

Workplace Analytics

Data-driven insights for smarter, healthier and more efficient workplaces.



Optimize space utilization

Make the most of every square meter.



Reduce real estate costs

Right-size your portfolio with confidence.



Improve wellbeing and sustainability

A better climate for people and performance.



Make informed decisions

Turn sensor data into actionable insights.

Flowscope Workplace Analytics turns sensor data into actionable insights.

Understand how people use your spaces, optimize resources, and enhance wellbeing and drive better business outcomes.

Solution Description and Sensor Portfolio

Flowscape Workplace Management Platform

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Part A — The Flowscape workplace solution

Part A describes the solution: what the platform does, how analytics is delivered, and the services and references behind it. Part B documents each sensor in the portfolio with its technical specification.

1. Introduction

Flowscape delivers a complete workplace management platform covering both software and hardware, backed by global delivery capability. The purpose of the platform is straightforward: to analyse how an office is actually used, and then to make it easy for employees to use it in an efficient way.

Flowscape has delivered workplace analytics since 2014 and has installed more than 30,000 sensors globally, including a single customer deployment across 30 countries. The company serves over 200 customers worldwide, spanning multinational enterprises in 50 countries, with more than 150,000 desks and 20,000 meeting rooms in operation.

Flowscape is listed on Nasdaq First North Growth Market and holds ISO 9001 (quality management), ISO 14001 (environmental management) and ISO 27001 (information security) certifications — reflecting the governance, transparency and security standards expected of an enterprise-grade, long-term partner.

Privacy is designed in rather than added on, which matters wherever unions or employee representatives are involved: every feature that could identify an individual is opt-in, reversible by the employee, and configurable by the employer.

Three value propositions

- **Cost reduction** — guided by data-driven insights and booking tools that enable efficient use of space and resources.
- **Attractive workplace** — effortless resource and space booking, supported by employee-facing tools such as room displays, interactive wayfinding maps and a mobile app.
- **Safety and security** — fire warden guidance and locatable first-aid trained colleagues on interactive maps; visitor management that ensures no unauthorised individuals are present in the office.

Across all three, Flowscape delivers privacy-compliant, GDPR-aligned solutions.

