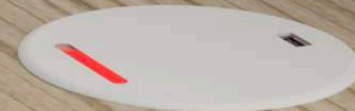


# Occupancy Tracking and Space Reservation

Find which workspaces are being used, by who and when, quickly and cost effectively.



# AGENDA

0:05

## BACKGROUND

1

What is it. Who we are.  
Why Now? What has  
changed to the approach  
to solving this problem.

0:10

## OCCUPANCY TRACKING

2

Floorsense tracking sensor  
hardware, operation and  
basic implementation,  
Reporting

0:20

## SPACE RESERVATION

3

Floorsight Desk Reservation  
solution, top of desk service,  
Kiosks, Apps and wayfinding  
options, Reporting

0:30

## QUESTIONS

4

What do you want to know  
more about?



# Agile Workspace

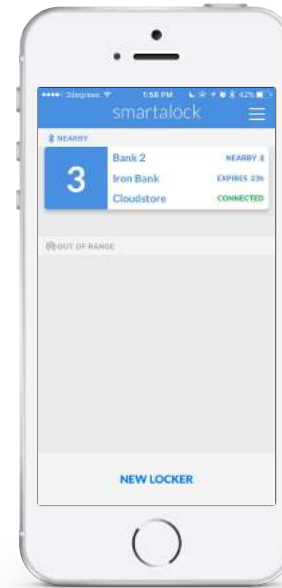
---

- Formed in 2015 to create comprehensive technical solutions for ABW workplaces
- Smartalock fastest growing smart locker system in AU / NZ
- Founders: 20+ years developing bespoke hardware and software solutions for technical industry verticals
- Partners with great office furniture systems companies covering AU/NZ



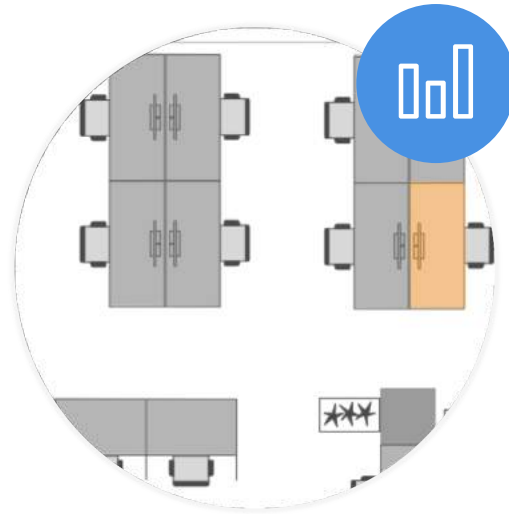
# Smartalock

- Intelligent personal locker system for Agile Working and medium-large locker deployments
- Full featured locks from basic through to full power-in-locker options
- Uses existing building access card, smartphone App or touchscreen kiosk
- Simple administration
- Detailed usage analytics
- Lowest TCO for managing large number of staff lockers

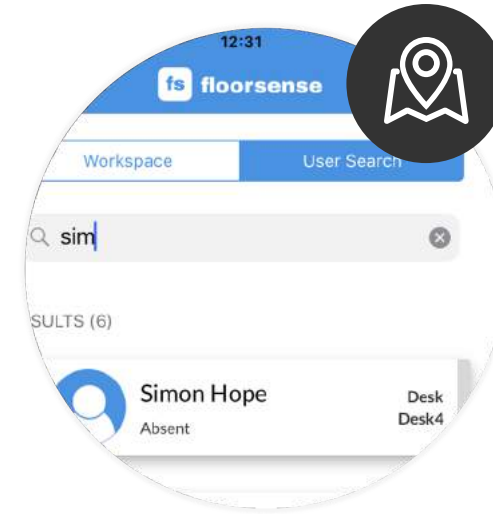


# BACKGROUND

**floorsense**



**VS**



## **OCCUPANCY TRACKING**

Which space is being used and when  
Are we nearing peak occupancy for  
certain floor / workpoint type /  
neighbourhood / building

## **SPACE RESERVATION**

Who is using space, where are they  
right now. Block book space for  
project teams in an Agile  
environment. Discover issues.

# WHY NOW?

## What has changed

### floorsense



#### LOW COST

IOT Sensors, Mesh Networking, Leaner Vendors



#### ACCURATE

Active reservation with PIR sensor knows definitively someone is in this space



#### MORE FEATURES

Laptop charging, Wireless Charging, Locker system integration, Open API



#### FAST DEPLOYMENT

No IT Project. Plug and Play then map to floorplan

### OTHERS



#### HIGH COST

IT Consultancy, hardware, software license, ongoing monthly fees



#### LESS ACCURATE

Occupancy based on WIFI Triangulation, LAN port maps and Laptop agents



#### POINT PRODUCTS

No Value-Add to replace top-of-desk spending on wired or wireless chargers



#### SLOW DEPLOYMENT

IT Project: Physical / Logical Network planning, Security, AD integration

# WHY DO IT

## Occupancy Tracking



### **FIXED → AGILE**

Understand actual space utilization in a fixed desk environment before moving towards agile



### **SAVE / APPORTION COST**

Reduce floorspace and furniture based on actual high watermarks.  
Accurately internal bill departments for space



### **VALIDATE THE MIX**

ABW requires a mixture of workstations, focus areas, collaboration areas. After a move from fixed to agile, is the mix correct? Are the quantities lining up with expectations?

# floorsense

## Occupancy Tracking



Under desk sensor silently monitors workspace utilization. Reporting back to central controller via dedicated separate radio channel

- Reliable operation with advanced algorithm to minimize false positives
- Simple installation either temporary for short term studies or permanent for long term or to integrate with desk reservation
- Uses low frequency radio frequency to auto-form a mesh network back to controller. No IT required and no interference with WIFI channels.
- Fixed power or 5+ Year battery options (May2020)
- Unobtrusive and starts working immediately



# floorsense

## Occupancy Tracking

PIR Sensor Module



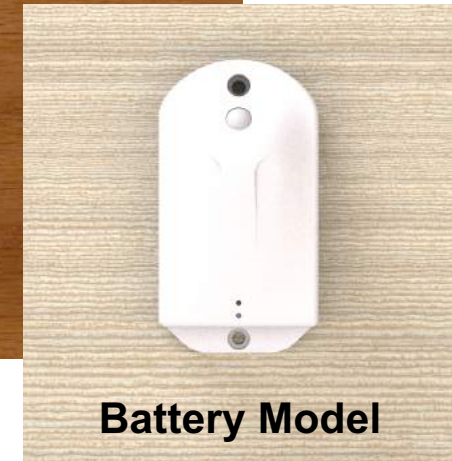
Commissioning / Baseline Reset button

Integrated Low Frequency Radio



Connection to Floorsight or external USB power. Power from Linak sit-stand desk motor also possible.

