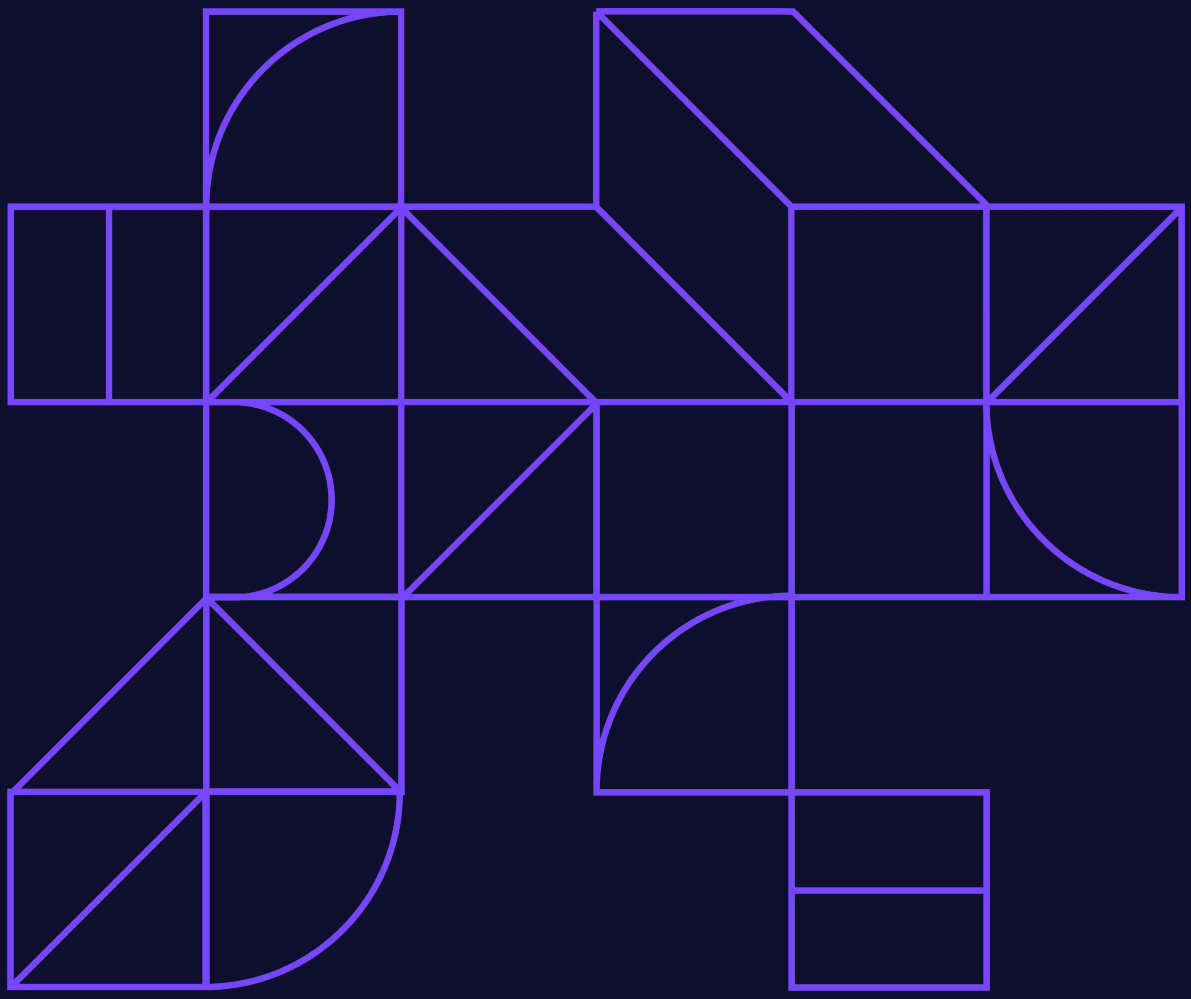


VergeSense L302

Data Sheet

VERGE SENSE

VergeSense L302

Data Sheet

VergeSense creates technologies to help you truly understand the ways people use your spaces.

Our newest wireless sensor, the VS-L302, offers best in class battery life, enterprise ready scalable connectivity, easier installation, and real-time data collection and reporting. Accessing the best data for better decision making has never been easier.

