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Header 8

List View

- General Information**
- Contact
- Default Values
- Discount
- Document Information
- Clarification Request

Procurement Folder: 1033322

Procurement Type: Central Purchase Order

Vendor ID: VS0000017469

Legal Name: Full Spectrum Analytics, Inc.

Alias/DBA:

Total Bid: \$86,293.23

Response Date: 05/12/2022

Response Time: 10:23

Responded By User ID: 680282707

First Name: John

Last Name: Martin

Email: contracts@fsaservice.coi

Phone: 714-279-3999

SO Doc Code: CRFQ

SO Dept: 1400

SO Doc ID: AGR2200000022

Published Date: 4/27/22

Close Date: 5/12/22

Close Time: 13:30

Status: Closed

Solicitation Description: TEMPERATURE/HUMIDITY MONITORING SYSTEM

Total of Header Attachments: 8

Total of All Attachments: 8



Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

**State of West Virginia  
 Solicitation Response**

**Proc Folder:** 1033322  
**Solicitation Description:** TEMPERATURE/HUMIDITY MONITORING SYSTEM  
**Proc Type:** Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2022-05-12 13:30	SR 1400 ESR05122200000007097	1

**VENDOR**  
 VS0000017469  
 Full Spectrum Analytics, Inc.

**Solicitation Number:** CRFQ 1400 AGR2200000022  
**Total Bid:** 86293.22999999999592546373605 **Response Date:** 2022-05-12 **Response Time:** 10:23:23

**Comments:** Full Spectrum Group is a full end-to-end distributor for the JRI Monitoring System. We are a ISO 17025 accredited laboratory with highly skilled engineers to ensure that the installation validation of your monitoring system goes smoothly. The JRI system is a fully-wireless solution offering that operates on the LoRaWAN network, and communicates seamlessly to the cloud via a WiFi or Ethernet connection. In areas of low connectivity, a 4G connection can be utilized as well. When it comes time for calibrations of your sensors, Full Spectrum offers our Monitoring-as-a-Service, or MaaS, program which allows for ship-in, ship-out calibration services that offer zero downtime. We purchase a "set B" of sensors on your behalf that we calibrate and ship to you, and all you have to do is unplug the old, and plug in the new. That's it. The software is smart enough to recognize the Probe Turnover Event and records it on the audit trail while also backing up and storing all of that metrological data.

**FOR INFORMATION CONTACT THE BUYER**  
 Crystal G Hustead  
 (304) 558-2402  
 crystal.g.hustead@wv.gov

<b>Signature X</b>	<b>FEIN#</b>	<b>DATE</b>
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All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Temperature/Humidity Monitoring System	1.00000	EA	49385.230000	49385.23

Comm Code	Manufacturer	Specification	Model #
41000000			

**Commodity Line Comments:** JRI LoRa Gateway, LoRa Spy Digital Recorders, Digital Sensor Evolution Temperature, Digital Sensor Evolution Temperature/Humidity, and MySirius Advanced Cloud Software Access with Maintenance, Maps, and Alerts modules.

**Extended Description:**

Includes Probes, Cables, Modules, and Software

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Installation/Validation	1.00000	EA	24793.000000	24793.00

Comm Code	Manufacturer	Specification	Model #
41000000			

**Commodity Line Comments:** Full IOQ document with execution performed by our engineering team, two engineers on-site to install for four days, and full remote-set-up of system including domain creation performed prior to arrival.

**Extended Description:**

Installation/Validation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	Calibration	1.00000	EA	12065.000000	12065.00

Comm Code	Manufacturer	Specification	Model #
41000000			

**Commodity Line Comments:** ISO 17025:2017 Accredited 1-point As Found and 1-point As Left data, NIST traceable Certificates with Uncertainties provided, for all temperature and humidity sensors. 40x Humidity, and 116x Temperature. \*3-point calibrations are standard and preferred for these devices. Though not included in scope, if these calibrations are preferred they are available by request.

**Extended Description:**

Calibration

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	Warranty	1.00000	EA	0.000000	0.00

Comm Code	Manufacturer	Specification	Model #
41000000			

**Commodity Line Comments:** Warranty is included.

**Extended Description:**

Warranty

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	Shipping	1.00000	EA	50.000000	50.00

Comm Code	Manufacturer	Specification	Model #
78121603			

**Commodity Line Comments:****Extended Description:**

Shipping

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
6	Maintenance Service, Training & Support	1.00000	EA	0.000000	0.00

Comm Code	Manufacturer	Specification	Model #
41000000			

**Commodity Line Comments:** Remote training and technical support are included with every install and free for the first year.**Extended Description:**

Maintenance Service, Training &amp; Support



# Gateway LoRa™ JRI

Data transmission module using LoRa™ technology on private network



non contractual picture

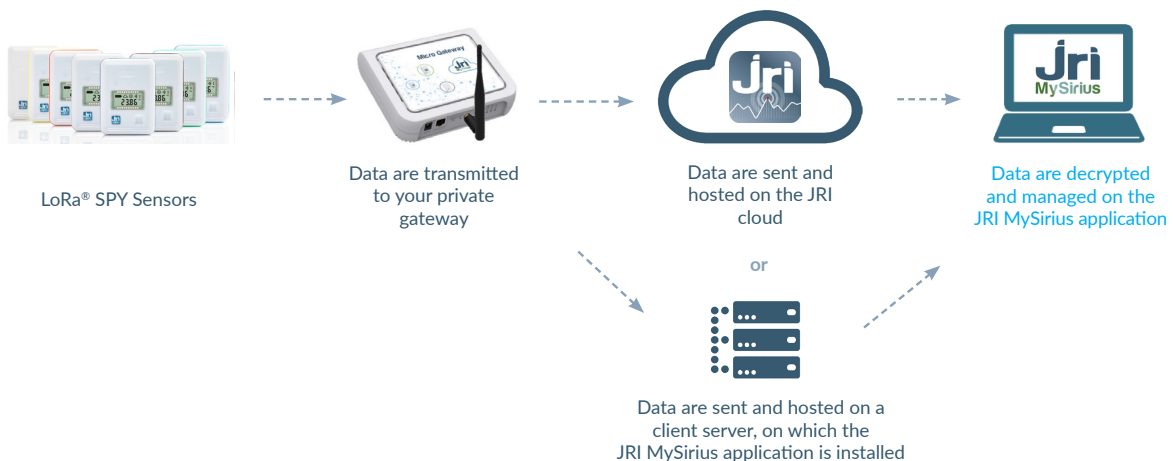


## Presentation

The Gateway LoRa™ JRI provides a private indoor coverage for the LoRa® SPY sensors.