Installer indicator LED



**Battery Model**

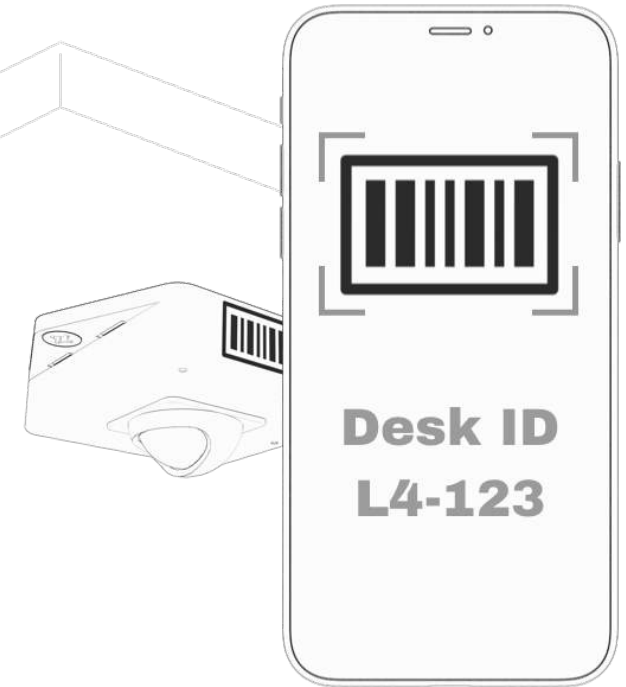
1

**Cutout Desks on floorplan**  
**Record each Desk-ID + optional metadata**



2

**Scan sensor barcode**  
**Assign Desk-ID**



# floorsense

## Occupancy Tracking

3

**Start receiving occupancy data**  
**Run reports**



1

## BUILDING SUMMARY

Occupancy Summary of entire building – high watermark, averages and total number of available workpoints

2

## INDIVIDUAL FLOORS

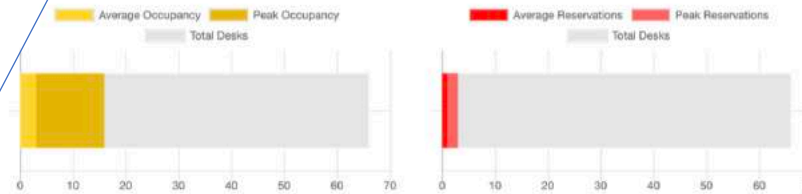
Drill down to find hotspots and peaks inside individual floors within the same building. Can teams be moved around to handle?

### Floorsense Report

Start: 2019-02-26 14:14:27 End: 2019-03-28 14:14:27

#### Summary (Building Level) Report

This report breaks down the occupancy level and reservations for the entire site (all floors aggregated). The grey indicates the total number of workspaces, dark yellow is the high watermark occupancy seen for the selected time period and light yellow is the average over the selected period. The same high watermark and average reservations are shown in red. Where occupancy is higher than reservations it indicates people are using desks but not actively reserving them (or some workspaces are not reservable). Where reservation levels are higher than occupancy levels, it indicates people are actively reserving workspaces but then failing to actually use them. For further detail on per-floor breakdowns of occupancy and space reservation, see the Floor Reports.



#### Summary



#### Floor Report - Floorsense Demo

This report breaks down the occupancy level and reservations for just the selected floor above. The grey indicates the total number of workspaces, dark yellow is the high watermark occupancy seen for the selected time period and light yellow is the average over the selected period. The same high watermark and average reservations are shown in red. Where occupancy is higher than reservations it indicates people are using desks but not actively reserving them (or some workspaces are not reservable). Where reservation levels are higher than occupancy levels, it indicates people are actively reserving workspaces but then failing to actually use them.

3

## BY NEIGHBOURHOOD

Which neighbourhoods or groups of work-points are reaching capacity on a regular basis? Which are under-occupied?

4

## BY WORKPOINT TYPE

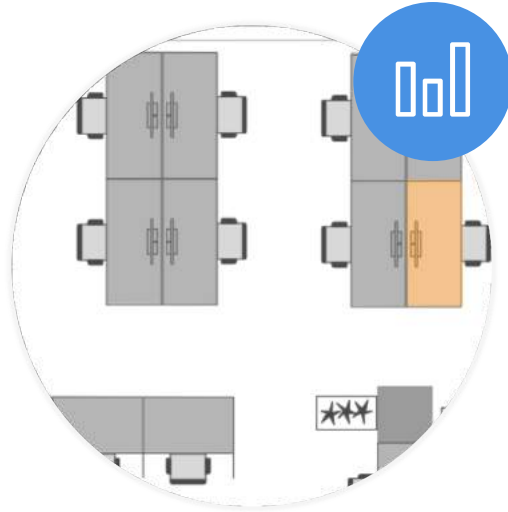
Which settings are working? Collab tables always full? Focus pods under-used? Report by type of workspace across entire building



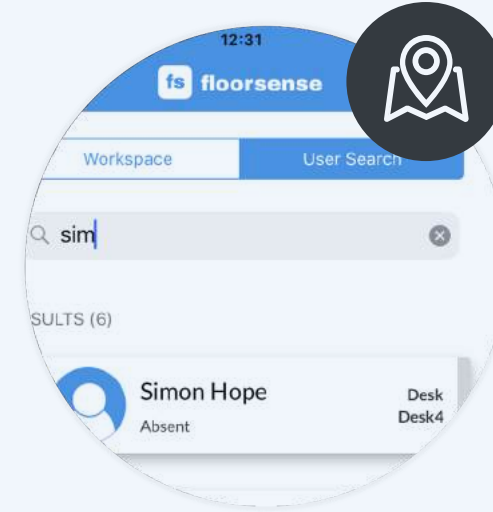


# BACKGROUND

**floorsense**



**VS**



## **OCCUPANCY TRACKING**

Which space is being used and when  
Are we nearing peak occupancy for  
certain floor / workpoint type /  
neighbourhood / building

## **SPACE RESERVATION**

Who is using space, where are they  
right now. Block book space for  
project teams in an Agile  
environment. Discover issues.

# WHY DO IT

## Space Reservation



### **BOOK ALL YOUR SPACE**

Ease the transition by allowing bookable spaces in advance of the workday – not just meeting rooms



