Rethinking Workspaces

Hybrid Workspaces Use Cases & Solutions Outlook

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1. Intro

Occupancy monitoring has become critically important across a variety of industries for a number of reasons, especially as the need for workplace flexibility and safety has grown. First and foremost, COVID-19 precautions have made it necessary for businesses across multiple industries to keep up with how many people are in their buildings at any given time, who has been through the building, and what contacts they may have had. Secondly, it has made building owners and facility managers rethink the way how their space is planned based on utilization data. **Accommodating the new trend of hybrid workspaces depends not only on instant access to occupancy levels but historical data on space utilization.** In order to provide occupants with delightful, useful, and safe indoor experiences and help make buildings work for people, new, new human-building interfaces need to be delivered.

Occupancy monitoring can also provide your business with multiple non-COVID-related benefits.

By tracking occupancy in your building, you can keep up with how well you're utilizing your existing spaces. Do you have a conference room that is seeing little to no use? Unused rooms in your office? On the other hand, do you have too many people trying to use too little space within your building? Occupancy monitoring can help you keep track of all of those key details, giving you a better idea of when you need to make changes to your office structure.

A recent PWC survey found that a quarter of chief financial officers are already thinking of cutting back on real estate--and for many businesses, it could be a game-changer. „I spend around £35 million on property in a year," notes Sir Martin Sorrel, the advertising boss who runs S4 Capital. „I'd much rather invest that in people than expensive offices." Making that shift, however, starts with occupancy tracking and understanding the specific needs of your business. With the transition back to on-site work, many companies are planning to implement considerable changes across their industries. 81% plan to change workplace safety measures and requirements, the PWC survey shows. 78% plan to reconfigure work sites to promote physical distancing — a plan that requires a solid understanding of how your employees use space within the office. Another 53% plan to change shifts or alternate crews to reduce exposure, while 35% are aiming to simply reduce their real estate footprint. In short, many companies are predicting big changes in the near future — and occupancy tracking is a critical first step in any process.

One of those changes is already well underway and being supported by occupancy tracking capabilities. Hybrid workspaces, where some staff work remotely, some in-office and others somewhere in between, are now very much a part of the corporate landscape. This new phenomenon, obviously a result of the slow emergence from the pandemic, illustrates just how many ways there are to rethink how we utilize workspaces and the efficiencies to be gained when done properly.

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2. Understanding Corporate Real Estates Business Challenges

Understanding Carpeted Enterprises Business Challenges

We know that people and things are moving through spaces, all the time and everywhere. There are, however, several things we may not know about our environment.

We don't know, for example, how many people actually evacuated from the physical building space in an emergency. We do not know if booked meeting rooms are actually used. We might not know whether we have enough meeting rooms, too many, or not enough at all. In fact, without adequate occupancy tracking and location services, we don't know much about our space at all.

This lack of knowledge can offer a number of unique challenges for our buildings.

Workplace Flexibility & Hot-desking

Today, more than ever, employees need flexibility. They are increasingly mobile and working from anywhere and everywhere. That doesn't mean, however, that mobile employees will never need to come into the office. In fact, mobile employees, who may need to be able to work from any workstation or to quickly access the equipment and information they need in spite of the fact that they don't spend as much time in the office, may have even more needs than their counterparts who work in the office on a daily basis. Mobile employees may need access to a variety of information: the location of available workstations, or who usually uses specific workstations or the locations of specific assets within the office.

Mobile employees need to remain connected to the office environment and feel comfortable when they do come in, but they may need technical support in order to develop the same awareness as their in-office counterparts.

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Lack of Immediate Live Occupancy Awareness

Many businesses have little idea of who is actually in the building at any given moment. Unfortunately, this can lead to a host of challenges.

1. Struggle to address potential security challenges.

Is there someone in your building who shouldn't be there? Do you have specific areas of your building where visitors should not travel without an escort? Without live occupancy awareness, you may not realize that an intruder or security threat has entered your building until a serious problem arises.