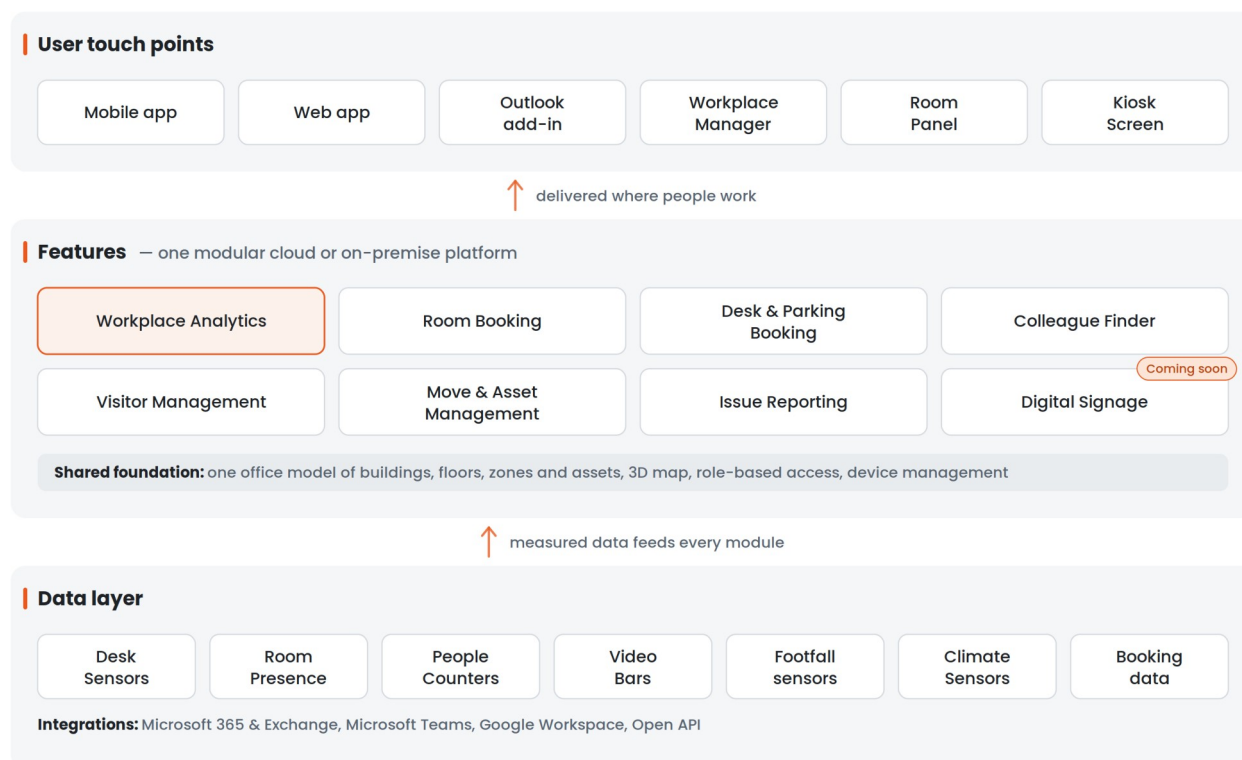
2. One complete, modular solution

The platform is modular. Each location can adopt exactly the functionality it needs and add further modules later without replacing anything already in place. All modules share the same office model, 3D map, administration portal and data layer, so functionality can be added in whatever order suits each site.

Most customers follow the same path, and we recommend it:

- **Start with analytics, to understand.** Before changing anything, establish how each office is actually used — how many desks and meeting rooms are genuinely needed, whether a floor can be released, and whether the office attendance policy is working. Decisions of this size deserve measured data rather than assumptions.
- **Extend with room and desk booking, to manage.** Once the picture is clear, booking turns those insights into daily operation: the right space is easy to find and easy to release, utilisation improves, and the analytics keep measuring the effect.

Platform architecture



3. Analytics — understand and optimise the office

Flowscape does not manufacture sensors, and that is intentional: it means we have no reason to recommend our own hardware over something better. We continuously test what the market offers, because new sensors appear constantly and not all of them perform as their datasheets promise. We then supply, install, configure and maintain a curated portfolio of best-in-class devices as a turn-key service — the portfolio described in Part B of this document.

The platform integrates with Logitech, Cisco, Neat and Poly video bars, with Tektelic, Milesight, Sensative, Terabee, Elsys, Ubiquisense, PointGrab, Steinell and Idun devices, and with any other source through open APIs — so existing AV and building systems contribute data instead of being duplicated.

Eleven pre-built dashboards

Each dashboard answers a single question rather than presenting a collection of charts for the reader to interpret:

- **Portfolio Overview** — across the whole estate, where is the slack and which buildings could be consolidated?
- **Office Utilization** — does this office have the right amount and the right mix of space?
- **Office Utilization Simulator** — what happens if headcount, asset numbers or the office policy change?
- **No-Show** — how many desk and room bookings are never used?
- **Attendance** — how many people are in the office, working remotely or off work?
- **Room Occupancy** — how much of large rooms' capacity is actually used?

- **Room Fit** — what share of meetings fill more than half the large rooms' capacity?
- **Department Overview** — how differently do departments use the office?
- **Climate Overview** — does the indoor climate meet the applicable regulations?
- **User Attendance** — which individuals have attended the office? Restricted access.
- **User No-Show** — which individuals book space and then do not use it? Restricted access.

Access is controlled by report type and by office, so a regional facility manager sees only their own locations. Device management shows each sensor's location, status, model and firmware, with automatic alerts when one goes offline.

How we deliver it

A dashboard on its own creates no value, so analytics is delivered as a four-step method:

- **Agree the goals** — which decisions you want to make. This sounds obvious, but it is the step most often skipped, and skipping it is the most common reason a utilisation study changes nothing.
- **Design the sensor setup around those goals** — you rarely need every sensor we offer.
- **Install and verify** — we confirm the data is correct before anyone relies on it.
- **Review and decide** — our analytics experts review the data with you and help decide what to do, and stay engaged afterwards, so you get value from the data rather than merely access to it.

4. Our services

Flowscape delivers not only a platform, but the full range of services required to implement, run and continuously optimise it — across single sites or complex, multi-site, multi-country enterprise environments, in the cloud or on premise.