### **FIND YOUR PEOPLE**

Find co-workers in an agile environment without interrupting them



### **WAYFINDING**

Kiosk based floormaps show end users all real-time available workpoints

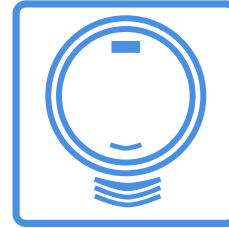


### **REPORT ISSUES**

Allow users to easily and effectively report maintenance issues to facilities

# floorsight

## Desk Reservation

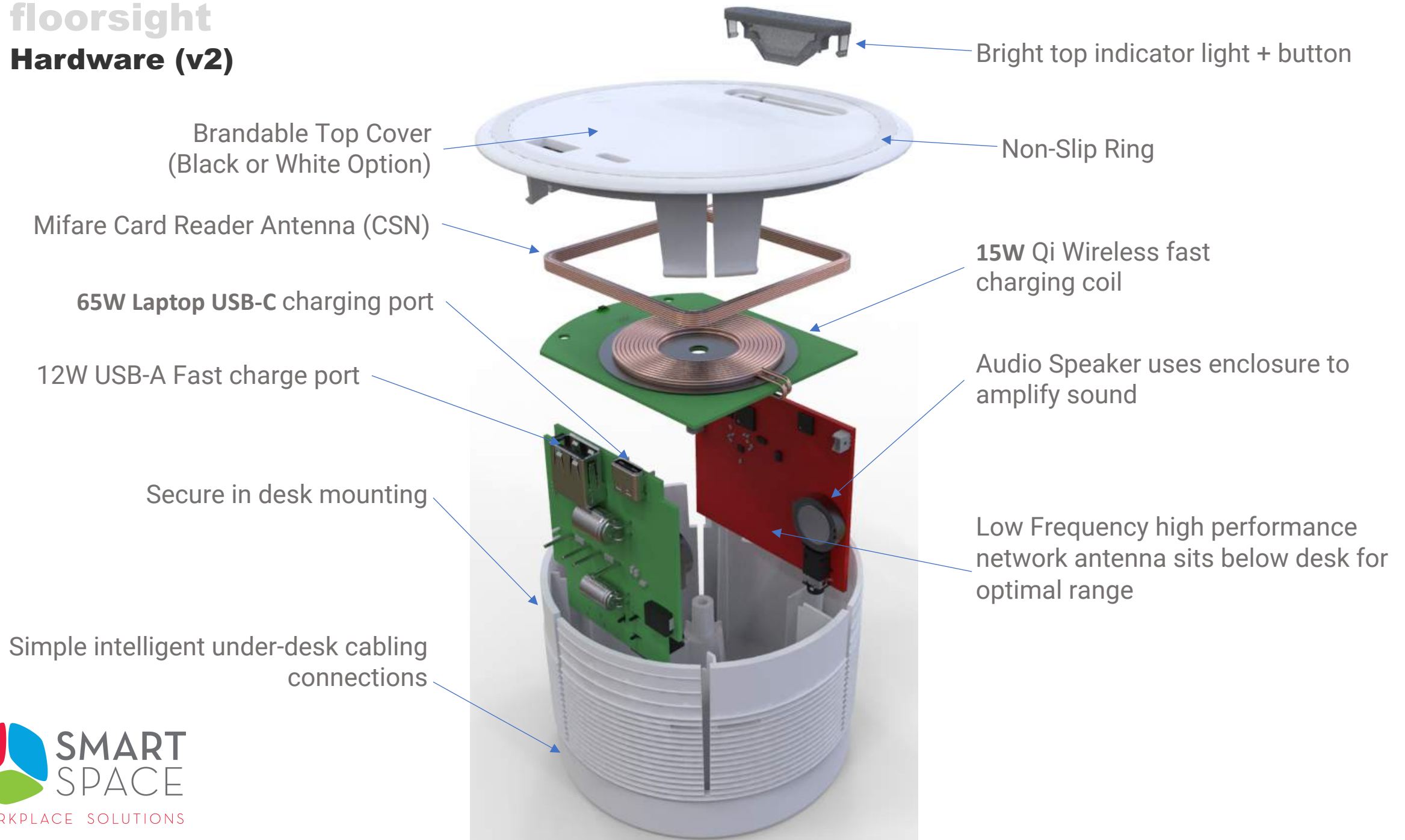


Combines floorsense under desk sensor with a top of desk combo RFID reader and wireless/wired charger.

- RFID Card reader allows users to reserve desk by swiping building access card
- Integrated "qi" Wireless charger (iPhone 8+ and Android) 5W-15W options
- Integrated USB charging options (upto 65W for Laptop charging)
- Traffic light system determines desk status – Free, Reserved, Do-Not-Disturb or Occupied (sensor detected user, but not swiped on)
- Integrated Speaker. Gamification options to encourage use. App option.
- Simple installation and commissioning using same radio technology as floorsense.

# floorsight

## Hardware (v2)





# floorsight

## Booking Space



### Swipe Card At Desk

The integrated RFID Card Reader accepts most modern building access cards including Mifare DESFire EV2. Swipe on to check-in to a space



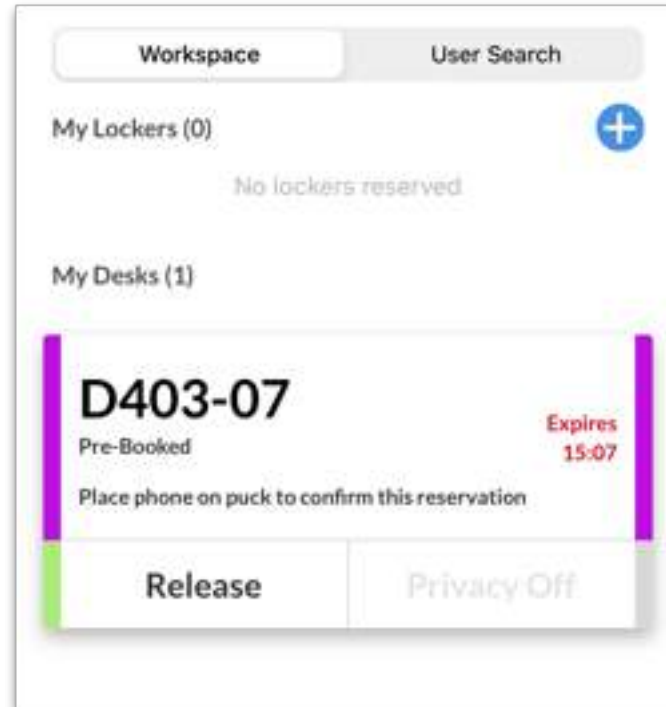
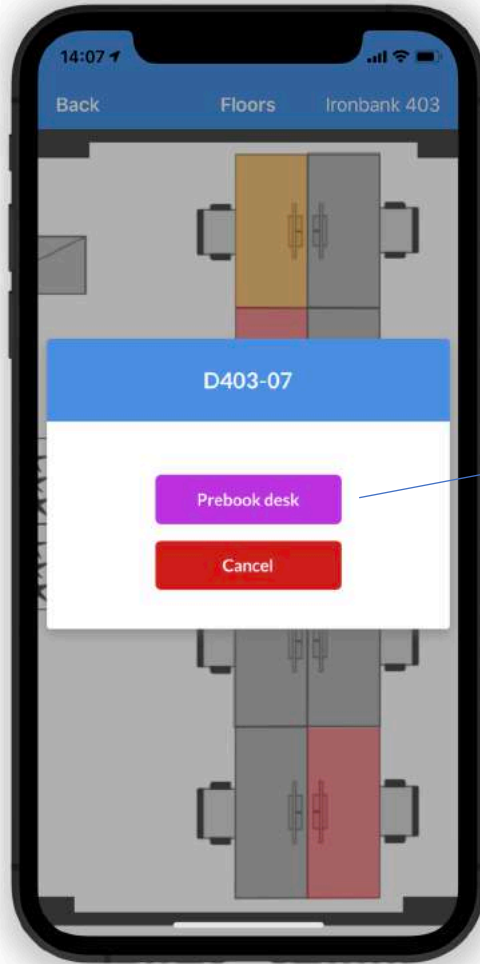
### Use Smartphone

Using our free floorsense App, place phone on top of desk puck to create space reservation



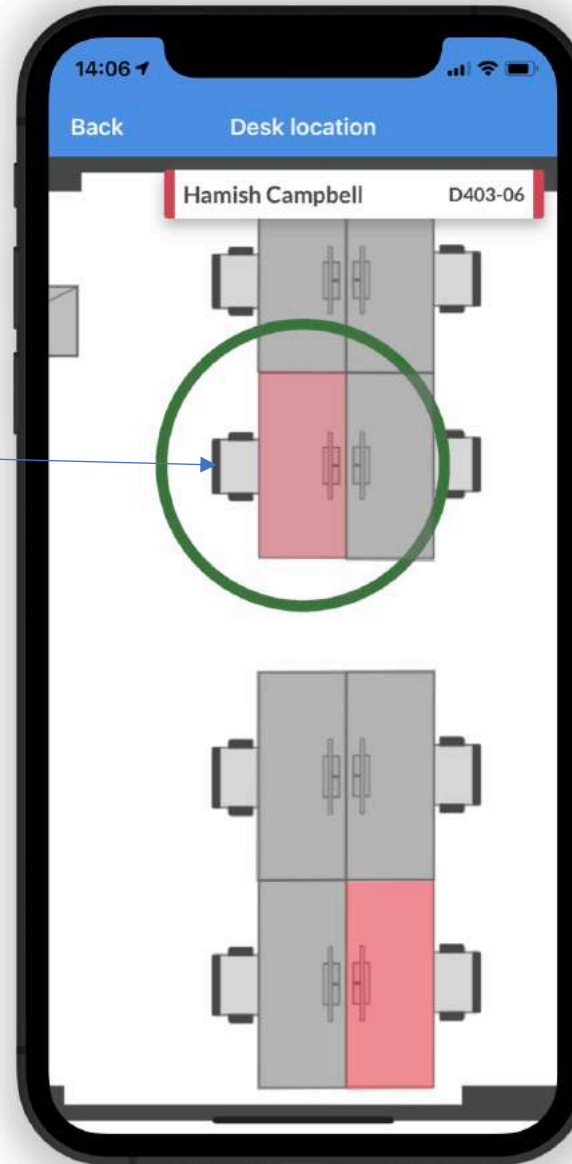
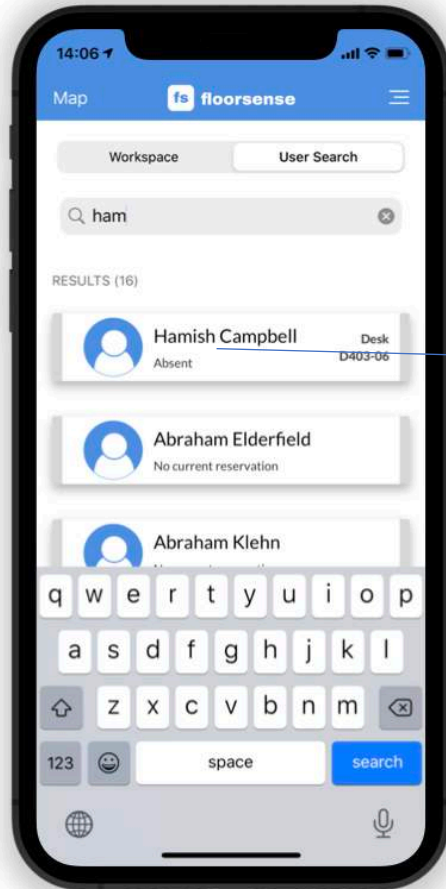
### Book at Kiosk

