

RELEASE NOTE SUMMARY



Overview

This document provides a compilation of Release Notes that have been published by Industrial Scientific to date. *Table 1. Document Summary* provides a list of instruments, version numbers, release dates and a brief overview of each Release Note document. Following Table 1, you will find a copy of the complete version of each document.

Document Summary

Table 1. Release Notes Document Summary

Instrument	Version	Release Date	Summary of Features Added and Issues Addressed
RGX™ Gateway			
	v3.0	4/24/23	Integration of updated global 4G modem
	v2.2	10/18/22	Integration of updated North America 4G modem
	v2.1	8/19/22	Fixes for connectivity related issues and GPS accuracy improvements
	v2.0	3/15/22	Cellular error handling fixes, LENS improvements, additional configurable options
	v1.64	1/19/22	Cellular security certificate update
	v1.63	10/14/21	Cellular Disconnect fixes and improved Cellular Error Handling Scheme
	v1.62	7/15/21	Cellular Connectivity fixes for EMEA and LENS error handling
	v1.61	12/16/20	Improved communication accuracy and reliability
	v1.6	5/21/20	SAFER One support is now available.
	v1.40.15	3/3/20	Updated certificate.
	v1.4	7/12/19	New and updated settings including beaconing mode, always on, repeater mode, and CE/RED compliance.

RGX Gateway

v3.0 – Released April 24, 2023

Upgrade Recommendation

- ☐ Critical – All instruments must be upgraded to ensure continued operation.
- ☒ Recommended – Industrial Scientific recommends you upgrade the instrument firmware to ensure optimal performance.
- ☐ Optional – Users may upgrade instruments to take advantage of new features.

Upgrade Methods

Once a firmware upgrade is scheduled from iNet Control and the RGX Gateway is connected to the cloud, the RGX Gateway will automatically upgrade within 15 minutes. While upgrading, the power button light will blink green until complete.

What's new in RGX Gateway firmware v3.0

RGX Gateway firmware v3.0 contains integration for a new cellular modem for global regions.

Global Cellular Modem

- A new RGX variant with 4G cellular modem is being rolled out for global regions. Existing RGX variants continue to be supported by this firmware.
- Note: the RGX with 4G cellular modem is wirelessly certified for certain regions. RGX outfitted with the previous 2G/3G cellular modem continues to be compatible. Please contact your sales representative for more information.

v2.2 – Released October 18, 2022**Upgrade Recommendation**

- ☐ Critical – All instruments must be upgraded to ensure continued operation.
- ☒ Recommended – Industrial Scientific recommends you upgrade the instrument firmware to ensure optimal performance.
- ☐ Optional – Users may upgrade instruments to take advantage of new features.

Upgrade Methods

Once a firmware upgrade is scheduled from iNet Control and the RGX Gateway is connected to the cloud, the RGX Gateway will automatically upgrade within 15 minutes. While upgrading, the power button light will blink green until complete.

What's new in RGX Gateway firmware v2.2

RGX Gateway firmware v2.2 contains integration for a new cellular modem for North America region.

North America Cellular Modem

- A new 4G modem has been integrated for North America regions due to obsolescence of the current modem offering.

Maintenance Items

- Dynamic Monitoring Mode setting was not being retained after upgrading from 2.0 to 2.1

v2.1 – Released August 19, 2022**Upgrade Recommendation**

- ☒ Critical – All instruments must be upgraded to ensure continued operation.
- ☐ Recommended – Industrial Scientific recommends you upgrade the instrument firmware to ensure optimal performance.
- ☐ Optional – Users may upgrade instruments to take advantage of new features.

Upgrade Methods

Once a firmware upgrade is scheduled from iNet Control and the RGX Gateway is connected to the cloud, the RGX Gateway will automatically upgrade within 15 minutes. While upgrading, the power button light will blink green until complete.

What's new in RGX Gateway firmware v2.1

RGX firmware v2.1 includes fixes for connectivity related issues, GPS accuracy improvements, and various other new features and enhancements.

