

Future-Proofed Workplaces

CPAE 2025

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Themes & Topics of discussion

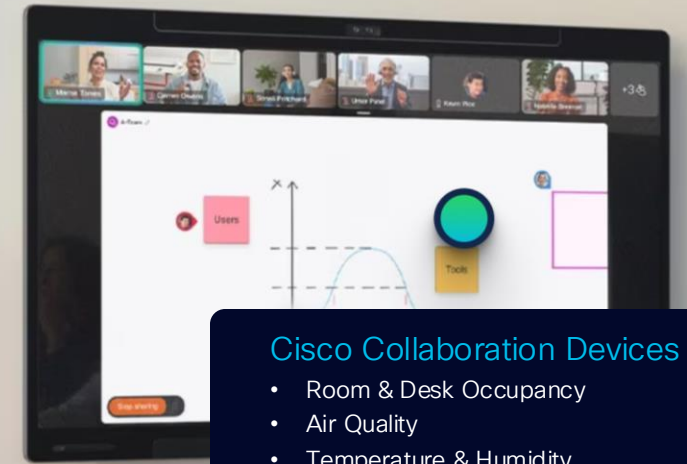
- Unlocking extended value from platforms
- Line of Business use cases
- Automation & programming
- Increase your professional services

Unlock the data in customer networks



Cisco Wireless Access Points (Catalyst & Meraki)

- Location
- Occupancy
- IoT Gateway



Cisco Collaboration Devices

- Room & Desk Occupancy
- Air Quality
- Temperature & Humidity

Cisco Switches

- Occupancy
- Wired Gateway



MT Sensors & Cameras

- Temperature
- Humidity
- Indoor Air Quality, Co2
- People Count



3rd Party Sensors

- Occupancy
- People Count
- Air Quality, CO2
- Asset Location and more

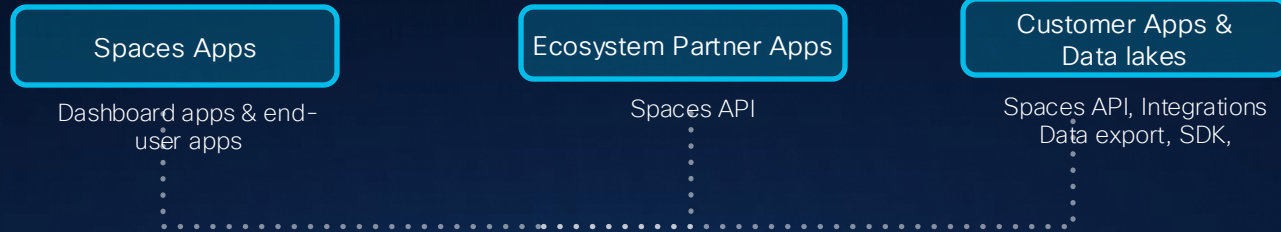


CISCO SPACES

The OS for Smart Spaces

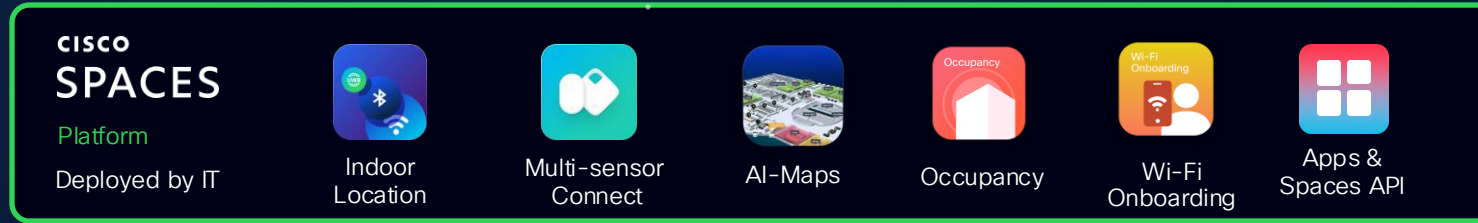
Outcomes

Native & Partner Apps & APIs for Business Outcomes



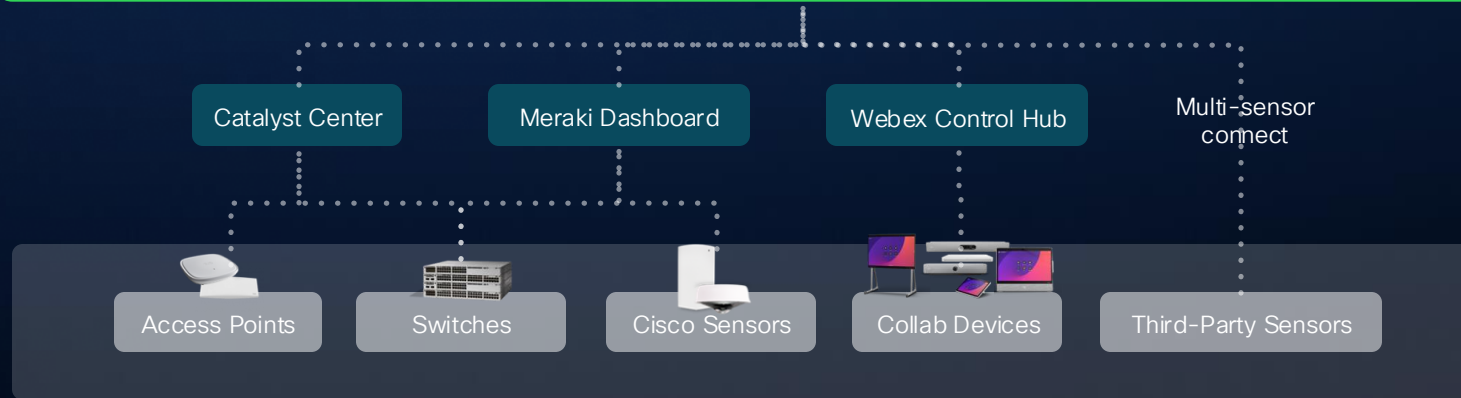
Software

The OS for Smart Spaces, managed and deployed by IT



Hardware

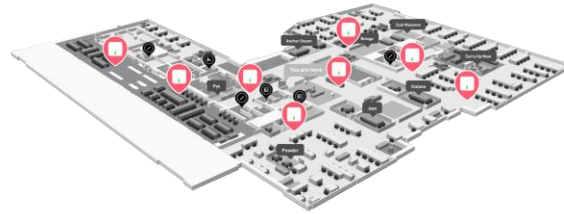
Cisco Hardware as the Foundation



Common Framework for Location. Maps. IoT. API



Auto Placement of APs on map
for IT teams



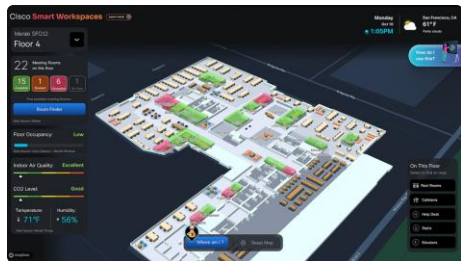
Place Sensors on a map
for IT teams



Detect & Locate
Clients & Devices
for IT/OT Teams



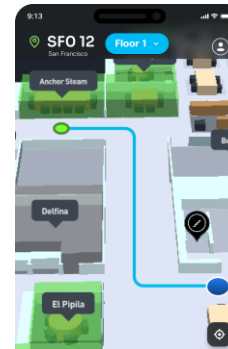
Asset Tracking
for Operations



Digital Signage Experience
for Employees & Facilities Teams



Occupancy Analytics
for Real-Estate & Facilities



Indoor Wayfinding
for Employees & WPR



Contextual
Notifications
for Marketing & Loyalty



APIs
To extend to enterprise

Spaces for Business Teams

For Real-Estate & Facilities teams



For Marketing & Loyalty teams



For Operations teams



- Employee Experience & Productivity via Signage
- Real-time occupancy & environmental monitoring
- Space Utilization Analytics
- Sustainability & Energy Efficiency

- Customer Acquisition
- Visitor Segmentation
- Contextual, location-based engagements
- Behavioral Analytics

- Asset Tracking
- Temperature & Condition Monitoring
- Guest & Staff Safety
- IoT Device Monitoring & Management

← Powered by the **Cisco Spaces Platform** →

Designing with density to future proof workplace

Standard density is best for
(AP density of 2500 sq.ft or lower)



- Connectivity
- ✗ RTLS use cases
- ✗ BLE & IoT use cases
- ✗ Asset tracking
- ✗ Indoor wayfinding
- ✗ Occupancy analytics
- ✗ OpenRoaming

Medium density is best for
(AP density of 1500 sq.ft or lower)



- Wi-Fi and BLE asset tracking
- Occupancy (campus, building, floor)
- Seamless Wi-Fi onboarding (including OpenRoaming with carrier offload)
- RTLS and multi sensor use cases such as staff duress, infant protection, proximity notifications
- Enhanced security (no shadow networks)

High density is best for
(AP density of 1000 sq.ft or lower)



- AP based blue-dot Indoor Wayfinding
- High accuracy UWB + BLE asset tracking
- Occupancy (zone level)
- HVAC automation with zone-level occupancy
- Access control system integration

Future-proofed workplaces →

Wi-Fi 7 licensing includes Cisco Spaces



UL – Essentials

Meraki Enterprise

DNA-E

Spaces Essentials

UL – Advantage

Meraki Advanced

DNA-A

Spaces Advantage

Collaboration Devices for Workspace Sensing



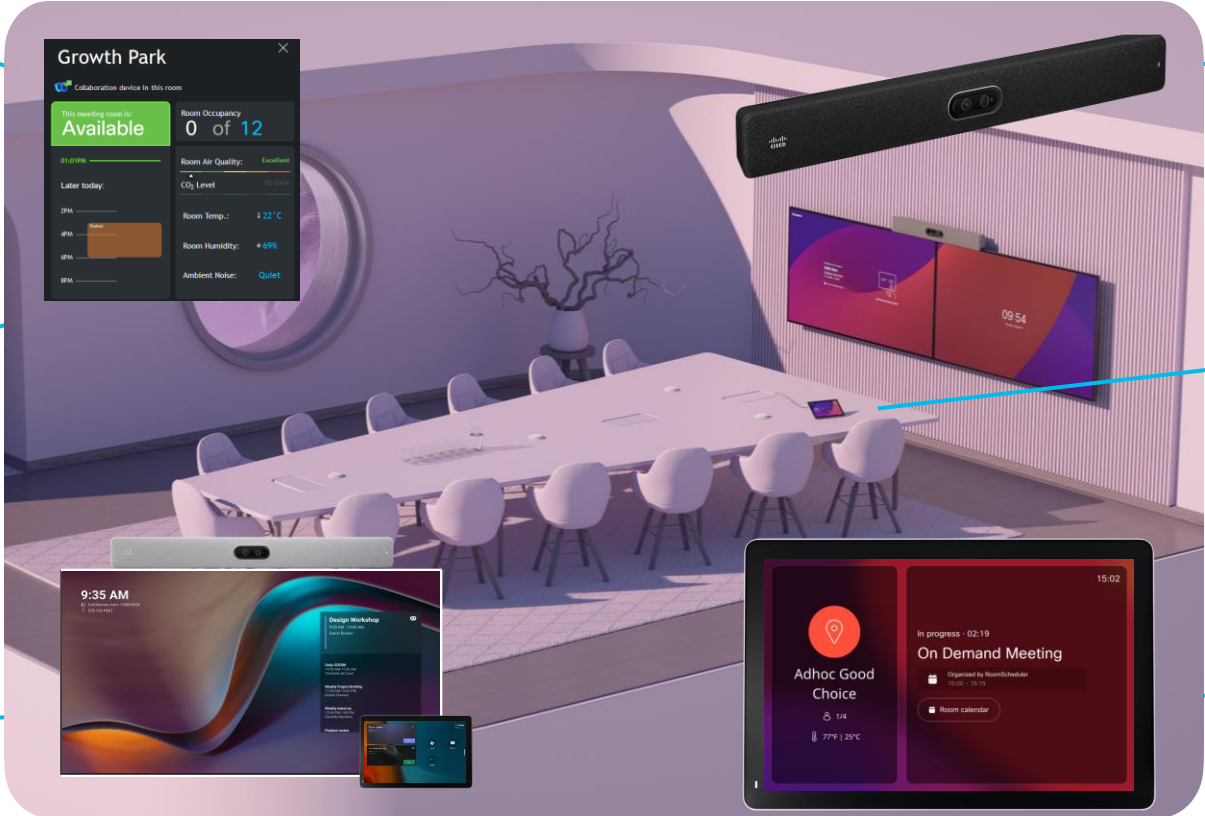
Room Presence



People Count



Booking Automation



Growth Park

Collaboration device in this room

This meeting room is: **Available**

Room Occupancy: **0 of 12**

Room Air Quality: **Excellent**

CO₂ Level: **350 ppm**

Room Temp.: **+22° C**

Room Humidity: **+69%**

Ambient Noise: **Quiet**

Noise Levels



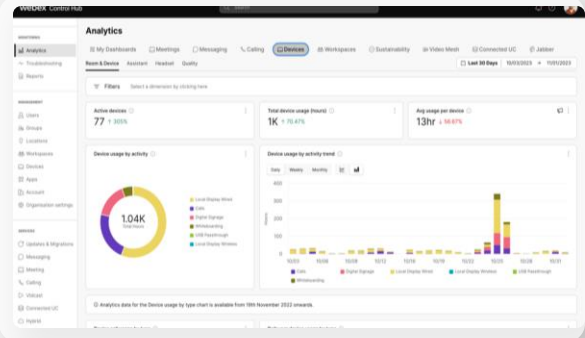
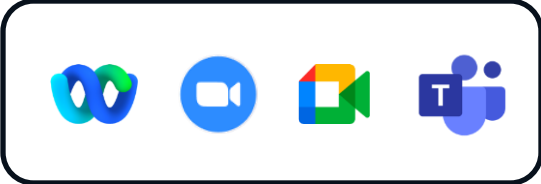
Environment:
Temperature
Humidity
Air Quality



Active Status



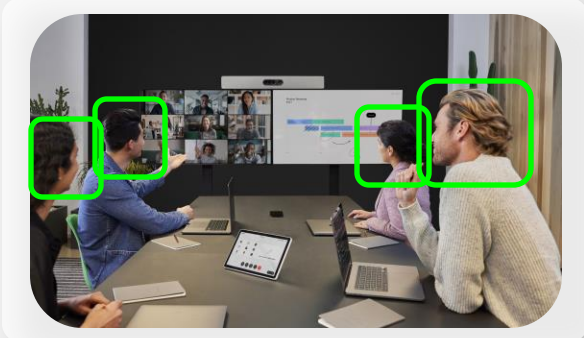
Video Devices contribution to Smart Workplace outcomes



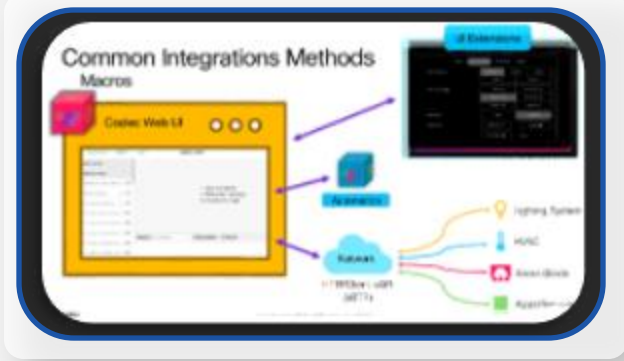
Deploy, Manage & Automate at scale with Control Hub



Foundational data point for Cisco Spaces



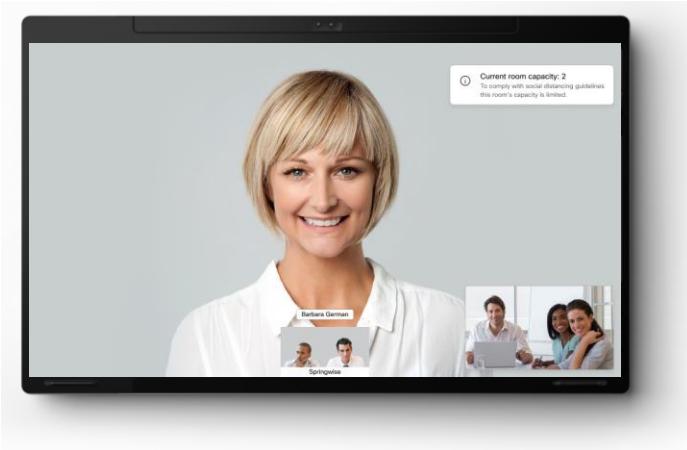
Always-on people count and environmental sensors



