

Izon Science USA - qNano



GENERAL DESCRIPTION:

Particle analyzer capable of characterizing pathogens such as bacteria and virus particles

TECHNICAL DESCRIPTION:

System uses adjustable nanopore to characterize single particles as they flow along an electric and pressure gradient.



CONTACT INFORMATION

Izon Science USA
 4841 International Blvd. Suite 105
 Frederick, MD 21703

COST

- \$20,000/system
- \$55/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	○	N/A	N/A
MOBILE Laboratory	◐	N/A	N/A
DIAGNOSTIC Laboratory	●	N/A	N/A
ANALYTICAL Laboratory	●	N/A	N/A

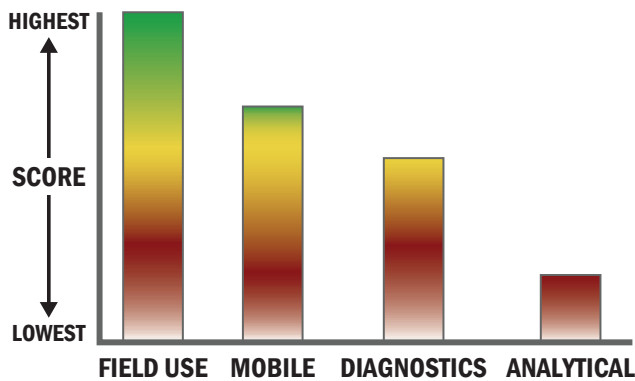
Survey Source

Vendor and Internet Supplied Information



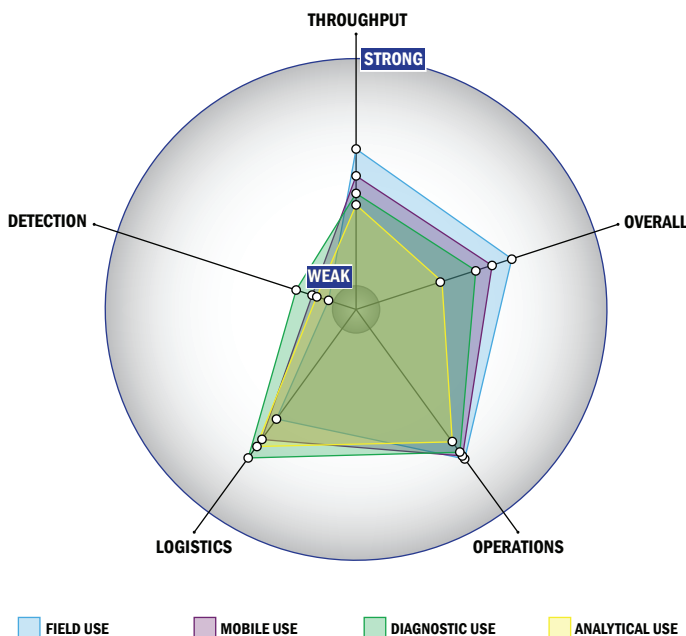
Scoring Analysis

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.



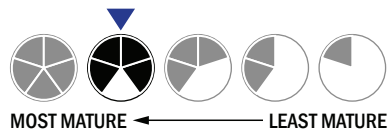
Evaluation Criteria

Throughput:

- Between 15 and 30 minutes for detection
- Multiple samples, single tests/sample per run
- Less than 32 samples every 2 hours
- The system could be adapted to a fully automated system with some effort
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 1 component
- 5-10 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 toaster
- Between 5 and 25 kg
- This system is not capable of transmitting data
- System or device has 110V electrical requirement



Operations:

- Can be used from $< -21^{\circ}\text{C}$ to $> 42^{\circ}\text{C}$ (All temperatures)
- Components must be stored at 4°C
- Performance is not influenced by relative humidity
- Between 1 to 3 years shelf life
- Results can be viewed in real-time
- The system could be adapted to a fully autonomous system with significant effort
- The system software is open and available for modification
- The system hardware is open and available for modification

Detection:

- Less than $50\ \mu\text{L}$