Rigaku

Rigaku
Leading With Innovation

Company information
- Japanese / US
- Employees: 1450
- Revenue: $410M
- Started in 1951
- Raman devices since 2011
- Production US (Raman)

Market presence
- Global. Strong presence
- Most active competitor in term of developing new Raman handheld devices
- Many technologies
- Life Science, Pharma, Environmental, Materials, S&S
- Big partner's network
- Very aggressive coverage of the market

Raman portfolio
- ResQ CQL
- PROGENY
- Progeny ResQ
- Progeny ResQ FLX

Price Range
40 – 60 k €

Support/Warranty
- 2 years incl. (5 yrs. warranty sometimes)
- 24/7 Reach-back support

Positioning
- 1064 only
- Focus on fluorescence reduction
- "Adding support for traces" (Quick Detect)
- Several devices for specific customers: Pharma, S&S (Safety & Security), etc.

SW/FW/libraries
- Target customers: S&S / CBRN / Pharma / Industry / Research
- Libraries: Same than 100Indicator
- Updates/upgrades (Libraries, FW, SW): free & unlimited

Weaknesses
- Bulky and heavy
- Slow compared to Serstech
- Device GUI: Too much information, too small space for the "warning" area
- No SERS kit for low concentrations
- Problem with heat absorption due to 1064nm (it reduces quality of analysis and might be dangerous with explosive samples)

Strengths	Serstech's response
Good at handling fluorescent samples	SERS for handling fluorescence + low concentrations
Quite fast… for a 1064nm	Faster measurements
"All info in GUI"	Accessible relevant information + more details can be shown if needed
Built-in Wi-Fi	Wi-Fi available as an accessory, can be disabled for security reasons
Device comm. peer-to-peer	No peer-to-peer – deemed unnecessary
4C Technology (see annex slide)	Identifies precursor instantly, no need for second measurement
Clever accessories (tablet adaptor…)	Efficient and flexible accessories (e.g. 90^0 angled adaptor)
Onboard camera/Barcode reader	Instead of camera or barcode reader, user can add labels directly into the measurement device report

How Serstech wins

- Size, weight, price
- Speed
- SERS kit
- Ease of use
- Having SERSTECH as a company:
  Easier to reach
  Better and faster support
  Fully focused on Raman
  We're not arrogant towards users

Notes:

V.1.0

Rigaku – ResQ CQL

Rigaku — Leading With Innovation

Positioning
- Rigaku's new device exclusively dedicated to S&S:
    - Law enforcement
    - Border protection
    - First Responders
- Focus: Narcotics and Explosives
- New ergonomics
- Charging docking station no longer needed
- "Quick Detect": Colorimetrics technique as an add-on to the device for low concentrations
- Increased protection: IP68
- LED flashlight for optimal sample visibility

Price Range
Range of 60 k €

Weaknesses
- Bulky and heavy (1,5 Kg)
- Long analysis time
- No solution for low concentrations: "QuickDetect" is simply a bulky colorimetric technique: Not comparable to SERS reliability
- Device GUI: Too much detailed information
- Problems with heat absorption due to their 1064nm laser: It reduces quality of analysis and might be dangerous with explosive samples
- One single focal point: No Autofocus
- Problems with heterogeneous samples
- Problems with fluorescence from wall containers
- Export License required

Competitor strengths	Serstech's response
Good at handling fluorescent samples	SERS for handling fluorescence + low concentrations
Touchscreen	Not good for use with thick rubber gloves
"All info in GUI"	Too much info in one screen. With Serstech: Accessible relevant information + more details can be shown if needed
Built-in Wi-Fi	Wi-Fi available. And it can be disabled for security reasons, if required
Device comm. peer-to-peer	No peer-to-peer – deemed unnecessary. No real application.
"Threat recipe Alerts" 4C Technology	Identifies precursor instantly, no need for second measurement
Many specific accessories (tablet adaptor…)	Simple and flexible accessories (e.g. 90^0 angled adaptor)
Onboard camera/Barcode reader	Camera as well, plus possibility of typing a brief text to the analysis as a label directly on site

How Serstech wins

- SERS kit (fluoresc. & LOD)
- Ease of use, size, weight, price
- No Export License (Ex. CWA)

ARX SharpEye & autofocus:
- Reduced glass fluorescence
- No sample heterogeneity issues
- Faster speed of analysis

ARX device workflows:
- Simpler navigation
- Shorter time to measurement
- Comprehensive analysis modes

Comments:
- Handheld devices using 1064nm lasers cannot benefit from SERS technique. They cannot handle very low concentrations. This is a big drawback for 1064nm solutions. Rigaku claims it can detect residues or "non-visible" amounts using "QuickDetect", a colorimetric kit. It is well known that the reliability and accuracy of colorimetrics is very poor. Plus, they need specific stripes for specific substances, which adds more consumables, costs per sample, sampling time.

- New Serstech SharpEye lens system and the auto focus algorithms automatically adjust the focal position to where the Raman signal is the strongest. Moving the focal point and evaluating strength of the Raman response is done in milliseconds

Rigaku – PROGENY

Positioning

- Rigaku's solution for
  - Raw material identification of pharmaceutical, nutraceutical and cosmetic ingredients
  - Authentication of finished products and anti-counterfeit prevention
- Compliant with 21 CFR Part 11
- 1064 nm laser
- Based on Pass/Fail verification
- Docking station for data transfer portability to upload records to LIMS or a server
- Integrated camera for barcode reading
- IQ/OQ/PQ protocol package

Price point

Range of 50 k €

Weaknesses

- Bulky and heavy (1,6 Kg)
- Long analysis time
- No solution for low concentrations
- No SERS
- Device GUI: Too much detailed information
- Problems with heat absorption due to their 1064nm laser: It reduces quality of analysis and might be dangerous with explosive samples
- One single focal point: No Autofocus
- Problems with heterogeneous samples
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- New Serstech SharpEye lens system and the auto focus algorithms automatically adjust the focal position to where the Raman signal is the strongest. Moving the focal point and evaluating strength of the Raman response is done in milliseconds.

- AUTOFOCUS AND SHARPEYE LENS ARE UNIQUE IN THE MARKET