Build custom workflows & integrate into building systems

Examples

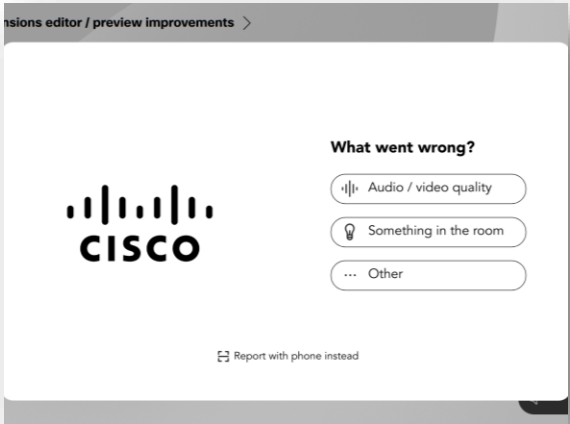
Room Capacity Alerts



Lighting Control



Service Now



How to videos



Complex Rooms

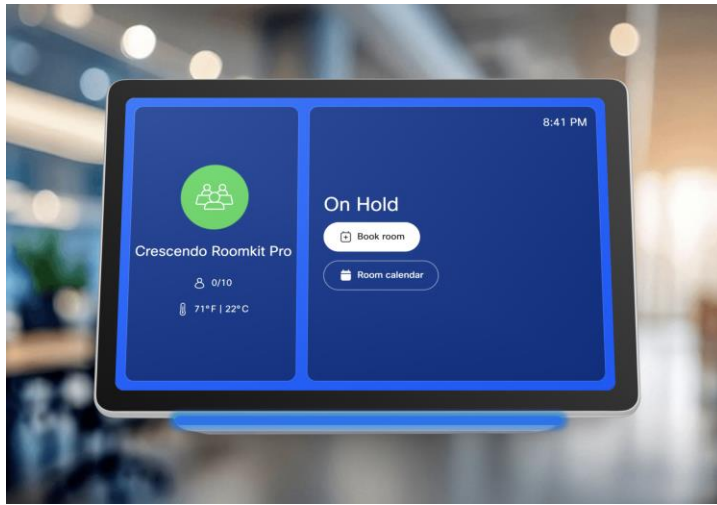


Language Selection

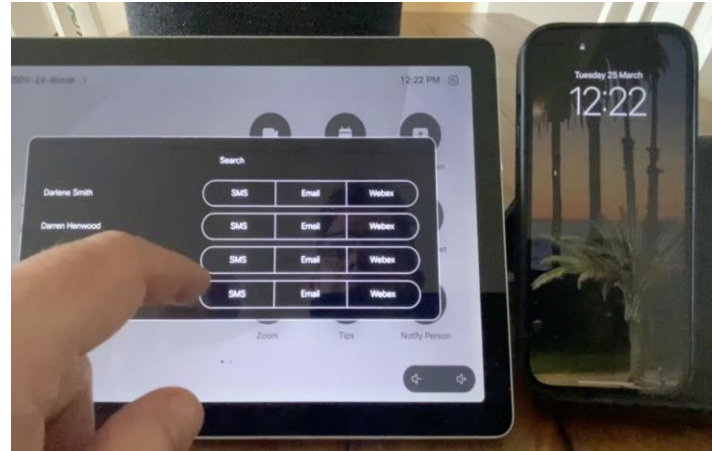


Examples

On Hold



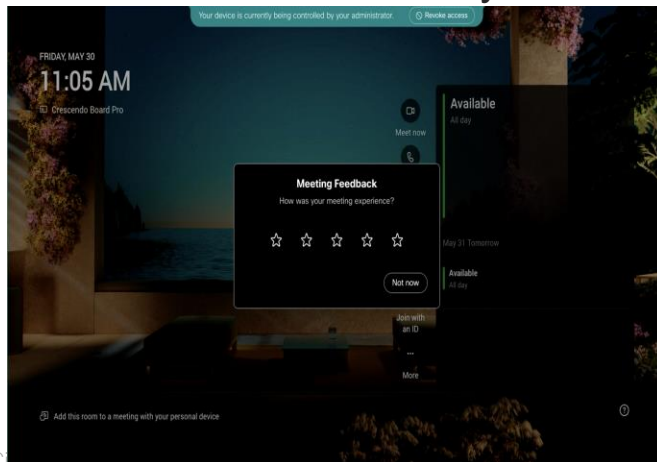
Notify People



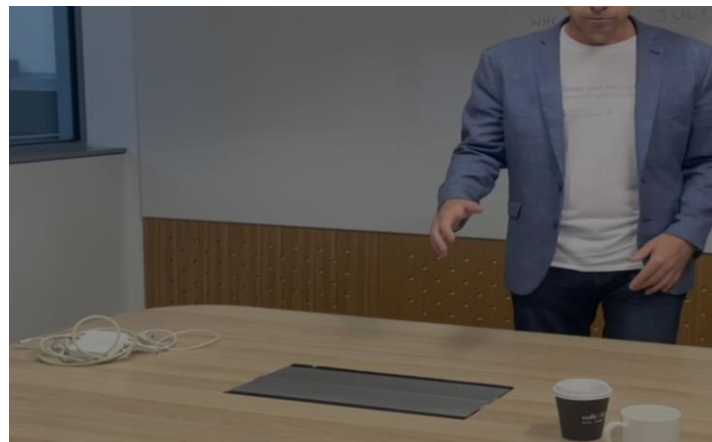
Block CVI



Post Call Survey

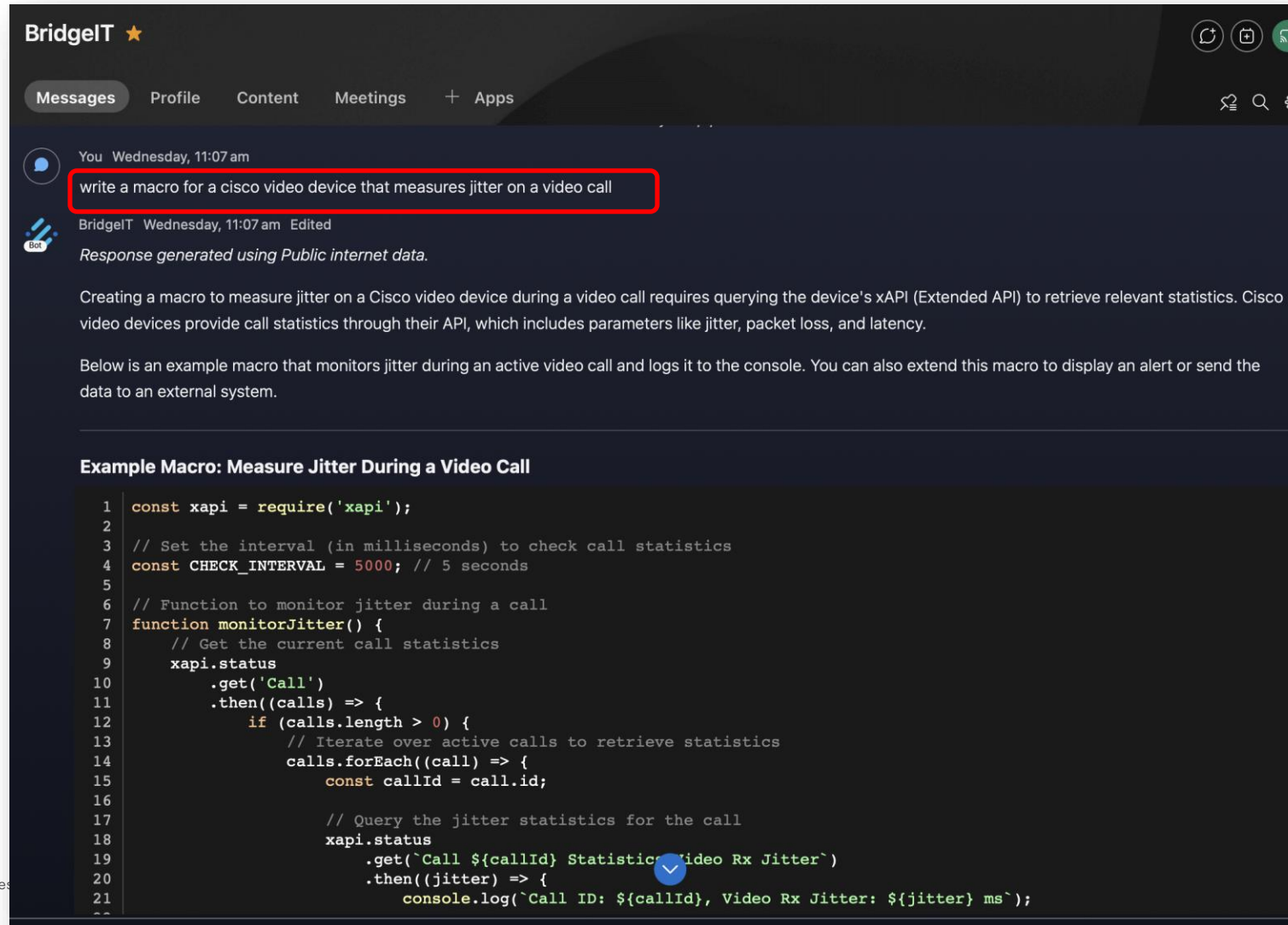


Object Detection



Don't know (or care) about coding...

Get sample code or an AI engine to do the heavy lifting for you!!




The screenshot shows a chat window with the header "BridgelT" and a star icon. The navigation bar includes "Messages", "Profile", "Content", "Meetings", and "Apps". The chat history shows a message from "You" on Wednesday at 11:07 am: "write a macro for a cisco video device that measures jitter on a video call". Below it is a response from "BridgelT" on Wednesday at 11:07 am, marked as "Edited" and "Bot". The response text reads: "Response generated using Public internet data." followed by an explanatory paragraph and a code block. The code block is titled "Example Macro: Measure Jitter During a Video Call" and contains the following JavaScript code:

```
1  const xapi = require('xapi');
2
3  // Set the interval (in milliseconds) to check call statistics
4  const CHECK_INTERVAL = 5000; // 5 seconds
5
6  // Function to monitor jitter during a call
7  function monitorJitter() {
8    // Get the current call statistics
9    xapi.status
10   .get('Call')
11   .then((calls) => {
12     if (calls.length > 0) {
13       // Iterate over active calls to retrieve statistics
14       calls.forEach((call) => {
15         const callId = call.id;
16
17         // Query the jitter statistics for the call
18         xapi.status
19         .get(`Call ${callId} Statistics Video Rx Jitter`)
20         .then((jitter) => {
21           console.log(`Call ID: ${callId}, Video Rx Jitter: ${jitter} ms`);
22         });
23       });
24     }
25   });
26 }
```

Workplace Designer Tool

Medium room

10 people


17'5" x 20'4" 


Tips 


Share 




Summary


 Room size
W: 17'5", L: 20'4", H: 8'6" >

 Table Shape and Size
Tapered, 10 Seats >

 Collaboration device
Room Bar Pro >

 Screens
2 x 60" Camera above >

 Microphones
3 x Table Microphone Pro >

 Software Experience
Cisco Rooms >

Blueprint

Expand influence to line of business

Delivered through IT

Real Estate & CHRO

- Employee experience & productivity
- Occupancy & environmental monitoring
- Space utilization analytics
- Sustainability & energy efficiency



CIO & IT Leadership

Deployed & Managed by IT



Operations Teams

- Asset Tracking
- Temperature & Condition Monitoring
- Guest & Staff Safety
- IoT Device Monitoring & Management

Valued by **business** teams

OUTCOMES

Designed to address the needs of every industry



- Occupancy Analytics
- Find workspaces on AI maps
- Indoor Navigation
- Sustainable Meeting Rooms
- Hot Desking

- Seamless Wi-Fi Onboarding
- Infant Monitoring & Patient Safety
- Asset tracking
- Patient Experience
- Panic Buttons for Staff Safety

- Customer Acquisition & Loyalty
- Seamless Wi-Fi Onboarding
- Personalized Engagements
- Customer Behavior Analytics
- Visitor Segmentation

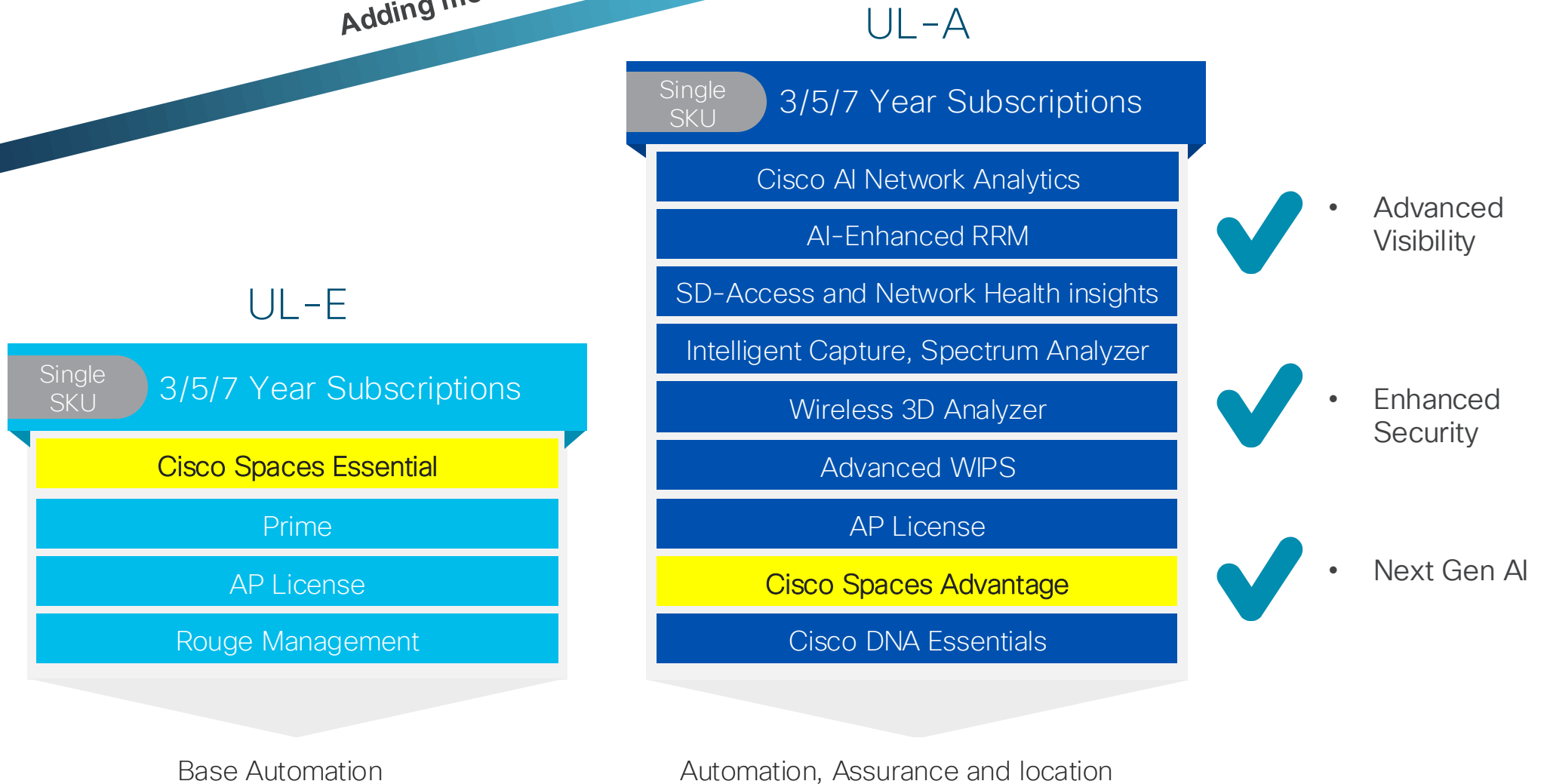
- Heavy Equipment & Asset Tracking
- Employee Safety
- Occupancy Analytics

Cisco Spaces OS
as the foundation

Unified Licensing: Higher Tier → Higher Value

Incremental Value over Base Functionalities

Adding more value to DNA-ADV Licensing Tier



Software Support Service (SWSS) included in all subscriptions

Smarter Workspaces With Cisco Spaces

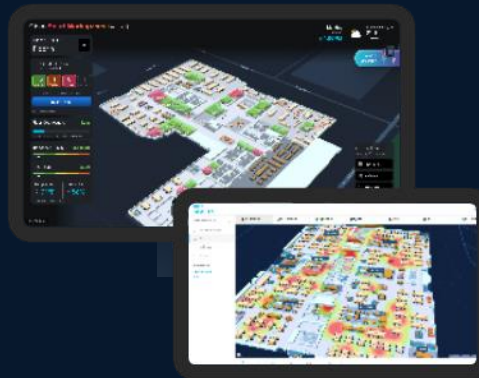
AI-powered collaboration
in every workspace

Frictionless employee experiences and
comprehensive workplace analytics

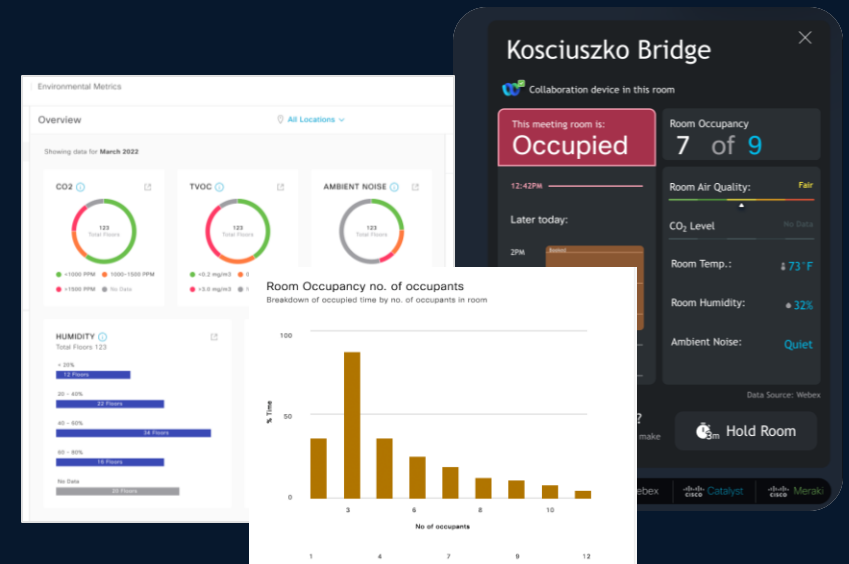
Workspace Occupancy Utilisation
and Environmental Metrics



Cisco Collaboration
Devices

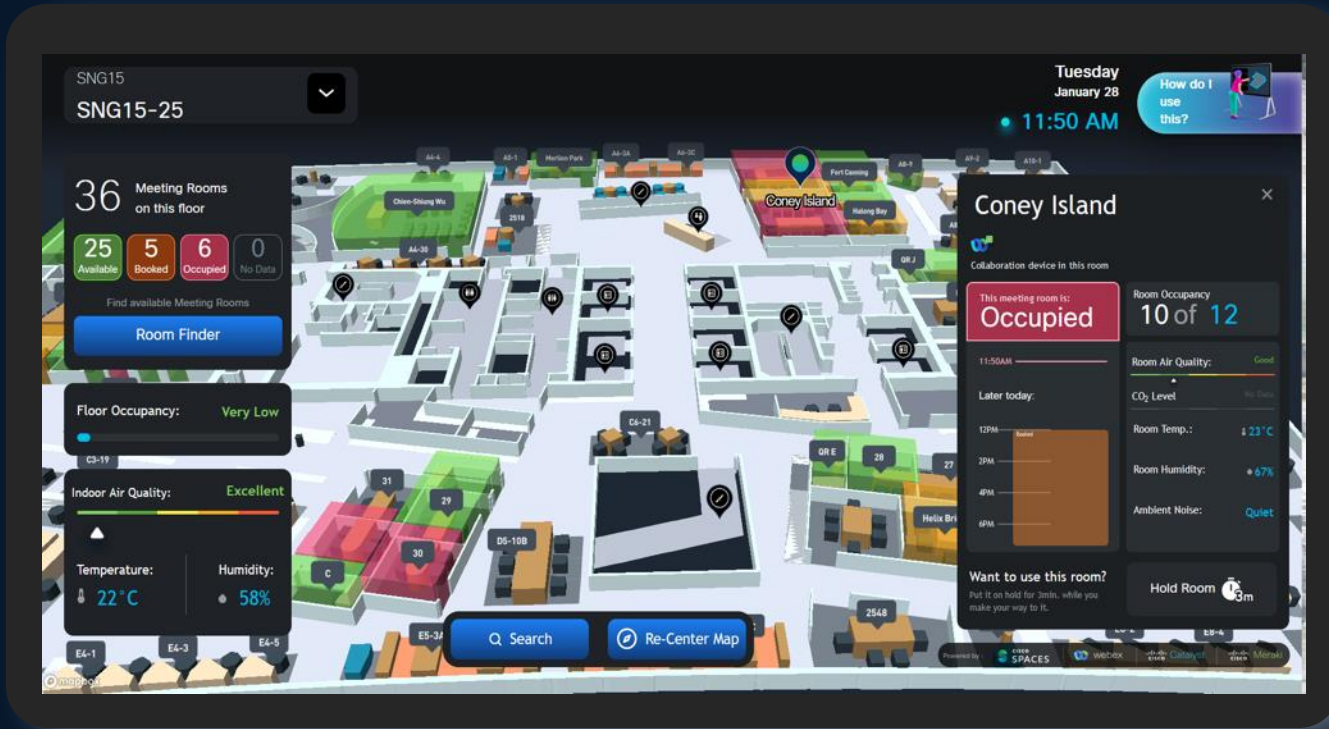


Cisco Spaces

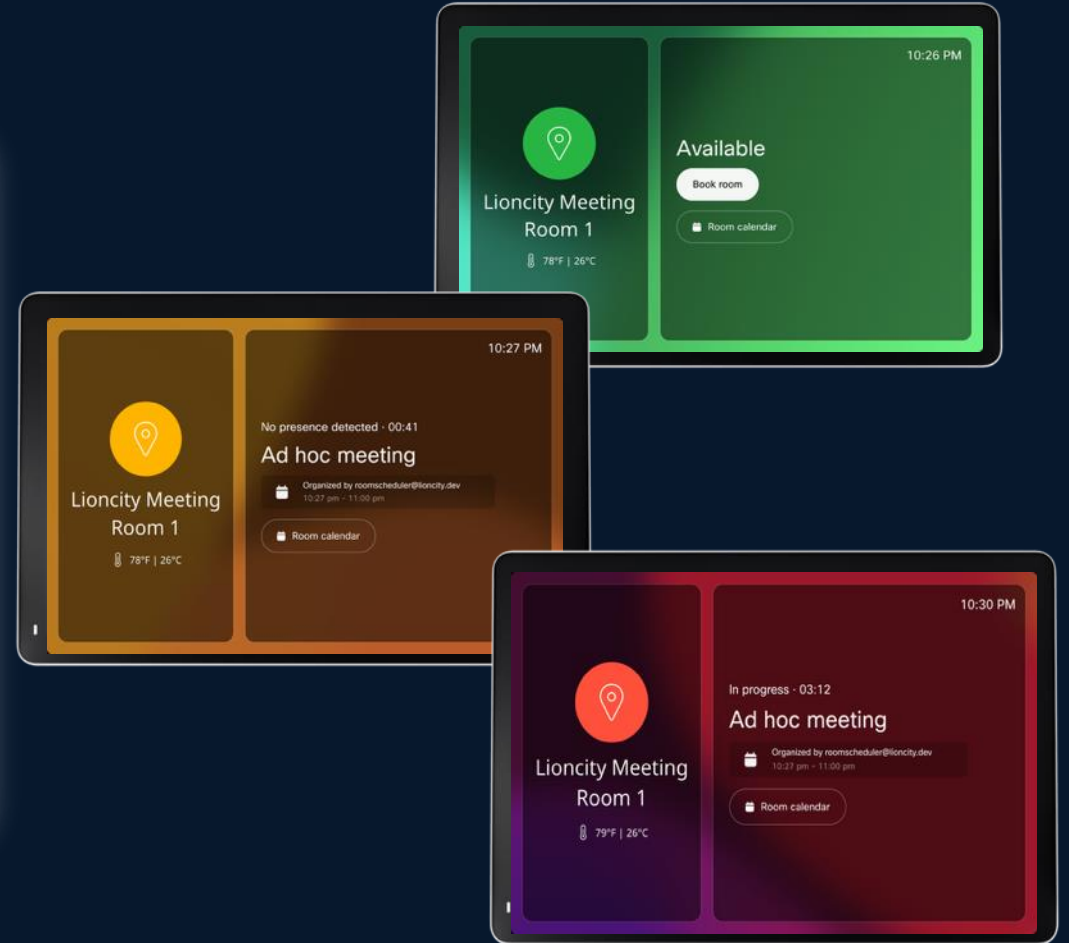


Smart Workspaces Visibility

Using AI for Smart Workspace Visibility



Central Space Explorer



Workspace Room Status

72 Meeting Rooms
on this floor

39 Available 5 Booked 26 Occupied 2 No Data

Find available meeting Rooms:

Room Finder

Data Source: Webex

Floor Occupancy: **Low**

Cisco Spaces + Cisco Wireless

Indoor Air Quality: **Excellent**



Temperature

72°F

Humidity

45%

Data Source: Webex + Webex / Wired

How do I
use this?



