

# VergeSense E105

Data Sheet



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## Data Sheet

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

Our newest wired sensor, the VS-E105, offers best in class person count and occupancy data in real-time with an updated industrial design and built-in environmental sensing to measure real-time and historical temperature, humidity, and air quality. All the data you need about your space, in one place.



VergeSense E105 Wired Person Counting Sensor

### The VergeSense Difference

- **Timely insights** — delivers real-time occupancy and person count data
- **Private by design** — sensors transmit data only, no raw or visual data.
- **Powerful analytics** — cutting-edge AI that learns and gets smarter
- **Environmental Sensing**— Sensors included to report environmental measurements (temperature, humidity, and air quality)
- **Flexible Integrations**— open API for exporting data to existing workplace management solutions.

### How It Works

The VergeSense wired sensor system is comprised of three components.

#### Sensors

Wired sensors operate off IEEE 802.3af Power over Ethernet (PoE) and can be mounted using a variety of configurations (drop-ceiling, 4" square/ octagonal junction boxes). Sensor process raw data on device and transmit processed textual data to cloud.

#### Cloud Analytics & API

Anonymous data is analyzed in the cloud and can be reviewed via the VergeSense portal or exported via the VergeSense API. Data integrations with workspace software can enable agile and dynamic seating, optimize room-booking systems and help occupants find available spaces to use.

#### Cloud Learning

As more powerful deep-learning modules develop, new models are pushed to the devices. Sensors continually improve and acquire 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 drives frictionless employee <-> space interactions by enabling available desk and room finding right from your smartphone or Kiosk solution.

The dashboard features a search bar at the top with the text "Search for regions, departments, buildings..." and a "Jump to" button. The main section is titled "Your portfolio" and includes tabs for "Overview", "Inventory", "Cost", and "Space Design".

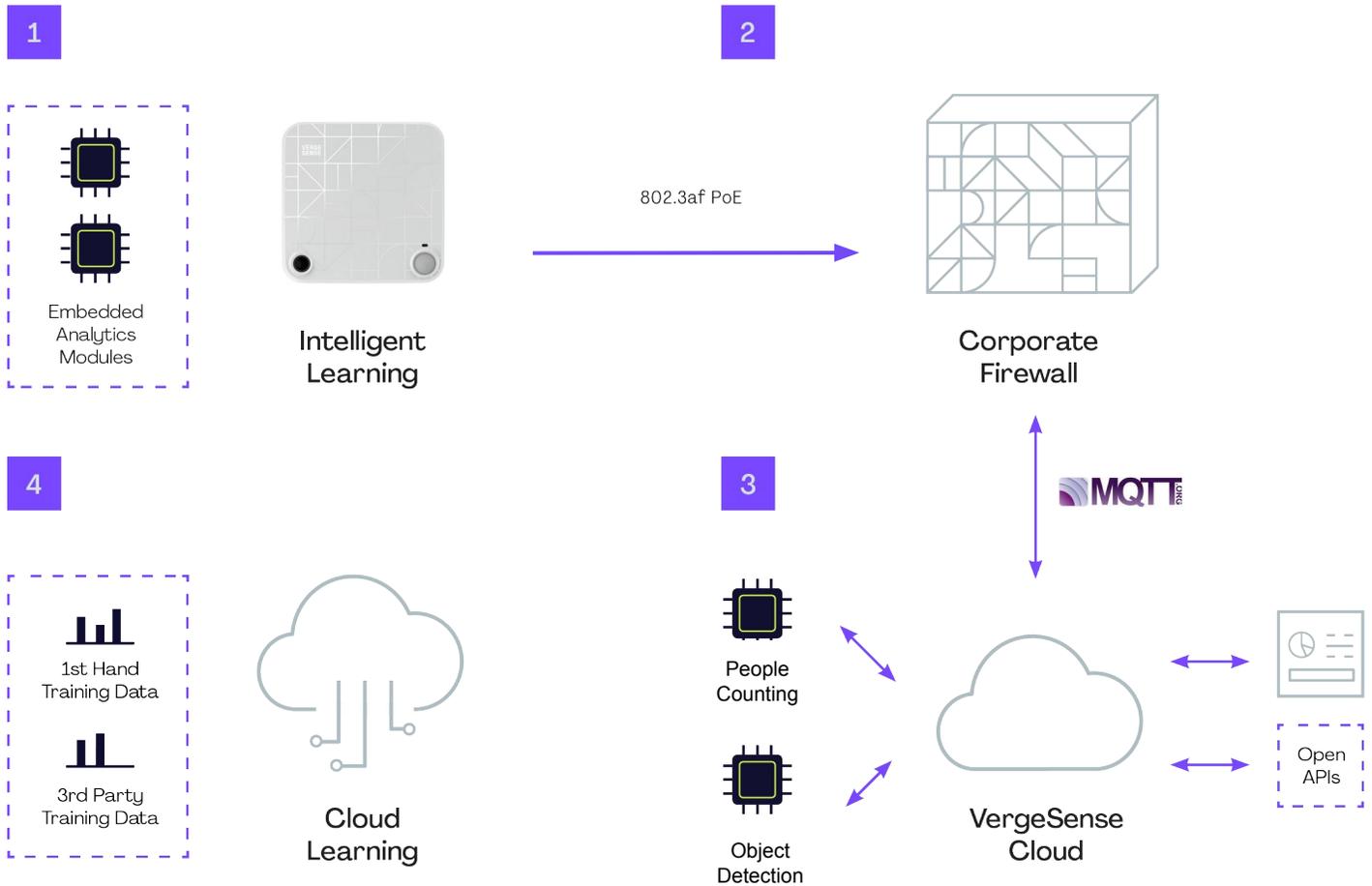
**Overview** (LAST WEEK):

