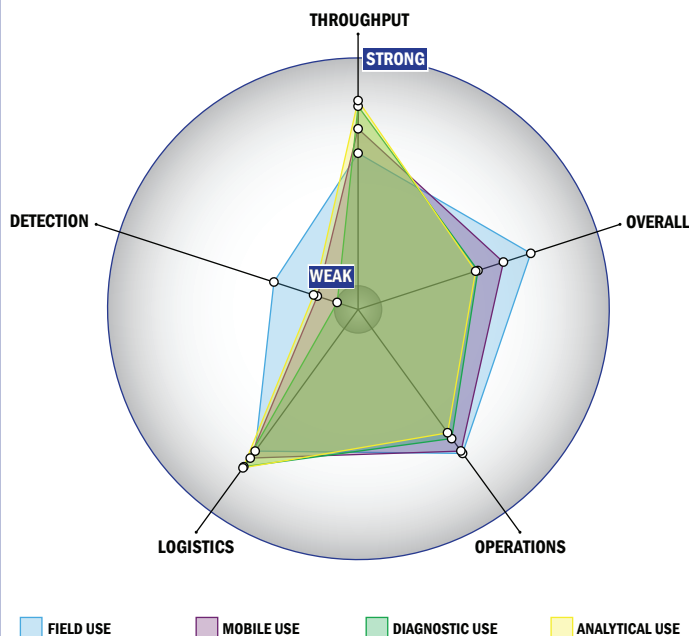
Scoring Analysis

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.



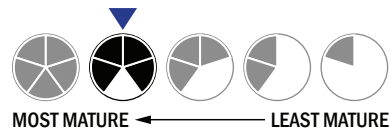
Evaluation Criteria

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
- Greater than 20 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 toaster
- Between 5 and 25 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
- 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 closed and not available for modification
- The system hardware is closed and not available for modification

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
- Superior specificity. System has a false alarm rate approaching zero (~0%)
- Possible system could be adapted to identify aerosolized chemical agent