On This Floor

Select to find on map:

- Rest Rooms
- Help Desk
- Stairs
- Elevators



Where Am I?



Reset Map

Powered by:



72 Meeting Rooms on this floor

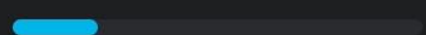
37 Available 4 Booked 29 Occupied 2 No Data

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Floor Occupancy: Low



Cisco Spaces + Cisco Wireless

Indoor Air Quality: Excellent



Temperature

72°F

Humidity

45%

Data Source: Webex + Webex / Wired

How do I use this?



On This Floor

- Rest Rooms
- Help Desk
- Stairs
- Elevators

Where Am I?

Reset Map

Availability (Status):

Any 30min + **60min +** 90min +

Capacity: 4 or more

Collaboration Device:

On this floor:

Verrazzano-Narrow's Bridge

Available All Day Capacity: 24 Floor 9

Throgs Neck Bridge

Available 949 min Capacity: 7 Floor 9

Kosciuszko Bridge

Available All Day Capacity: 9 Floor 9

Open Team Setting (K1-2)

Available All Day Capacity: 4 Floor 9

Floor Occupancy: **Low**

Cisco Spaces + Cisco Wireless

Indoor Air Quality: **Excellent**



Throgs Neck Bridge

Collaboration device in this room

This meeting room is:
Available

Room Occupancy
0 of 7

04:10PM █

Later today:

6PM

8PM

10PM

12AM

2AM

Room Air Quality: **Excellent**

CO₂ Level: **NO DATA**

Room Temp.: **73°F**

Room Humidity: **47%**

Ambient Noise: **Quiet**

Data Source: Webex

Want to use this room?

Put it on hold for 3min. while you make your way to it.

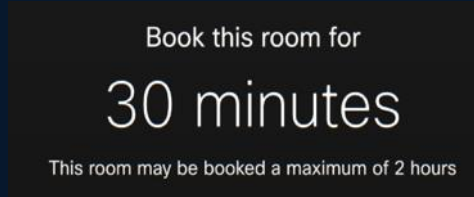
3m Hold Room

Where Am I? **Reset Map**

Smarter Workflows



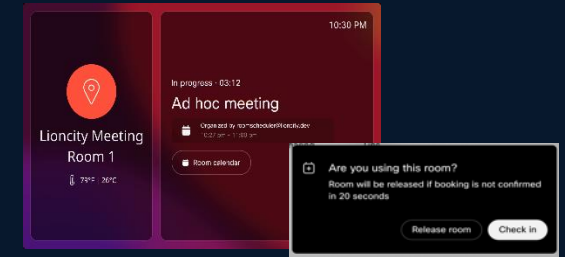
Purposeful and Intelligent Workspaces



Workspace Booking Policy



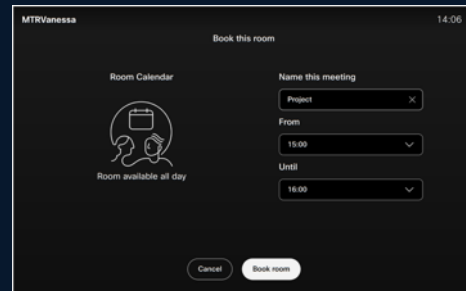
Space Occupancy and Environmental Visibility



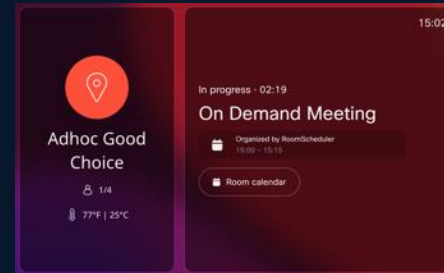
Smarter Adhoc / Room Booking with Automation



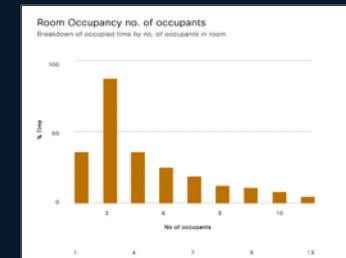
Adhoc Space Usage and Methods



On-Site Only Booking



Room Status Visibility



Detailed Workspace Analytics and Insights

Floor Occupancy 26 %	Room Occupancy 33 out of 96 occupied	IAQ Excellent	TVOC 0.05 mg/m3	CO2 Level N/A	Temperature 72 °F	Humidity 45 %	Ambient Noise 35 dB
--------------------------------	--	-------------------------	---------------------------	-------------------------	-----------------------------	-------------------------	-------------------------------



26.43% Floor Occ.
74 Right Now
280 Capacity

24 Hour History
3rd Aug, 04:40

Floor Occupancy
Low Medium High

Floor Occupancy 26 %	Room Occupancy 33 out of 96 occupied	IAQ Excellent	TVOC 0.05 mg/m3	CO2 Level N/A	Temperature 72 °F	Humidity 45 %	Ambient Noise 35 dB
--------------------------------	--	-------------------------	---------------------------	-------------------------	-----------------------------	-------------------------	-------------------------------



26.43% Floor Occ.
74 Right Now
280 Capacity

24 Hour History

3rd Aug, 03:50

Floor Occupancy

Low Medium High



Floor Occupancy 28 %	Room Occupancy 30 out of 96 occupied	IAQ Excellent	TVOC 0.05 mg/m3	CO2 Level N/A	Temperature 72 °F	Humidity 45 %	Ambient Noise 36 dB
--------------------------------	--	-------------------------	---------------------------	-------------------------	-----------------------------	-------------------------	-------------------------------



30 /96 Room Occ.	OCCUPANCY ACROSS ROOMS				
	38 Available	30 Occupied	1 Booked	0 Hold	27 No Data



Floor Occupancy 28 %	Room Occupancy 30 out of 96 occupied	IAQ ⓘ Excellent	TVOC ⓘ 0.05 mg/m3	CO2 Level N/A	Temperature 72 °F	Humidity 45 %	Ambient Noise 36 dB
--------------------------------	--	---------------------------	-----------------------------	-------------------------	-----------------------------	-------------------------	-------------------------------



FLOOR MEDIAN
Good

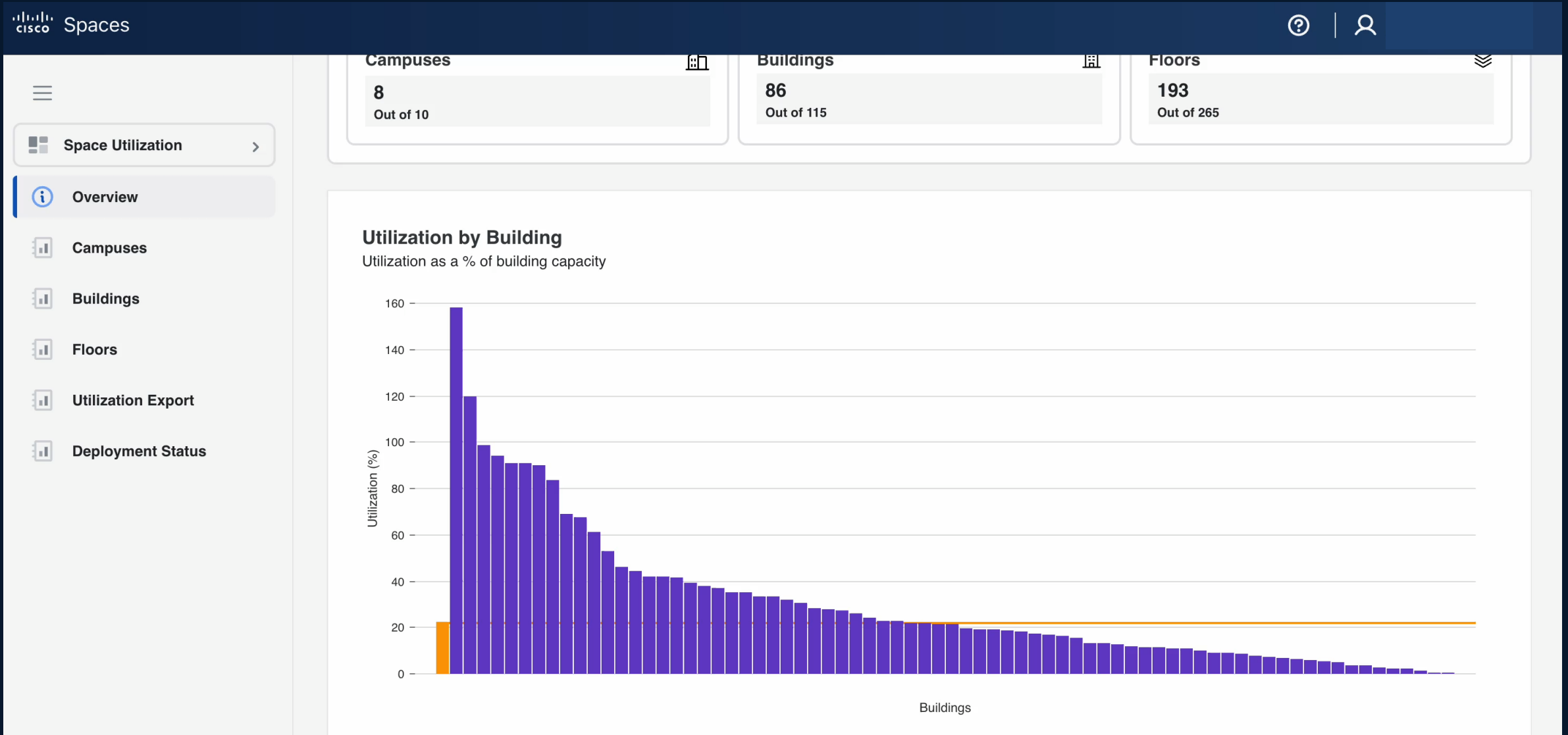
Max. - Excellent
Min. - Bad

IAQ DISTRIBUTION ACROSS ROOMS

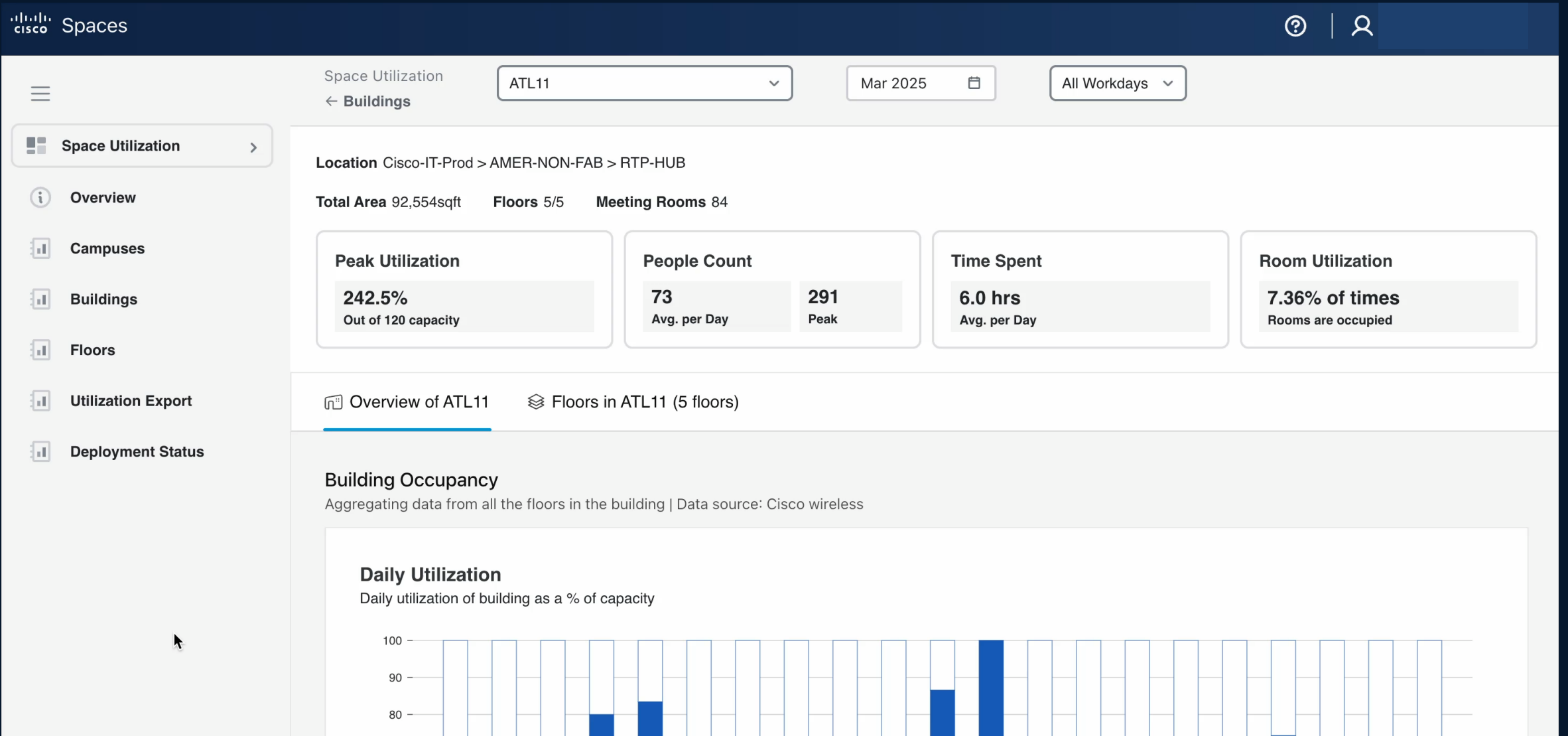
27	0	0	0	0	49
Excellent	Good	Moderate	Poor	Bad	No Data



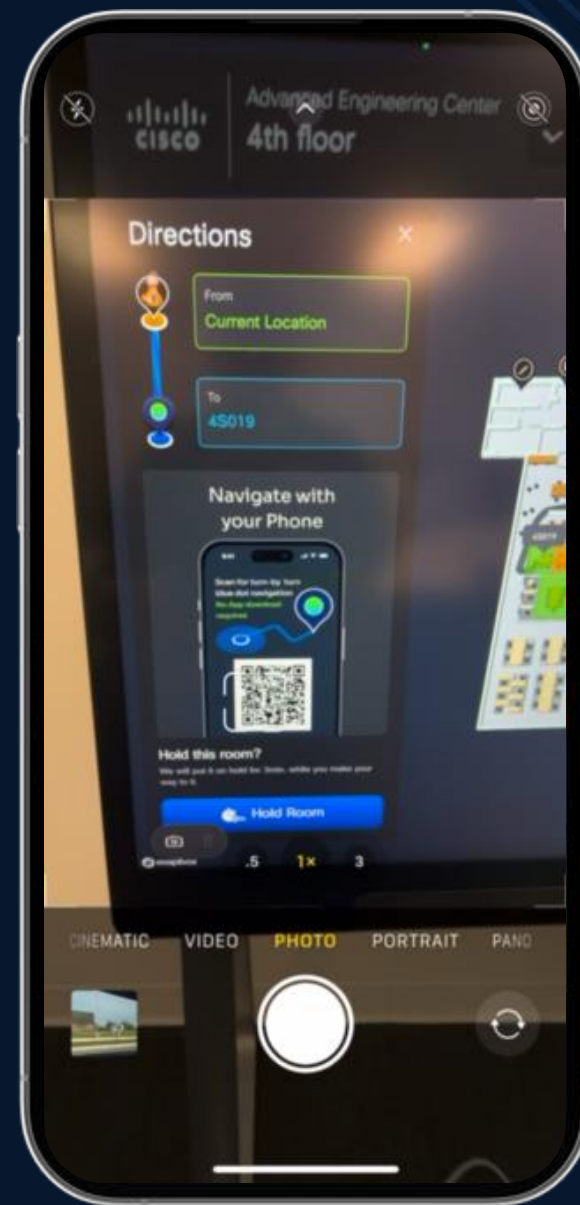
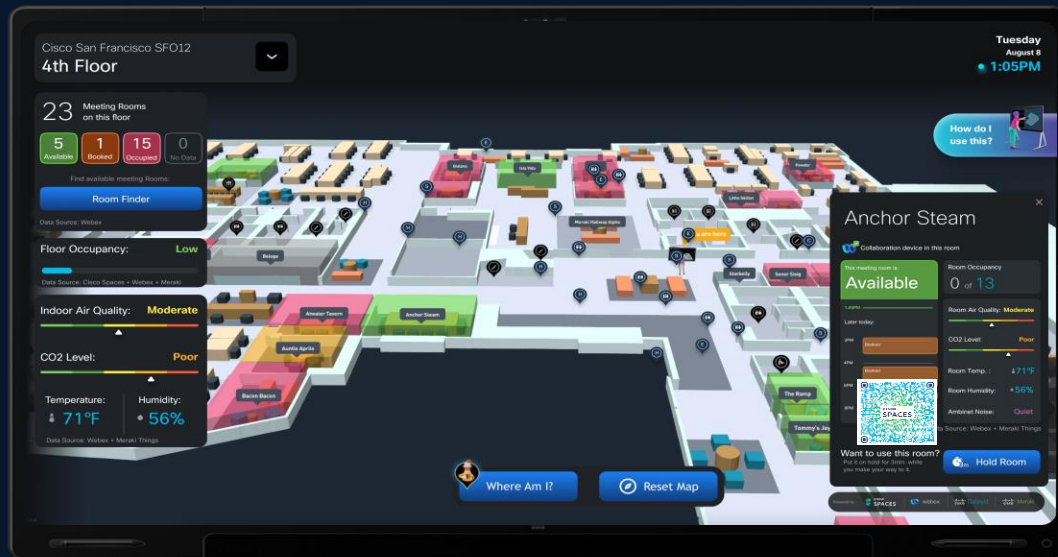
Data Driven Building Insights with the Space Utilisation App



Data Driven Building Insights with the Space Utilisation App



Indoor Wayfinding



Indoor Wayfinding For Effortless Navigation



How do I use this?



Indoor Air Quality: **Excellent**

Temperature: **73°F**

Humidity: **56%**

Data Source: Meraki / Webex

Low

Cisco Spaces + Meraki Wireless



Dolores Park

Collaboration device in this room

This meeting room is: **Occupied**

Room Occupancy: **1 of 8**

Room Air Quality: **Excellent**

CO₂ Level: **No Data**

Room Temp.: **73°F**

Room Humidity: **57%**

Ambient Noise: **Quiet**

Data Source: Webex

Scan the QR code to navigate

How do I use this room?

Hold Room

Hold for 3min, while you make it.

webex | Cisco Catalyst | Meraki



Find, Book & Check into Desks

- Book in advance on the Spaces webapp
- Book in the office on signages
- Navigate to the desk when you arrive and check in with SSO to make it yours!



Desk Booking App

Coming Soon



Smart Workspaces

powered by:
CISCO
SPACES



A Video Device for Every Space



Huddle Spaces



Small Rooms



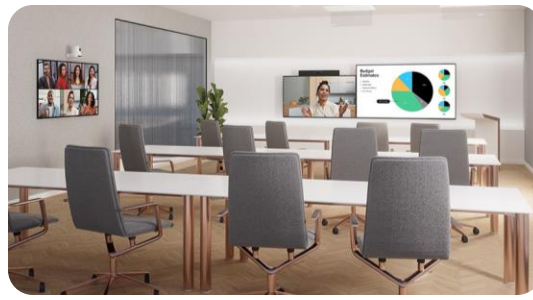
Medium Rooms



Large Rooms



Ideation Spaces



Training Rooms



Auditoriums

Visit: cs.co/workspaces

- Standard room templates
- Blueprints
- Design tips
- NEW Workspace designer

Digital experiences designed in



Digital experiences designed in



Turn traditional AV approaches...



...into AV over IP convenience

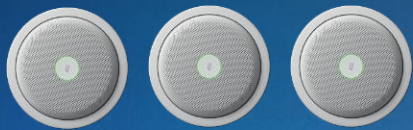
PoE+ Switch¹



Codec EQ



Room Vision PTZ
Video over IP



Cisco IP Mics
Audio over IP



Room Navigator
Controls & Booking over IP



Corporate Network

What do our Device's API's Offer?



xConfiguration

Permanent changes to the device's operation, such as default layouts, to read, write, or subscribe to.



xCommand

Actions to perform against a device, such as placing a call or requesting data



xStatus

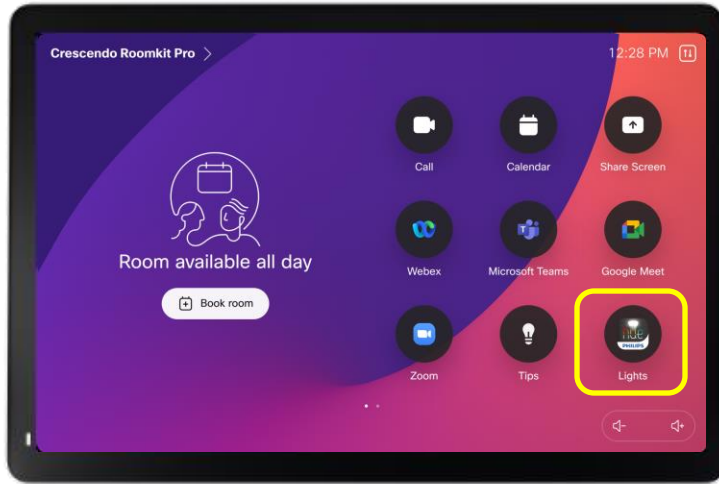
Get devices state such as uptime, temperature, etc.