- **Enterprise-scale delivery** — proven experience delivering to large, multi-site, multi-country enterprises, coordinating rollout across geographies while maintaining consistent data quality and governance throughout.
- **Government-grade security and privacy** — for government and public-sector organisations we deliver with an elevated level of security and privacy compliance, meeting the stricter data protection, procurement and regulatory requirements these organisations require.
- **Consultative guidance** — guiding organisations through the full journey, from initial scoping to optimising the solution over time, drawing on long-standing experience navigating complex organisational, regulatory and union requirements.
- **Onboarding services** — we manage the full onboarding process: delivery, installation and configuration of both software and hardware, followed by structured testing and user training.
- **Support services** — ongoing support delivered according to agreed Service Level Agreements.
- **Customer Success** — a dedicated team works continuously with our customers to ensure adoption, sustained usage and measurable return on investment over time.

5. Why Flowscape

1. Governmental and enterprise delivery and support capabilities

Proven by ISO 9001, 14001 and 27001 certifications, alongside a track record of successful implementations with enterprise and public-sector organisations.

2. Consultative guidance, built on deep experience

Decades of combined leadership experience across complex, regulated organisations means we proactively guide customers through implementation challenges — including union processes and GDPR compliance — rather than leaving them to navigate it alone.

3. Solution capabilities and vision

A comprehensive platform — from occupancy sensors and anonymised analytics to room displays, wayfinding and a mobile app — continuously evolved through ongoing investment in the roadmap, including our latest AI-driven analytics release.

Enterprise reference — WSP

WSP, a global enterprise employer, has rolled out Flowscape's Smart Workplace solution to 208 offices across 24 countries, covering 24,000 desks and 1,900 rooms. During its 2022–2024 strategic cycle, WSP reduced real estate costs by 30% and its real estate footprint by 40% — while simultaneously growing headcount from 55,000 to 73,000 employees. Flowscape's analytics are embedded directly into WSP's real estate approval process, serving as a key input for every project decision.

Government reference — Sveriges Kommuner och Regioner (SKR)

SKR, the Swedish Association of Local Authorities and Regions, used Flowscape's occupancy measurement to make data-driven decisions on space optimisation under a hybrid work model where employees were expected on site only 50% of the time. The results:

- 2,000 sqm of office space freed up
- 20% reduction in facility costs
- Space per employee reduced from 10 to 8 sqm

Part B — Sensor portfolio

The Flowscape sensor portfolio: best-in-class devices we supply, install, configure and maintain as part of the solution, with the technical data of each.

6. Sensor portfolio

This is the Flowscape sensor portfolio: a proven set of best-in-class devices that we supply, install, configure and maintain as a turn-key service. Each one has been selected and verified against the questions our analytics answers, so the measurement behind your decisions is dependable from the first day of a deployment. Where a site has a requirement none of them covers, the platform integrates additional sources through our open API.

Sensors are chosen per goal, not per site. A typical deployment uses two or three of these device types, not all of them — the sensor design step of our four-step method decides which.

Choosing the right device

Question to answer	Device	New hardware needed
Is this desk in use?	Desk Sense · Desk Sense Slim · Desk Sense Connect	One sensor per desk
Is this desk in use, without a sensor per desk?	MAC ID reading software	No new hardware needed
Is this meeting room occupied?	Room Sense	One sensor per room
How many people are in this room or area?	People Count · People Count IR · video bars	One sensor per room or area
How many people entered the floor or building?	UC2 People Flow	One counter per entrance
Does the indoor climate meet regulations?	Climate Sense	One sensor per zone
How do the wireless sensors reach the platform?	Sensor Gateway	One per floor or per 1000 sqm

Privacy and data protection across the portfolio

- No device in the portfolio transmits an image. The thermal device contains no camera at all; the vision-based devices process the image on the sensor itself and transmit counts only, with configurable privacy masks and blur mode.
- Presence and count data is anonymous at source. Identity enters the platform only where you choose to switch it on — either through employee-facing features such as desk booking or Colleague Finder, or through the option in Desk Sense Connect to record which employee is using a desk. Each of these is configurable by the employer, opt-in, and reversible by the employee.
- LoRaWAN devices use LoRaWAN end-to-end encryption (AES); IP-connected devices use HTTPS or MQTTS to reach the platform.
- Every device appears in the platform's device management view with location, status, model and firmware, and raises an automatic alert if it goes offline.