Installed on a local ETHERNET network, or under 4G coverage area, it sends the measurements to JRI MySirius application.

JRI MySirius application is available on the JRI secured Cloud or a private local server.



## Technical features

Model : MTCAP (4G or ETHERNET)	
Cellular Frequency Band (4G model)	4G / 3G
LoRa Radio Frequency	902 - 928 MHz      863 - 870 MHz
Packet Data	100 Mbps peak downlink / 50 Mbps peak uplink
Input Power	100-240 VAC 50/60 Hz 0.4A External adaptor to 5 VDC 2.5A input
Integral Antenna Systems	Cellular (diversity) and LoRa
Connectors	Ethernet : RJ-45 Ethernet 10/100 port SIM : 3FF Micro SIM
Dimensions & weight	165x133x32 mm - 1,36 kg
Operating conditions	-10° C to +60° C / 20% to 90% RH non-condensing
Radio Compliance	FCC Part 22,24,27 EN62311, EN301 511, EN301 908-1-2, EN301 908-1-13, EN300-220
Part nr.	12708 : Ethernet 12709 : 4G      12706 : Ethernet 12707 : 4G

## Benefits

- LoRa™ connectivity within a secure private network
- Quick & Easy to deploy
- Configurations available : Ethernet and 4G
- Possibility to move or replace the antenna (Ref. 12524)



# LoRa® SPY Digital



Digital temperature recorder  
with a long-range LoRaWAN™ connectivity  
Simplified metrology services



Non contractual picture



## Presentation

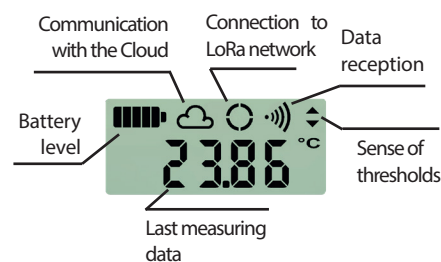
The LoRa® SPY Digital sensor measures and records temperature with an external removable probe. Data are sent to the secure JRI secure Cloud by the LoRaWAN™ network of telecom operators members of LoRa Alliance™ or by a local network. In case of threshold excursions, real-time alerts are sent. The LoRa® SPY Digital is designed to be used with JRI digital probes which have an internal memory to store their calibration adjustment coefficients and other metrological data. The calibration can be realized in laboratory by a simple exchange of the probe without monitoring interruption of your thermo-sensitive products.

## Technical features

Communication frequency	868 MHz	915 MHz
Interface	Status LED, sensitive button On/Off, LCD display	
Measurement	Depending on JRI digital probes	
Accuracy		
Memory	10 000 data points	
Radio range	Up to 16 km open field range	
Type of digital sensor	Temperature sensor Temperature/Humidity sensor On or Off	
Operating conditions	-30°C to +70°C	
Resolution	0.01	
Measuring interval	Adjustable from 1 mn to 5 mn	
Transmission and recording interval (internal memory)	Adjustable from 1 mn to 24 h	
Response time $\sigma_{90}$	< 5 mn (depending on used probe)	
Protection	IP40	
Case	Polycarbonate – Food contact	
Dimensions and weight	87 x 64 x 25 mm / ~ 100 g	
Power supply	Replaceable Lithium 3,6v battery	
Battery lifetime	2 to 4 years depending on use	
Fixing	Fixing eyelets and integrated magnets	
Supplied with	Blue JRI identification ring User manual on <a href="http://www.jri-corp.com">www.jri-corp.com</a>	
Compliance	CE, ROHS, FCC, EN 300 220, NF EN 12830 (when the 06556 probe is used in storage and transport applications)	
Standard calibration points	Depending on JRI digital probe	
Part Nr	Without Battery	11809 EX
	With Battery	11809 EU

## Benefits

- **Easy-to-use**  
The recorder is ready to-use and has operating and alarm lights
- **Excellent measurement accuracy**
- **Several modes of data exploitation**



JRI DIGITAL PROBES PART NRS	
12350	Digital temperature probe, 3m flat cable (incubator version available)
12348	Digital temperature probe, 40cm round cable
12349	Digital temperature probe, 70 cm flat cable (incubator version available)
12347	Digital temperature & humidity probe -30°C to +70°C and 0-100% RH
12204	Digital Low temperature probe 0°C to -200°C
12277EX	LoRa SPY Digital 915 SP

17 363 EN 01 05



# Temperature and humidity digital probe

## Digital Sensor Evolution

A drift managed  
for a better monitoring of your equipments



Non contractual picture

### Presentation

The temperature and humidity Digital Sensor Evolution is a digital probe experiencing a very low drift and has an internal memory to store gauging parameters. It is interchangeable to perform easily metrology operations by simple exchange and without any monitoring interruption.

Data from a metrological transaction is automatically integrated in the JRI software.

The Digital Sensor Evolution (5th generation) is compatible with the LoRa® SPY Digital recorder and with the SPY range recorders whose firmware versions are following :

SPY RF N : ≥ than v1.63 - SPY IP : ≥ than v1.25 - SPY TOUCH N : ≥ than v2.9.5.



Stainless steel filter to be used in corrosive environments

### Technical features

Measurement range	From -30 to +70°C ; 0 to 100% RH non condensing
Accuracy	±0,3°C from -20°C to +50°C and ±0,5°C outside ±2%RH from 20% to 80% and ±4%RH outside
Resolution	0.01
Type of sensor	Digital - internal PTFE filter
Type of connector	Detachable (direct or with extension lead)
Protection of connector	IP 40
Points for a standard calibration certificate	+2°C, +22°C, +38°C 20%, 50%, 80% HR
Points of gauging	-30°C, +20°C, +50°C 30%, 60% HR
Part nrs	12347 for LoRa SPY Digital 12347 T for SPY IP and SPY TOUCH (include 15cm extension lead)  Option : 11197 Stainless steel filter

### MPE of humidity sensor depending on temperature (% RH)

		TEMPERATURE					
		15	20	23 ±1°C	30	35	40
RELATIVE HUMIDITY (%RH)	0	± 6	± 5	± 4	± 5	± 5	± 6
	10	± 4	± 4	± 4	± 5	± 5	± 5
	20	± 3	± 3	± 2	± 4	± 4	± 4
	30	± 3	± 3	± 2	± 4	± 4	± 4
	40	± 3	± 2	± 2	± 3	± 4	± 4
	50	± 3	± 2	± 2	± 3	± 3	± 4
	60	± 3	± 2	± 2	± 3	± 4	± 4
	70	± 3	± 3	± 2	± 4	± 4	± 4
	80	± 3	± 3	± 2	± 4	± 4	± 4
	90	± 4	± 4	± 4	± 5	± 5	± 5
	100	± 5	± 5	± 4	± 5	± 5	± 6