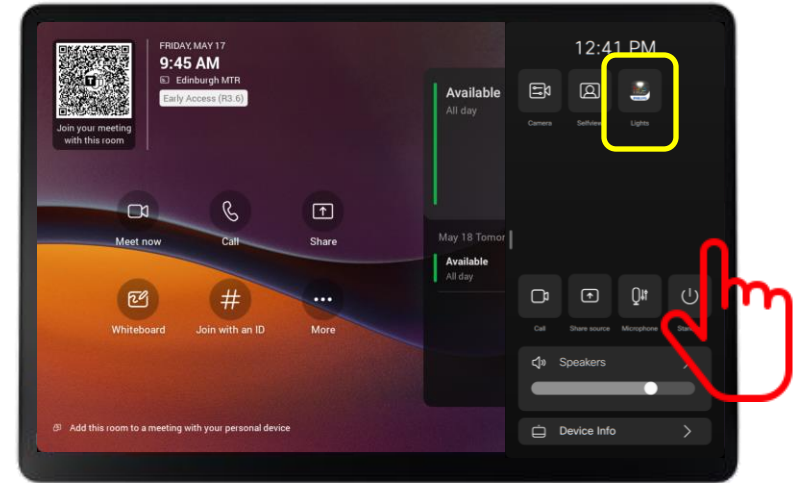
xEvent

Listen (subscribe) to events that have occurred.

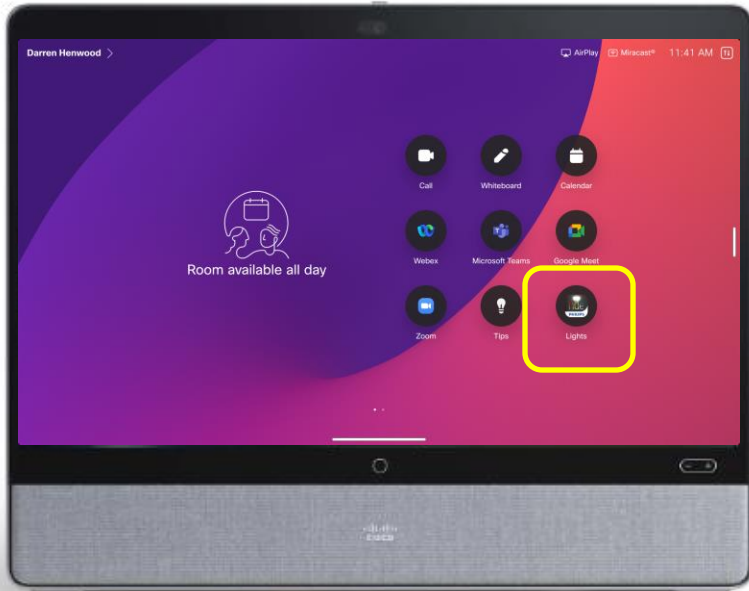
User Interface



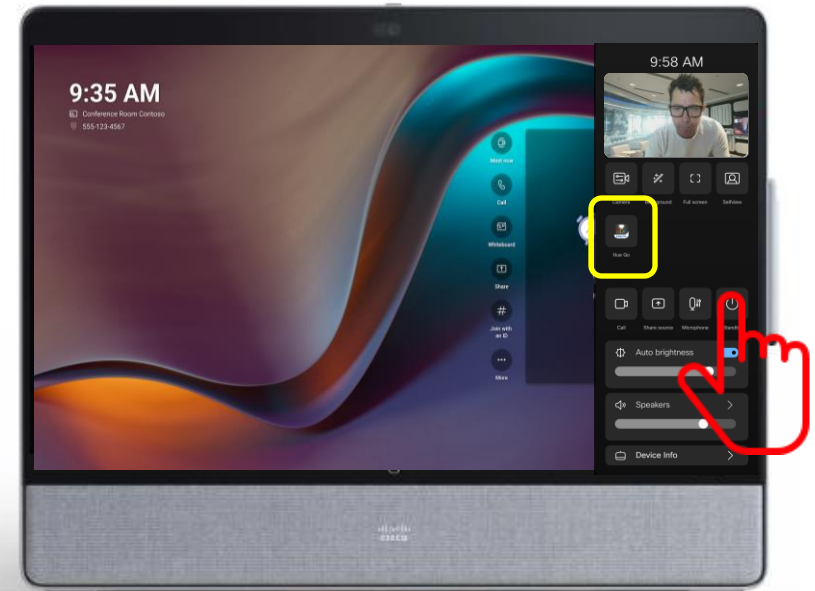
RoomOS
MTR



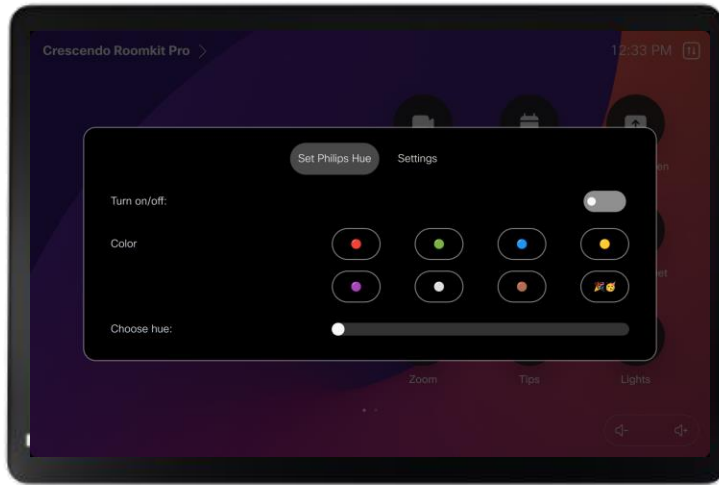
Navigator



Touch
Devices

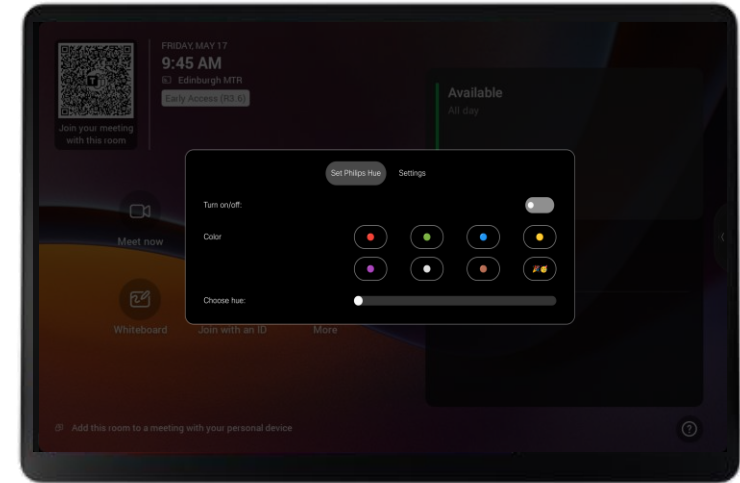


User Interface



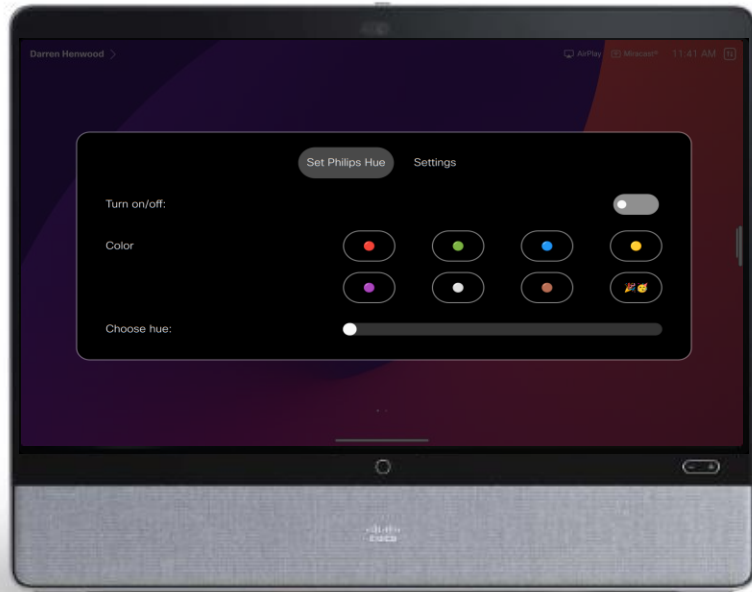
RoomOS

MTR



Navigator

Touch Devices



Don't know (or care) about coding...

Get sample code or an AI engine to do the heavy lifting for you!!



Extending beyond the video device

Cisco RoomOS
for Collaboration Devices

Guides xAPI Examples Wallpapers Support Feedback [Connect](#) Beta

Search xAPI 11.15.1 April 2024 Any product Any Command Config Status Event MTR Any role Any back-end

Experimental

FacilityService

FarEndMessage

FeccReceive

Files

GPIO

H323

1 **HttpClient**

HttpFeedback

ICE

Logging

Macros

MediaChannels

HttpClient

- CFG HttpClient AllowHTTP
- CFG HttpClient AllowInsecureHTTPS
- 2** CMD HttpClient Delete
- CMD HttpClient Get
- CFG HttpClient Mode
- 2** CMD HttpClient Patch
- CMD **HttpClient Post**
- CMD HttpClient Put
- CFG HttpClient UseHttpProxy

Session ID

COMMAND HttpClient Post

Sends an HTTP(S) Post request to the server that is specified in the Url parameter. You can use the AllowInsecureHTTPS parameter to specify whether or not to validate the server's certificate before sending data over HTTPS. This parameter has no effect unless the xConfiguration HttpClient AllowInsecureHTTPS is set to On. This is a multiline command, so the payload (data) follows after the parameters.

AllowInsecureHTTPS
False, True Default: False
If set to True the device skips the certificate validation process, and sends data to the server anyway. If set to False, the server certificate is checked, and data is not sent to the server if the certificate validation fails.

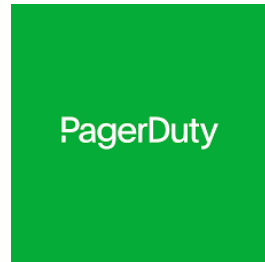
Header 45
<0 - 3072>
An HTTP header field. You can add up to 20 Header parameters in one command, each holding one HTTP header field.

ResponseSizeLimit
<1 - 1048576> Default: 1048576

REST based services....and many more



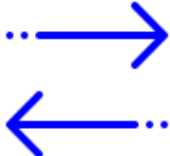
Microsoft Graph



Session ID



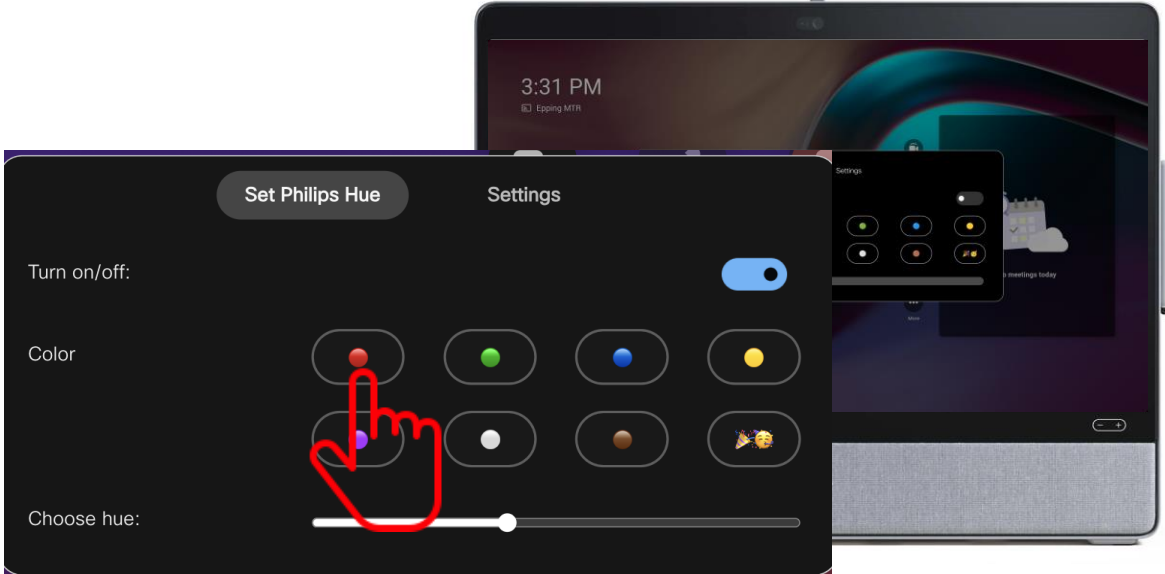
Philips Hue Example



session ID

47

Smart Lighting Example



session ID
HTTP Put



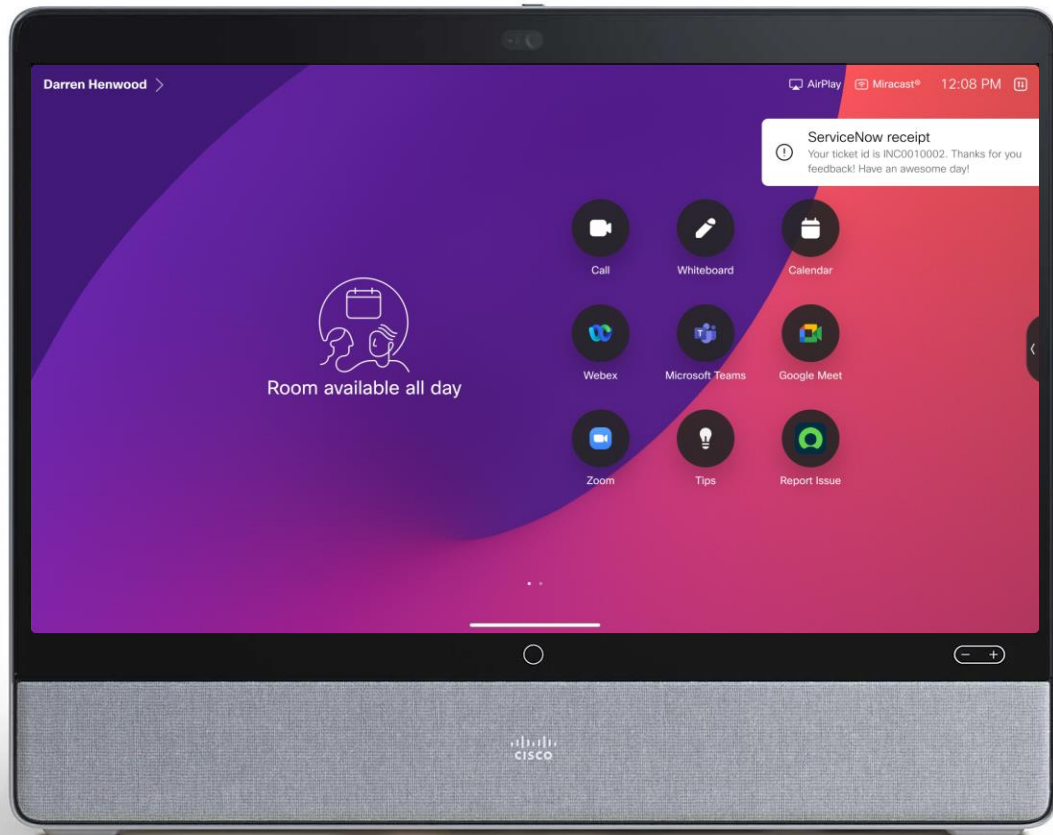
Less than 50 lines of code

```
1  const xapi = require('xapi');
2
3  var IPAddress = '192.168.0.153';
4  var token = 'JXmCkn6skPb2nJ89PFJoNh9SoNXcvC-fCl8wBc35';
5  var lightNumber = '3'
6
7  const COLOR_RED = 0;
8  const COLOR_GREEN = 25500;
9
10 function httpMessage(body) {
11     var url = 'http://' + IPAddress + '/api/' + token + '/lights/' + lightNumber + '/state'
12     var header = 'Content-Type: application/json';
13
14     xapi.command('HttpClient Put', { 'Url': url, 'Header': header}, JSON.stringify(body))
15         .then((response) => {
16             if (response.StatusCode == 200) {
17                 console.log('Command successful');
18                 return;
19             }
20         })
21         .catch((err) => {
22             console.log('Hue command failed with error: ' + err.message);
23         });
24 }
```

Session ID

```
25
26 function init() {
27     console.log('Philips Hue macro initializing...')
28     // This needs to be set to allow HTTP Post
29     xapi.config.set('HttpClient Mode', 'On');
30     xapi.config.set('HttpClient AllowInsecureHTTPS', 'True');
31 }
32
33 // Event listeners for widgets in the GUI
34 xapi.event.on('UserInterface Extensions Widget Action', (event) => {
35
36     if (event.WidgetId == 'redButton' && event.Type === 'pressed') {
37         const body = {'on': true, 'hue': COLOR_RED, 'sat': 254, 'bri': 254, 'effect': 'none'}
38         httpMessage(body);
39     }
40     else if (event.WidgetId == 'greenButton' && event.Type === 'pressed') {
41         const body = {'on': true, 'hue': COLOR_GREEN, 'sat': 254, 'bri': 254, 'effect': 'none'}
42         httpMessage(body);
43     }
44 });
45
46 init();
```

Service Now Example



```
1 import xapi from 'xapi';
2
3
4 const SERVICE_NOW_INSTANCE_URL = 'yourinstance.service-now.com'; // Specify a URL to a service like serviceNow etc.
5
6 const MONITORING_URL = 'https://' + SERVICE_NOW_INSTANCE_URL + '/api/now/v1/table/incident'; // Specify a URL to a service
7
8
9 const CONTENT_TYPE = "Content-Type: application/json";
10 const ACCEPT_TYPE = "Accept:application/json";
11 const SERVICENOW_USERNAMEPWD_BASE64 = 'YWRtaW46Q2lzY28xMjM='; // format is "username:password" for basic Authorization.
12 const SERVICENOW_AUTHTOKEN = "Authorization: Basic " + SERVICENOW_USERNAMEPWD_BASE64;
13
14 var systemInfo = {
15   softwareVersion : ''
16   , systemName : ''
17   , softwareReleaseDate : ''
18 };
19
```

50

Service Now Example

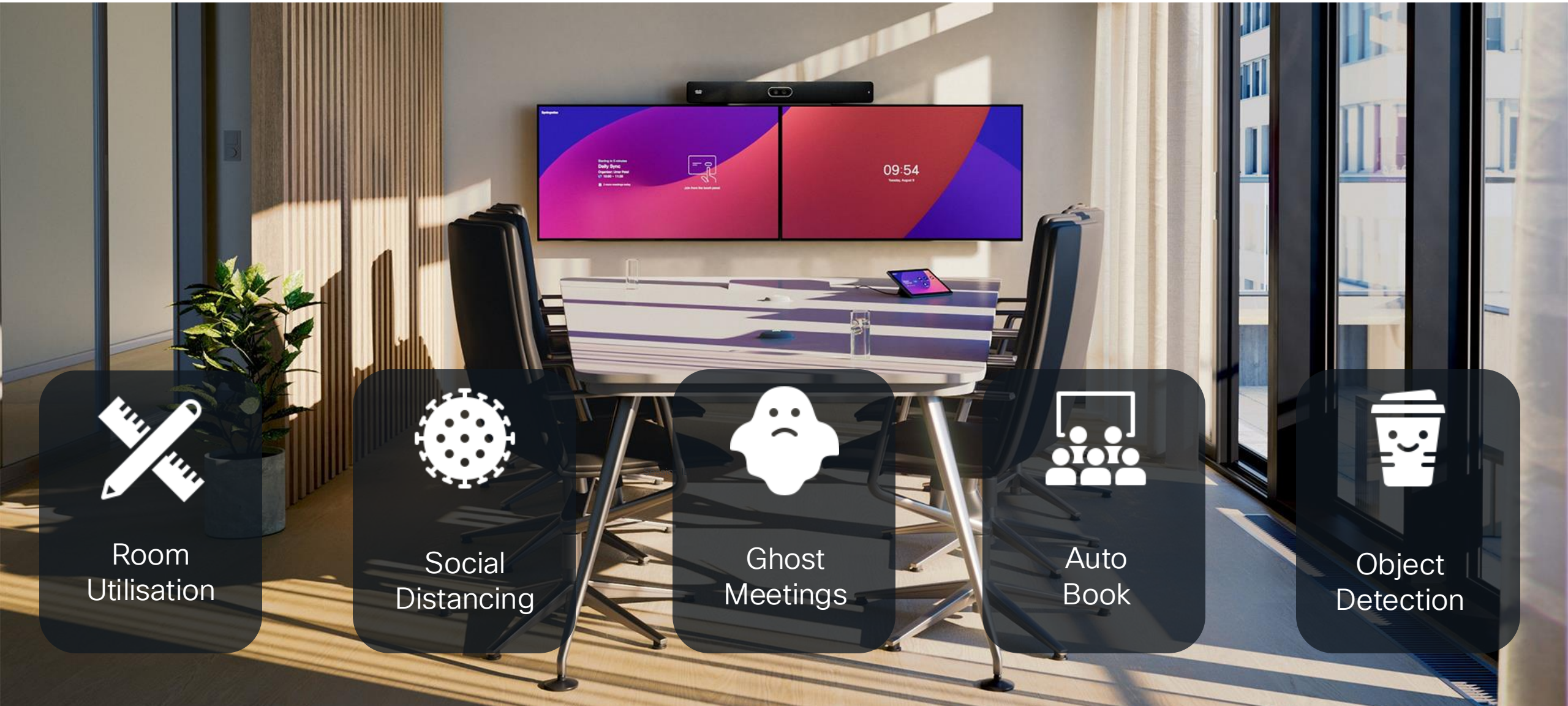
Number	Opened	Short description
INC0010002	2024-05-18 19:08:38	FOC2636N1CD needs cleaning: Coffee cups left in room
INC0010001	2024-05-18 17:57:28	FOC2636N1CD: ServiceNow macro was (re)started
INC0009009	2018-08-30 01:06:16	Unable to access the shared folder.
INC0009005	2018-08-31 21:35:21	Email server is down.