7. Desk sensors

Desk sensors answer one question — is this desk in use — and they answer it for the utilisation analytics, for automatic check-in on a booked desk, and for showing free desks on the live map. Three variants exist because desks differ: an adjustable PIR sensor for general use, a USB dongle where the desk already has a dock or monitor, and an ultra-thin strip where the sensor must be invisible.

PRODUCT FACT SHEET

Desk Sense

LoRaWAN PIR desk and seat occupancy sensor

Description

Mounted under the desk to detect whether a workstation is occupied. The standard desk sensor for flexible and hot-desking areas.



Product benefits

Passive infrared detection with five interchangeable lens covers, so the detection zone can be matched to a single desk, a face-to-face pair, a round table or a bar table without picking up movement from the aisle. Battery powered and mounted with adhesive tape, so a whole floor can be equipped without cabling, electrical work or downtime.

In the Flowscape platform the sensor drives desk usage and no-show reporting, releases a booked desk that is not actually used, and shows real occupancy on the mobile app and floor maps.

Parameter	Specification
Technology	Passive infrared (PIR), anonymous detection — no camera, no image
Recognition rate	Up to 95%
Detection area	107° horizontal, 107° vertical; within 1 m
Detection zone options	5 interchangeable PIR covers: single desk, face-to-face desks, round table, bar table, custom
Response time	Occupied approx. 5 s; vacated approx. 60 s
Wireless protocol	LoRaWAN®, sensor-to-sensor D2D; OTAA/ABP, Class A
Frequency	EU868 (also IN865, RU864, US915, AU915, KR920, AS923, CN470)
Tx power / sensitivity	16 dBm @ 868 MHz / -137 dBm
Power supply	1 × 4000 mAh ER18505 Li-SOCl ₂ battery, replaceable
Battery life	Over 5 years
Operating environment	-20 °C to +60 °C; 0-95% RH (non-condensing)
Dimensions / weight	73 × 73 × 26 mm (without PIR cover) / 90 g
Ingress protection	IP30
Material and colour	PC + ABS (flame retardant), white and grey
Installation	3M adhesive tape or wall screw mounting; no cabling or mains power
Configuration	NFC via mobile app, or LoRaWAN downlink
Approvals	CE, FCC, RoHS, LoRaWAN® Certified

Desk Sense Connect

USB desk dongle with dock-based desk identification

Description

A USB dongle fitted once to the docking station or monitor at a workstation. The laptop reads the dongle's unique identity and the platform knows which desk is in use.



Product benefits

This is the cheapest way to measure a desk that already has a dock or a monitor, because the dock is what tells us which desk the user is sitting at. If the dock or monitor has an Ethernet port, we install nothing at the desk: no sensor, no cabling, no mains power. Software on the laptop reads the port's MAC address, and that identifies the desk. If there is no Ethernet port, we fit a small dongle to the dock — the only hardware added.

Presence comes from two signals on the laptop: the dock connection, and activity on the laptop, which tells us it is really in use. When the laptop is unplugged, or goes idle for a period you set, the desk is released automatically. The employee does nothing: there is no app to open, no badge to tap and no button to press. Rollout is software distribution plus a one-time dock-to-desk mapping, not an installation project.

By default, no one can tell who used a desk, and you decide whether to keep it that way. Three levels are available: anonymous, department only, or individual user. The higher levels are what make department comparisons and per-user analytics possible.

Colleague Finder is a separate setting: you can switch it on for employees and still keep utilisation data anonymous.

Parameter	Specification
Function in the solution	Unique desk identity read by the Flowscape laptop client; combined with laptop activity to establish genuine desk presence
Anonymous or identified	Reports anonymous desk occupancy by default. Recording which employee is using the desk can be activated by the customer, which also enables desk booking and Colleague Finder on the same data
Interface	USB Type-A, Full-Speed USB 2.0 (USB 3.2 compatible)
Communication mode	HID (default) or Mass Storage Device
Power supply	5 V bus-powered; typically 6 mA, < 20 mA with LEDs off
Indicators	Green and red LED
Operating and storage temperature	-25 °C to +85 °C, non-condensing
MTBF	> 3,000,000 hours at +25 °C
Dimensions / weight	12 × 16.65 × 4.5 mm / 1.46 g
Warranty	36 months
Certifications	CE: EMC 2014/30/EU, LVD 2014/35/EU, EN IEC 62368-1 FCC Part 15 Subpart B Class B, ICES-003, VCCI, RCM, BSMI, KCC RoHS, WEEE, REACH
What is needed from IT	Distribution of the Flowscape laptop client through existing endpoint management, plus a one-time mapping of each dongle to its desk in the Workplace Manager

Desk Sense Slim

Ultra-thin LoRaWAN presence sensor

Description

An ultra-thin active infrared presence sensor for desk-level occupancy, fitted with adhesive backing so that it is effectively invisible once installed.