Optionally install touchscreen kiosks (runs in Chrome browser) where end users can directly pre-book a desk and then check in with building card or phone later



- End user reviews the live floorplan from their phone – can tap on any desk not reserved
- Tapping on desk will pre-book it – the puck will flash Red/Purple and another user cannot check into it.
- The end user must check into the desk by placing phone on Puck or tagging on with building card within 20 minutes (default) or desk will come free again
- End user can also release their pre-booking at any time before the 20 minutes is up

## Operation – Finding People



- End users can find other checked in users via the App. Just start typing their name
- Tapping on name will show the other users location on the floorplan.
- Users can opt out of being found via the Do-Not-Disturb function

1

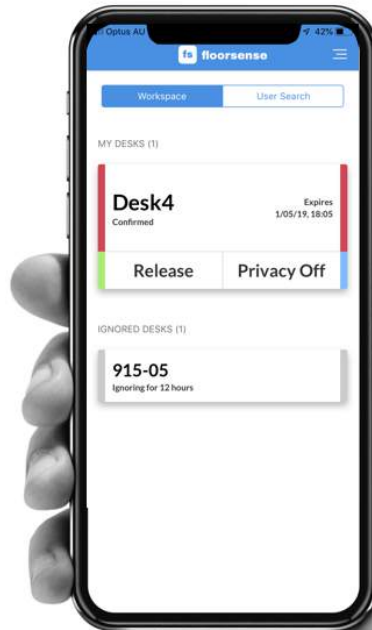
### BOOK LOCKERS

The floorsense app is also compatible with the Smartlock locker system, allowing booking desks and lockers from single App

2

### MAP VIEW

Realtime occupancy heatmap for all floors in the building



3

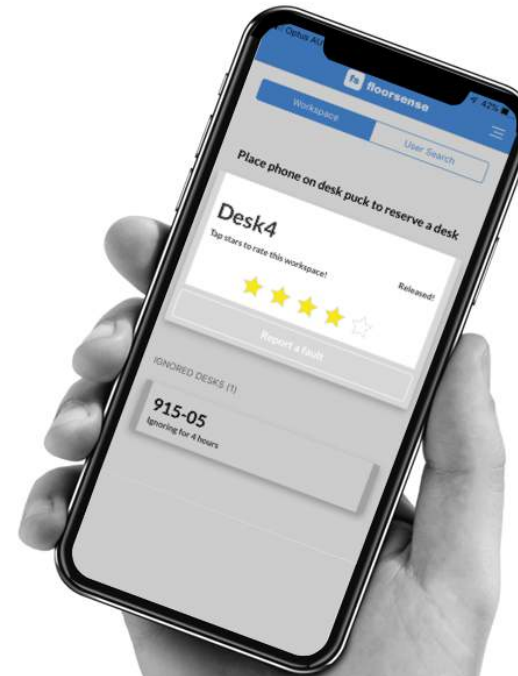
### GEO FENCE CHECKOUT

Forgot to check out? Desks auto-release or optionally the App can prompt users to release the Desk if no occupancy detected

4

### GIVE FEEDBACK

Report physical problems with workspaces and rate the workspace for the activity. Facilities can now centrally capture work point maintenance tasks





# floorsight

## Traffic Light System



### Desk Reserved

Desk is reserved to a User or if flashing Red-Purple then is Pre-booked by a user who will arrive shortly



### Do Not Disturb

Desk is reserved to a User and the user has opted out of being found in User lookup function via Kiosk or other App users



### Desk Free

Tap onto Desk with swipe card or with Smartphone App to check in



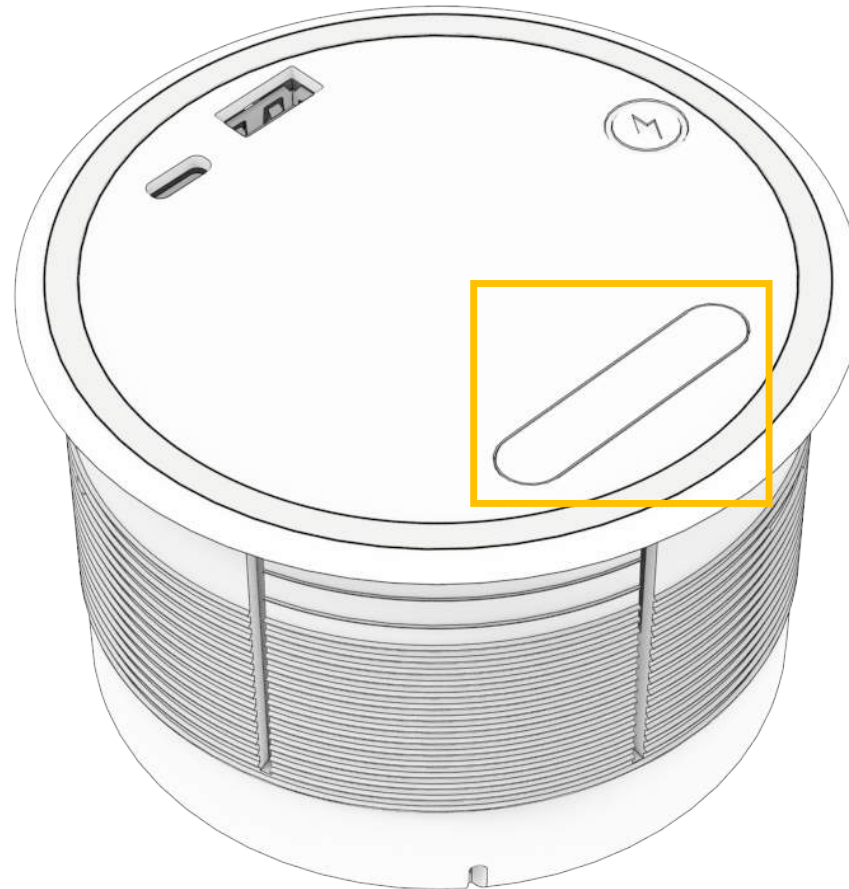
### Desk Out-of-Service

An Admin, or a User (via long press of the button) can take the desk out of service – which automatically notifies facilities team of an issue with the desk



### Desk Cleaned

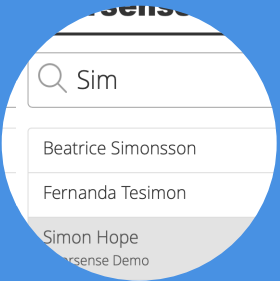
Cleaners wiping down desks can signal workpoint sanitized via double-pressed or swiped with a cleaner swipe card. Users can select desks based on how recently cleaned



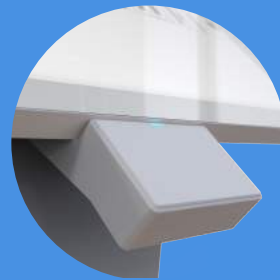
# floorsight Kiosk



View floorplan heatmap to find available workpoints. Swipe between floors to view real-time occupancy for entire building



Search for co-workers directly from the kiosk and have their location highlighted on the floorplan



Integrate Building Card Reader to pre-book a space directly from the Kiosk. Check-in at Desk still required.