2. Lack of awareness of how many people need to get out in an emergency.

If you need to evacuate your building in an emergency, you need to know exactly how many people are in the building and where they are. Live occupancy monitoring makes it easy to ensure that everyone makes it out and to track individuals who may not have responded to the security alert in time.

3. Trouble locating people in the building.

In an emergency, can you quickly locate the people who need to handle it? What if they move somewhere else in the building? With live occupancy awareness, you can much more easily narrow down the location of specific individuals in your organization.

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4. Poor employee experience.

When available space isn't at least equal to demand for it, the employee experience suffers. Office workers have enough on their minds without having to deal with the worry and frustrationn of not knowing where to find a free meeting space or even if one is available at all. This is a very real possibility in hybrid work environments when there are variable numbers of employees in an office from day to day. With no way to know if there are too few, just enough or too many employees present in relation to the available workstations, frustration and problems are inevitable. The stability and sense of normalcy that comes with assuming that a safe, quiet and large enough workspace is always available is the foundation of productive

Poor Visitor Tracking & Awareness

Where are visitors within your organization? Who did they visit or come into contact with? Not only is visitor tracking critical in a post-COVID-19 society, but it is also critical to ensuring the overall safety of members of your organization or covering potential legal issues in the future. Many businesses lack the tools they need to effectively track visitors' presence in the office. If something goes missing or someone has a problem, do you know what visitors may have been in that area? Are visitors entering restricted areas without permission? Effective occupancy tracking modules can make it easier to keep up with that critical information.

Indoor Navigation Concerns

In complex office structures or large premises, navigating inside the building can prove incredibly difficult. Visitors may have trouble figuring out where they need to go, making them late for meetings and events or leaving them stumbling around, potentially ending up in areas where they aren't supposed to be. Even people who have worked in a large building or complex for years may not know where everything is. Many older-style buildings even have complicated room number assignments that make it difficult to locate a specific area of the building. Effective mobile indoor navigation can make it easier to determine the most effective routes to move between areas of the property and provide turn-by-turn insights that will allow users to determine where they need to go next, preventing lateness and increasing employee confidence.

Environmental Monitoring Challenges

Many businesses, across a wide range of industries, are focusing on „going green". They want to reduce their carbon footprint and decrease environmental impact. In order to keep up with your energy output, however, you must monitor conditions across your facility.

A survey from KPMG notes the increasing significance of Environmental, Social & Governance (ESG) issues in modern corporate agendas. It highlights the fact that a significant portion of CEO's, nearly half, plan on placing more emphasis on ESG and strong majorities intend to safeguard the sustainability gains made as a result of the pandemic and enhance the social component of their ESG efforts going forward.

94%

say their focus will shift towards the social component of ESG programs in response to the pandemic

91%
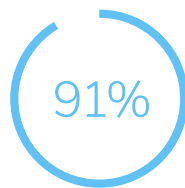
say the United States re-entering the Paris Climate Agreement will cause their company to have more stringent ESG practices

96%

say the scrutiny of their organization' diversity performance will continue to increase over the next three years

58%

say progress on diversity and inclusion has moved much too slowly in the business world

74%

say there is still a huge amount to do to build more diversity on boards

79%

Want to lock-in the sustainability and climate change gains they have made during the pandemic

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Resource Allocation Issues

In large facilities, you need location-aware resource allocation strategies that will allow you to keep up with where resources are needed most often throughout your building. You want assets and resources to be highly available to your users, cutting down on the time needed to access those resources. At the same time, you do not want to have to purchase or prepare more resources than your team can actually use. Sometimes, you may have trouble finding those assets at all, especially when you need to use them in a hurry. In such situations, location services including cloud-based software solutions and BLE sensors allowing for room-level, and real-time asset location accuracy are critical.