# Temperature Digital Probe

## Digital Sensor Evolution

A drift managed  
for a better monitoring of your equipments



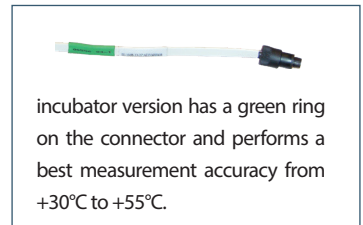
Non-contractual picture

### Presentation

The temperature Digital Sensor Evolution is a standardized (CEI751) class A PT100 sensor. It is experiencing a very low drift (type  $\leq 0.1^\circ\text{C}$ ) after one year of use and has an internal memory storing calibration coefficients. It is interchangeable and allows the realization of calibration by simple exchange without monitoring interruption. Data from a metrological transaction is automatically integrated in the JRI software.

The Digital Sensor Evolution (5th generation) is compatible with the LoRa® SPY Digital recorder and with the SPY range recorders whose firmware versions are following :

SPY RF N :  $\geq$  than v1.63 - SPY IP :  $\geq$  than v1.25 - SPY TOUCH N :  $\geq$  than v2.9.5.



incubator version has a green ring on the connector and performs a best measurement accuracy from  $+30^\circ\text{C}$  to  $+55^\circ\text{C}$ .

### Technical features

Part nr.	STANDARD MODELS			INCUBATOR MODELS
	12350	12349	12348	12350 I 12349 I
Temperature range	from $-40$ to $+80^\circ\text{C}$			from $+30$ to $+55^\circ\text{C}$
Measurement accuracy	$\pm 0,3^\circ\text{C}$ from $-40$ to $+40^\circ\text{C}$ and $\pm 0,5^\circ\text{C}$ out of this range			$\pm 0,2^\circ\text{C}$ from $+30$ to $+55^\circ\text{C}$
Dimensions & protection of sensor	$\varnothing 7 \times 36 \text{ mm}$ - Stainless steel - IP 68			
Type of cable	PVC flat cable 3m	PVC flat cable 0,7m	PVC rond cable $\varnothing 4 \times 40 \text{ cm}$	identical to standard version
Protection of sensor	IP 67		IP 68	identical to standard version
Immersion of sensor	continuous immersion in water and glycol or alcohol solutions		continuous immersion in water and glycol solutions ; short time immersion in alcohol solutions	identical to standard version
Type of connector	plug	plug with extension lead	plug	identical to standard version
Protection of connector	IP 40	IP 67	IP 40	identical to standard version
Temperature values used for a standard calibration certificate	$-18^\circ\text{C}$ , $+6^\circ\text{C}$ , $+22^\circ\text{C}$			$+30^\circ\text{C}$ , $+37^\circ\text{C}$ , $+50^\circ\text{C}$
Temperature values used for a standard calibration certificate and checking report	$-40^\circ\text{C}$ , $0^\circ\text{C}$ , $+40^\circ\text{C}$			$+30^\circ\text{C}$ , $+37^\circ\text{C}$ , $+50^\circ\text{C}$
Temperature values used for a gauging certificate	$-32^\circ\text{C}$ , $+75^\circ\text{C}$			$+30^\circ\text{C}$ , $+50^\circ\text{C}$
Preferred application	integration in chamber through door seal		ambient temperature	incubator

13 308 EN 10 19



Measurement, monitoring, and metrology



## CONNECTED SENSORS FOR A SIMPLE, CONTINUOUS QUALITY CONTROL

Automation | Real-time alerts | Centralized supervision | Compliance with regulations

[www.jri-corp.com](http://www.jri-corp.com)

# Next generation of connected sensors

Our new generation of connected temperature sensors monitors sensitive products stored in fixed and mobile cabinets. It enables you to meet the requirements of ISO 17025 and ISO EN 15189 standards with reliable and accurate measurements.



**Measuring of various parameters**  
Temperature, Humidity, Parcel opening, Delta pressure, etc...

**Real-time Alarms**  
The sensors have operating and warning **light indicators**. Alerts are sent by **SMS/text message, e-mail, and voice message** according to your alerts planning.