Product benefits

At under 3 mm thick the sensor can be mounted out of sight under a desk without interfering with users, furniture or cleaning, which is what makes it the option of choice where design-conscious offices or landlord restrictions rule out a visible device. With up to ten years of battery life and no cabling, it is maintenance-free for the practical life of a fit-out.

In the Flowscape platform it delivers the same desk presence signal as Desk Sense.

Parameter	Specification
Technology	Active infrared presence detection, plus magnetic open/close contact and temperature
Detection range	Close range, configurable up to 50 cm
Wireless protocol	LoRaWAN 1.0.4, Class A, integrated antenna
Frequency	EU868 (also US915, AU915, AS923, KR920, JP920, IN865)
Power supply	Built-in LiMnO ₂ battery, 1.4 Wh (480 mAh @ 3 V), non-rechargeable
Battery life	Up to 10 years
Temperature accuracy	± 1 °C at 0–30 °C
Operating environment	–20 °C to +60 °C, indoor
Ingress protection	IP20
Dimensions	195 × 15 × 3 mm
Installation	Adhesive backing; optional +Clip mounting accessory for other surfaces
Certifications	CE, FCC, IC/ISED, LoRaWAN®, RoHS

8. Room Sense

Meeting rooms are where most of the recoverable space usually sits, and the first question about a room is simply whether it is occupied. That single measurement is enough to report room utilisation, to detect bookings that go unused, and to release a booked room automatically when nobody arrives.

PRODUCT FACT SHEET

Room Sense

LoRaWAN PIR room presence

Description

Mounted on the wall or ceiling of a meeting room to detect whether the room is in use.



Product benefits

Battery powered with no cabling, no mains power and no electrical work, so rooms can be equipped without an electrician and without taking the room out of service. Detection covers up to 8 m, which is sufficient for the small and medium rooms that typically lack a video bar; rooms that already have one are covered through that integration instead, at no hardware cost.

In the Flowscape platform Room Sense drives room usage and no-show reporting, powers intelligent check-in so unconfirmed bookings are released automatically, and shows live availability on room panels, kiosks and the mobile app. People counting can be added later for any room where it turns out to be worth having.

Parameter	Specification
Technology	Passive infrared with Fresnel lens, plus built-in light sensor — no camera, no image
Detection area	120° horizontal, 100° vertical
Detection distance	Maximum 8 m
Light measurement	Bright/dark status, customer-defined threshold within 1–60,000 lux
Wireless protocol	LoRaWAN®, sensor-to-sensor D2D; OTAA/ABP, Class A
Frequency	EU868 (also IN865, RU864, US915, AU915, KR920, AS923, CN470)
Tx power / sensitivity	16 dBm @ 868 MHz / -137 dBm @ 300 bps
Power supply	1 × 1650 mAh ER14335 Li-SOCl ₂ battery, replaceable
Battery life	Approx. 4 years
Operating environment	-20 °C to +60 °C; 0–90% RH (non-condensing)
Dimensions / weight	50 × 50 × 23.8 mm, lens Ø 17.2 mm / 40 g including battery
Ingress protection	IP30
Material and colour	Anti-flaming polycarbonate, white
Installation	Flat surfaces, screws or 3M adhesive tape
Configuration	NFC via mobile app; downlink
Certifications	CE, FCC, RoHS, LoRaWAN® Certified; safety EN 62368-1

9. People counting sensors

Presence tells you that a space is used; a count tells you how well it fits. People counting reveals whether large rooms are genuinely scarce or simply mis-booked, and how many people an open-plan zone actually holds. Two technologies are offered — AI vision and thermal — and rooms with a video bar are counted through that existing hardware.

PRODUCT FACT SHEET

People Count

AI workplace occupancy sensor

Description

Ceiling-mounted above a meeting room, open-plan zone or shared area to count the people present and how long they stay.