- LIVE VIEW**: PEOPLE COUNT **4.2k**, AVERAGE DISTANCE **1.2m**. Note: Live view displays accurate, real-time info about your spaces.
- NUMBER OF BUILDINGS**: **16** (↑ 0)
- OVERALL COST**: **\$ 25600** (↑ 50)
- AREA**: **25k ft<sup>2</sup>** (↑ 0)
- VS SCORE**: **6.1/10** (↑ 0.1 vs last week)
- CLARITY**: **46%** (↑ 1% vs last week). Note: Clarity is your level of VS sensor utilisation and our data confidence.
- MOST VISITED**: A bar chart showing two bars of different heights.

**Buildings** table:

Building	Utilisation	Clarity	Annual Cost
PropTech Campus (3 BUILDINGS)	92%	94%	\$78M
VergeSense East (BOSTON, MA)	82%	99%	\$14M

A "MAP" button is located at the bottom right of the dashboard.



## 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 is a low resolution array of pixels, which is processed using VergeSense AI on device.

### Step 2

Processed data is transmitted to VergeSense's cloud analytics portal through an on-premise network. Devices can be configured to operate within the corporate firewall. All cloud communication uses TLS 1.2 encryption.

### Step 3

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

### Step 4

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



### Product Models

- VergeSense VS-E105 Wired Sensor

### Network

- WiFi 802.11 a/b/g/n (2.4 GHz)
- Bluetooth 4.0 (2.4 GHz)
- 802.3af Power over Ethernet (PoE)
- ~1MB data average analytics data generated per day

### Power

- 802.3af Power over Ethernet (PoE)
- Power Consumption: ~3.2 W (active)

### Deployment

- ~1 sensor / 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 (at 9 ft)

### Additional Sensor Specs

- Digital passive PIR motion sensor detects minor motion in a coverage pattern of 300 sqft and major motion up to 1100 sqft
- IAQ (Indoor Air Quality)  $\pm$  10% PPM
- Total volatile organic compound (TVOC)  $\pm$  25% PPM
- Capable of detecting CO2 concentration  $\pm$  25% PPM
- Humidity sensing within  $\pm$  3.5% RH
- Temperature sensing  $\pm$  0.4 degrees C

### Mounting

- For drop-ceiling, mount sensor to T-bar using mounting clip. Notch a "1" hole to run Cat 5e cable to sensor RJ-45 port.
- Anchor screws available to attach to ceiling tiles / sheetrock surfaces
- Screw-holes for mounting to 4" Octagon and Square Junction Boxes)

### Mechanical

- Size: 98 mm (L) x 98 mm (W) x 28 mm (H)
- Weight: 142 g

### 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

- Contains FCC ID 2AHMR-ESP12S
- RoHS Compliant

### Security

- WPA2 AES encryption
- TLS 1.2 encrypted cloud-communications

### 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)