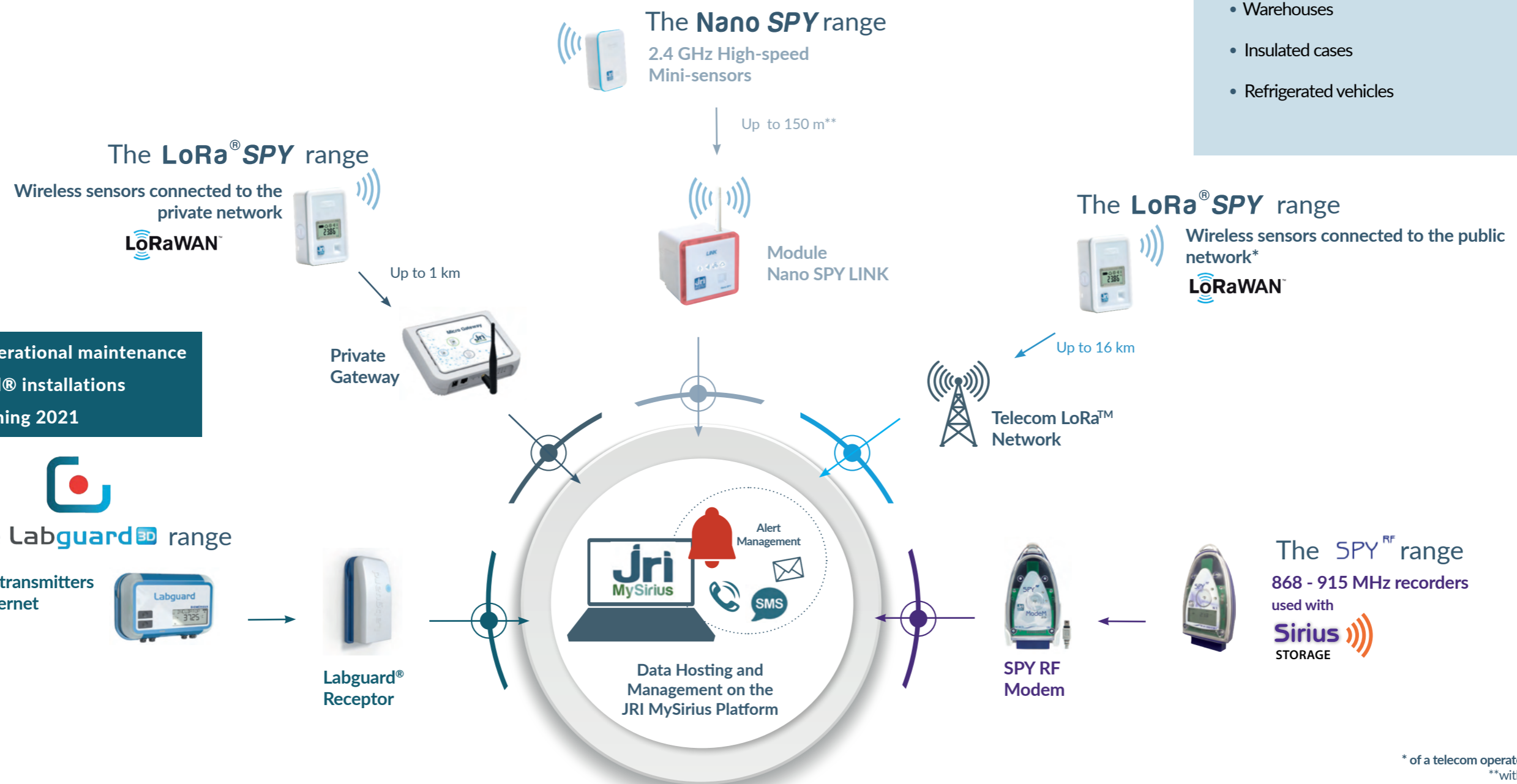
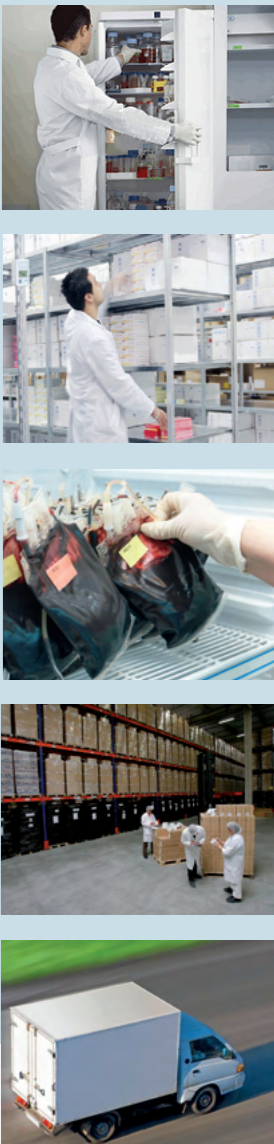
**Easy installation and use**  
Miniaturized, the sensors can be placed **as close as possible to your products** or wall-fixed with their **integrated magnet**. They are detected automatically on the JRI MySirius platform. Color rings allow to quickly determine the configuration of each sensor.

**10 000 data points recording**  
The sensors are equipped with an **internal memory** able to record up to 10 000 data points.

**Simplified Metrology**  
Calibration of the temperature sensor can be performed through **replacement by a newly calibrated one**.

Automated monitoring of fixed and mobile units with performance and adaptability

- Refrigerators, Freezers
- Incubators, Ovens
- Climatic cabinets
- Cryo-preserved
- Cold rooms
- Warehouses
- Insulated cases
- Refrigerated vehicles



\* of a telecom operator member of the LoRa Alliance  
\*\*with Nano SPY Alarm relay module

# Nano SPY

## The range of high-speed 2.4 GHz mini wireless sensors



Dimensions : 63x42x25mm

- Temperature and humidity monitoring
- True wireless sensor suitable for the monitoring of units and transport cases
- Battery life up to 6 years
- Visual alerts via the warning light indicator of the Nano SPY LINK, in case of alarm
- Bluetooth communication between the Nano SPY LINK and a smartphone or tablet equipped with the MyNanoView mobile App
- Particularly suitable for critical cabinets that require high measurement frequency



	<p><b>Nano SPY T1</b></p> <p>Mini temperature sensor that can be placed directly inside the refrigerator or the freezer (IP 68)</p> <p>Measurement range: -40°C to +85°C Accuracy: ±0.4°C from -20°C to +40°C and ±0.5°C out of this range</p>		<p><b>Nano SPY TH</b></p> <p>Mini temperature &amp; humidity (ambient) sensor particularly adapted for HVAC applications</p> <p>Measurement range: 30°C to +70°C and 0 -100% RH Accuracy: ±0.4°C from -20°C to +40°C and ±0.5°C out of this range ±3% RH from 20% to 80% ±5% RH from 0% to 20% and from 80% to 100%</p>		<p><b>Nano SPY Twin</b></p> <p>Mini temperature sensor measuring at 2 different points in a cabinet</p> <p>Measurement range: Internal probe -40°C to +85°C External probe -50°C to +105°C Accuracy: Internal probe ±0.4°C from -20°C à +40°C and ±0.5°C out of this range External probe ±0.2°C from +30°C to +50°C and ±0.5°C out of this range</p>				
	<p><b>Nano SPY T2</b></p> <p>Mini temperature sensor with external flat probe cable to be placed through the door seal, designed for refrigerators and freezers</p> <p>Measurement range: -50°C to +105°C Accuracy: Standard ±0.3°C from -20°C to +30°C and ±0.5°C out of this range Incubator ±0.2°C from +30°C to +50°C and ±0.5°C out of this range</p>		<p><b>Nano SPY T3</b></p> <p>Mini extreme temperature sensor that can be placed on the outside of the cabinet thanks to its magnet</p> <table border="1"> <thead> <tr> <th>Low temperature</th> <th>High temperature</th> </tr> </thead> <tbody> <tr> <td>Measurement range: -200°C to 0°C Accuracy: ±0.2°C from -20°C to 0°C and ±0.5°C out of this range</td> <td>Measurement range: 0°C to 100°C Accuracy: ±0.3°C from 0°C to +100°C and ±0.5°C out of this range</td> </tr> </tbody> </table>	Low temperature	High temperature	Measurement range: -200°C to 0°C Accuracy: ±0.2°C from -20°C to 0°C and ±0.5°C out of this range	Measurement range: 0°C to 100°C Accuracy: ±0.3°C from 0°C to +100°C and ±0.5°C out of this range		<p><b>Nano SPY U</b></p> <p>Universal analog input sensor recording data coming from analog probes for monitoring temperature, humidity, CO<sub>2</sub>...</p> <p>Type of input: PT100, 0-20mA / 4-20 mA, 0-1 V, On/Off or counting Measurement range and Accuracy : depending on the probe model</p>
Low temperature	High temperature								
Measurement range: -200°C to 0°C Accuracy: ±0.2°C from -20°C to 0°C and ±0.5°C out of this range	Measurement range: 0°C to 100°C Accuracy: ±0.3°C from 0°C to +100°C and ±0.5°C out of this range								
<p><b>Peripherals</b></p> <p><b>Nano SPY LINK</b></p> <ul style="list-style-type: none"> <li>• Transmission module: Data collected by the Nano SPY sensors are transmitted to the JRI MySirius platform via a Wifi or Ethernet network (or BLE).</li> <li>• The Bluetooth BLE option allows to communicate with a tablet equipped with the MyNanoView app</li> <li>• Power supply and battery backup</li> </ul> <p><b>Nano SPY ALARM/ RELAY</b></p> <ul style="list-style-type: none"> <li>• Audio and visual alert module</li> <li>• Quadruples the communication distance with a Nano SPY LINK and then allows to multiply the radio range between the Nano SPY sensors and a Nano SPY LINK module</li> <li>• Connects an external monitoring module to the dry contact outlet</li> <li>• Power supply and battery backup</li> </ul>			<p><b>Nano SPY Reference</b></p> <p>Mini temperature sensor with high precision suitable for monitoring equipments with very restricted MPE</p> <p>Measurement range: -196°C to +150°C Accuracy: ±0.15°C from 0°C to +40 °C ±0.2°C from -30°C to 0°C and from +40°C to +150°C ±0.5°C out of this range ±0.6°C at -196°C</p> <p>Reference standard device for calibration of Nano SPY sensors</p>		<p><b>Nano SPY TH for Industrial Applications</b></p> <p>High-accuracy mini sensor for temperature and humidity monitoring. Suitable for use in harsh environmental conditions. Records data from an interchangeable probe.</p> <p>Measurement range: -40°C to 85°C and 0-100% HR Accuracy: ±0.1°C and ±0.8% RH from 10°C to 30°C The data from this sensor only relates to measurement accuracy of the sensor (calibration excl.)</p>				
	<p><b>Accessories</b></p> <p>Protective shell and bracket</p>								