VergeSense L302 Wireless Person Counting Sensor

The VergeSense Difference

- **Easy installation** — 100% wireless and battery operated
- **Timely insights** — delivers real-time occupancy and person count data
- **Private by design** — sensors transmit textual data only, no raw or visual data.
- **Scalable and secure** — uses proprietary self healing mesh network to enable strong and expansive coverage with options to isolate from existing network infrastructure
- **Powerful analytics** — cutting-edge AI that learns and gets smarter

How It Works

The VergeSense wireless sensor system is comprised of three components.

Sensors

Wireless, battery-operated sensors process raw data locally and transmit processed textual data to local gateway via a proprietary scalable mesh network.

Gateway

Gateway devices connect to the sensor mesh network to transfer textual data to the cloud. Gateways utilize a cellular or corporate backhaul for cloud connectivity.

Cloud Analytics & API

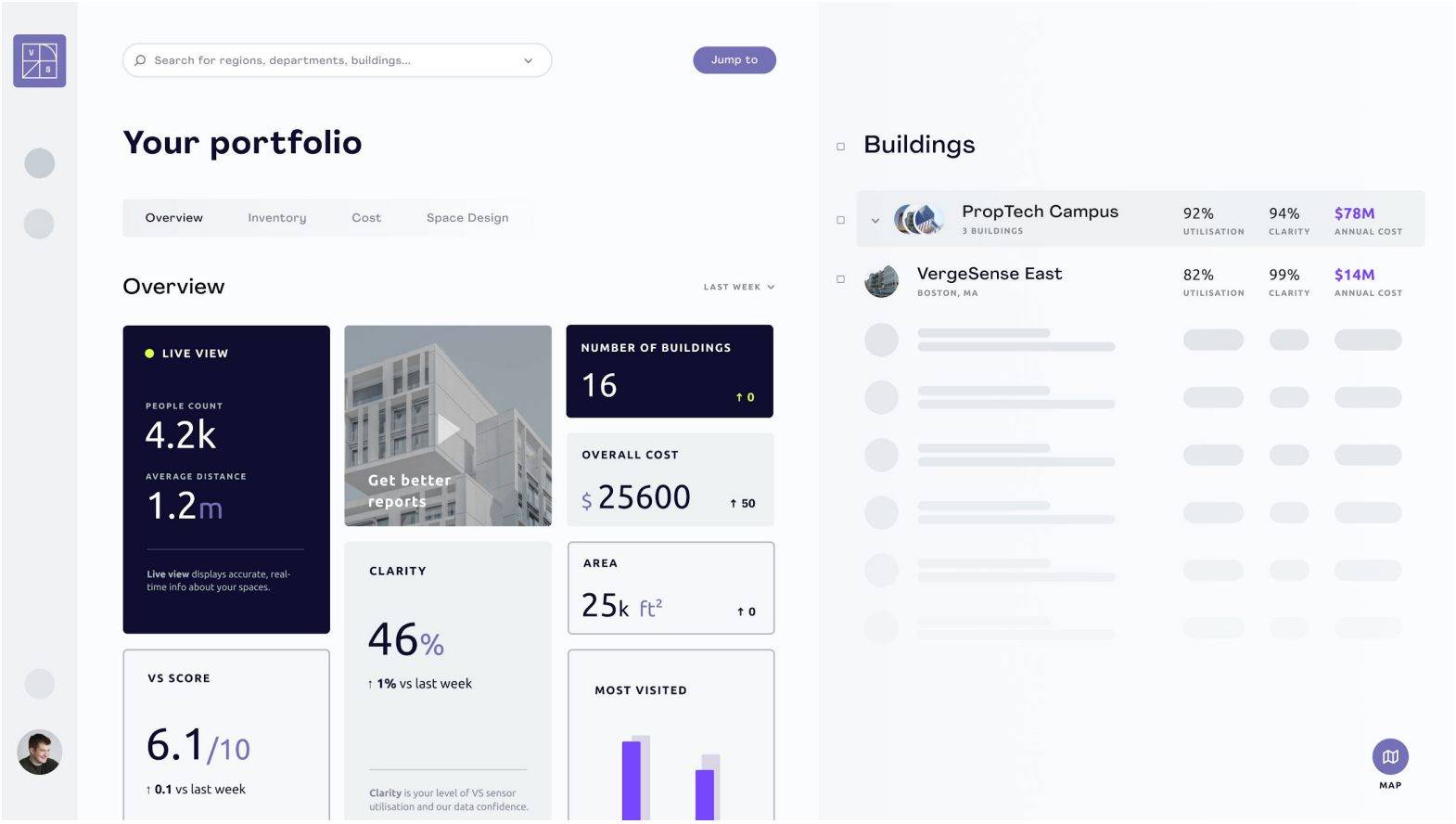
Anonymous data is analyzed in the cloud and can be consumed via the VergeSense analytics platform or exported via the VergeSense API.