Setup Sandbox

<https://developer.servicenow.com/dev.do>

51

People Count Evolution




Room
Utilisation




Social
Distancing



Ghost
Meetings



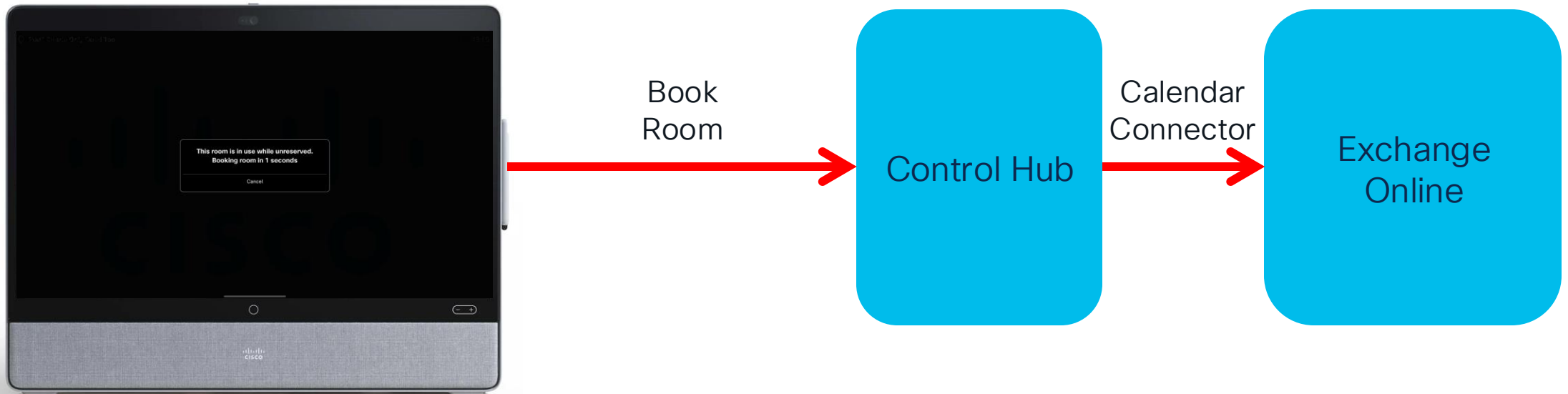
Auto
Book



Object
Detection

Auto Book Room

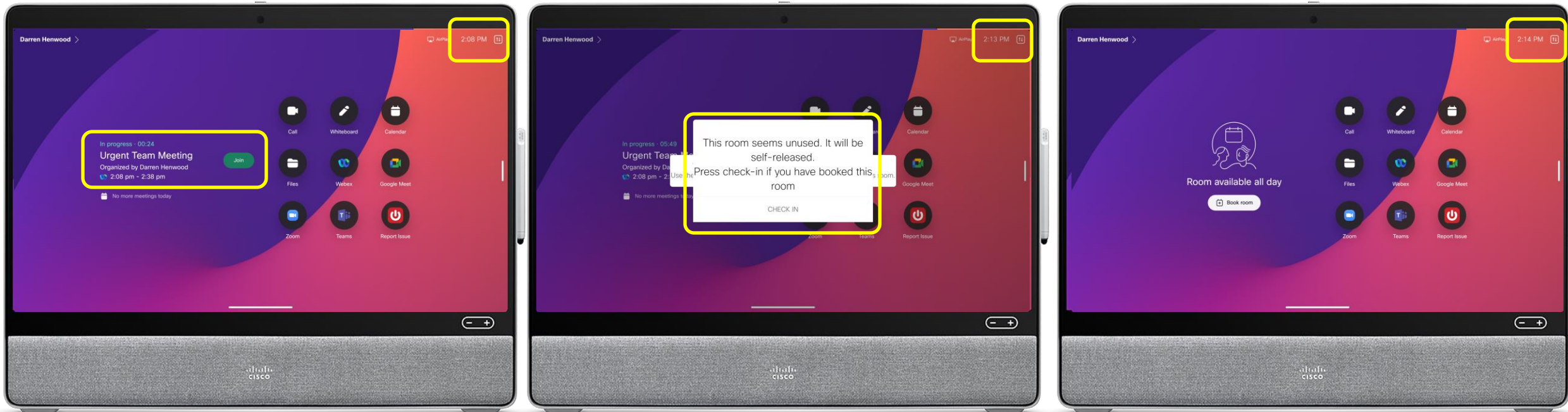
Book a room simply by walking in (people count)



- If people count goes above zero (ie, someone has walked in)
- Device initiates a room booking
- Exchange is updated so nobody else can book room

Room Release (Ghosting)

Free up the room when no one shows up to a meeting

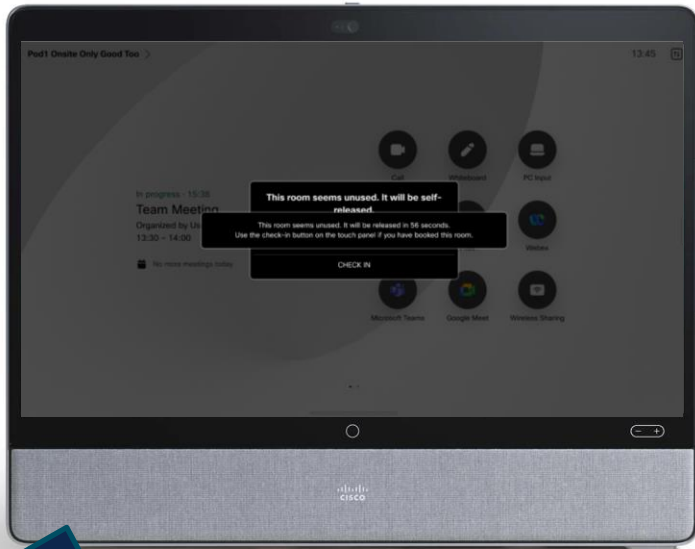


Sensors Used

- People Count
- People Presence
- Ultrasound
- Sound in room
- In-Call
- Content Sharing

Room Release (Ghosting)

Free up the room when no one shows up to a meeting



Meeting Decline



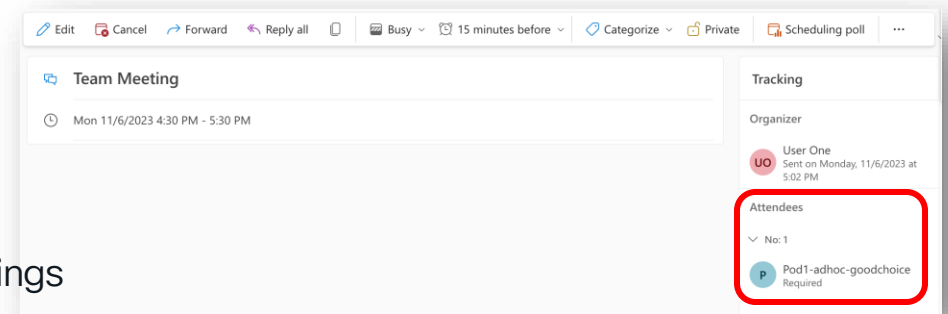
Calendar Connector



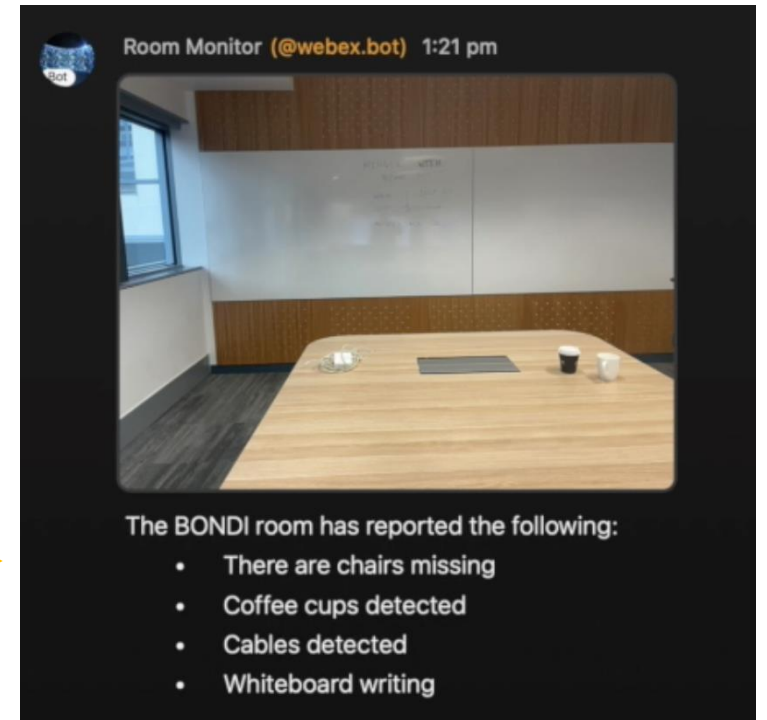
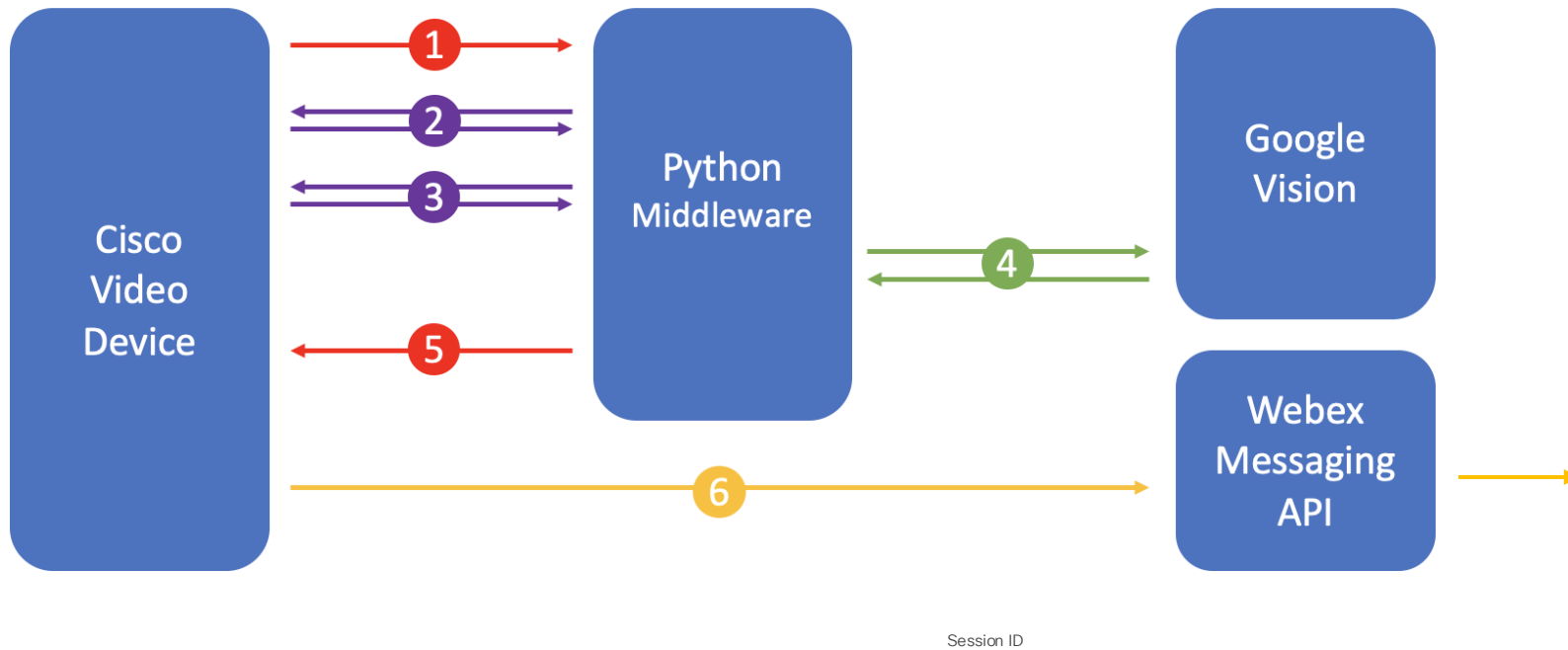
```
const MIN_BEFORE_RELEASE = 1; // in minutes

xapi.Command.Bookings.Get({
  Id: bookingId
}).then(book => {
  xapi.Command.Bookings.Respond({
    Type: "Decline",
    MeetingId: meetingId
  });
});
```

- If nobody shows up for a set time (line 68)
- Send a decline from the video device
- Room is now available for subsequent bookings

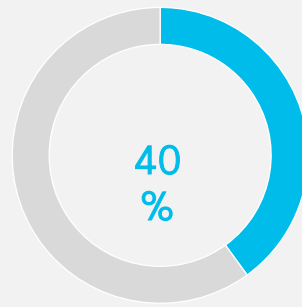


Intelligent Meeting Room Experience Management

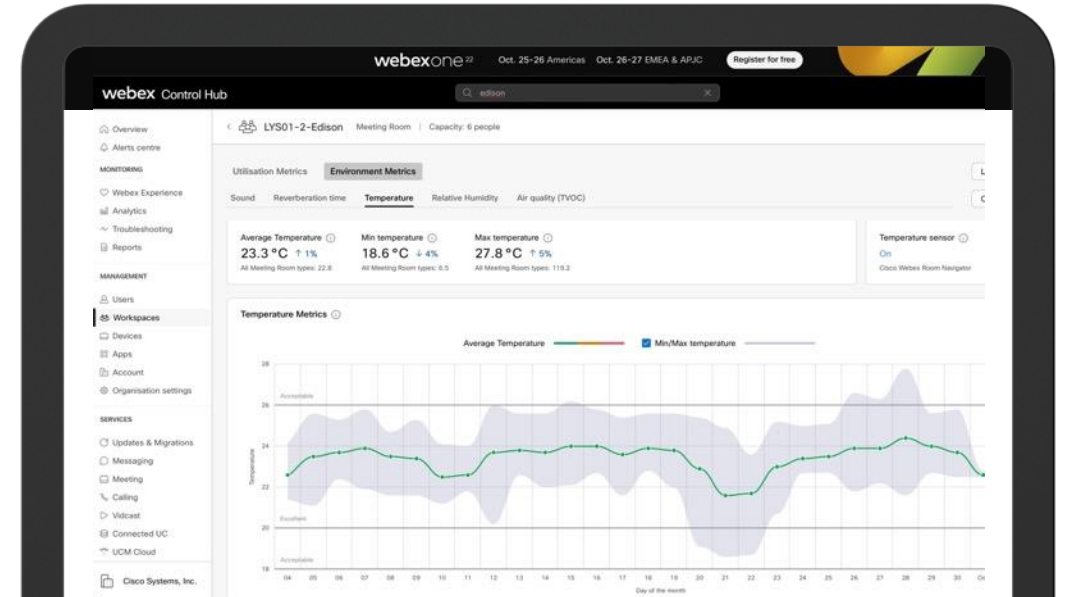
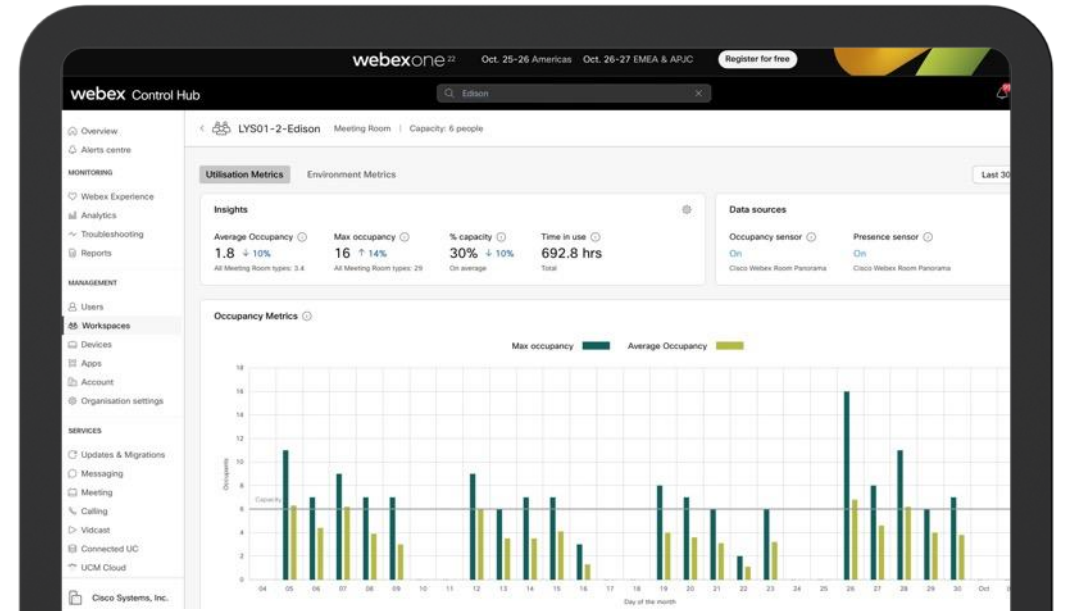


Intelligently Optimise Energy Utilisation: BMS Integration

Optimize HVAC for the number of people in your meeting rooms



Optimized HVAC for number of people in each meeting room resulting in higher well-being of employees and reduced energy bills. HVAC typically contributes an estimated **40%** of office building energy costs.**