3. Business Value Drivers for Smart Buildings
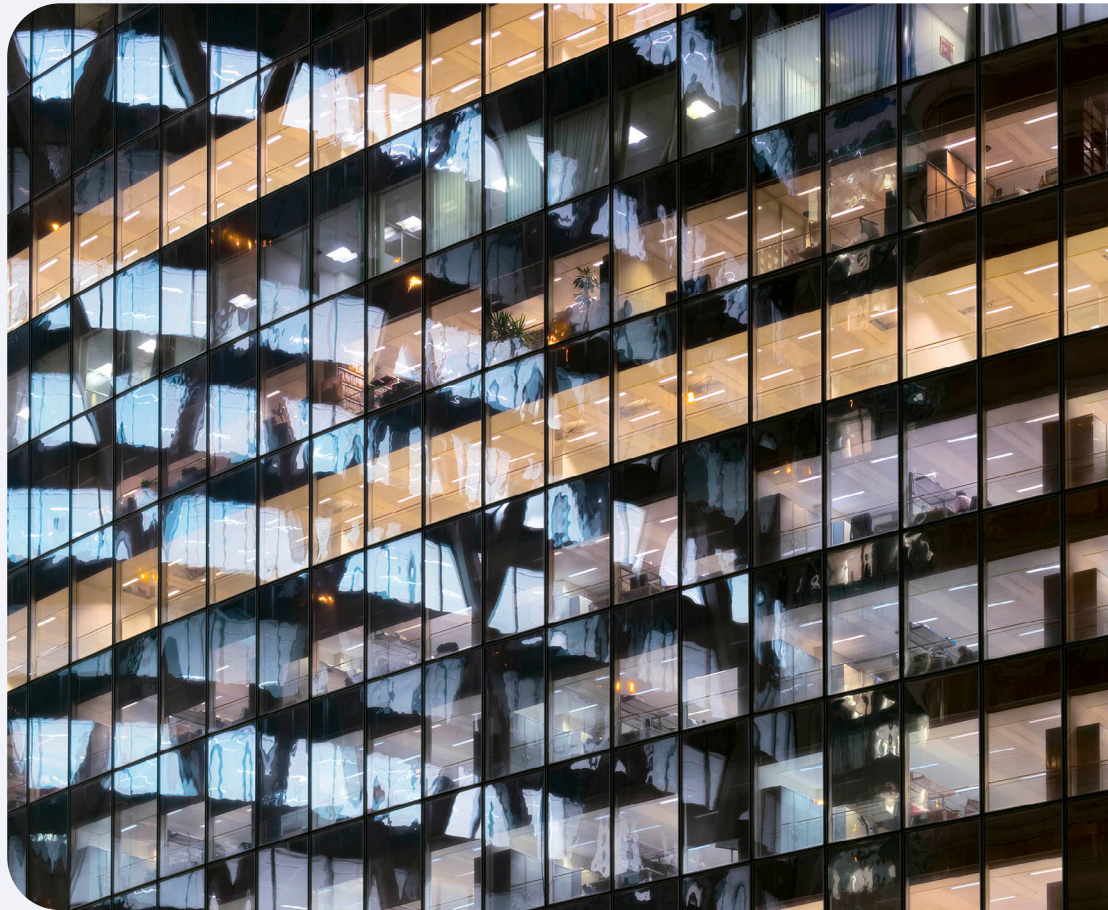
Business Value Drivers for Smart Buildings

Smart buildings have been on the rise for the past several years. Now, some businesses are moving their employees back to a physical workplace for the first time in more than a year. Others have not yet moved their employees back to the office, but are rethinking the office space they actually need given the work flexibility and safety they want to offer for their employees. Managing and tracking building and occupancy has, as a result, become more critical than ever not only from the operations perspective, but especially from the employee experience perspective

Workspace Utilization

How is your building's floor space actually utilized by the people who work there on a daily basis? Many management teams have a poor understanding of how the building's floor space is actually used. How often do people actually congregate in meeting rooms? Are employees actually utilizing individual offices, or do they prefer to use common areas? With more effective occupancy tracking, you can improve the facility flow planning. You may want to reassign spaces to help improve productivity and the employee experience. Once you have made those changes, you can also track their overall effectiveness and determine whether future changes need to be made.