New Features

- Debuglog feature has been added for enhanced troubleshooting capabilities

Enhancements

- Clear non-zero readings on iNet after Instrument Alarm
- Peer Site Name Updates Changed to Critical Event (iAssign)
- AT&T 4G support

Maintenance Items

- Communication Security Library Update
- Wifi Service Pack Update (Security Enhancements + Bug Fixes)

Bug Fixes

- GPS – Positional accuracy improvements, fix for no GPS lock received
- Connectivity related
 - Safecore Cloud Icon Does Not Match iNet Status
 - Queued events not uploaded after loss of communication
 - False Short Term / Long Term Lost (Peer Instrument and/or RGX)
- Corrected false cellular error occurrences
- Power Switch LED Status Doesn't Match iNet Status – Solid Green but Lost on iNet; Blinking Green but OK on iNet

v2.0 – Released March 15, 2022**Upgrade recommendation**

- ☐ Critical – All instruments must be upgraded to ensure continued operation.
- ☒ Recommended – Industrial Scientific recommends you upgrade the instrument firmware to ensure optimal performance.
- ☐ Optional – Users may upgrade instruments to take advantage of new features.

Whats new in RGX Gateway firmware 2.0?

Cellular Interface Security Enhancement – Cellular interface updated to use TLS1.2 cryptographic protocol. Previously TLS1.0. Ethernet and Wifi already use TLS1.2.

Proxy Servers – The use of a proxy server is available for Ethernet communication interface. These settings are available for configuration in the RGX Web Server.

Configure Wi-Fi credentials using an iAssign tag - Similar to the VPro, users can now configure Wi-Fi networks on an RGX via an iAssign tag.

Notification when RGX switches to run on battery power - With this feature, a notification and event is displayed when the power source is switched to battery power.

Configurable iNet Now notification of low battery - With this feature, the user can customize the battery % of charge at which the low battery notification is sent.

Add support for Alarm Silencer - This enables a VPro with Travel Key attached to show as "Standby" in iNet.

Support for using alternative SNTP time server - Prior to this, the SNTP time server was hard-coded into the RGX. This setting is now available for customer configuration in iNet Control.

Enhancements and bug fixes

Continued improvements to cellular error handling scheme - Prior to this resolution RGX had gaps in the cellular error handling scheme, as well as opportunities to take additional actions to recover the cellular interface functionality such as power cycling the cellular modem or rebooting the RGX.

International cellular connectivity issues - Prior to this resolution, there were various issues in establishing cellular connection across certain international countries.

Peer instruments display lost despite RGX remaining connected - Prior to this resolution, there were instances where LENS peer instruments were showing as 'lost' in iNet Now despite the RGX having solid connection to iNet and the LENS peer.

v1.64 – Released January 19, 2022**Upgrade recommendation**

- ☒ Critical – All instruments must be upgraded to ensure continued operation.
- ☐ Recommended – Industrial Scientific recommends you upgrade the instrument firmware to ensure optimal performance.
- ☐ Optional – Users may upgrade instruments to take advantage of new features.

Upgrade Methods

- For customers using RGX v1.63:
 1. Customer Success will be scheduling the firmware upgrade on behalf of affected customers that will occur at 5:30 AM EST on January 20th, 2022.

2. If customers are able to connect cellular RGX units to iNet via WiFi or Ethernet by the scheduled upgrade time the unit will automatically upgrade to v1.64. Connection via WiFi or Ethernet is required to receive the firmware update. Details on how to connect the RGX via WiFi and/or Ethernet can be found beginning on Page 21 of the [RGX Product Manual](#).
 3. Beginning at 5:30 AM EST on January 20th, cellular-connected RGX units on FW v1.63 will no longer upload to iNet.
 4. If the customer is unable or unwilling to update via WiFi or Ethernet, the customer can elect to send their RGX units to Industrial Scientific for Exchange (for iNet Exchange customers) or service. If a service option is elected, the Service Team will provide a free upgrade to the existing RGX unit to FW v1.64 and send it back to the customer. Please note that Exchange process timing may be affected by potential volume related to this upgrade.
- For customers using RGX v1.62 (and lower):
 1. Customer Success will be scheduling the firmware upgrade on behalf of affected customers that will occur at 5:30 AM EST on January 20th, 2022.
 2. Customers must ensure that cellular RGX units are powered on and uploading to iNet in order to upgrade the unit to v1.64.
 3. If this upgrade is not completed by 7AM EST tomorrow (1/20), cellular-connected RGX units will no longer upload to iNet.
 4. If the customer is unable to maintain connectivity to receive the scheduled firmware upgrade, the customer can subsequently pursue two alternative options: 1) connect via WiFi or Ethernet to receive the new firmware version v1.64 (details on how to connect the RGX via WiFi and/or Ethernet can be found beginning on Page 21 of the [RGX Product Manual](#)) or 2) send their RGX units to Industrial Scientific for Exchange (for iNet Exchange customers) or service. If a service option is elected, the Service Team will provide a free upgrade to the existing RGX unit to FW v1.64 and send it back to the customer. Please note that Exchange process timing may be affected by potential volume related to this upgrade.

