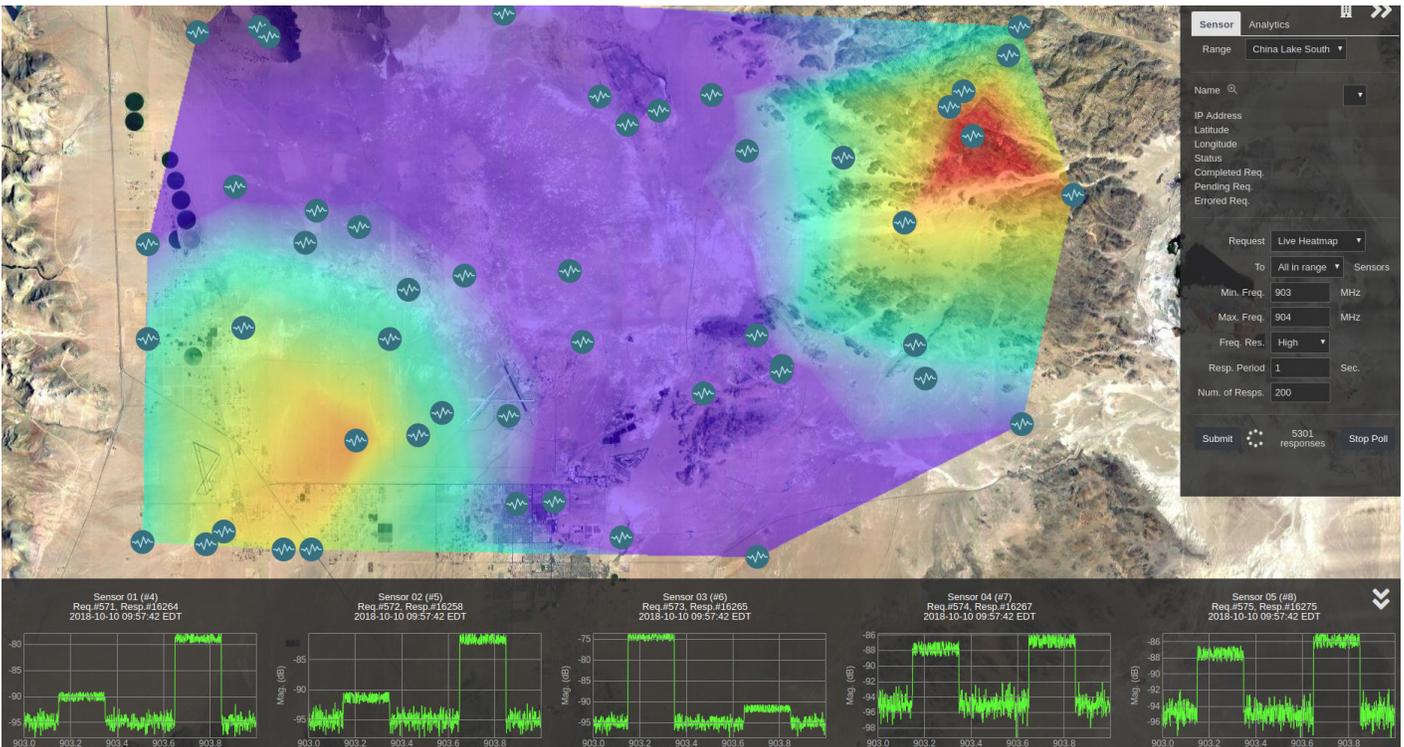




Peraton LABS

SECURESENSE™

RF SENSOR NETWORK AND VIRTUALIZED BACK-END SERVER SYSTEM FOR
SPECTRUM SITUATIONAL AWARENESS



SecureSense provides dynamic, easy-to-use visualizations for analysts and operators including a live heat map of spectrum use and live spectrum scanning to drill down on specific emitters or locations.