Persistent Web App



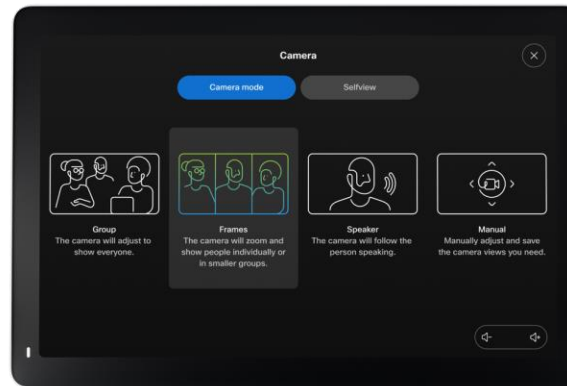
Persistent Web App

<https://roomos.cisco.com/doc/TechDocs/WebAppsOnNavigator>

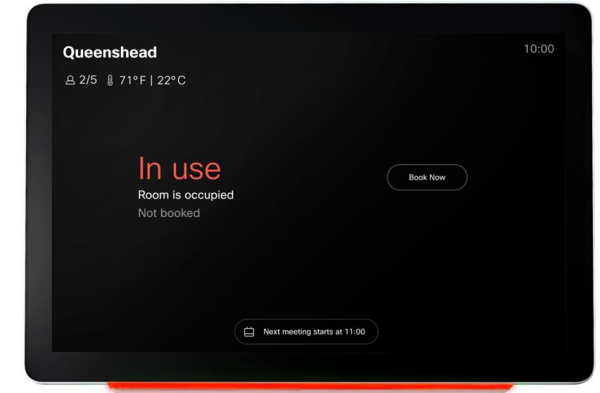
Room control



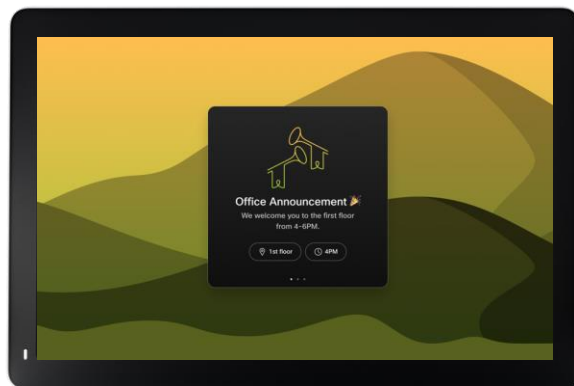
Conference control



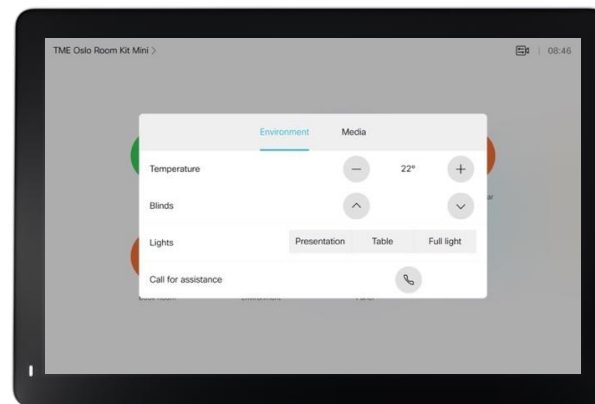
Room booking



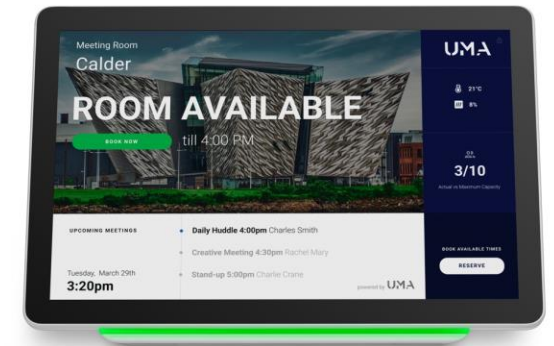
Digital signage



Sensors & Analytics



Third-party experiences



Persistent Web App

Supported Commands

xConfiguration SystemUnit Name

xStatus SystemUnit Hardware Module SerialNumber

xStatus SystemUnit Software DisplayName

xStatus SystemUnit ProductId

xCommand Bookings Book

xCommand Bookings Clear

xCommand Bookings Delete

xCommand Bookings Get

xCommand Bookings List

xCommand Bookings NotificationSnooze

xCommand Bookings Put

xCommand Bookings Respond

xStatus Bookings Availability Status

xStatus Bookings Availability TimeStamp

xStatus Bookings Current Id

xCommand UserInterface LedControl Color Set

xConfiguration UserInterface LedControl Mode

xStatus UserInterface ContactInfo Name

xStatus Peripherals ConnectedDevice[n] RoomAnalytics AirQuality Index

xStatus Peripherals ConnectedDevice[n] RoomAnalytics AmbientTemperature

xStatus Peripherals ConnectedDevice[n] RoomAnalytics RelativeHumidity

xStatus Peripherals ConnectedDevice[n] RoomAnalytics AmbientTemperature

xStatus Peripherals ConnectedDevice[n] RoomAnalytics RelativeHumidity

xStatus RoomAnalytics PeopleCount Capacity

xStatus RoomAnalytics PeopleCount Current

xStatus RoomAnalytics PeoplePresence

xStatus RoomAnalytics AmbientNoise Level A

xStatus RoomAnalytics ReverberationTime Middle RT60

xStatus RoomAnalytics ReverberationTime LastRun

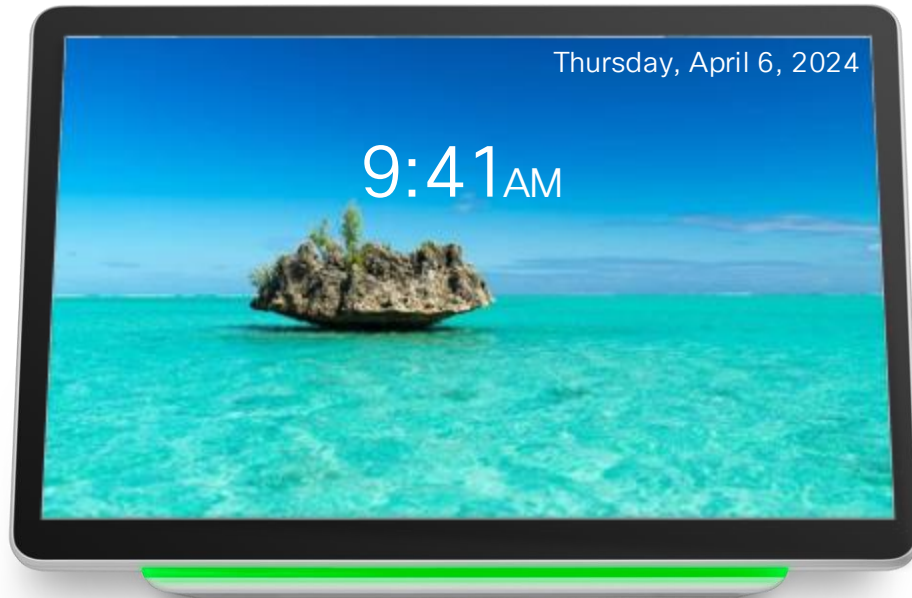
xStatus RoomAnalytics ReverberationTime Octaves[n] CenterFrequency

xStatus RoomAnalytics ReverberationTime Octaves[n] RT60

xStatus RoomAnalytics Engagement CloseProximity

Telehealth Example

Placed outside patients' room



No video call



Patient on video call
with remote doctor

Easy Start



RoomOS Homepage

<https://roomos.cisco.com/macros>

Cisco RoomOS
for Collaboration Devices

Guides xAPI **Examples** Wallpapers Support Feedback [Connect](#) *Beta*

EXAMPLES

Macros ^


- All
- Audio
- Home Office
- Calling
- Library
- Peripherals
- Privacy
- Meeting Room
- Screensaver
- Fun
- Web

Examples


The macros and extensions below have been selected because they are useful either to solve real world problems or for learning purposes. They are hosted in the DevNet Macro Sample repository at Github.

[View on Github](#)


AppleTV Control
Add an Apple TV remote control to the touch 10. All communication is done directly via HDMI-CEC. No control system needed.



Audio Call Dial Pad
Create an in-room control application that adds a dedicated audio call dial pad to the Touch 10



Audio Safe Guard
Enforce a maximum output volume on the device. Demonstrates a simple macro using API statuses and commands



Automatic Room Booking
Automatically books a room when the room being used

Automatic Video Mute
Automatically mute video when you mute audio

BeRightBack
Set a virtual background that says you are away, but still on audio.

Add Macros directly

The screenshot shows the Cisco RoomOS interface for adding macros. A modal dialog titled "Connect to your video device" is open, prompting for connection details. The IP address field is highlighted with a red box.

Connect to your video device

This lets you install extensions easily. You need a local admin user. [See guide](#) for more info.

192.168.0.19

dhenwood

.....

Connect

Install Automatic Room Booking Macro

Cisco RoomOS
for Collaboration Devices

Guides xAPI **Examples** Wallpapers Support Feedback Connected Beta

EXAMPLES

- Macros ^
 - All
 - Audio
 - Home Office
 - Calling
 - Library
 - Peripherals
 - Privacy
 - Meeting Room
 - Screensaver
 - Fun
 - Web

Automatic Room Booking Macro

This macro demonstrates how to create an application that automatically books a room when it senses the room being used.

2 Configurations to set:

- willPromptUser: If true, it will prompt people in room if they want to book; if false, it will countdown with an option to cancel booking
- bookOnPresence: If true, it will attempt to book a room after detecting presence in the room; if false, it will attempt to book after a share or call

Snapshot of booking prompt:

This room is not currently reserved.
Would you like to book this room?

Installation

[View on GitHub](#)

Install

Stand in front of your device and see booking



Designing for location services

28644

32675

22030

7733



TYPICAL LEGEND

- AREA NOT INCLUDED IN SCOPE OF WORKS
- EXISTING WALL - THE TAG INDICATES EXISTING WALL CONSTRUCTION UPDATE
- NEW WALL - REFER TO PROPOSED PARTITION PLAN FOR THE TAGS AND DESCRIPTIONS

36921

54762



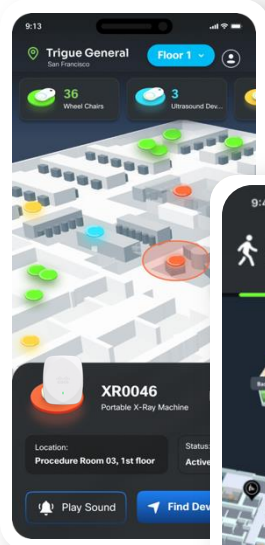
TYPICAL LEGEND

- AREA NOT INCLUDED BY SCOPE OF WORKS
- EXISTING WALL - TYPE TO RECREATE ONLY, CONTAIN WALL CONSTRUCTION CHASE
- NEW WALL - REFER TO PROPOSED PARTITION PLAN FOR THE TAGS AND DESCRIPTIONS

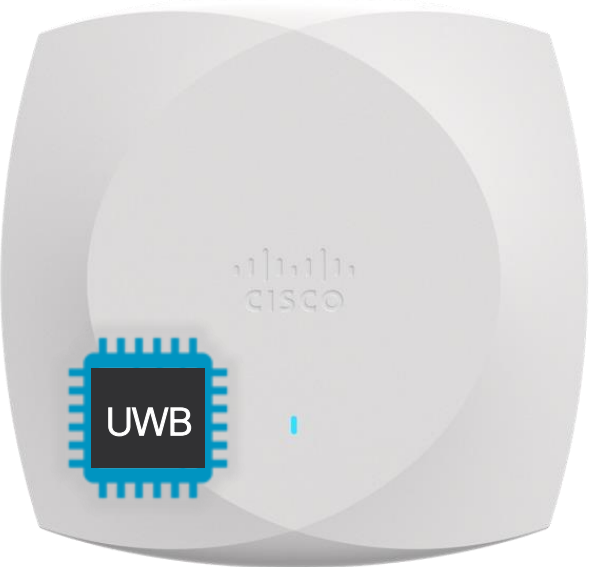
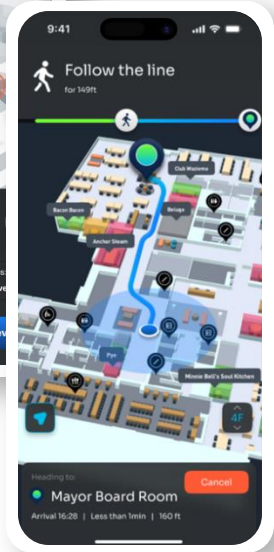
36921

Wi-Fi 7 - The next gen platform for smart spaces

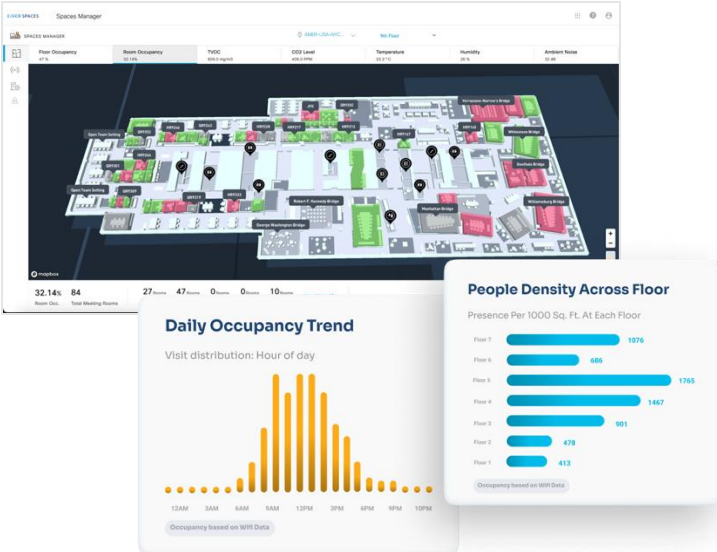
Asset tracking



Indoor navigation

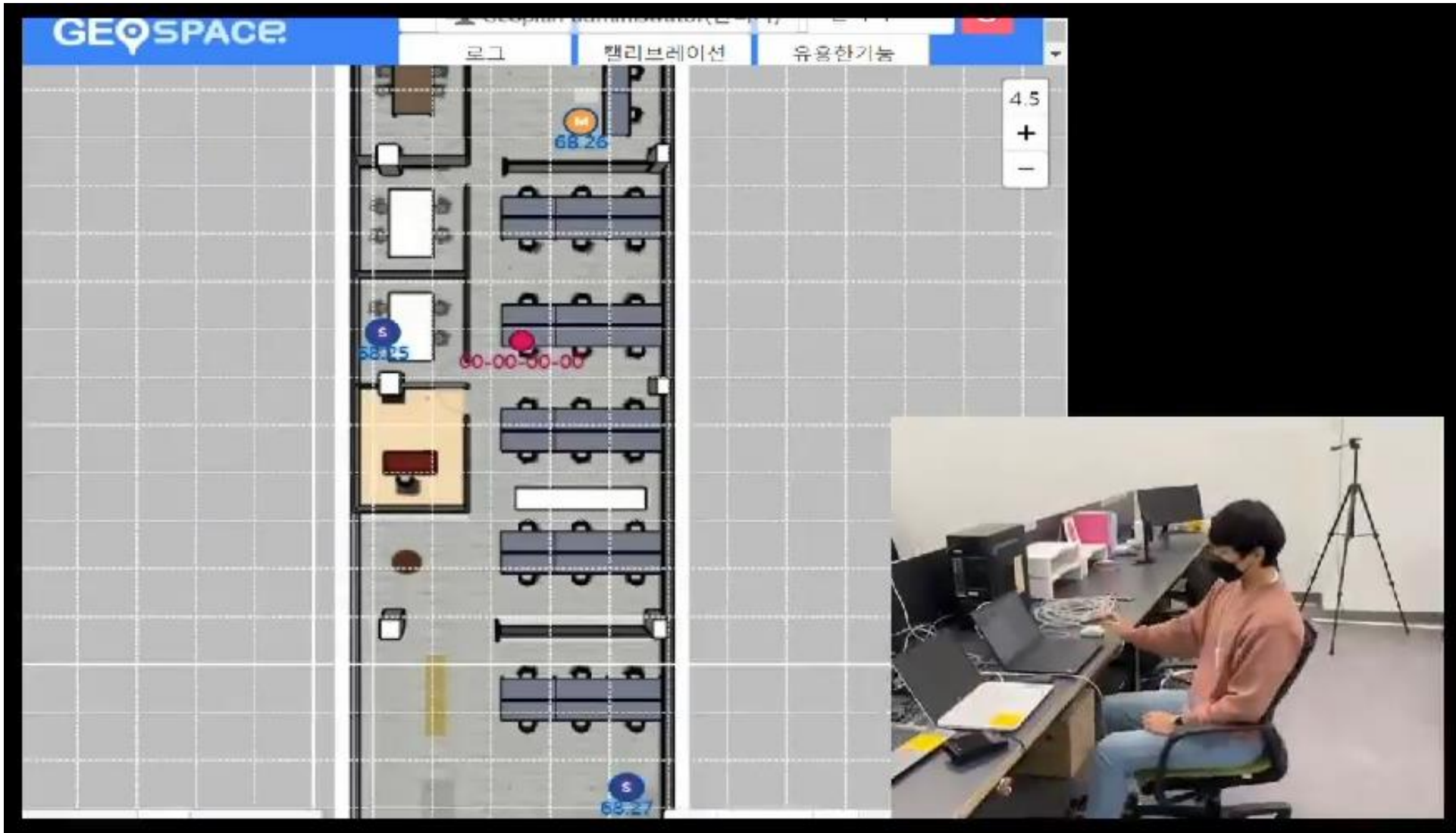


Occupancy analytics

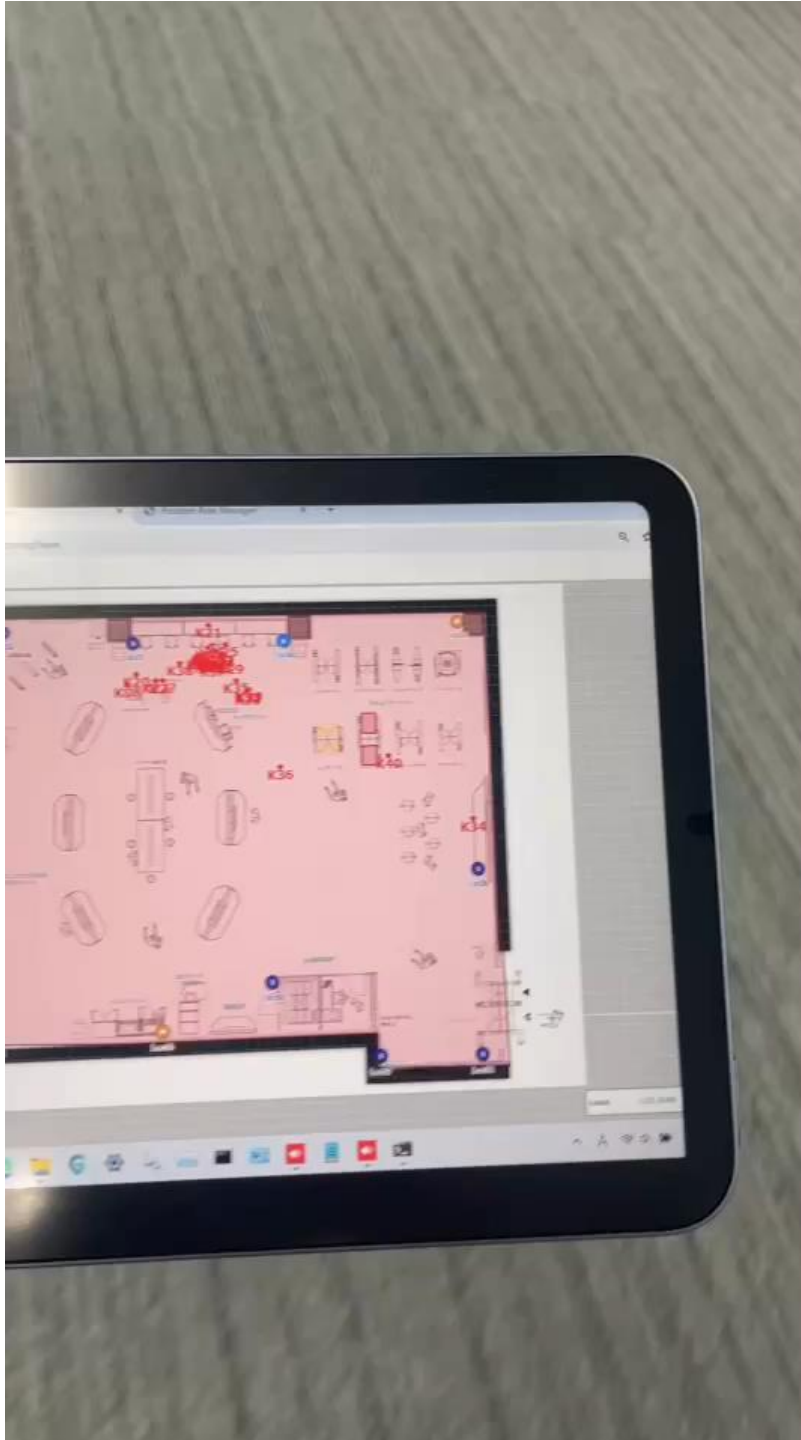


What is Ultra Wideband (UWB)?
A short-range, high-frequency wireless technology enabling <1 meter location accuracy

Location Awareness



Workflows based on location



Smart Venues Outcomes

Create moments that matter for visitors



Seamless Wi-Fi Onboarding & Acquisition

Streamline the process of connecting to Wi-Fi. Make it easy and frictionless for users.