What's new in RGX Gateway firmware v1.64

Certificates – This firmware version includes an updated certificate used while connecting RGX Gateways to iNet Now.

Note: Upgrades to cellular connected RGXs must be completed prior to Jan. 20, 2022 by 7:00am to ensure continued connectivity to iNet Now.

Please review upgrade methods section above for further details on how to upgrade and next steps if not updated by the deadline provided above

v1.63 – Released October 14, 2021

Upgrade recommendation

- ☐ Critical – All instruments must be upgraded to ensure continued operation.
- ☒ Recommended – Industrial Scientific recommends you upgrade the instrument firmware to ensure optimal performance.
- ☐ Optional – Users may upgrade instruments to take advantage of new features.

Upgrade Methods

Once a firmware upgrade is scheduled from iNet Control and the RGX Gateway is connected to the cloud, the RGX Gateway will automatically upgrade within 15 minutes. While upgrading, the power button light will blink green until complete.

What's new in RGX Gateway firmware v1.63

Improved Cellular Error Handling Scheme – Prior to this resolution RGX had gaps in the cellular error handling scheme, as well as opportunities to take additional actions to recover the cellular interface functionality such as power cycling the cellular modem or rebooting the RGX.

RGX Cellular Permanent Disconnect From iNet – Prior to this resolution RGX would permanently disconnect from iNet when operating on the cellular interface.

Enhancements and bug fixes

v1.62 – Released July 15, 2021

Upgrade recommendation

- ☐ Critical – All instruments must be upgraded to ensure continued operation.
- ☒ Recommended – Industrial Scientific recommends you upgrade the instrument firmware to ensure optimal performance.
- ☐ Optional – Users may upgrade instruments to take advantage of new features.

Upgrade Methods

Once a firmware upgrade is scheduled from iNet Control and the RGX Gateway is connected to the cloud, the RGX Gateway will automatically upgrade within 15 minutes. While upgrading, the power button light will blink green until complete.

What's new in RGX Gateway firmware v1.62

Improved Handling of Error Code Uploads – Prior to this resolution RGX would transmit multiple 971 with the same error date but different upload dates.

Send Error Codes 926, 927, and 905 to iNet, to assist in data collection regarding the LENS 971 Error

926 - LENS Fatal Error Network Status

927 - LENS Heartbeat Error

905 - SRAM Access Refused

RGX Real Time Clock synchronized with time server during modem initialization – Previously relied on cellular provider to provide current date/time, which is a tower dependent setting and therefore not a reliable approach.

Add Closed Loop Feedback to RGX with Ventis Pro LENS connection – Ventis Pro can go into an area where it hears an RGX, but the RGX does not hear the VPro. This would cause the VPro to show 'lost' in iNet but display a solid cloud on the VPro device. Closed loop feedback was added so that the VPro is now able to identify when it is not being heard by the RGX and properly displays the slashed cloud icon.

Enhancements and bug fixes

v1.61 – Released December 16, 2020

Upgrade recommendation

- ☐ Critical – All instruments must be upgraded to ensure continued operation.
- ☒ Recommended – Industrial Scientific recommends you upgrade the instrument firmware to ensure optimal performance.

- ☐ Optional – Users may upgrade instruments to take advantage of new features.

Upgrade Methods

Once a firmware upgrade is scheduled from iNet Control and the RGX Gateway is connected to the cloud, the RGX Gateway will automatically upgrade within 15 minutes. While upgrading, the power button light will blink green until complete.

What's new in RGX Gateway firmware v1.61

- Elimination of short term/long term lost error when the RGX is continuously powered
 - Prior to this resolution periodically the RGX would transmit instrument data but appear to be in short / long term lost
- Increased communication accuracy and reliability
- Improved status communication between instrument and RGX
- Improved GPS Accuracy and Communication
- Improved RGX reliability in reporting data to iNet
- Improved reliability on Ethernet Communication

v1.6 – Released May 21, 2020

Upgrade recommendation

- ☐ Critical – All instruments must be upgraded to ensure continued operation.
- ☒ Recommended – Industrial Scientific recommends you upgrade the instrument firmware to ensure optimal performance.
- ☐ Optional – Users may upgrade instruments to take advantage of new features.