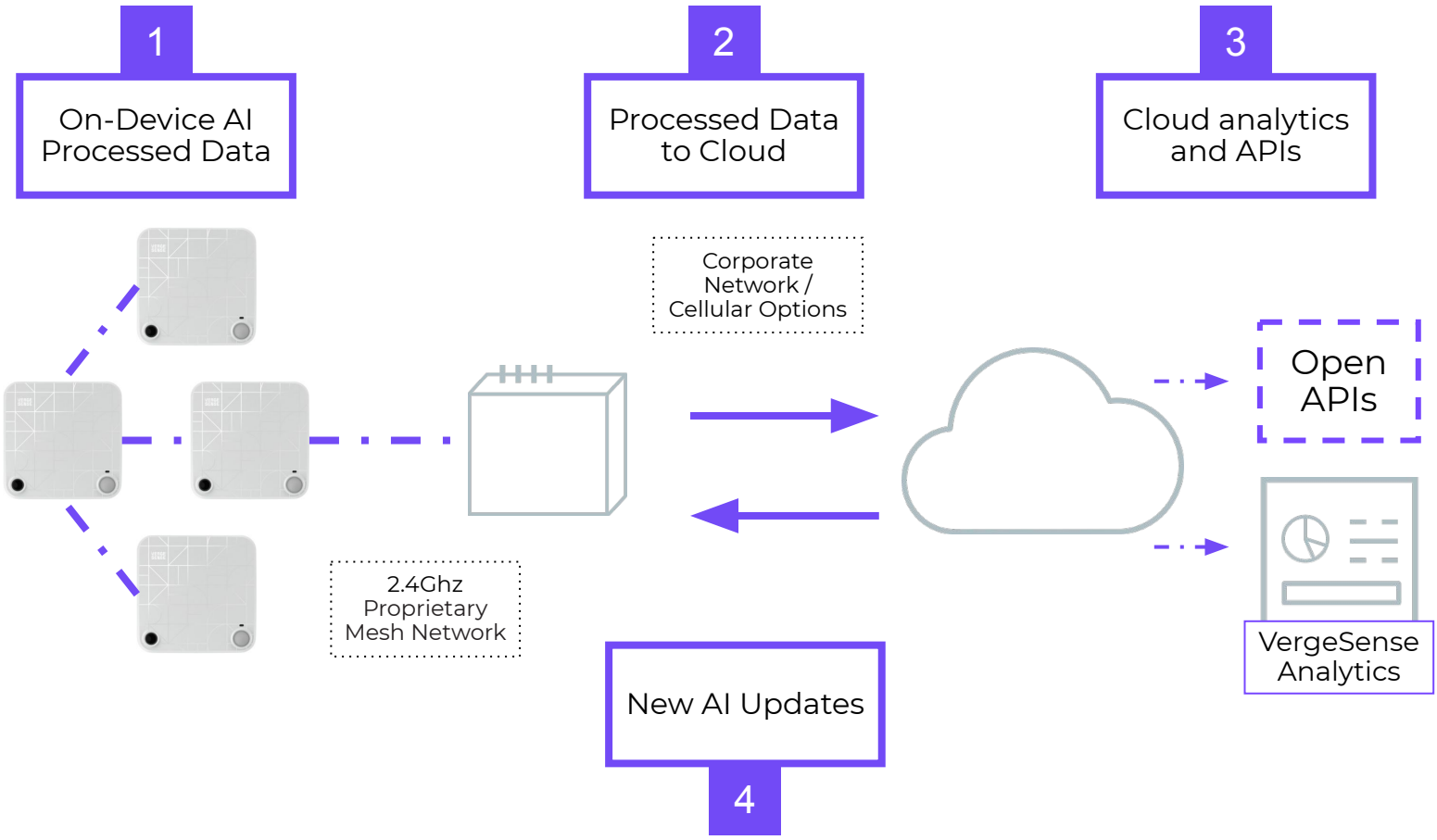
Cloud Learning

As we develop more powerful deep-learning modules, new models are pushed to the devices. Sensors continually improve and gain new skills with time.