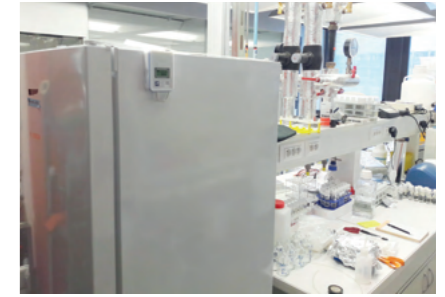











# LoRa® SPY

Wireless long range sensors connected to the LoRaWAN™ network

- **Data transmission via the LoRaWAN™ network :**
  - via the network of a private gateway
  - via the network of a telecom operator member of LoRa Alliance™ (if available)
- **Particularly suitable for monitoring:**
  - Sites with low sensor concentration
  - Storage areas spread on a wide territory
  - A need of real-time\* transportation
- **Radio range up to 16 km in open field**
- **Very low power consumption** (battery life up to 2 years)
- **Direct reading on the LCD display**

Dimensions : 87x64x25mm



	<p><b>LoRa® SPY T1</b></p> <p>Temperature and parcel opening sensor suitable for transportation/logistics and storage areas monitoring</p> <p>Measurement range : -30°C to +70°C Accuracy : ±0.4°C from -20°C to +40°C and ±0.5°C out of this range</p>		<p><b>LoRa® SPY T0</b></p> <p>Temperature sensor without display designed for cold chain monitoring during transport</p> <p>Measurement range : -35°C to +85°C Accuracy : ±0.5°C from -20°C to +30°C and ±0.8°C out of this range</p>		<p><b>LoRa® SPY TH</b></p> <p>Temperature and humidity sensor suitable for HVAC applications and warehouse storage</p> <p>Measurement range : -30°C to +70°C and 0 - 100% RH Accuracy : ±0.4°C from -20°C to +40°C and ±0.5°C out of this range ±3% RH from 20% to 80% and ±5% RH outside</p>
	<p><b>LoRa® SPY T2 Standard</b></p> <p>Temperature sensor with external flat cable probe to be placed through the door seal, designed for refrigerators and freezers</p> <p>Measurement range : -50°C to +105°C Accuracy : ±0.3°C from -20°C to +30°C ±0.5°C out of this range</p>		<p><b>LoRa® SPY Digital</b></p> <p>Sensor with external digital temperature and humidity probe designed to simplify calibration operations by replacing the probe with a newly calibrated one</p> <p>Measurement range and Accuracy : -200°C to +85°C depending on the JRI digital probe</p>	 <p>Reference device for performing LoRa® SPY sensor calibrations</p>	<p><b>LoRa® SPY Reference</b></p> <p>Temperature sensor with high precision perfectly suitable for monitoring equipments with very restricted MPE</p> <p>Measurement range : -196°C to +150°C Accuracy : ±0,12°C from 0 to +50°C ±0,20°C from -30°C to 0°C and from +50°C to +150°C ±0,50°C out of these ranges</p>
	<p><b>LoRa® SPY T2 Incubator</b></p> <p>Temperature sensor with external flat cable probe to be placed through the door seal, dedicated to incubators</p> <p>Measurement range : -50°C to +105°C Accuracy : ±0.2°C from +30°C to +50°C and ±0.5°C out of this range</p>		<p><b>LoRa® SPY U</b></p> <p>Universal analog input sensor recording data coming from analog probes for monitoring temperature, humidity, CO<sub>2</sub>, O<sub>2</sub>, pressure...</p> <p>Type of entry : PT100, 4-20 mA/0-20mA, 0-1V, On/Off or counting Measurement range and Accuracy : depending on the probe model</p>		<p><b>LoRa® SPY T3</b></p> <p>Extreme temperature sensor designed to monitor low temperature freezers</p> <p>Measurement range: -200°C to 0°C Accuracy : ±0.2°C from -20°C to 0°C ±0.5°C out of this range</p>

**LoRaWAN™** LoRa is short for «Long Range». It is a technology that allows the Internet of things to transmit small-sized data measurements on a long distance, using a low power consumption.


## Accessory

**Protection and sealing box**



## Gateway

**Gateway LoRa™ JRI**



Allows to set up a private LoRa network for transferring data recorded by the LoRa® SPY sensors to the JRI MySirius platform. Available in 4G and Ethernet version.

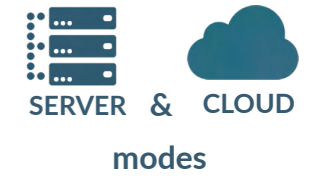
\*subject to coverage by the operator network.