Product benefits

The AI algorithm runs on the sensor itself and only counter values leave the device, so the accuracy of a vision-based sensor is available without images ever entering the network. Up to 16 mapped regions can be defined within a single field of view, so one device can report several desk clusters, a break-out area and a corridor separately, and up to 8 privacy masks can exclude areas that should not be measured at all.

In the Flowscape platform this feeds Room Occupancy and Room Fit — how much of a large room's capacity is actually used, and what share of meetings fill more than half of it — as well as zone-level utilisation and dwell time in open-plan areas.

Parameter	Specification
Technology	AI edge analysis of a local image; counts only are transmitted, no images collected — GDPR compliant
Recognition rate	Up to 98%
Field of view	190° horizontal, 112° vertical
Installation height	2.3 m to 4 m (ceiling mounting)
Detection range	3.2 × 9.8 m at 2.5 m height 4.8 × 14.0 m at 3.0 m height 6.8 × 18.8 m at 4.0 m height
Counting functions	Up to 16 mapped regions (up to 10 sides each) for regional counting and dwell time detection Bi-directional line counting with U-turn filtering; people flow analysis on up to 4 edges
Privacy features	Up to 8 privacy masks; normal or blur mode
Transmission	LoRaWAN® and sensor-to-sensor D2D, EU868, OTAA/ABP Class C
Configuration interface	Wi-Fi 802.11 b/g/n 2.4 GHz, AP mode (web GUI)
Power supply / consumption	5 V/3 A DC via USB-C; 9.4 W
Data retransmission	1000 packets buffered locally (per protocol)
Operating environment	-20 °C to +60 °C; 0-95% RH (non-condensing)
Dimensions / weight	85 × 85 × 20 mm, 130 g
Ingress protection / housing	IP30; PC and cast aluminium, white or black
Certifications	CE, FCC, SRRC, GDPR; RoHS

People Count IR

Thermal occupancy counter, no camera

Description

Ceiling-mounted in the centre of a room or open area to count how many people are present and where in the space they are.



Product benefits

The device contains no camera and no microphone: counting is done from a low-resolution thermal image, so privacy is guaranteed by the technology rather than by configuration — a distinction that makes the measurement straightforward to explain to employee representatives and simple to approve. Its 160° field of view covers 8 × 8 m from a single device regardless of mounting height, and up to 8 independent zones can be measured within that footprint, so one unit does the work of several sensors.

In the Flowscape platform it supports room occupancy, capacity fit and zone utilisation reporting. An analogue 0–10 V output is available in parallel with the digital data, so the same device can drive local lighting or ventilation if the building systems can use it.

Parameter	Specification
Technology	Low-resolution thermal imaging — no camera, no microphone, no image or personal data extractable
Counting accuracy	98%
Field of view	160°
Coverage area	64 m ² (8 × 8 m) with a single device; multiple devices for wider spaces
Zones	Up to 8 independent zones per device, each reporting its own count
Installation height	2.4 m to 4.0 m; indoor use
Power supply	5.5 × 2.1 mm jack, 10–30 V DC ±5%, 1 A
Power consumption	2 W average
Analogue output	0–10 V proportional to room occupancy
Initialisation time	Approx. 3 minutes
Data protocols	LoRaWAN 1.0.3 Class A, EU863–870 MHz, OTAA/ABP
Dimensions / weight	Ø 110 mm × 36 mm / 128 g (+12 g for PoE model)
Housing and colour	ABS PU 8158; white or black
Operating / storage temperature	–10 °C to +35 °C / –20 °C to +60 °C
Installation	On-ceiling mounting plate included; optional recess mounting kit
Certifications	CE, FCC, RoHS

Video bars

Rooms that already have a video bar are measured through that hardware instead of a new sensor. Flowscape reads both room presence and people count from the video bars listed below.

This matters commercially as well as practically: video bars are typically fitted in the larger and better-equipped rooms, which are precisely the rooms where headcount data changes decisions. Covering them with existing equipment therefore delivers most of the analytical value at no hardware cost and with no installation.