Powerful Analytics

The VergeSense Analytics platform turns space data into insights and recommendations. When combined with other information on your workspace and workforce, VergeSense can help you improve the use of shared spaces, reduce desk vacancy, decrease energy consumption, and lower real estate overhead by allocating workspace efficiently. Seamless API integration with Workspace Software means that you can also do Asset Search and Room Finding right from your smartphone or Kiosk solution.





How It Works

Step 1

The sensor wakes and captures a raw data point using its wide-angle (160 degrees) fisheye lens. The raw data point low resolution array of pixels, which processed using VergeSense AI on device. The processed data is transmitted to the gateway using an isolated proprietary mesh network created by the VergeSense Sensors. The VergeSense sensors and gateway do not use your facility's existing IT infrastructure.

Step 2

The gateway connects the sensor mesh network to the cloud. The occupancy data is then transmitted to the VergeSense Cloud via LAN or cellular network using the MQTT protocol.

Step 3

Data on the VergeSense Cloud is available via the VergeSense Analytics Platform or exported via the VergeSense APIs. Utilization and occupancy information for your facility is ready at any time. The data captured via the VergeSense system is yours and can be easily integrated into existing BI tools and workspace management solutions.

Step 4

As VergeSense develops new machine-learning models, they can be pushed to gateways and sensors remotely (without requiring any hardware changes).

Technical Specifications

Product Models

- VergeSense VS-L302 Wireless Sensor

Radio

- Proprietary self-healing mesh protocol
- Bluetooth 5.0 (optional – to support beaconing)
- Adaptive transmit power scheme – sensors calibrate TX power against the network

Operating Models

- Historical utilization data reporting
- High sample rate for real-time data acquisition
- Adaptive sampling frequency allows for optimized reporting time and battery life. Motion event will provide near real time occupancy feedback.

Power

- Battery Operated (6 AA batteries)

Deployment

- ~1 sensor / 6-8 desks (desk occupancy)
- ~1 sensor / room (room occupancy)
- Max deployment height: 15 ft

Optical Sensor Specs

- 160 degree (Diagonal) FOV
- 352 x 288 pixel array
- 15 pixels / foot at floor (when sensor is mounted at 9 ft)

Motion Sensor Specs

- Digital PIR Motion sensor detects motion in a coverage pattern of 300 sqft and major motion up to 1100 sqft

Mechanical

- Size: 103mm (L) x 103 mm (W) x 25 mm (H)
- Weight: 275

Mounting

- T-Bar clips (sized for 9/16” or 11/16” width) allow for rapid-mounting in drop ceiling configurations
- Screw-holes available for wooden / concrete
- Magnetic mounts for most T-bar systems and metal ceiling types

Environment

- Operating:
  Temperature: 0 degrees C to 50 degrees C (+32 to +122 degrees F)
  Humidity: 5% to 95% non-condensing
- Storage and transportation:
  Temperature: -20 degrees C to +60 degrees C (-40 degree F to 158 degrees F)

Regulatory

- FCC part 15.247 modular certification FCC ID: 2AA9B10
- Listed UL 62368-1, CAN/CSA C22.2, No. 62368-1 A0026
- Canada (ISED) modular certification: 12208A-10
- RoHS Compliant

Security

- AES128 counter mode
- OMAC1 message integrity
- Link-layer security - encryption and decryption

Software Compatibility

- VergeSense applications are delivered through a cloud-hosted SaaS platform
- Supported browsers include Internet Explorer (Version 11+), Chrome, and Firefox

People Counting Accuracy

- 95%+ people counting accuracy
- 97% precision (defined as % of occupancy detection events that included occupant) with 97% recall (defined as % of actual occupants who are detected)