1

### FIND PEOPLE

Start typing a colleagues name to find their current desk location

2

### FIND SPACES

Start typing “meeting room” to highlight available meeting rooms or “window” to find a free desk near the window

#### Smartalock / Floorsense

in 223

Level 4: Level 4

People Places

Am

Alex Stoneham

Amy Reynolds

Annetta Masele Lam  
Level 4

Brad Graham

Corina Hamiora

Damon O'Neill

Dillon Ramesh

Jo Inamke

Joel Jeevaratnam

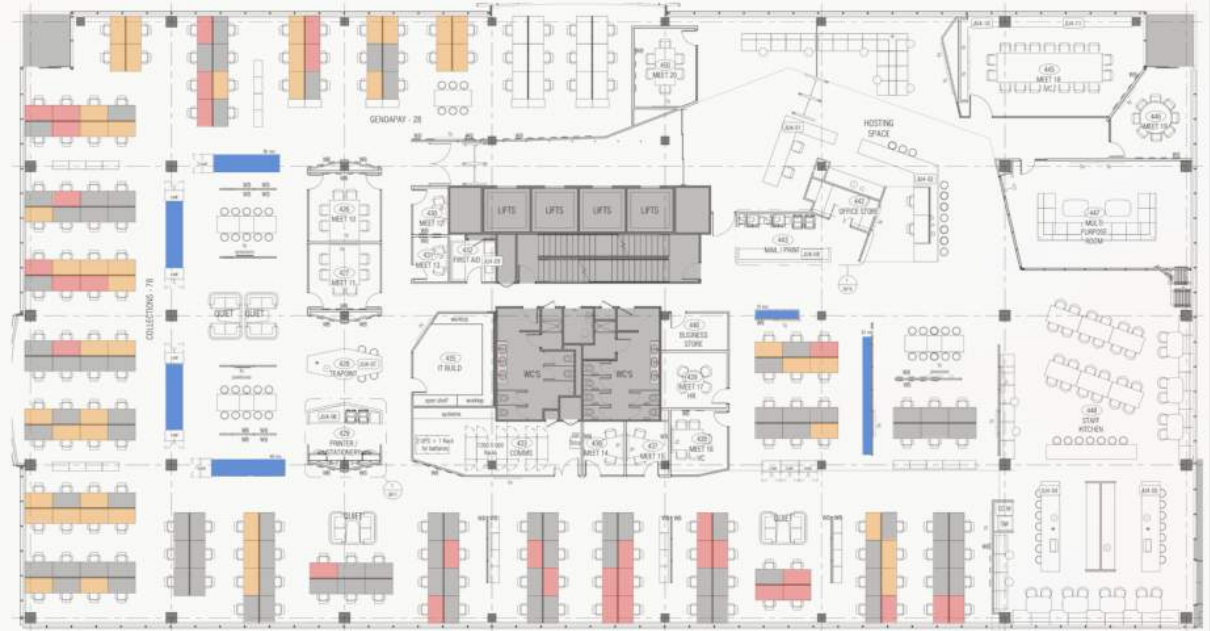
Petar Stamef

Praharsha Gautam

Sam Xia

Samantha Sladen  
Level 4

Clear Search Result(s)



3

### PREBOOK A WORKPOINT

Tap on any unreserved space and then tag swipe card to pre-book. Checkin at the space via App or swipe card within 20 minutes

# floorsight Administration



## CENTRAL MANAGEMENT

Manage thousands of workspaces – across multiple buildings from a single web browser window



## USER CONTROL

Maintain users and their space reservations including flexible import options from existing swipe card systems.



## OPERATIONS FRIENDLY

Update floorplans, create block bookings for groups, handle new starters and leavers, temporary cards – all from intuitive interface, from anywhere in the world



# floorsight

## Advanced Reporting

1

### RESERVED v OCCUPIED

Floorsight reporting includes reservation rates for the same period as occupancy rates to know if users are embracing ABW

2

### USER REPORTS

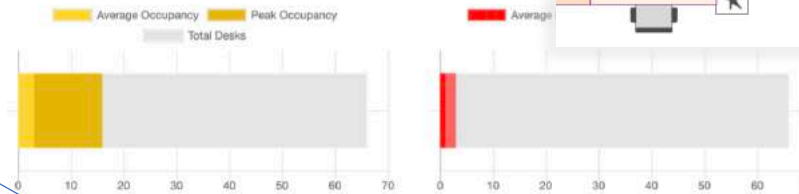
Export space reservations by User to track which users prefer which spaces, and whether they occupy the space they book

#### Floorsense Report

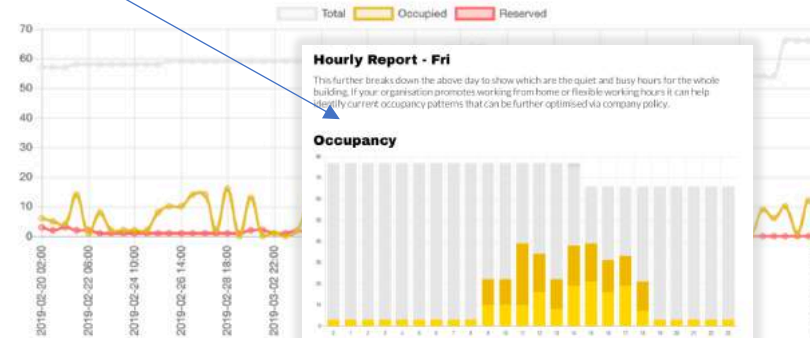
Start: 2019-02-26 14:14:27 End: 2019-03-28 14:14:27

##### Summary (Building Level) Report

This report breaks down the occupancy level and reservations for the entire site (all floors). The total number of workspaces, dark yellow is the high watermark occupancy seen for the site over the selected period. The same high watermark and average reservations are higher than occupancy it indicates people are using desks but not actively reserving them (reservable). Where reservation levels are higher than occupancy levels, it indicates people are then failing to actually use them. For further detail on per-floor breakdowns of occupancy and reservations, see the Floor Report.

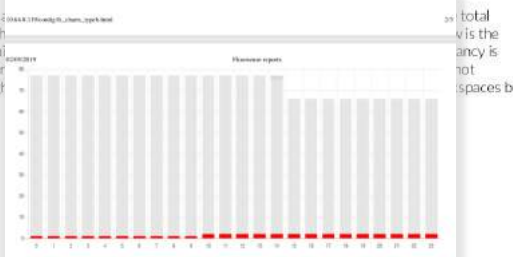


##### Summary



##### Floor Report - Floor

This report breaks down the occupancy level and reservations for a specific floor. The total number of workspaces, dark yellow is the high watermark occupancy seen for the floor over the selected period. The same high watermark and average reservations are higher than occupancy it indicates people are using desks but not actively reserving them (reservable). Where reservation levels are higher than occupancy levels, it indicates people are then failing to actually use them. For further detail on per-floor breakdowns of occupancy and reservations, see the Floor Report.