Parameter	Specification
What is measured	Room presence and people count, read from the video bar
New hardware required	None
Installation	None at the room; integration is configured centrally
Supported video bars	Cisco Room Bar, Cisco Room Bar Pro Neat Bar, Neat Bar Pro, Neat Board Logitech Rally Bar, Rally Bar Mini Poly Studio X30, X32, X50, X52, X70, X72 Other models on request via our open API
Prerequisites	API or management-cloud access to the AV platform, and a mapping of each device to its room in the Workplace Manager
Privacy	No video or image is retrieved; only presence and occupancy counts
Note	Exact capabilities and reporting intervals depend on the AV vendor and firmware, and are confirmed during the design step

10. Footfall sensors

Footfall sensors count people crossing a threshold, in each direction, at building and floor entrances, stairwells and lifts. Combined with desk and room data this gives the full picture: how many people came in, where they settled, and how the meeting rooms were used while they were there — and it lets the desk and room figures be sanity-checked against an independent count.

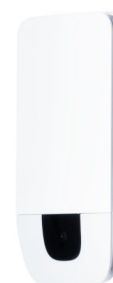
PRODUCT FACT SHEET

UC2 People Flow

AI optical footfall counter, ceiling mounted

Description

Mounted at the ceiling, facing or directly above a doorway or corridor, to count the people passing through it in each direction.



Product benefits

Installation is straightforward: a ceiling mount, a single cable, and the sensor clips into place — nothing at floor level and no disruption to the entrance. What makes the count accurate is getting the position right, so we settle that with you during the site survey: facing the doorway wherever possible, directly above it where that is the only option.

Images are analysed on the device itself and only the resulting counts are transmitted; no image is ever stored or sent. The measurement is a line count in both directions, which is what the Occupancy dashboard are built on, and what lets the desk and room figures be checked against an independent count.

Parameter	Specification
Technology	AI optical sensor; images processed by the embedded computer vision algorithm on the device Only counts and metadata are transmitted — no image is stored or sent
Reported values	Footfall in and out, with direction of movement
Light level required	20 to 10,000 lux
Mounting	Ceiling mount facing the doorway, or directly above it (also wall mountable) Fixed two-angle ceiling mount, or adjustable mount for other angles
Minimum ceiling height	240 cm
Maximum doorway width	Opens away: $2 \times (\text{ceiling height} - 180 \text{ cm})$ Opens towards: $2 \times (\text{ceiling height} - 140 \text{ cm})$ Directly above the opening: $2 \times (\text{ceiling height} - 170 \text{ cm})$
Connectivity	2.4/5 GHz Wi-Fi (802.11 b/g/n/ac), or PoE+ (802.3at) through USB-C Wi-Fi security WPA2-Personal, CCMP
Power supply	12 V / 1 A DC jack, or 5 V / 2 A USB-C; PoE+ as an alternative
Power consumption	2 W peak
Dimensions / weight	120 × 52 × 22.5 mm / 72 g (85 g including mount)
Housing and environment	Plastic and aluminium, white; IP20; 0 °C to +40 °C; indoor use
Certifications	Type approved: CE, FCC

11. Climate Sense

Utilisation data explains how much space is needed; climate data explains whether that space is usable. The Climate Overview dashboard reports whether the indoor climate meets the applicable recommendations, and the same measurements support health and sustainability reporting.

PRODUCT FACT SHEET

Climate Sense

LoRaWAN indoor climate sensor with e-paper display

Description

Wall-mounted in a meeting room, zone or open-plan area to measure indoor climate, with an e-paper display showing the current readings in the room.



Product benefits

The display is what separates this from a purely analytical sensor: employees see the temperature, humidity and CO₂ air quality of the room they are standing in, with an traffic-light indication.

Motion detection is included, so a single device can report both climate and room occupancy where that combination is useful. Battery life of up to ten years with replaceable AA cells and NFC configuration keeps maintenance to a minimum.

Parameter	Specification
Measurements	Temperature, humidity, motion (PIR) and occupancy; CO ₂
Display	2.1" e-paper showing real-time readings; configurable logo, inverted colours, °C/°F, traffic-light indication
Temperature	0 to 50 °C; resolution 0.1 °C; accuracy ± 0.2 °C
Humidity	0 to 100% RH; resolution 1% RH; accuracy ± 2% RH at 25 °C
Light	4 to 2000 lx; resolution 1 lx; accuracy ± 10 lx
CO ₂	400 to 10,000 ppm; accuracy ± 30 ppm and ± 3% of reading (400–5000 ppm)
Wireless protocol	LoRaWAN® 1.0.4, Class A or C (configurable); LoRaWAN® Certified EU868 (also IN865, US915, AU915, AS923, HK923, KR923) End-to-end encryption (AES-CTR) with data integrity protection (AES-CMAC)
Link budget / Tx power	137 dBm (SF7) to 151 dBm (SF12) / max 14 dBm EIRP
Power supply	2 × 3.6 V AA lithium batteries, replaceable; up to 10 years of battery life
Operating environment	0 to 50 °C; 0–85% RH (non-condensing); indoor; 0–2000 m altitude; pollution degree 2 Storage temperature –40 to +85 °C
Dimensions / weight	76.2 × 76.2 × 22.5 mm / 70–95 g including batteries; IP20; PC + ABS
Installation and configuration	Wall mounted; configuration via NFC smartphone app or LoRaWAN downlink
Approvals	CE (EMC 2014/30/EU, RED 2014/53/EU, LVD 2014/35/EU), RoHS, LoRaWAN® Certified