In the average workplace, 2-3 person meetings makeup around 59% of all meetings. However, the most common meeting room size is a six-person room, resulting in underutilized space within the organization. Furthermore, many facilities have empty space that goes unused on a regular basis. In telecommunications businesses, for example, as much as 70% of the space is empty, while business service/consulting spaces maybe 65% empty, and education spaces around 51% empty.

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Workplace Safety

Through effective occupancy tracking, you can:

- Enable COVID-19 contact tracing
- Keep better track of potential late-night worker distress
- Manage building evacuation more effectively

Overall, these strategies can go a long way toward helping you keep up with the needs of your employees, protecting their safety and helping your business avoid costly potential lawsuits. You can also maintain a higher level of security in your office while still allowing the visibility and accessibility you need. For example, hackers can breach security cameras, creating immense potential for damage to your organization. With Kontakt.io's thermal-camera equipped Portal Beam, you will have a much lower security risk. We keep privacy and security first while providing your organization with access to the information you need most.

The Employee Experience

Employee experience matters. Happy employees are up to 20% more productive at work, according to a 2015 Social Market Foundation study. Creating a positive user experience, including comfort reporting, location-aware social apps, can go a long way toward improving overall employee comfort and providing them with the tools they need to be successful.

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Environmental Monitoring

The Kontaki.io Kio Cloud-based Portal Beam can monitor and track a variety of changes within your environment:

- Indoor air quality
- Light level
- Humidity
- Carbon monoxide

By keeping track of these critical metrics, you can more effectively monitor changes and challenges within the environment and get a better idea of your carbon footprint. With effective environmental monitoring, you can also autorelease a room that is not in use, switching the lighting and the air conditioner off if the room is not needed.

Air Quality: 120 PM   **Light 3,200 lum**   **Humidity 45%**   **Carbon monoxide**

Maintaining Facility Security

A panic button-equipped Smart Badges can help enhance staff safety, allowing them to easily summon help when needed.

Note: the Kontakt.io Smart Badge is also IR-equipped, which allows for a granular room-level accuracy.

Facility safety measures can also help with contractor T&A tracking, keep up with visitor tracing, and make sure visitors have an escort when needed. Furthermore, the software can make it easier to provide a fast emergency response, since it can easily determine exactly where specific employees are within the building if they need to summon help.

High-Value Equipment

You may use high-value equipment throughout your business on a regular basis. Location-based solutions can help you keep track of that equipment to improve asset utilization and availability. How much of that equipment do you really need and where is it?

IT companies, for example, may own dozens, or even hundreds, of expensive devices: new mobile phones, iPads, tablets, and computers that are available for testing purposes or generally available to employees. Sometimes, those testers take company-owned phones back home to continue working from there. They may forget that they have the equipment. Ex-employees may forget to return the equipment when they leave the company.

This is when location services prove most beneficial. You can see who recently had the device, where it was last seen, when it left the office, and other critical information.

Effective tracking can also help you improve your equipment maintenance programs and avoid shrinkage and loss, since you can check in to make sure that each device received the maintenance it needs.

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4. Space Occupancy Use Cases

Space Occupancy Use Cases

Space occupancy tracking can be used in a variety of scenarios. It's ideal for:

Open Space Areas

Keep track of desk occupancy with ease, especially in a hot-desking (hoteling) scenario.
In traditional workplace environments, employees each have their own desks and workstations.
They work only from that station over the course of the day. Hot desking, on the other hand, allows
employees to easily log in and work from any desk or workstation across the building. Often, this
means that multiple employees use the same workstation over the course of the day. With space
occupancy tracking, you can keep track of how many workstations or desks across your company
are actually being used on a daily basis, which will allow you to more effectively determine how
many workstations you actually need.