SecureSense Value and Benefits:

- Cost-effective spectrum situational awareness focused on your frequencies of interest— wherever and whenever you need it
- Advanced, distributed signal processing and flexible management of networked sensors for faster, more accurate detection, classification, and geolocation at lower cost
- Designed to meet high security and reliability requirements to ensure the integrity of the sensor network and the spectrum data and analytics
- Scalable, adaptive system easily expands to support numerous sensors, users, and changing conditions
- Easy to use, customizable visualizations and GUIs provide effective tools for operations and analysis

NEAR-REAL-TIME INTELLIGENCE ON SPECTRUM USAGE

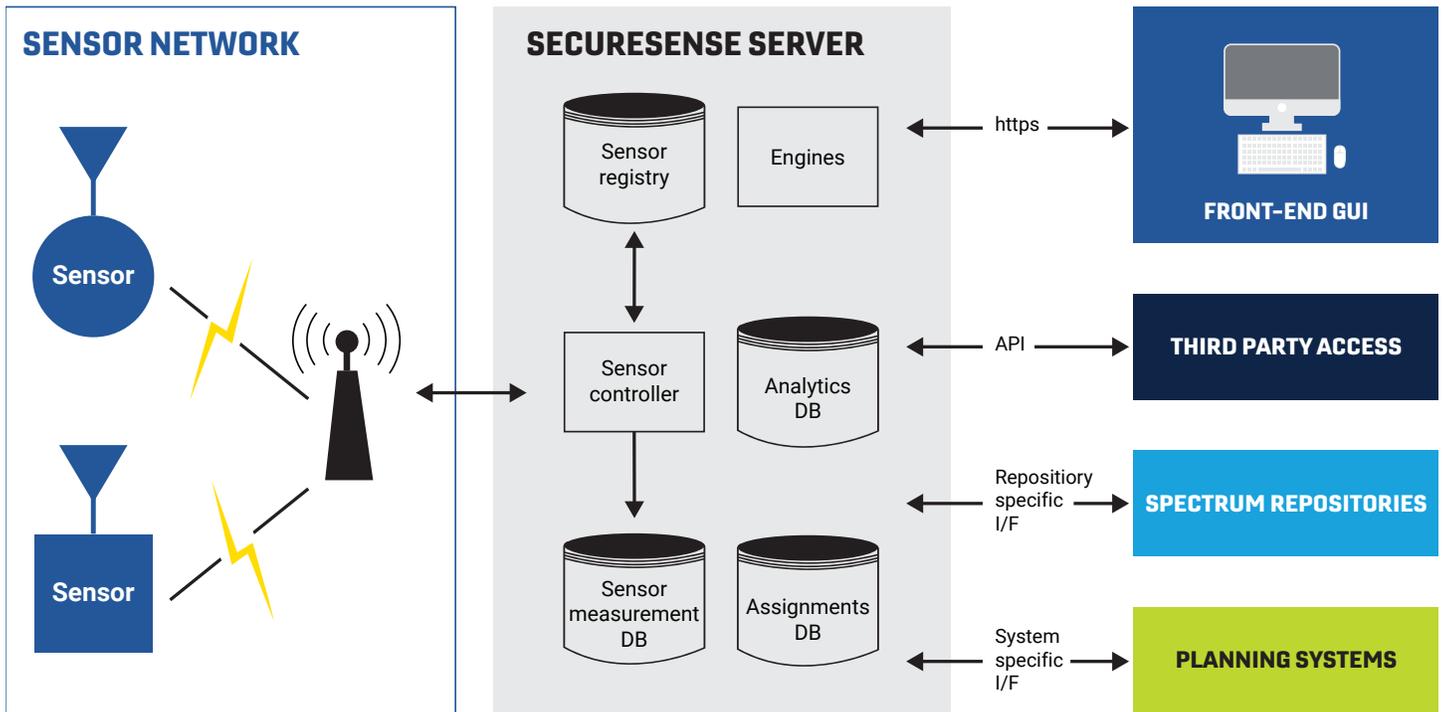
Peraton Labs' SecureSense™ delivers unparalleled insight and protection for radio frequency (RF) spectrum. Leveraging leading-edge sensor technology, a high-reliability management system, novel signal processing techniques, and a state-of-the-art big data analytics platform, SecureSense provides analysts with near-real-time visibility into spectrum use at the place, time, and frequencies of interest.

