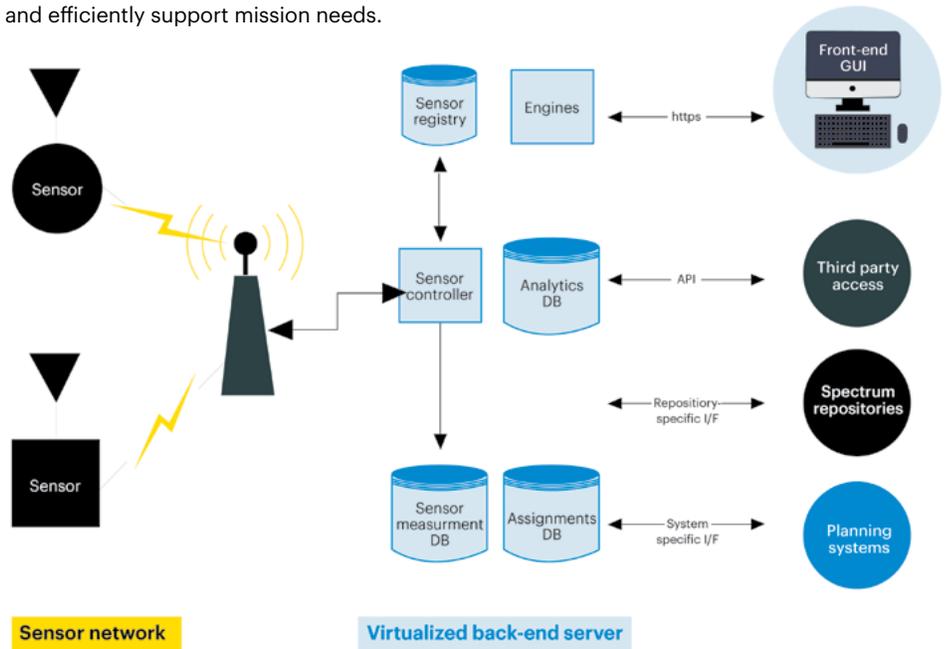# SecureSense™

Near-real-time intelligence on spectrum usage

Perspecta Labs' SecureSense delivers unparalleled insight and protection for radio frequency (RF) spectrum. Leveraging Perspecta Labs' leading-edge sensor technology, high-reliability management system, novel signal processing techniques, and 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. SecureSense utilizes multiple sensors in a sophisticated networked arrangement, together with powerful distributed signal processing techniques, to achieve more accurate spectrum intelligence at lower cost in the most demanding environments. SecureSense delivers affordable, actionable spectrum situational awareness to monitor spectrum use, rapidly identify unexpected emitters and efficiently support mission needs.

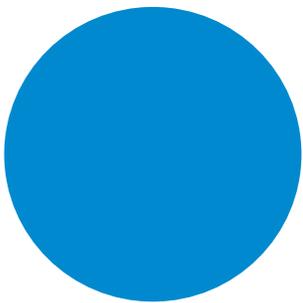

Sensor network **Virtualized back-end server**

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.
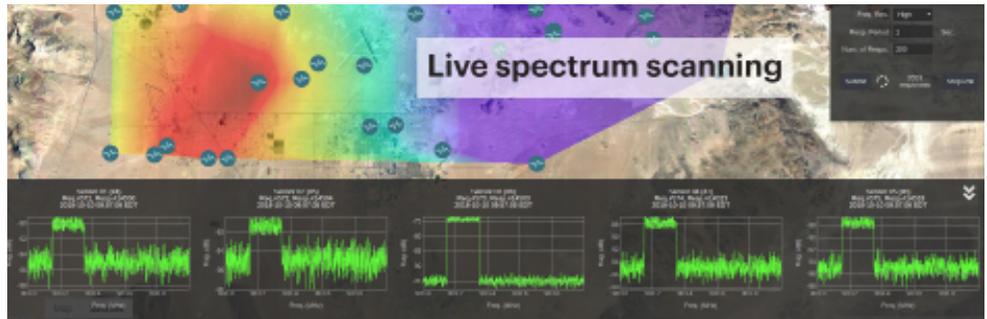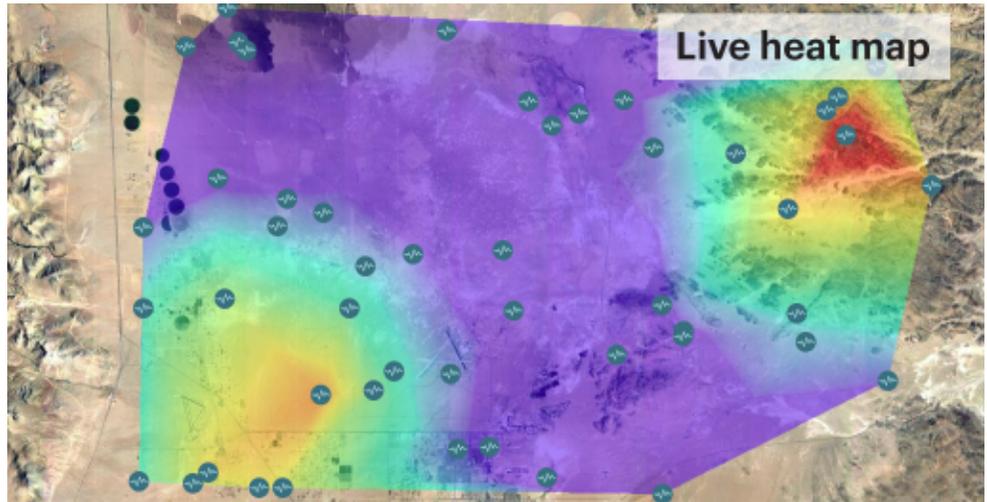
RF sensor features:

- Inexpensive, distributed sensors utilize COTS software defined radio (SDR) technology for simple reconfigurability, low cost and full coverage even in challenging or cluttered settings
- 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 distributed signal processing harness the large number of configurable sensors for more precise detection, classification and geolocation of RF emitters
- Sophisticated resource management techniques allocate the right sensor to the right task in an efficient way
- SecureSense sensors cover the frequency range 10 MHz to 6 GHz with up to 60 MHz instantaneous bandwidth and a range of processing capabilities

Back-end server features:

- Robust, scalable sensor management system provides adaptive configuration and control of the distributed sensors and easily manages 10,000 sensors or more
- Modular back-end data storage and visualization system is flexible and easily expandable to adapt to diverse environments and handle large numbers of simultaneous users and sensors
- Big data analytics techniques allow exploration of terabytes of current and historical sensor data for analysis of spectrum usage and activity within a large or small area

perspecta
LABS

Live heat map

Live spectrum scanning

SecureSense is designed and engineered to provide near-real-time intelligence on spectrum usage across a variety of outdoor environments, including DoD training centers and test and evaluation facilities.

The use of many, low-cost sensors delivers complete geographic coverage across a wide frequency range and the ability to detect low power emitters even in cluttered environments with significant interference, intentional and 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 value and benefits:

- Cost-effective spectrum situational awareness wherever and whenever you need it

- Advanced distributed signal processing and adaptive management of networked sensors

- Designed to meet high security and reliability requirements

- Scalable, adaptive system that easily expands to support large numbers of sensors and users and automatically adapts to change

- Easy-to-use, customizable visualizations and GUIs