Meeting Rooms

The Kontakt.io Portal Beam together with the Kio Cloud is capable of determining the exact number
of people in a meeting room in real-time. This will allow you to collect and analyze data over time
to get a better idea of how the meeting rooms are actually used and how much of that space you
actually need. You might be surprised by the results—research shows that employees very often use
meeting rooms for their phone calls because it's often the only quiet space they can find.

Restricted Areas

Keep up with how many people are moving through restricted areas and who they are. This can also provide an additional layer of security that will allow you to see who may have been outside their assigned areas or who was in a specific area when a problem arose.

Supporting hybrid workspaces

In the hybrid work model where employees freely move between working at home and spending time in the office, space occupancy management has a key role to play. The larger a workforce, the more difficult it is to schedule who comes into the office on a particular day. With multiple teams, departments, branches, etc. it becomes even harder. Add to that the necessity of having to maintain and constantly update one central master list of those who plan to work from the office and it becomes essentially impossible.

Now keep this in mind as you consider the reality of limited workspaces. Are you supposed to occupy enough space to accommodate everyone if they all come in at the same time? Or maybe slash your office space to a level that almost guarantees that there will be no free spaces left well before everyone has arrived at the office?

Of course not. But finding that sweet spot of compromise between the two is only possible with analytical insights into how your space is used. When occupancy levels can be measured and evaluated historically, you're in a position to know how much space you really need on average and then make better, more informed decisions about important matters that directly impact your bottom line.

5. Tech Comparison

Tech Comparison

Legacy systems can leave you with as much as 18 months before you start to see a return on what you put into those systems. With Kontakt.io, on the other hand, you'll see the value in your system within around six months. Kontakt.io solutions, in general, cost only $.20 per square foot, while legacy systems can cost $.60 or more. It's compatible with other devices and apps and allows for do-it-yourself options, with no training or certification required. Furthermore, the Kontakt.io systems provide more information, including occupancy detection and RF fingerprinting.

	Kontakt.io	Legacy Systems
Time-to-value	3-6 months	18 months
Cost per SQF per year	$0.2	$0.7
Cost per device	$20	$60
Compatibility with other devices and apps	Yes	No
Connectivity Architecture	BLE (Open Standard)	900Mhz (Propriatary) / Wifi (Propriatary)
Wifi-Compatibility	Yes	No / Yes
System Integration	Open API	Propriatary
POE Cable-drop	No	Yes
Deployment Type	Do-it-yourself	Certification and Training Needed, Paid Service
Cloud Compatibility	100% Cloud-enabled & secure	On-Premises server needed
Room Level Certaininty	Yes (AI using BLE, Infrared, Occupancy, Motion)	Yes (Infrared)
Occupancy detection	Yes	No
RF Fingerprinting	Automated using AI	Manual (Not applicable on 900MHz)

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5. Portal Beam and Kio Cloud:

Your Solution for Many Enterprise Business Challenges

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Portal Beam and Kio Cloud:

Your Solution for Many Enterprise Business Challenges

If you're interested in occupancy tracking solutions that will allow you to better keep up with changes in your facility and maintain more awareness of your building, Portal Beam and Kio Cloud could provide the tools you need.

Portal Beam - the Internet of Things, now in ONE thing.

The Portal Beam is a 9-in-1 cloud-enabled sensor platform for quantifying rooms and delivering building insights in real-time. It's the only product in the market that enables all indoor spatial intelligence use-cases, from understanding granular and privacy compliant space occupancy to tracking of identifiable assets and individuals. The Portal Beam uses nine different sensors: thermal imaging camera, temperature, humidity, air quality, light, infrared beaconing, RSSI fingerprinting, and iBeacon. The Portal Beam comes with an 8-core CPU with a Neural Network architecture and Bluetooth 5.0 readiness.

Out of the box, it is compatible and seamlessly integrates with any standard Bluetooth-based wireless infrastructure, including Enterprise Access Points from companies like Cisco. The Portal Beam does not not require any additional Gateways. A Portal Beam is deployed in 60 seconds and easily managed and configured via the Kio Cloud platform and the Kio mobile app. Relying solely on a BLE-radio for its wireless backhaul, the Portal Beam has a battery life of four years with default settings. Its value proposition supports five unique use-case capabilities in one device.