Designed and developed by Peraton Labs with support from the U.S. government through the National Spectrum Consortium, SecureSense delivers actionable spectrum situational awareness to monitor spectrum use, rapidly identify unexpected emitters and efficiently support mission needs. Utilizing large numbers of inexpensive sensors in a sophisticated networked arrangement together with powerful distributed signal processing techniques, SecureSense achieves more accurate spectrum intelligence at a lower cost in the most demanding environments.



Deployed SecureSense RF sensor

SecureSense is designed and engineered to work across a variety of rural and urban outdoor environments including Department of Defense (DOD) training centers and test and evaluation facilities. SecureSense delivers complete geographic coverage across a wide frequency range and detects low power emitters irrespective of environmental clutter, including buildings or other line-of-sight blockages and significant interference, whether intentional or unintentional. Rugged sensor platforms can be easily and safely operated in remote areas with configuration changes and software updates delivered via the sensor management system. The high-efficiency data transfer solution and flexible data analytics platform support a wide range of users and diverse use cases.



SecureSense architecture is flexible, modular and highly scalable to support many different types of sensors across wide geographic areas and large numbers of end users.

SECURESENSE SERVER

The SecureSense server comprises back-end server and front-end graphical user interface (GUI) and is engineered to support diverse sensors, including existing sensor networks. SecureSense uses sophisticated resource management techniques to automatically focus more capable sensors on locations of interest in response to smart data analytics, sensor network status reporting and analyst requests.

Features include:

- Robust, scalable sensor management system providing adaptive configuration and control of distributed sensors
- Expandable and flexible modular back-end data storage and visualization system to adapt to diverse environments and handle large numbers of simultaneous users and sensors
- Exploration of terabytes of current and historical sensor data for analysis of spectrum usage and activity within a large or small area
- Easy to use customizable GUI and flexible interfaces/ application programming interfaces (API) for planning systems, spectrum repositories, etc.

SECURESENSE RF SENSORS

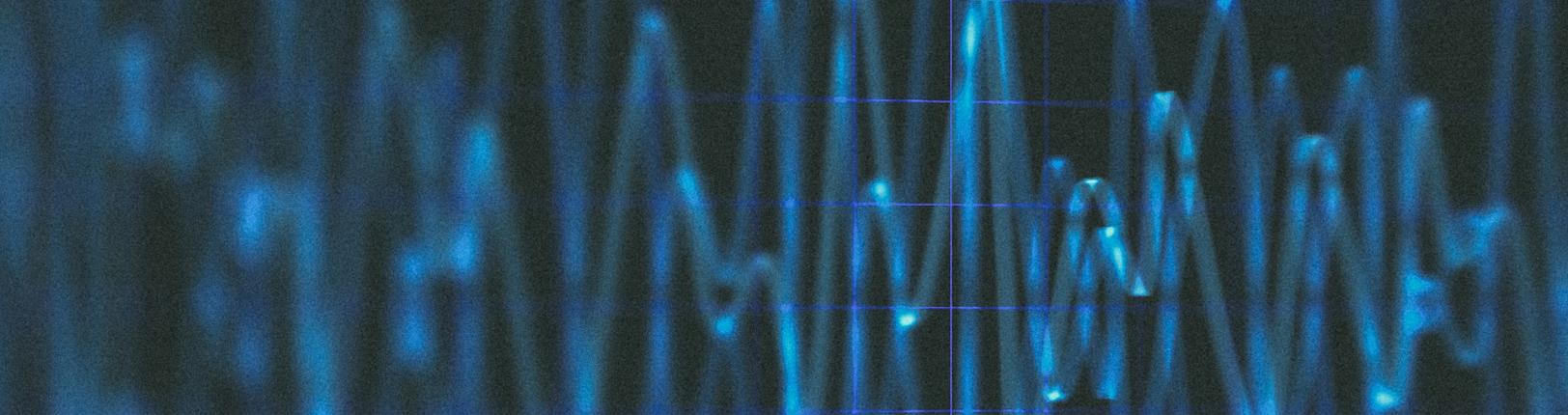
The SecureSense RF sensors are engineered for optimal use with the SecureSense server. Features include:

- Inexpensive, distributed sensors utilizing COTS software-defined radio technology for simple reconfigurability, low cost and full coverage

- Low power, fault-tolerant sensor platforms based on years of successful, continuous operation of our SecureSmart™ radio probes in outdoor utility field area SCADA networks
- Powerful methods for distributing signal processing for more precise detection, classification, and geolocation of RF emitters
- Sophisticated resource management techniques to efficiently allocate the right sensor to the right task
- Frequency range coverage of 70 MHz to 6 GHz with up to 60 MHz instantaneous bandwidth and a range of processing capabilities

PRODUCT INFORMATION

SecureSense server: SecureSense server software products support the full range of RF spectrum operations, from the configuration and spectrum scan data collection for a single low-cost sensor, running on a commodity consumer-grade PC to a distributed, cloud-deployed infrastructure coordinating the operations of thousands of individual sensors in developing and maintaining sophisticated spectrum situational awareness and analytics. Peraton Labs' SecureSense server software is tightly integrated with SecureSense sensor firmware. All products incorporate the core SecureSense sensor management suite. The suite provides operational compatibility across all SecureSense sensor hardware products including common protected sensor control and management protocol, spectrum scanning controller, remote sensor status and configuration, and remote sensor firmware update.



Features include:

- Recording and playback of spectrum measurements with time/frequency visualizations
- Map-based display of sensor locations with RF energy heat map

SecureSense sensor firmware: Core SecureSense sensor agent firmware is available for license and use with diverse radio frequency sensors. Features include:

- Common SecureSense protected sensor control and management protocol
- Spectrum scanning engine
- Remote sensor status and configuration
- Remote firmware update

SecureSense sensors: A variety of SecureSense radio frequency sensors include basic and advanced sensors—with single, dual or quad antennas, low-cost sensors, ruggedized sensors, and mobile sensors. Features include:

- RF spectrum sensing from 70 MHz to 6 GHz
- Integrated GPS receiver for self-referenced time and location

- Line or local battery power options
- Wired or wireless control and data backhaul links
- Headless operation—no local GUI
- Operational compatibility across all hardware families
- Core SecureSense sensor agent firmware for remote or local operation
- Integrated encryption of sensor data link
- Ruggedized SecureSense RF Sensors features include:
 - IP6x-rated enclosure
 - Extended ambient temperature operation from -20°C to more than 50°C
 - External RF connectors supporting various antenna configurations
 - Tamper detection via door switch and accelerometer



Scan the QR code to learn more at peratonlabs.com/securesense

ABOUT PERATON

Peraton drives missions of consequence spanning the globe and extending to the farthest reaches of the galaxy. As the world's leading mission capability integrator and transformative enterprise IT provider, we deliver trusted and highly differentiated national security solutions and technologies that keep people safe and secure.

Peraton serves as a valued partner to essential government agencies across the intelligence, space, cyber, defense, civilian, health, and state and local markets. Every day, our 22,000 employees do the can't be done, solving the most daunting challenges facing our customers.

Our vision is to be the company that national security customers consistently rely on to solve their most daunting challenges, to create solutions supporting their most vital missions, and to manage their most valued assets.