Personalized Engagements

based on identity, location, action – at entry, during the stay and exit



Wi-Fi Monetization

Drive additional revenue through sponsorship and advertising opportunities



Visitor Segmentation

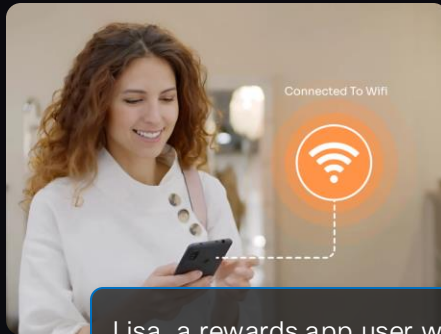
Segment & build detailed visitor profiles based on their behavior at your spaces



Behavior Analytics

Get to know your customers better. Gain the same kind of understanding about customers' in-store behavior as their online

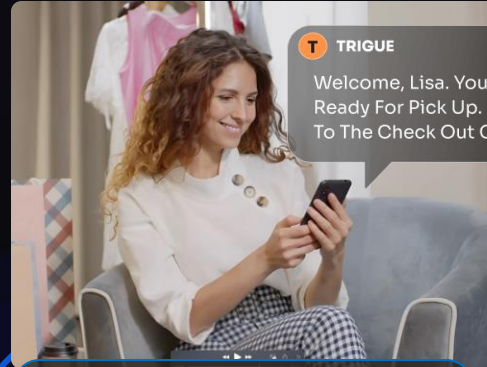
Customer Journey



Lisa, a rewards app user walks into the store and is automatically connected to Wi-Fi

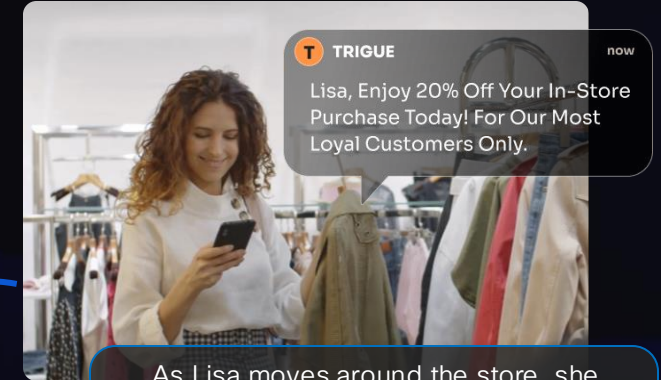
Entry: Seamless Connectivity

Entry: Welcome, click to collect



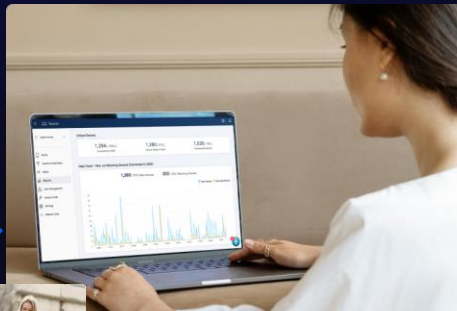
She is here to pick up her online order. She gets notifications to collect her order.

In-Store: Personalized Communication



As Lisa moves around the store, she receives notifications about exclusive loyalty member promotions available in-store. She makes an in-store purchase.

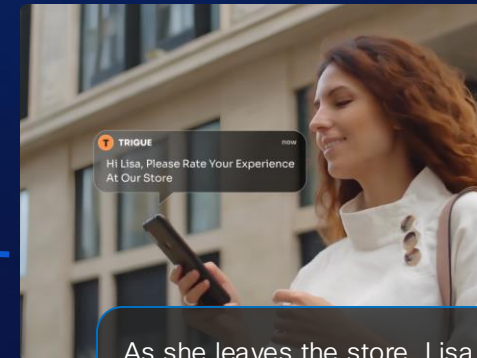
Analytics for Business Teams



Business teams get behavioral data to make informed decisions to better profile and understand customers, enhance layouts, improve operations, staffing and merchandizing strategies



Exit: NPS Survey



As she leaves the store, Lisa receives a notification requesting her to share feedback about her shopping experience.

Wi Fi Onboarding

Three ways to onboard users to Wi Fi

App-based auto onboarding with Spaces SDK

Simplify Wi-Fi guest access for your loyal customers. Auto-onboard app users and engage with them contextually

Seamless Wi-Fi onboarding with OpenRoaming

Connect securely and automatically to Wi-Fi networks and roam seamlessly from one hotspot to another without without the need for passwords or additional credentials

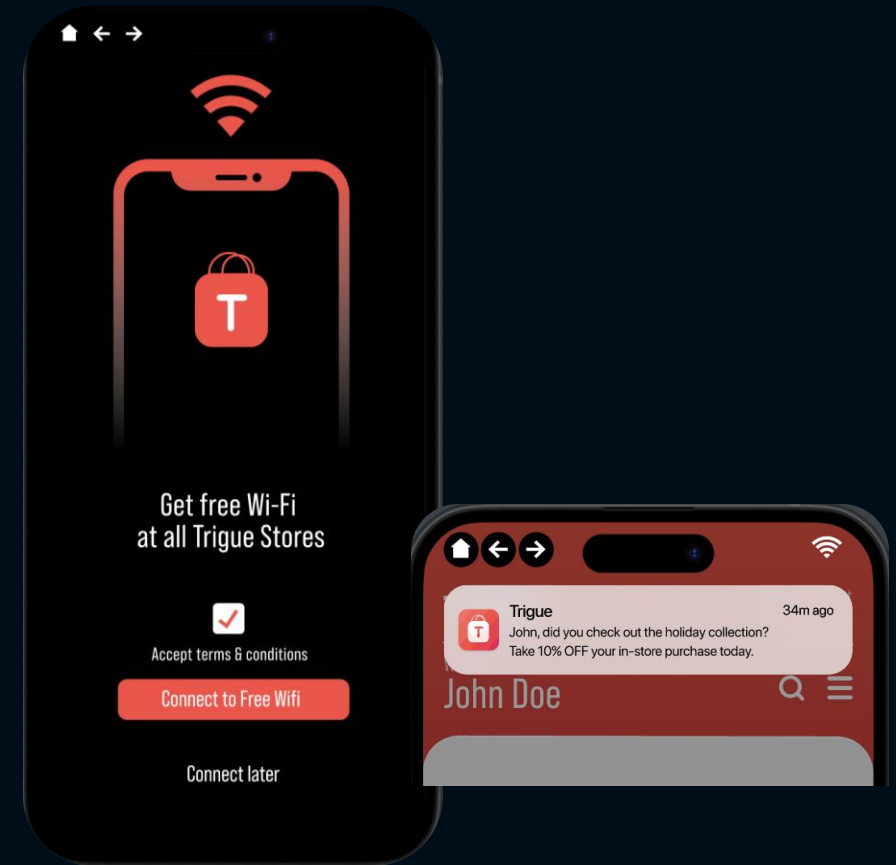
Guest onboarding & acquisition with Captive Portals

Customizable captive portals that streamline visitor experience. Choose from multiple WiFi authentication and login options, capture visitor information and integrate with CRM systems.



App-based auto onboarding with Spaces SDK

- Mobile App users can connect seamlessly, securely and automatically to your Wi-Fi network, through your loyalty app.
- Drive sign-ups to customer loyalty programs and map to CRM/ loyalty systems
- Export customer information & share with marketing & campaign teams
- Drive end-user app adoption



Guest onboarding & acquisition with Captive Portals

Who to show

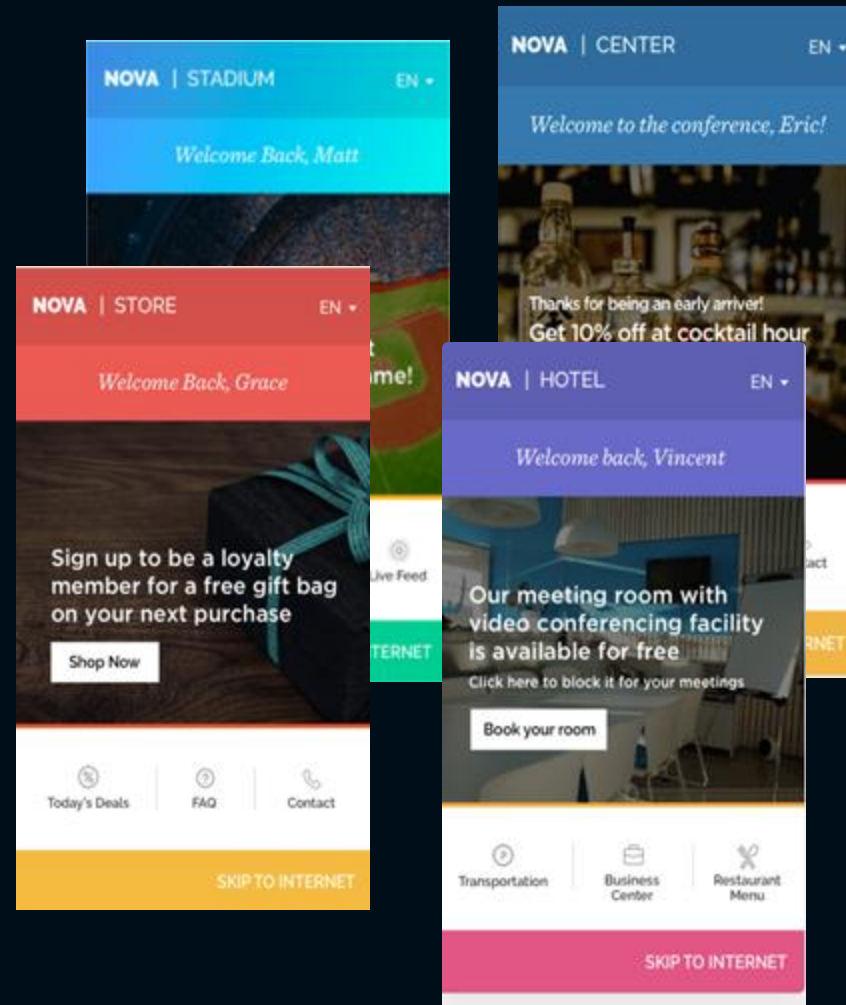
*Customize based on persona,
Location, new & repeat visits, and behavior*

Where to show

*Create custom portals for brands,
locations, geos, etc.*

When to show

*Weekdays/ Weekends,
Days of week, 5 PM, etc.*



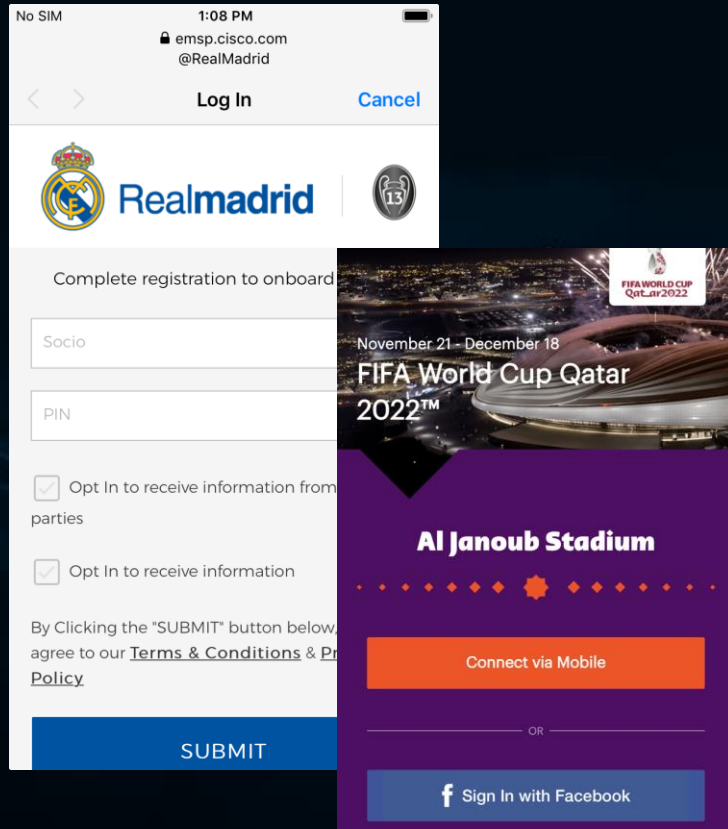
What to show

Reinforce branding, drive app downloads, show information and location specific and time specific promotions, relevant for the location and the persona.

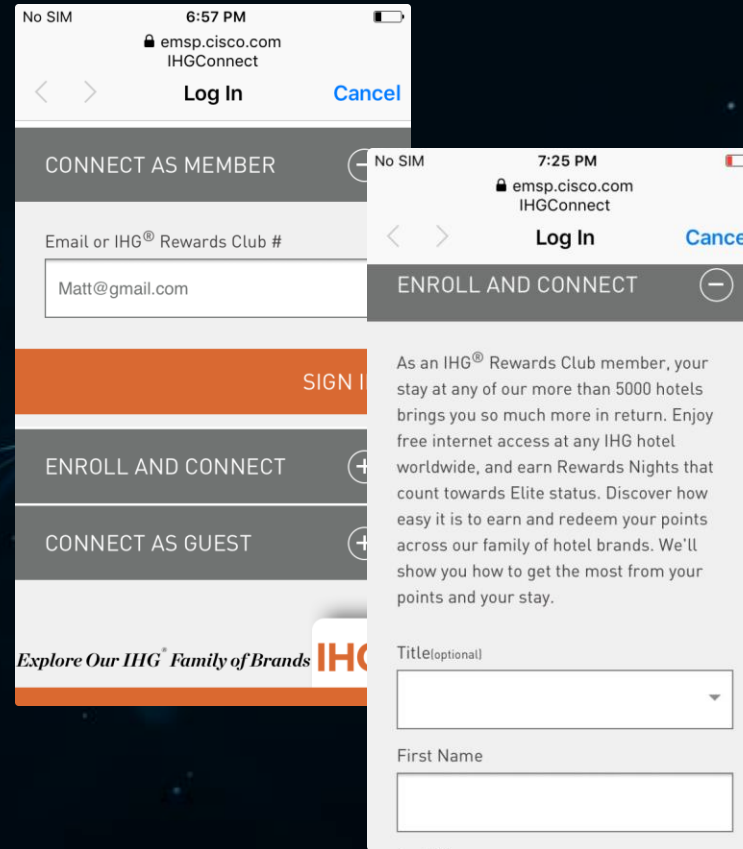
How to show

Choose how users can authenticate - one click connect, email, phone number, social media, custom forms, etc.

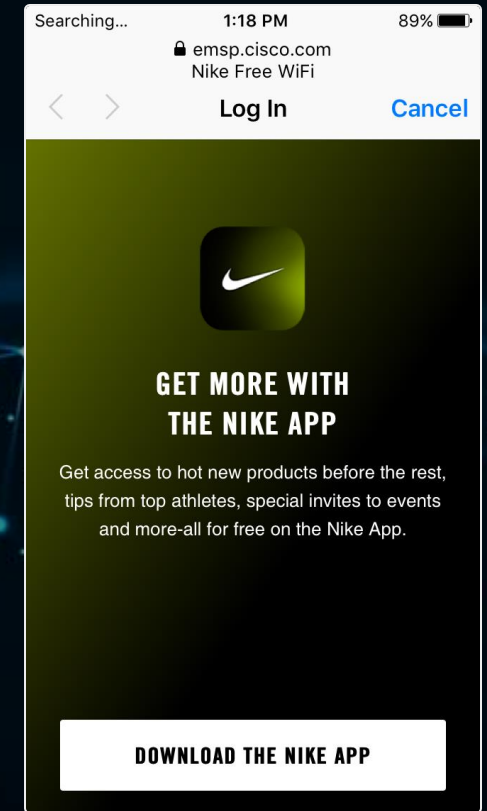
Customer Acquisition Examples



Customer Acquisition + Opt-in

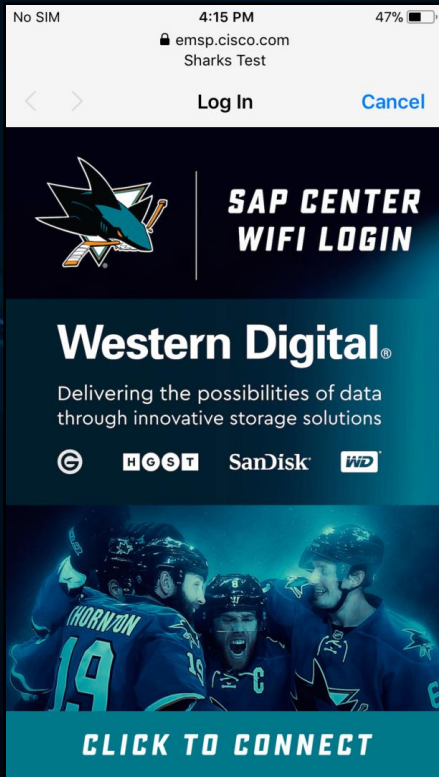


Reward Program Signup

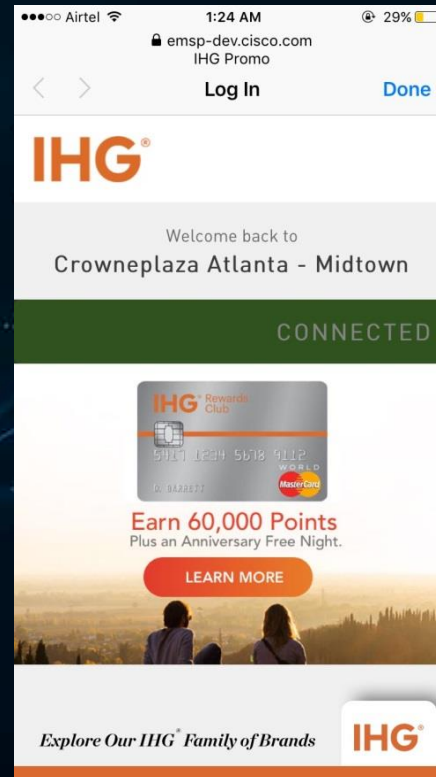


App Downloads

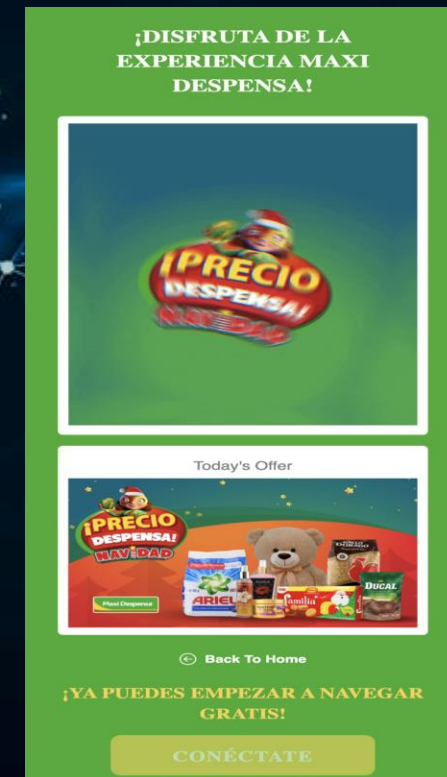
Monetization: Sponsorships & Advertising Examples



Sponsor Promotion



Cobranded credit card Promotion



Product/ Brand Promotion

Customer Experience

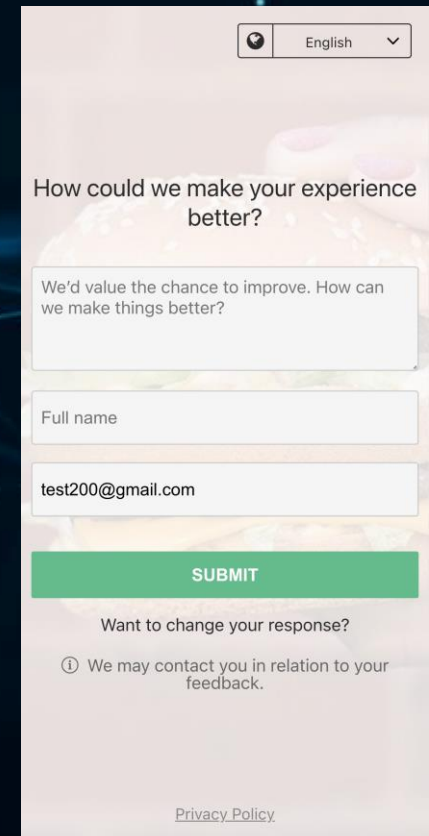
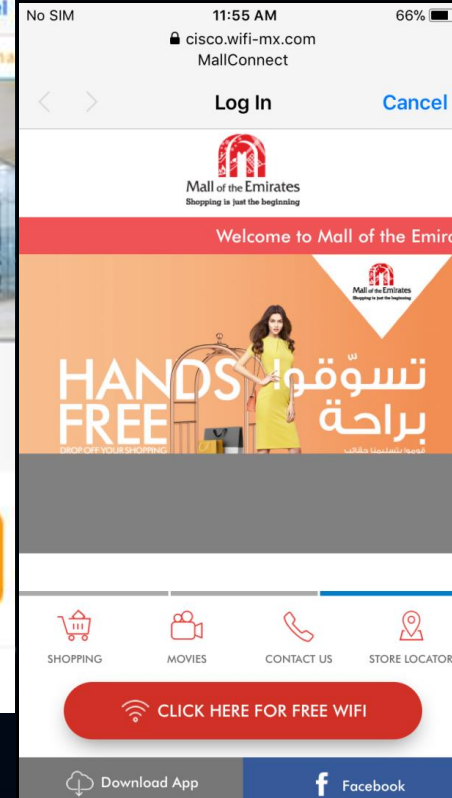
How do I provide a differentiated experience to my customers?



VIP Loyalty Services



Relevant Services



Customer Satisfaction Surveys

Contextual Engagements

- Trigger personalized communications and promotions using our rules engine. Configure rules to trigger based on visitor's location and behavior
- Send personalized greeting upon entry, promotions, localized and limited time offers, Drive App downloads, credit card and loyalty promos, NPS surveys upon exit.