# A modular and customizable supervision platform

Measurements are automatically uploaded to the secure JRI-MySirius Cloud to be hosted and operated on an user-friendly and intuitive interface.

Application available in

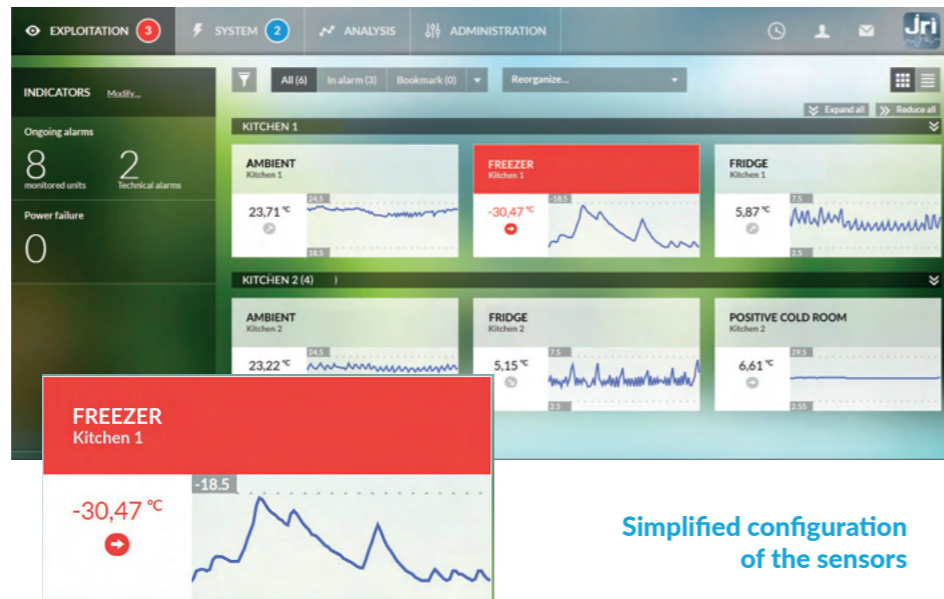


### Customizable interface

- Different indicators and favorites
- Optional modules adapted to different users' needs: Maintenance, Metrology, Map, Active Directory, etc...

### Customizable user profile management

- Unlimited number of users
- Different rights to assign per profile : Managers, Supervisors, Users, Metrologists, etc.



Simplified configuration of the sensors

### Metrolog Calibration and Mapping Software solutions

are compatible with JRI-MySirius making it easy to carry out your own in-house metrology services and generate metrology reports:

- **Metrolog Calibration Software** enables you to calibrate, verify, and adjust all types of measuring chains.
- With **Metrolog Mapping Software** you can conduct temperature mappings and check thermostatic chambers according to the FDX 15-140 (or IEC 60068-3) standard.

### Access to data 24/7

Your data is accessible wherever you are and you can share it with your colleagues over different countries.

- **Programmed updates** to give you more time to prepare your partial qualifications and training of your teams. (JRI cloud-based version only)

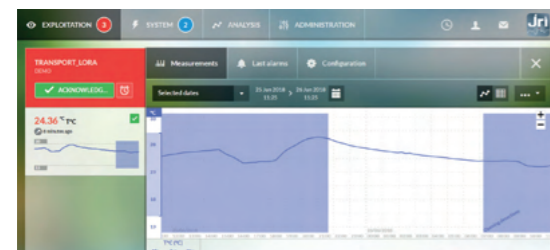
### Data integration

in third party software (via web API)

We ensure the protection of the data hosted on the JRI MySirius platform with Microsoft's Azure solution, ISO 27 001 certified and approved for Health data storage.



## Mobile Apps to view measurements and manage alerts



### Wide range of alarm options management

Multi-cascade, report using the snooze key, temporary inhibition...

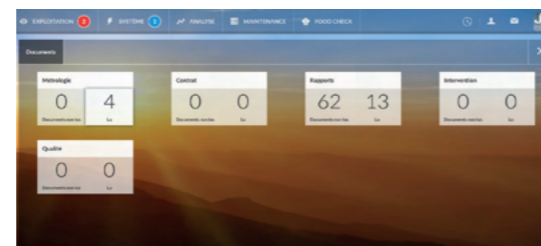


View in «Map» mode to easily locate all your equipments on a map and obtain information on every monitored units.



### Metrology management of your sensor fleet

- Consultation and metrology management of your sensor fleet: calibration, checking, mapping...
- Nano SPY and LoRa SPY sensors can be adjusted in the Maintenance module.



Document space dedicated to metrology reports and all other JRI documents concerning your system.

### MyNanoView

Bluetooth Communication

Simple and intuitive screen of measurements data of Nano SPY mini-sensors

- Operation without Internet connection to ensure the monitoring of your site even in case of computer network failure
- Use in remote screen mode to dedicate to a zone or in nomadic mode to perform spot checks

### MySiriusAlert

Mobile App for alarm management of Nano SPY and LoRa® SPY connected sensors

- Receive alert notifications
- View and acknowledge current alarms
- Visualization of the measurements of your monitored chambers
- Configure each sensor separately: Possibility to change settings according to existing templates (thresholds, alarm inhibition ...)



# Related Services

Three service levels are proposed to manage the data collected by our connected sensors.

We supply the JRI MySirius solution with a wide range of services performed by our distribution network: installation, commissioning, qualification, training, metrology services, and maintenance operations.



## Subscriptions

	INITIAL	SERENITY	ADVANCED		
SERVICES	Data Reading (maximum) measurements, graphs, history	The last 2 months	The last 18 months	The last 5 years	
	Data Archives Data reading period included	The last 12 months	The last 3 years	The last 10 years	
	Technical support Online help, tutorial	✓	✓	✓	
	Number of user accounts	2 (1 user and 1 administrator)	Unlimited	Unlimited with customizable profiles	
FEATURES	21 CFR Part 11 Compliance	-	-	✓	
	Audit Trail	-	Alarm audit trail	Full audit trail	
	Core Temperature Simulation	-	✓	✓	
	Metrology Fleet view and management	-	✓	✓	
	Adjustment	✓	✓	✓	
	Documents Reports, metrology documents	✓	✓	✓	
	Update Delay	-	-	✓	
	OPTIONAL MODULES	Connectivity Module (Web API)	✓	✓	✓
		MySiriusAlert	✓	✓	✓
		MyFoodCheck	✓	✓	✓
Advanced Maintenance		✓	✓	✓	
Calibration Module (May 2022)		-	✓	✓	
Map Module		-	✓	✓	
LDAP (Synchronisation) Server License		-	✓	✓	
SSO (Single Sign-On) Cloud Subscription		-	✓	✓	