3

### HEATMAP VIEW

Show a heatmap snapshot of a floor for a given period of time

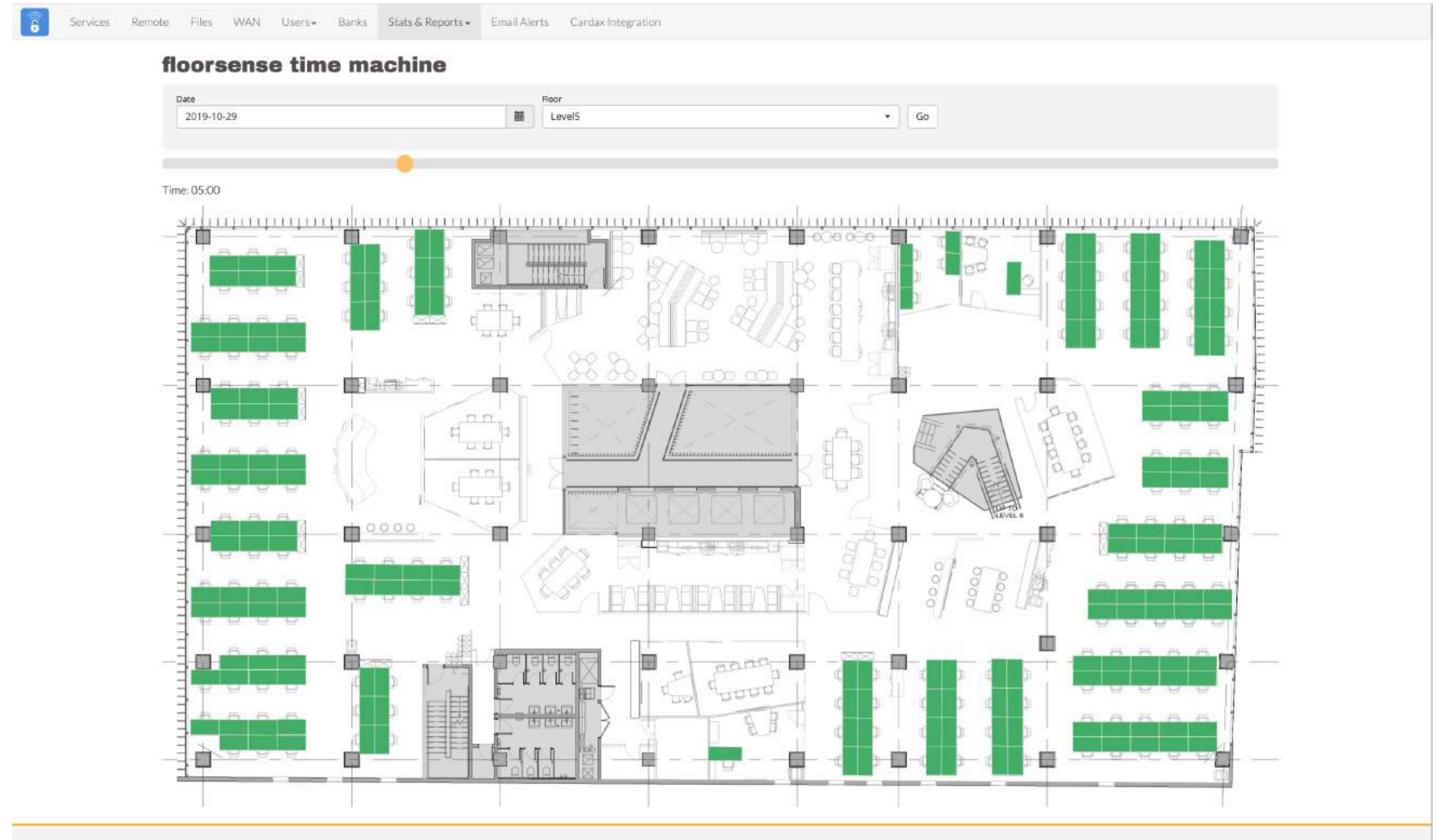
4

### COMPARE PERIODS

Ability to compare 2 periods on same chart – visually see the difference a change in a floorplan layout has made to occupancy rates

### What happened when?

- Select any day in the past to see changes in occupancy as they happened over 24 hour period
- Mouse over any red desk to learn who had reserved that desk that day, and also whether it was actually occupied



# floorsight

## BMS Integration

### ACA Engine

- Floorsense sensors integrate natively with the ACA engine BMS
- Holistically manage entire building from a single ACA BMS dashboard, or just the floorsense system from floorsense dashboard
- Documented REST API for other 3<sup>rd</sup> party system integration

ACA

HOME

ACAENGINE RESOURCES

PLACE - BUILDING ANALYTICS

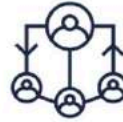
THE ACA PODCAST

THE ACA BLOG

CONTACT



Monitoring IT  
Facilities &  
Uptime



Employee  
Insights



Room  
Occupancy Vs  
Capacity stats



HVAC  
Optimisation

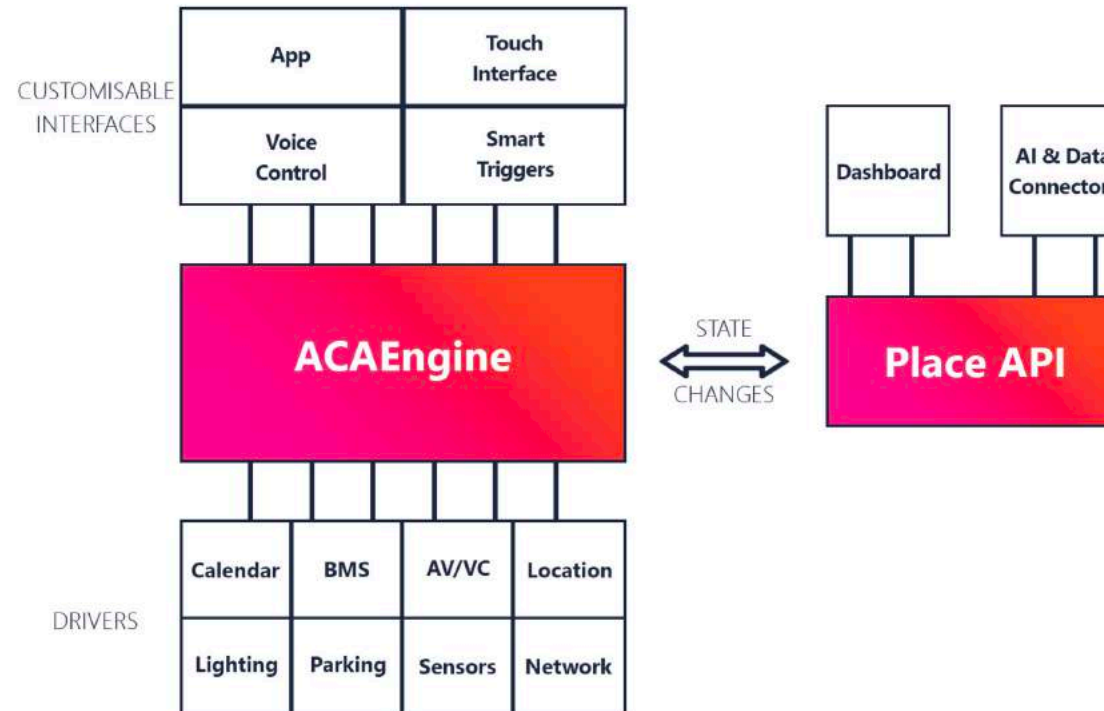


Location &  
Zone based  
Insights



AV & Video  
Conferencing  
Device Uptime

How it Works:

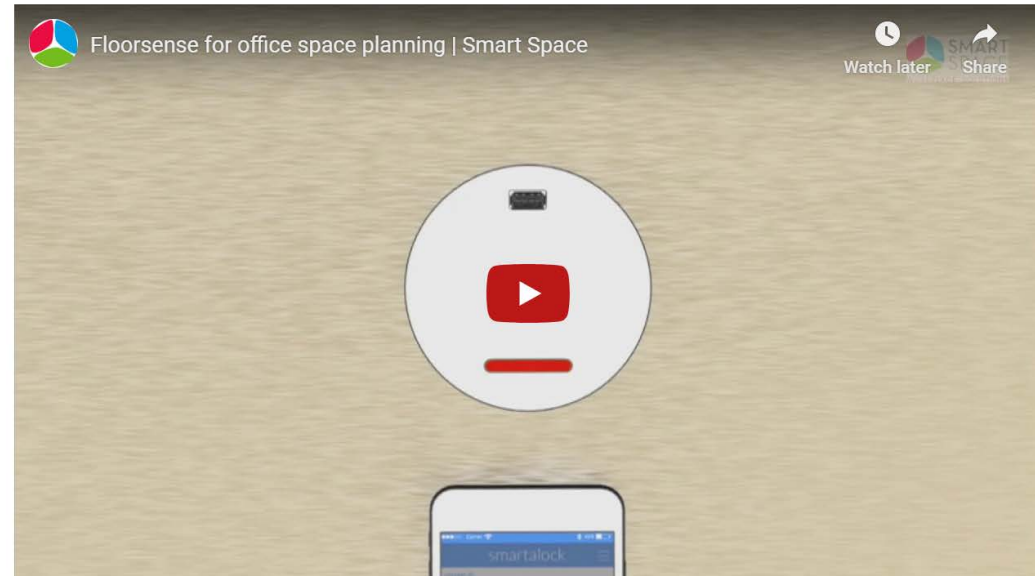
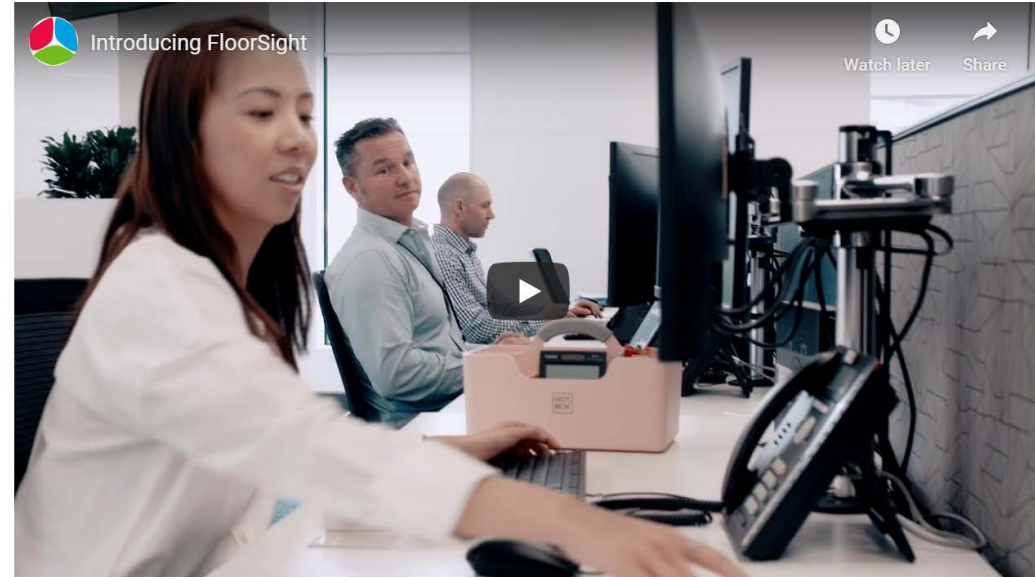