1. Room Occupancy Monitoring:

A Portal Beam deployed on a ceiling in a meeting room lets you monitor how people occupy spaces and track the occupancy and utilization of rooms without infringing on privacy.

2. Seat-Level Occupancy Monitoring:

A Portal Beam can measure the occupancy of cloud-defined multi-seat workstations in enclosed rooms or open spaces. Resulting in detailed, seat-level utilization data. When in Seat Mode, a Portal Beam measures the count of workstation seats that are occupied and not occupied.
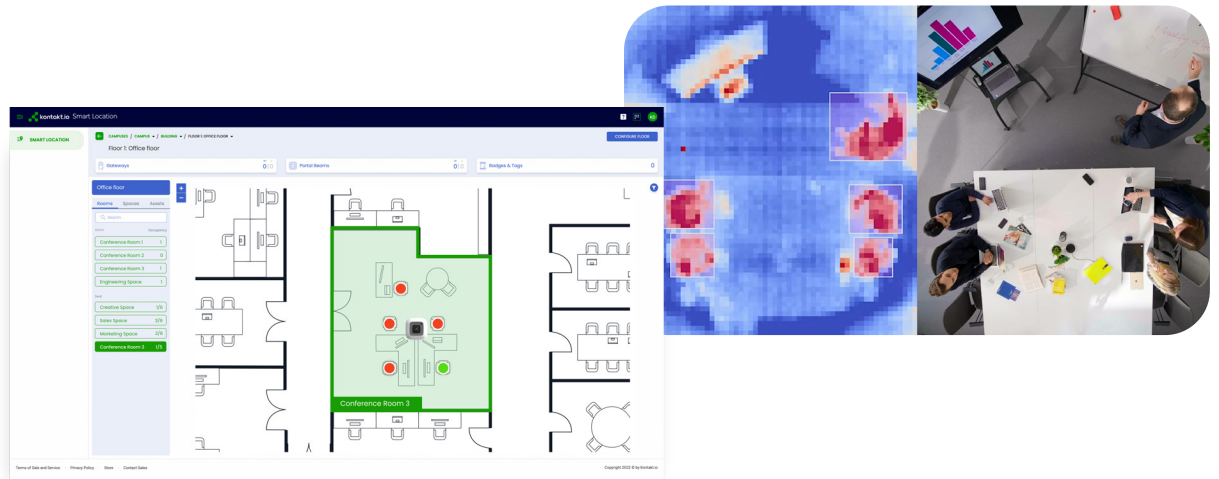
3. Footfall Traffic Counting:

A Portal Beam deployed above a door or corridor can count people traffic in floors, or entire buildings. When in Traffic Mode, a Portal Beam detects movement and counts people entering and exiting a space defined by an adjustable threshold line. This allows users to understand space, floor and building utilization data against defined capacity limits.
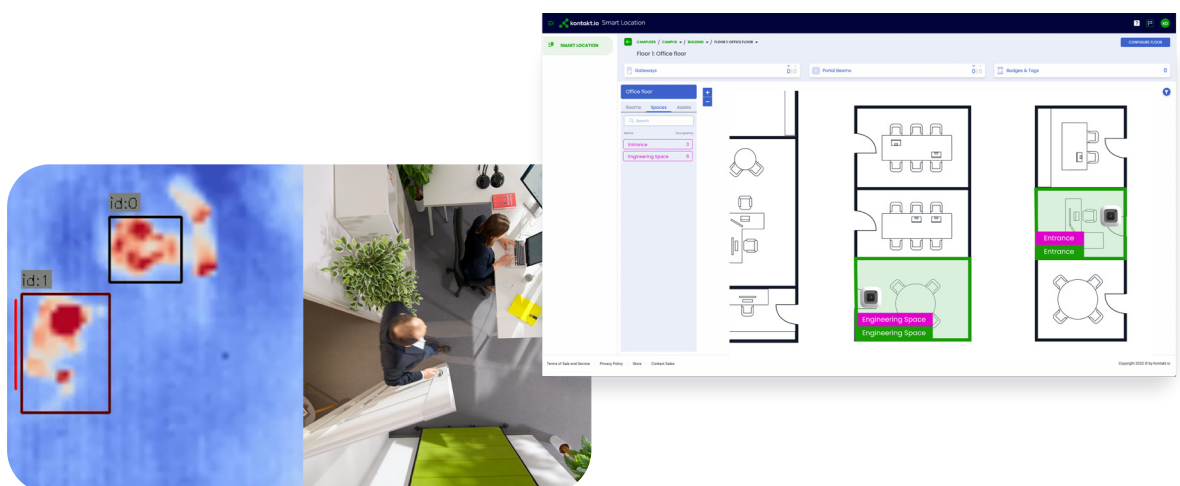
4. Environment Monitoring:

With its rich set of sensors the Portal Beam helps to provide a safer and healthier workplace reducing the building's carbon footprint, and improving the employee experience. The Portal Beam environmental sensors measure ambient air temperature, relative humidity, ambient light level, air pressure, and a calculated Air Quality Index (AQI) level. Additional sensors are optional.

5. Mobile Indoor Navigation:

With a built-in iBeacon, Portal Beams are the infrastructure for mobile-based wayfinding applications and SDKs. With Portal Beams deployed in every room, there is no additional need for a standalone iBeacon infrastructure.

6. Asset and Badge Tracking:

With its BLE-radio and Infrared-array the Portal Beam enables location-tracking use cases of tagged assets, people or visitors. Providing room-level accuracy and low-latency tracking data delivers unlimited use cases - from healthcare workflow, contact tracing, pairing visitors with hosts, to tracking the flow and location of valuable assets. Room-level certain tracking of assets or people requires Bluetooth-enabled Tags (in the 2000s known as RFID) like the Kontakt.io Smart Badge, and Asset Tag 2.
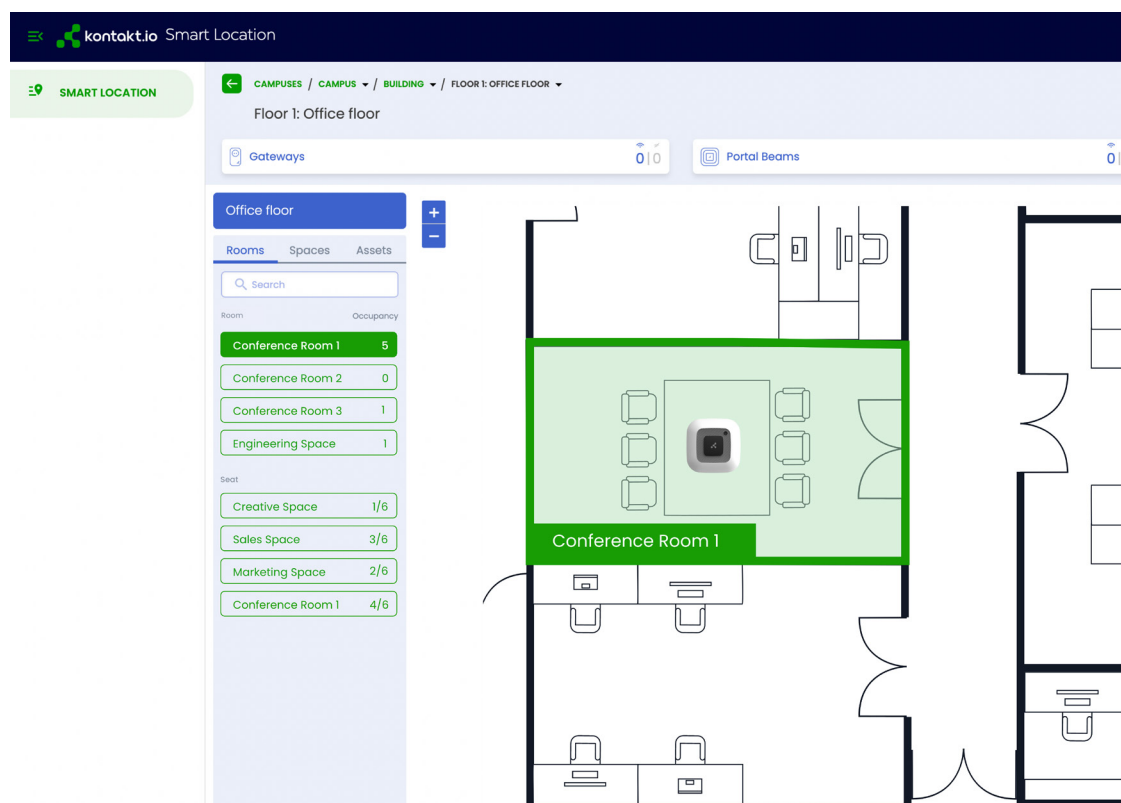
Kio Cloud