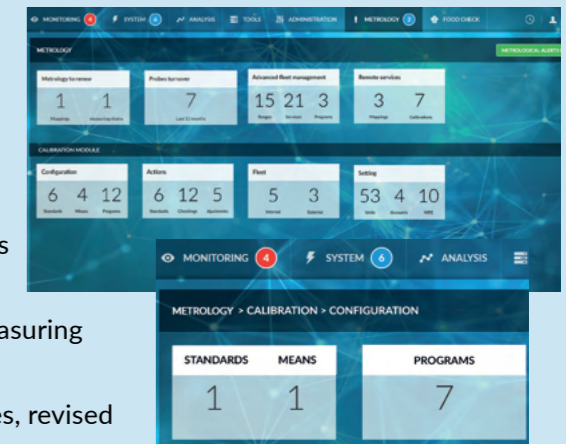


## Metrology

### The Calibration Module

The Calibration Module of the JRI-MySirius solution is compatible with the connected Nano SPY and LoRa SPY sensors, as well as with JRI digital probes and Labguard 3D probes. It enables you to automate metrology operations (calibration, checking, adjustment):

- Performing several calibrations simultaneously
- Calibration and adjustment of the sensors at multiple points
- Drift analysis between two calibration campaigns to optimize the calibration frequency
- Specification optimization using templates
- Piloting of JRI digital multi-sensor bench for calibrations and adjustments
- Piloting of calibration baths
- Management of your calibration certificates (management of all your measuring chains and monitored units)
- Automatic synchronisation of the pre-defined values (errors, uncertainties, revised specifications, dates, compliance, ...) with data resulting from the calibration on the JRI-MySirius operating software.



### Our Metrology Services

Our in-house metrology laboratory is ISO 17025 (Cofrac) accredited in temperature for :

- calibration and checking in temperature from -80°C to +200°C and at -196°C in the laboratory, and from -90°C to +140°C on site (accreditation N°2.1943 -range available on [www.cofrac.fr](http://www.cofrac.fr))
- mapping and checking according to the FD X 15140, NF EN 60068 and FDV 08 601 standards of the thermostatic chambers in the temperature range from -196°C to +140°C and water baths in the temperature range from -90°C to +140°C (accreditation N°1.2471- range available at [www.cofrac.fr](http://www.cofrac.fr))



## Maintenance

Our maintenance contracts provide the necessary interventions to maintain your installation in operational conditions and are carried out by our team of experienced distributors :

- Technical hotline access
- Extension of guarantee on hardware and software
- Remote maintenance of your application
- On-site maintenance and support

## Trainings

The JRI Academy performs training sessions for all levels : monitoring systems, metrology and skills transfer.





Play the JRI MySirius solution video !



Follow us



[www.jri-corp.com](http://www.jri-corp.com) | [info@group-mms.com](mailto:info@group-mms.com)

Distributed by



2 rue de la Voivre  
25 490 Feschés-le-Château - France  
Ph.: +33 (0)3 81 30 68 04  
[www.jri-corp.com](http://www.jri-corp.com) | [info@group-mms.com](mailto:info@group-mms.com)



Our partnerships



A company of the **MMS**  
Metrology & Monitoring Solutions Group





Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Centralized Request for Quote  
 Miscellaneous

Proc Folder: 1033322		Reason for Modification: ADDENDUM 1 TO PROVIDE ANSWERS TO VENDOR QUESTIONS	
Doc Description: TEMPERATURE/HUMIDITY MONITORING SYSTEM			
Proc Type: Central Purchase Order			
Date Issued	Solicitation Closes	Solicitation No	Version
2022-04-27	2022-05-12 13:30	CRFQ 1400 AGR2200000022	2

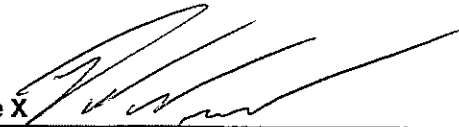
**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

Vendor Customer Code: VS0000017469  
 Vendor Name: Full Spectrum Group  
 Address:  
 Street: 2500 Gateway Centre Blvd, Suite 850  
 City: Morrisville  
 State: North Carolina Country: USA Zip: 27560  
 Principal Contact: Paul Wasmund  
 Vendor Contact Phone: 336-508-5533 Extension:

**FOR INFORMATION CONTACT THE BUYER**  
 Crystal G Hustead  
 (304) 558-2402  
 crystal.g.hustead@wv.gov

Vendor Signature X  FEIN# 68-0282707 DATE 5/12/2022

All offers subject to all terms and conditions contained in this solicitation

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: AGR220000022**

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.


**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

(Check the box next to each addendum received)

- |                                                    |                                          |
|----------------------------------------------------|------------------------------------------|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input type="checkbox"/> Addendum No. 2            | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

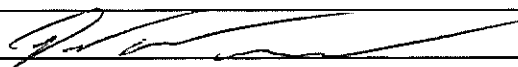
Full Spectrum Group  
Company  
  
Authorized Signature  
5/12/2022  
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.  
Revised 6/8/2012

**CRFQ AGR2200000022**

Item No.	Description	Model #/Brand Name	Quantity	Unit Price	Extended Amount
1	Temperature/Humidity Monitoring System Includes Probes, Cables, Modules, & Software		1	\$ 49,385.23	\$ 49,385.23
2	Installation/Validation		1	\$ 24,793.00	\$ 24,793.00
3	Calibration		1	\$ 12,065.00	\$ 12,065.00
4	Warranty		1	\$ -	\$ -
5	Shipping		1	\$ 50.00	\$ 50.00
6	Maintenance Service, Training, & Support		1	\$ -	\$ -
Failure to use this form may result in disqualification				<b>Grand Total</b>	\$ 86,293.23

**Bidder / Vendor Information**

<b>Name:</b>	Full Spectrum Group
<b>Address:</b>	2500 Gateway Centre Blvd, Suite 850 Morrisville, NC, 27560
<b>Phone:</b>	336-508-5533
<b>Email Address:</b>	<a href="mailto:pwasmund@fsaservice.com">pwasmund@fsaservice.com</a>
<b>Authorized Signature:</b>	



# State of West Virginia - Charleston, WV - JRI Implementation Bid

## State of West Virginia

10 Hale Street  
Charleston, WV 25301  
United States

Reference: 20220511-123129237

Quote created: May 11, 2022

Quote expires: July 10, 2022

Quote created by: Paul Wasmund

Account Executive

[pwasmund@sequenceqcs.com](mailto:pwasmund@sequenceqcs.com)