Upgrade Methods

Once a firmware upgrade is scheduled from iNet Control and the RGX Gateway is connected to the cloud, the RGX Gateway will automatically upgrade within 15 minutes. While upgrading, the power button light will blink green until complete.

What's new in RGX Gateway firmware v1.6?

SAFER One Support – This firmware version includes updates to the way data is uploaded for use in SAFER One, Industrial Scientific's software product that allows you to identify the source, severity, and impact of any chemical situation. SAFER One customers can now select the "Dynamic Monitoring Mode" setting to optimize RGX for use with the software.

Enhancements and Bug Fixes – This release also includes enhancements to support future product development as well as minor bug fixes. (RGXFIRM-209, RGXFIRM-210, RGX-250)

v1.40.15 – Released March 3, 2020

Upgrade recommendation

- ☒ Critical – All instruments must be upgraded to ensure continued operation.
- ☐ Recommended – Industrial Scientific recommends you upgrade the instrument firmware to ensure optimal performance.
- ☐ Optional – Users may upgrade instruments to take advantage of new features.

Upgrade Methods

Once a firmware upgrade is scheduled from iNet Control and the RGX Gateway is connected to the cloud, the RGX Gateway will automatically upgrade within 15 minutes. While upgrading, the power button light will blink green until complete.

What's new in RGX Gateway firmware v1.40.15?

Certificates – This firmware version includes an updated certificate used while connecting RGX Gateways to iNet Now. *Note: Upgrades must be completed prior to March 28, 2020 to ensure continued connectivity to iNet Now. (RGXFIRM-196)*

v1.4 – Released July 12th, 2019

Upgrade recommendation

- ☐ Critical – All instruments must be upgraded to ensure continued safe operation.
- ☒ Recommended – Industrial Scientific recommends you upgrade the instrument firmware to ensure optimal performance.
- ☐ Optional – Users may upgrade instruments to take advantage of new features.

Note: iAssign Beacon functionality in the RGX Gateway is only compatible with RGX units built after May 2019. Units built before this date must be sent to a service center for an upgrade.

Upgrade Methods

Once a firmware upgrade is scheduled from iNet Control and the RGX Gateway is connected to the cloud, the RGX Gateway will automatically upgrade within 15 minutes. While upgrading, the power button light will blink green until complete.

What's new in RGX Gateway firmware v1.40?

- **iAssign beaconing** – Users can now set the RGX Gateway to act as an iAssign Beacon, assigning site names and restriction levels to Ventis® Pro instruments 1, 5, 20, or 30 meters away. When acting as an iAssign Beacon, the RGX Gateway will use its current site as the site it assigns to the instruments. (RGX-24)
- **Repeater mode** – When acting in repeater mode, an RGX Gateway will not relay any LENS data to the cloud. An RGX in repeater mode can connect LENS peers, fill a distance gap, or extend a LENS wireless group. (RGX-23)
- **Verizon SIM Support** – The RGX Gateway will now be orderable with a Verizon SIM. (RGX-46)
- **Always on mode** – Always on mode prevents an RGX Gateway from being powered off in the field. Once set in iNet Control, the only way to power an RGX Gateway off is to turn always on mode off, let the RGX Gateway do a settings update, and then use the power button as normal. (RGX-21, RGX-39)
- **Lower the critical data interval** – While in an alarm state an RGX can now send updates at a user defined interval between 30-300 seconds. (RGX-26)

- **Wireless radio power settings for CE/RED compliance** – This firmware update allows the adjustment of the LENS radio power to follow CE/RED compliance. The two new settings for this feature are *World Mode* and *CE/RED Compliant*. (RGX-31)
- **GDPR Compliance** – Encrypted keys and passwords to comply with the General Data Protection Regulations (GDPR). (RGX-112)

Enhancements and Bug Fixes

Other bugs and enhancements addressed during this firmware update: (RGX-20, 27, 28, 38, 41, 44, 48, 60, 64, 65, 66, 68, 86, 88, 95, 108, 110, 123, 132, 138, 149, 168)