12. Sensor Gateway

Most of the sensors in this portfolio communicate over LoRaWAN. For the battery-powered devices this is what lets them run for years without cabling, and we deliberately use the LoRaWAN variants of People Count and People Count IR as well: those devices need local power, but not a network drop, which keeps installation simple and avoids pulling cable to every sensor position. UC2 People Flow is the exception: it connects over Wi-Fi or PoE and reports through its own cloud gateway. The gateway collects all of those transmissions and forwards them to the Flowscape platform. As a rule of thumb one gateway covers a floor, or roughly 1000 sqm; the exact number and placement is confirmed during the site survey.

PRODUCT FACT SHEET

Sensor Gateway

Indoor LoRaWAN® gateway

Description

Installed centrally on a floor or in a building to receive data from all LoRaWAN sensors in range and forward it to the Flowscape platform. Powered and connected over a single PoE cable.



Product benefits

The gateway is the only piece of network infrastructure a deployment adds, and it is deliberately undemanding: one PoE cable supplies both power and backhaul, so there is no separate power outlet to arrange and nothing to configure at the sensor end. The standard gateway has no cellular modem but where the measurement traffic should stay off the corporate network entirely, a variant with a SIM card can be ordered instead.

Installation is plug-and-play using a pre-provisioned factory image, and gateways are managed remotely, including in-service software updates and health monitoring. In the Flowscape platform each gateway and each connected sensor appears in device management with status and firmware, and raises an alert automatically if it goes offline.

Parameter	Specification
Function	Receives LoRaWAN sensor uplinks and forwards them to the Flowscape platform
Radio channels	Time duplex, 8 Rx / 1 Tx; EU868 (also US915, AU915, AS923)
Tx power / Rx sensitivity	14 dBm to 27 dBm / -141 dBm (SF12, 293 bit/s), noise figure 3.5 dB
Listen Before Talk	Supported, enabled according to applicable regional standards
LoRa antenna	External, SMA-RC connector
Backhaul	RJ-45 10/100BaseT Ethernet
Power supply / consumption	PoE; 2.3 W
Battery backup	Four hours
Operating environment	0 °C to +40 °C; 5-95% humidity
Ingress protection	IP30
Dimensions / weight	120 × 118 × 41.5 mm / 336 g (245 g without battery)
MTBF	830,000 hours
Management	Remote software upgrade, active/passive image management, access control lists, system health monitor, radio configuration, field configuration tool DHCPv4 client, TFTP server, HTTP server, firewall and access lists
Deployment	Plug-and-play installation from a custom provisioned factory image; multi-function status LED
Approvals	Safety UL / CSA / EN / IEC 62368-1; FCC 15.247, 15.109, 15.209; ISSED RSS-247, RSS-Gen; CE RED 2014/53/EU

13. What a deployment involves

The sensor design step decides which of the devices above a site actually needs, and the answer is usually a small subset. Three principles guide that design:

- **Use what is already there first.** Docking stations and monitors measure desks; video bars measure the large meeting rooms. Every desk or room covered this way is a device not purchased and not installed.
- **Add sensors only where the question requires it.** Rooms without a video bar get Room Sense; entrances get a footfall counter; desks without a dock get Desk Sense or Desk Sense Slim. People counting is added to a room only where the count would change a decision.
- **Keep the installation reversible.** Battery-powered, adhesive-mounted devices need no cabling, no mains power and no electrical work, which keeps a pilot cheap to install and cheap to remove, and lets it scale to further sites without redesign.

Data is verified before anyone relies on it, and our analytics experts review the results with your team and set out what the data supports doing next — at the pilot site and across the wider estate.