# floorsight

## Video

### Go to our website link:

<https://www.smartspace.co.nz/products/floorsense-floorsight>



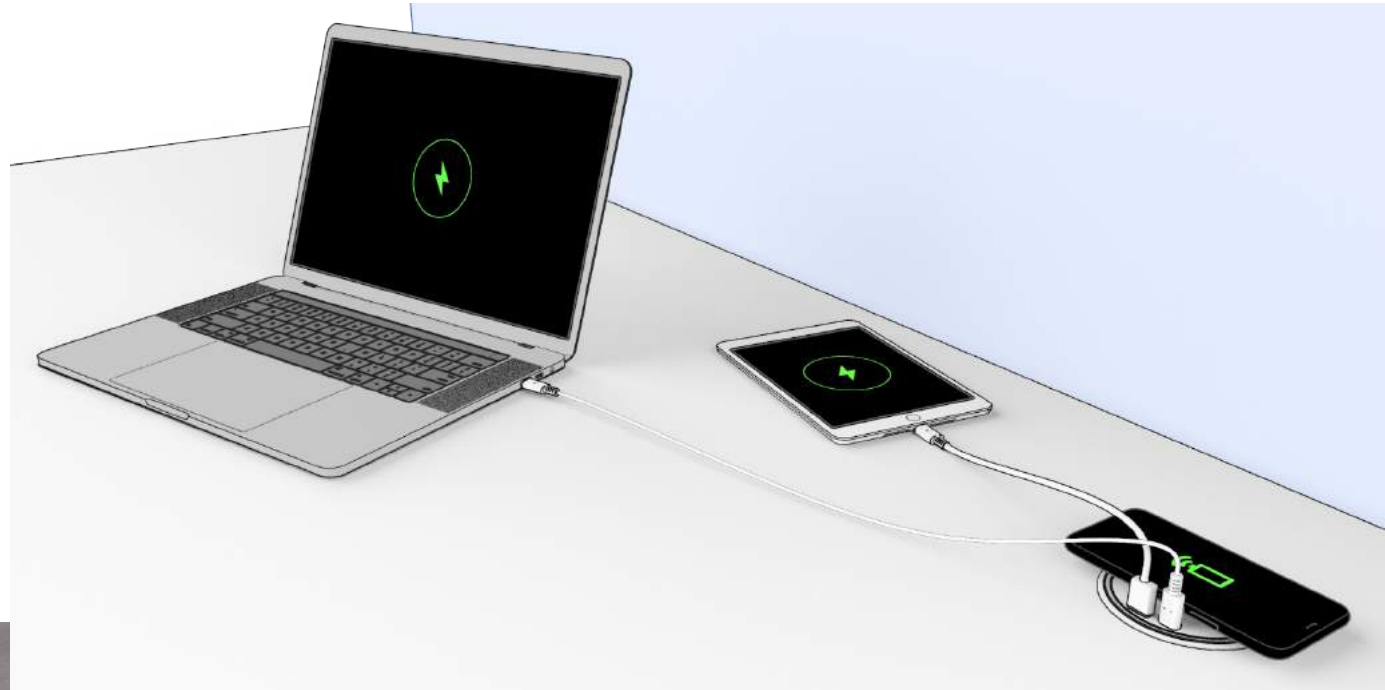


# floorsight

## Power Puck

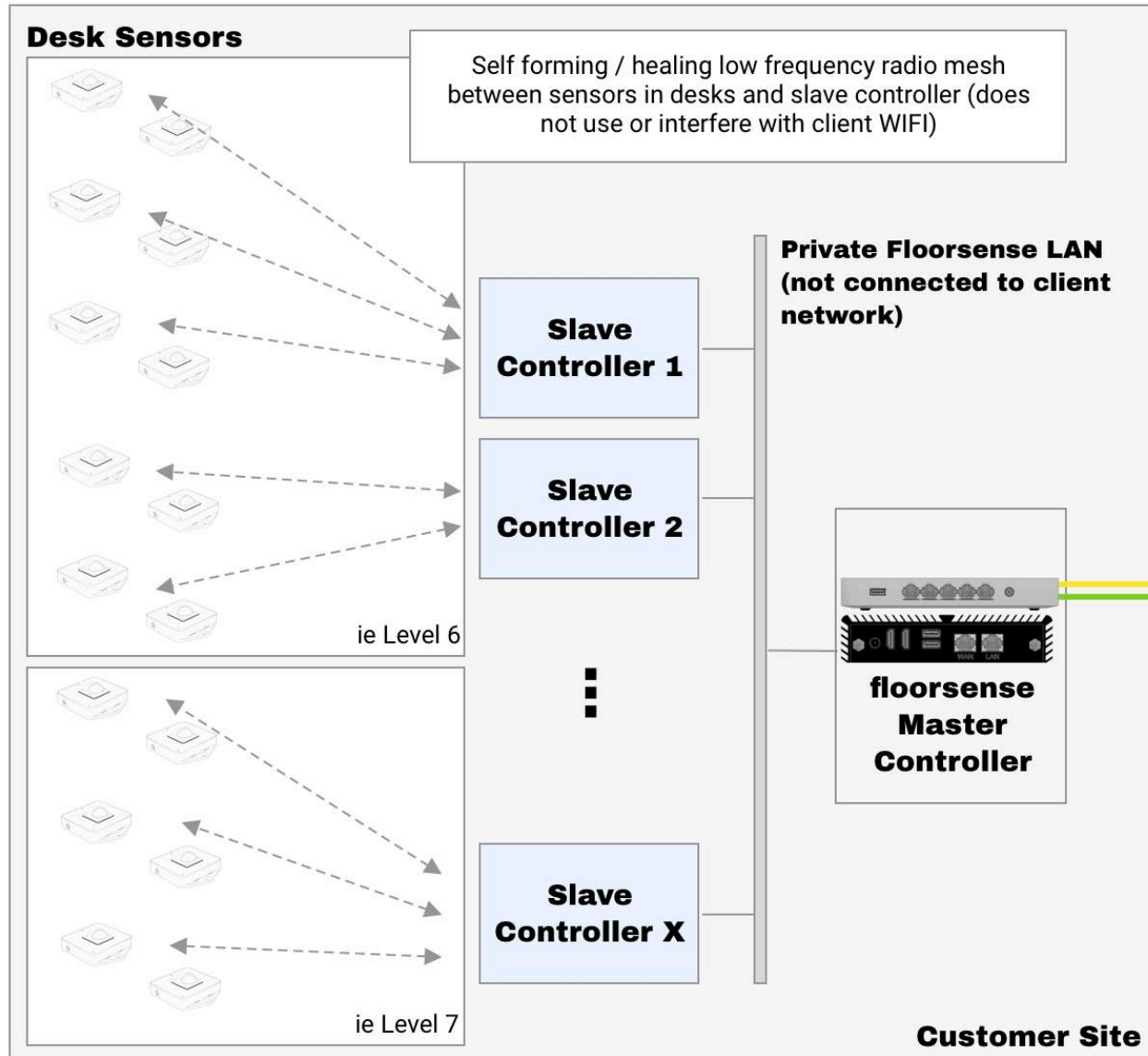
### Desktop Charger

- USB-C 65W laptop charging
- USB-A 12W 5V charging
- Qi 15W Wireless Charging



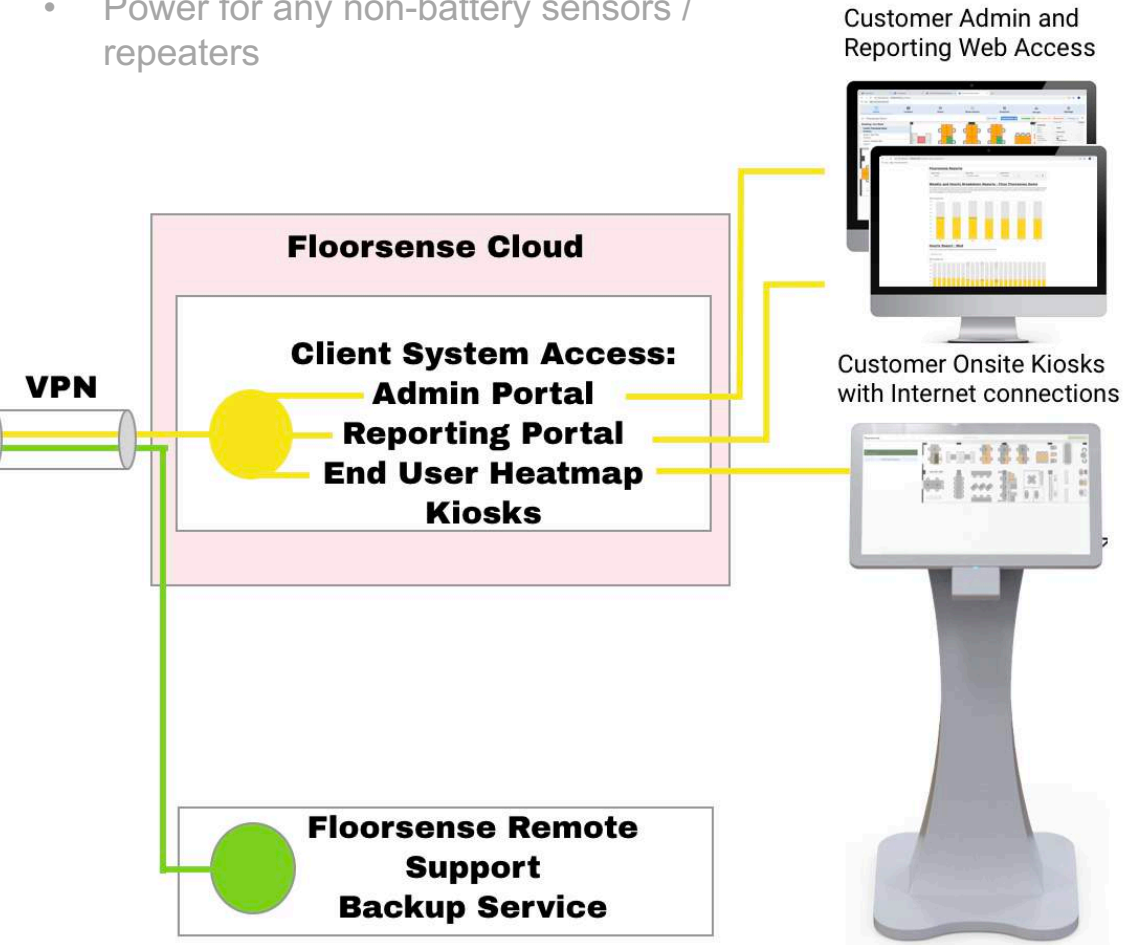


## Typical Network Topology



## Customer Requirements:

- Power/Data/Internet for the Master Controller – typically comms room
- Power/Data for each Slave controller – typically 1:150 desks
- Power for any non-battery sensors / repeaters





## V1.0

- View meeting room live occupancy from occupancy sensors
- Tap on Meeting rooms to see current and next meeting booking
- Report on correlation of booked meetings and occupancy level

## V2.0

- Tap on Meeting rooms to book from kiosk using building access card
- Meeting room tab integrated into Floorsense App
- Google G-Suite and On-Premise Active Directory

## V3.0

- Azure Active Directory support



[SMARTSPACE.CO.NZ](https://SMARTSPACE.CO.NZ)