Kio Cloud is a software platform that allows you to select from ready and simple-to-use micro apps (Kio Apps), or build your own app with the Kio Cloud API. With Kio Cloud, you can:

- Set up and get started using Portal Beam and your Kontakt.io BLE products within minutes.
- Access all the apps you need to manage and configure your IoT devices to quantify buildings and to drive business outcomes from healthcare to corporate enterprises use cases, in one place

The Kio Cloud already supports more than 30,000 customers, partners, and individuals, making it a highly effective platform that will fit your needs.

Why Portal Beam?

Portal Beam offers a number of key advantages.

- It is mounted to the ceiling. Ceiling mount makes installation of sensors easier, faster, and less error-prone than under-the-desk sensors.

- Portal Beam outputs no XY coordinates. This stands in contrast to traditional location systems. Instead, we abstract buildings as a grid of rooms and pathways.

- It delivers data at a single room resolution. This allows you to more easily keep up with movement and tracking throughout the building. The room's address incorporates its name or number, floor, building, campus, and street address, making it easy to identify the right building and make sure that you're tracking the information you need most.

- Portal Beam offers a completely new attitude to understanding and managing spaces. It has open event streams that empower owners, solution providers, and developers to better understand their space utilization and improve their overall awareness of how users manage within their buildings.

We Make the Difference You Need

Portal Beam is new technology for the modern age: the occupancy monitoring solution your enterprise needs to keep up with the current requirements of your employees and your industry.

☑ Complete Room Data fro All Use-Cases

Quantify all human interactions. Count people and understand spatial intelligence in a privacy compliant way. Count identifiable people or assets using BLE and IR. Monitor the environment. Provide mobile phones with indoor positioning services

☑ Reliable Data

99%+ room level certainty to enable all use-cases including critical workflows such as emergency call applications, or asset specific workflows.

☑ Fastest Time to Value

Anyone can self install the Portal Beam in less than 60 seconds per room.

☑ Most Scalable and IT-Friendly Solution

Seamlessly integrates with existing IT and WiFi Access Points topology using BLE.

☑ Delivered as a Service

No CapEx & continuous product enhancements.

☑ Open

No vendor lock-in, expand with third-party software applications or build your own

☑ Affordable

Save money, lower total cost of ownership, higher ROI.

About Kontak.io

We are builders and makers and our passion is to design simple solutions that are affordable and accessible to a broad market. Our technology drives the backbone of IoT and adapts to solve use cases for healthcare and other smart buildings. Every day, our products touch millions of people in airports and shopping malls, office buildings and hospitals - helping quantify spaces and the interactions with the people, things and the buildings they occupy. We have achieved this by championing open standards, being driven by curiosity and an innovative spirit and by working together with over a thousand partners to deliver value to users.

Contact us

kontakt.io

Get in Touch

Kontakt.io

19 W 34 Street, Suite 1018,
New York Zip 10001
T +1 415-295-4558
E hello@kontakt.io