SMS



Email



App



API
Trigger



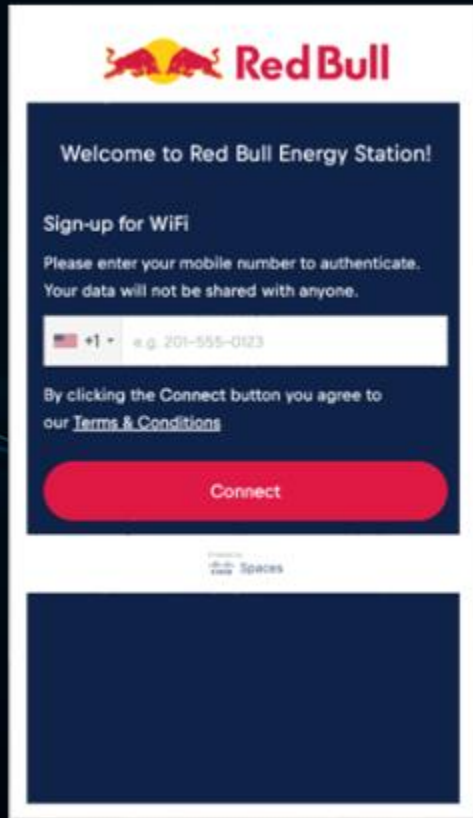
WebEx
Teams/ Slack

The screenshot shows a 'Create Engagement Rule' interface for a rule named 'Seat Upgrade'. The main configuration area includes a trigger condition: 'When a user is on WiFi and Entering Location'. Below this, there is a 'LOCATIONS' section with the text 'Where do you want the rule to fire?' and 'At any of the following locations'. A preview window shows a personalized message: 'Welcome to Trigue, Eric. Thank you for being a loyal member. Enjoy 15% off any one meal during your stay!'. At the bottom, there is a 'Filter by Metadata' checkbox. On the right side, a 'SUMMARY' panel displays the rule name, sense, locations, audience, schedule, and action.

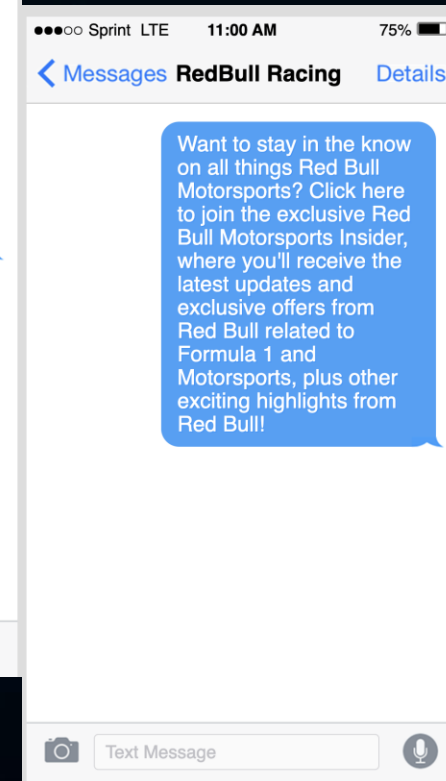
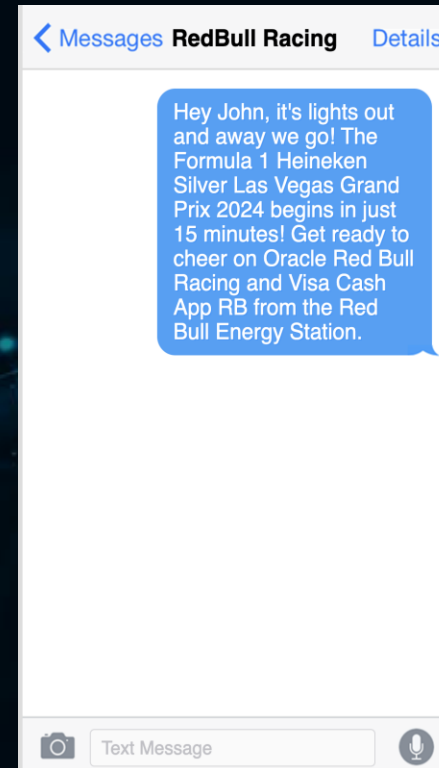
SUMMARY	
RULE NAME	Seat Upgrade
SENSE	When user is on WiFi and entering location
LOCATIONS	For all locations under Trigue Global
AUDIENCE	Opted-in visitors
SCHEDULE	Starts from 28 January 2022 to 31 March 2022
ACTION	Consumer user only once

Guest Engagement Example

How do I engage my customers, while they are at the Venue



RedBull Energy Station
@ F1 Las Vegas

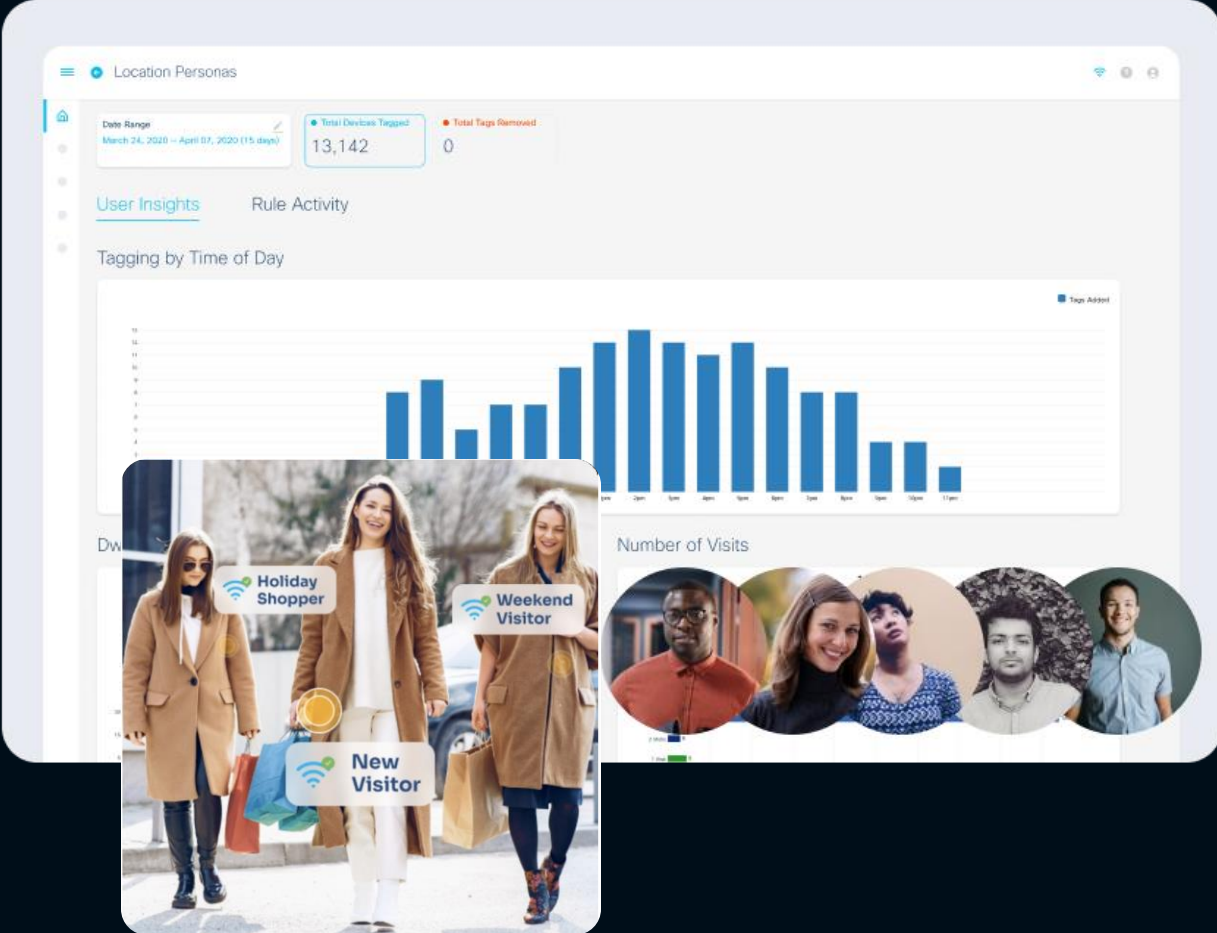


SMS sent to visitors to
keep them engaged

Visitor Segmentation

Build 'Location Personas' to segment and tag visitors based on their behavior at location (entry, exit, time spent, frequency of visits and other patterns)

- Frequent Weekday Visitor
- Mobile App User
- Frequent Weekend Visitor
- Loyalty Member
- 2+ visits in 30 days
- New Visitor
- Multi-location Visitor
- Spends more than 2 hours



Maps SDK

Token-based AI map generator that brings interactive 3D mapping from your dashboard into custom web or partner apps



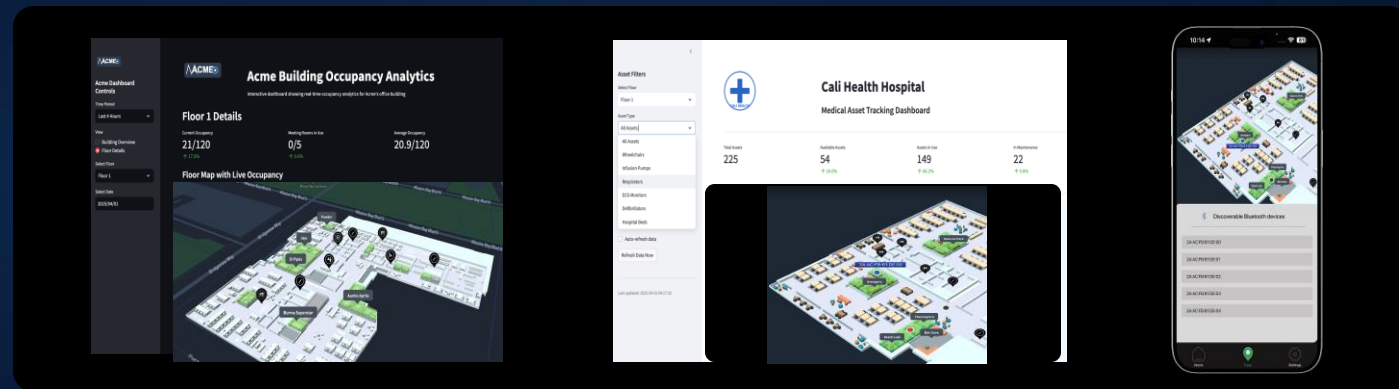
AI Mapping Toolkit



Location, IoT Toolkit



Occupancy Analytics



Rich methods to label rooms and POIs, move markers for tracking assets, and dynamically update room states like "occupied" or "booked."

Seamlessly integrate SDK capabilities with real-time data from Firehose API and Occupancy services to power personalized, data-driven applications

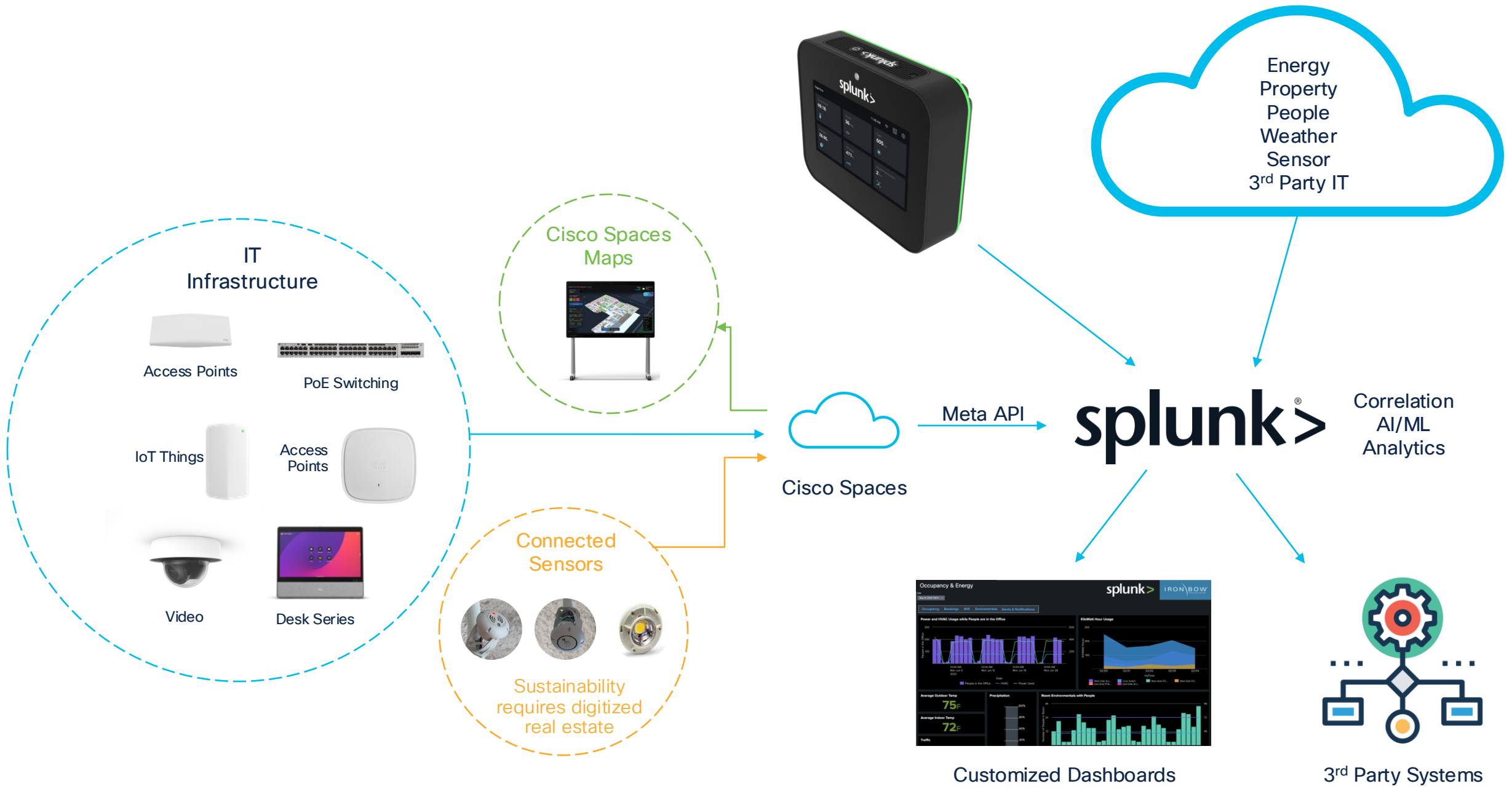
Spaces + Splunk Data Strategy

Top 20 Use Cases Beyond Security & Observability

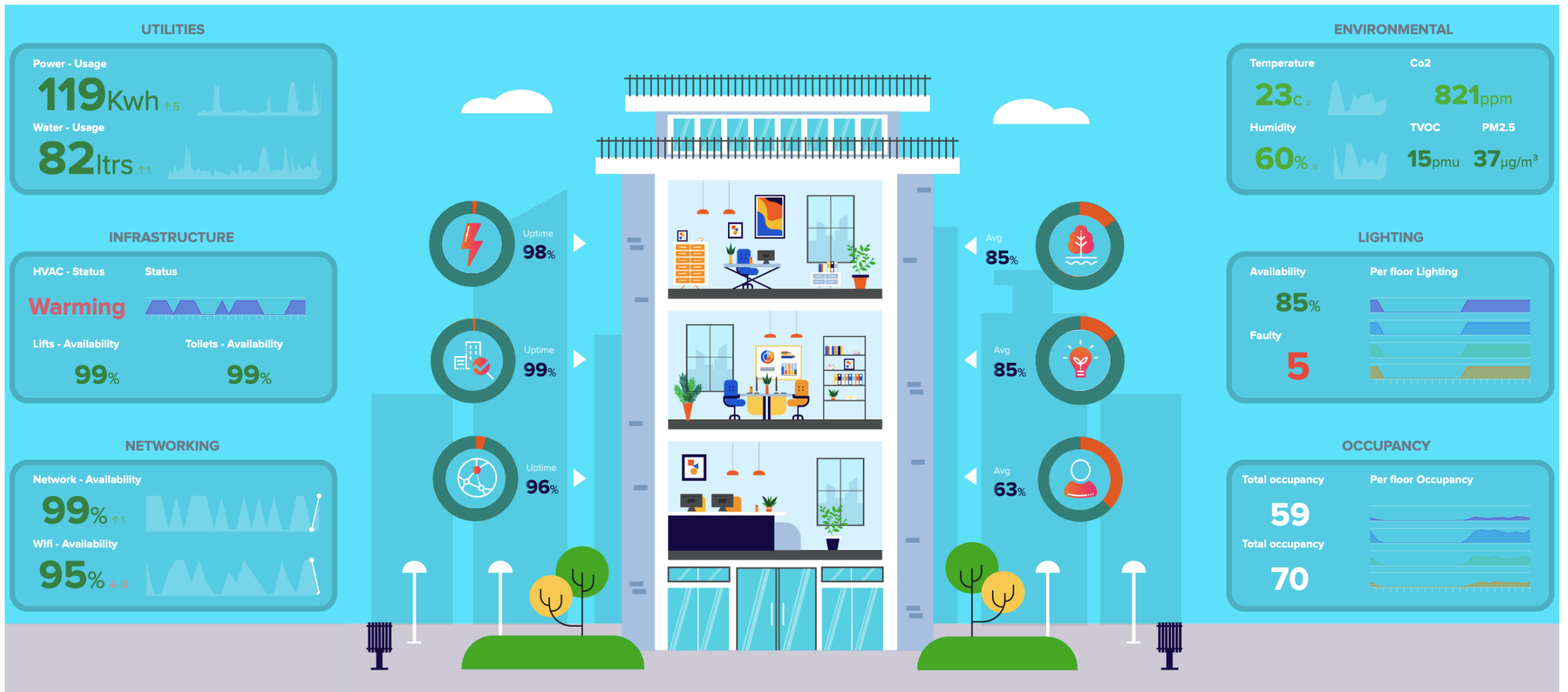


Prioritized by HyWo
SME's & WPR

Occupancy Patterns
Optimized Space Utilization
Space-as-a-Service Insights
Occupancy Rates
Room Booking Data
Sustainability Reporting
Energy Efficiency Opportunities
Office attendance insights
Return on Investment (ROI)
Predictive Maintenance
Integration with IoT
Cost Per Square Foot
Predict the Space/Desk Allocation
Real-time Space Availability
Historical Usage Data
Predictive Analytics
Peak Demand Analysis
Environmental Comfort
Utility Usage Trends
Historical Data Analysis



Making sense of data sources



Occupancy/Utilisation

Meeting Rooms Pods Active Employees on Floor

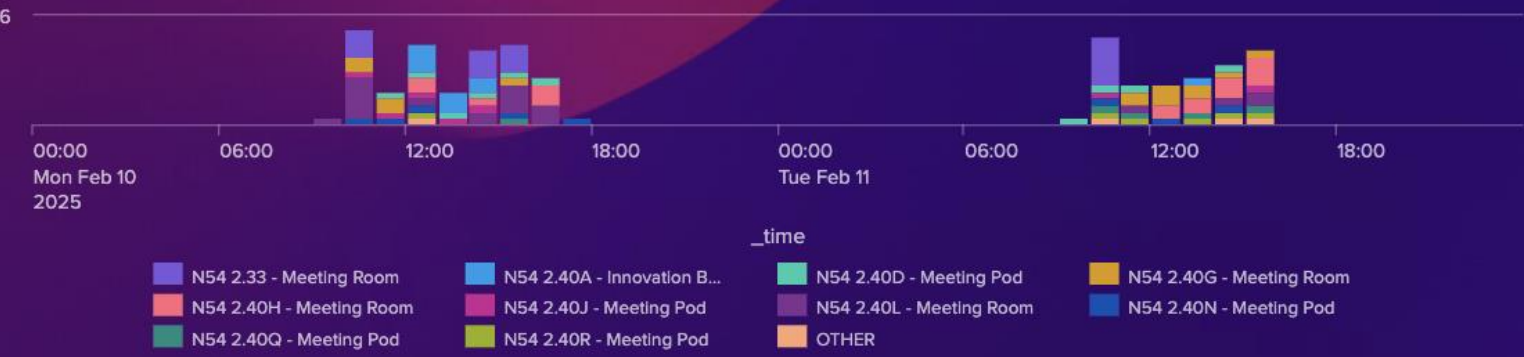
Missing Flex Work 1 and 2

21%

89%

0 0

Room/Pod Occupancy Today



Top Active Users on the floor

UserID	percent
user-C4bL4lqmJSrkdEWKSZB0	2.51%
user-fdJvi3HsYTI30SCZOzOP	2.24%
user-uQEeqEKyoFWuLKueZ9oZr	1.41%
user-pk1N78VLebb3m9nt98Aqu	1.41%
user-kBQnpr28D0DaoP67PMF2	1.41%
user-et04gbLUVAJMF0Nf3sFBE	1.41%

Most Used Rooms

Room Name	Total Count of People
N54 2.40A - Innovation Board 55	55
N54 2.33 - Meeting Room	36
N54 2.40L - Meeting Room	28
N54 2.40G - Meeting Room	15
N54 2.40H - Meeting Room	15
N54 2.40E - Meeting Pod	3

Biophilic

Ambient Noise



Air Quality



Temperature



Humidity



Thank you