## Products & Services

Item & Description	SKU	Quantity	Unit Price	Total
MICRO GATEWAY LORA® ETHERNET 915Mhz The Gateway LoRa provides a private indoor coverage for the LoRa® SPY long-range connected sensors. Installed on a local Ethernet network, or WiFi, it sends the measurements to JRI MySirius monitoring application. Collected data are sent to the JRI MySirius application which are available on the secured JRI Cloud or a private local server.	12708	1	\$866.48	\$779.83 after 10% discount
LoRa® SPY Digital Recorder The LoRa® SPY Digital is designed to monitor temperature in cold rooms, warehouses, laboratories, or any controlled temperature facility. High accuracy accuracy dual temperature and humidity sensors are also available.  It can only be used with external removable JRI temperature or humidity digital probes which have an internal memory storing their calibration adjustment coefficients and other metrological data.	12276 X	116	\$318.50	\$33,251.40 after 10% discount

These properties allow simple

calibration by exchange with a newly calibrated temperature or humidity probe, without any monitoring interruption of your thermo-sensitive products.

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<p>Digital Sensor Evolution T   (-40 +80°C)   3m flat cable with binder connector Standard Calibration Points: (-40°C, 20°C, 80°C). Digital Evolution series probes have internal memory storing calibration coefficients along with metrological data. Ease of interchangeability facilitate the realization of calibration with a simple exchange without any monitoring interruption.</p>	12350	76	\$85.00	\$5,814.00 after 10% discount
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<p>Digital Sensor Evolution TH   (-30 +60°C / 0-100%RH) Standard Calibration points: (0°C, 30°C, 60°C : 10%RH, 50%RH, 90%RH). Digital Evolution series probes have internal memory storing calibration coefficients along with metrological data. Ease of interchangeability facilitate the realization of calibration with a simple exchange without any monitoring interruption.</p>	12347	40	\$265.00	\$9,540.00 after 10% discount
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<p>ISO ACCREDITED HUMIDITY CALIBRATION (1-POINT AF/AL) ISO 17025:2017 Accredited Humidity Calibration. 1-Points As Found data / 1-Points As Left data. NIST Traceable Certificate(s) with Uncertainties.</p>		40	\$100.00	\$3,800.00 after 5% discount
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\*3-point calibrations are standard,  
and can be added by request.

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<p>ISO ACCREDITED TEMPERATURE CALIBRATION (1-POINT AF/AL) ISO 17025:2017 Accredited Temperature Calibration. 1-Points As Found data / 1-Points As Left data. NIST Traceable Certificate(s) with Uncertainties.</p>		116	\$75.00	\$8,265.00 after 5% discount
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\*3-point calibrations are standard and can be added by request.

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MySirius Advanced Cloud up to 500 measurement points Annual access to JRI MySirius under the Advanced subscription level. Includes Maintenance, Maps, and Alerts module add-ons. 500 Measurement point maximum.	12102	1	\$5,250.00	\$0.00 after 100% discount for 1 year
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VALIDATION: JRI MySirius - IOQ QUALIFICATION PACKAGE WITH EXECUTION 24 Labor hours associated with the remote execution of the Installation and Operational Qualification of the JRI MySirius LoRa® SPY Wireless Monitoring System. IOQ documentation included.		1	\$5,000.00	\$5,000.00
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JRI LABOR 64 hours estimated for JRI related labor for on-site installation. 10 hours estimate for remote set-up.		1	\$13,770.00	\$12,393.00 after 10% discount
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TRAVEL EXPENSE Travel expenses associated with field projects. This includes, but is not limited to: transportation, per diem, equipment transport, lodging, and travel labor. Sequence follows GSA.gov guidelines for travel expensing.		1	\$7,400.00	\$7,400.00
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Shipping & Handling		1	\$50.00	\$50.00
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**Subtotals**

One-time subtotal				\$86,293.23 after \$12,749.25 discount
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**Total \$86,293.23**

## Purchase Terms

JRI Quote Assumptions | Fixed Bid

**For Monitoring Solutions Support, contact the Sequence Monitoring Team at: [Monitoring@SequenceQCS.com](mailto:Monitoring@SequenceQCS.com) or 919-234-1845**

Quote Terms: **Fixed Bid**

Assumptions:

- Service quotes are based on time necessary to complete standard calibrations of sensors in batch processes. (See terms for Standard Calibrations)
- Expected turnaround time for Sequence In-House, Metrology Laboratory, or Depot calibration service(s) is 4-6 weeks. Expedite fee may apply for reduced turnaround time.
- Additional charges may apply in cases of additional processes requested for continuous monitoring or custom calibration ranges.
- Decontamination of assets must be performed by client prior to Sequence asset acceptance.
- Client will provide sufficient time to access installation locations within the facility.
- Sequence technicians will be trained on the client's procedures for entering controlled areas, where applicable.
- Client will have IT personnel available to assist with system access.
- Client will make any penetrations into equipment, when needed. Client will provide all safety training and equipment necessary to perform the installation.
- Client will ensure power sources are available at the monitoring locations.
- Monitoring equipment will be installed in locations that do not interfere with client operations.
- The total amount shown is an estimate and may vary based on actual needs during installation.
- Fixed Bid quotes are prepared on pre-agreed upon client asset list and Standardized Calibration ranges. (See terms for Standardized Calibrations)
- Calibration Services line items are non-refundable.
- Equipment Restock fee of 20% applies to client cancellation/return after equipment ships from Sequence facility.
- Cancellation fee of \$500 or 5% of total quote, whichever is greater, plus any travel cancellation fees may be charged for client cancellation within 5 business days of agreed upon schedule start date.

Quote validity period: **60 days**

Make Purchase Order to: *Sequence, Inc., 2500 Gateway Centre Blvd, Suite 850, Morrisville, NC 27560*

E-Mail Purchase Order to: **[PWasmund@SequenceQCS.com](mailto:PWasmund@SequenceQCS.com)**

Phone: 855-844-7171

Payment and Service Terms: See ATTACHMENT A: *GENERAL SERVICE TERMS AND CONDITIONS - MONITORING SERVICES 11052021*

Technical Support Call Center Service Agreement included with 'JRI MYSIRIUS ANNUAL TECHNICAL SUPPORT' line item. Duration of agreement: 12 months (from receipt of P.O.)

## Signature

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Signature

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Date

---

Printed name

**Questions? Contact me**



Paul Wasmund

Account Executive

[pwasmund@sequenceqcs.com](mailto:pwasmund@sequenceqcs.com)

Sequence, Inc.

2500 Gateway Centre Blvd, Suite 850

MORRISVILLE, NC 27560

United States