

# Building the Future Proofed Workplace

Future-Proof Workplaces Track

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# Agenda

1. The Future Proofed Workplace
2. Current State of the Workplace
3. Cisco's approach
4. Core Components
5. Data Architecture and Automation

# Cisco powers how people and technology work together across the physical and digital worlds

## AI-ready data centers

Transform data centers to power AI workloads anywhere

## Future-proofed workplaces

Modernize everywhere people and technology work and serve customers

Secure global connectivity

## Digital resilience

Keep the organization securely up and running in the face of any disruption

Accelerated by Cisco AI

# What is a Futureproof Workplace?

- AI-first collaboration & employee experience
- AI-ready, unified networking
- Next-gen wireless as the foundation (Wi-Fi 7)
- Smart spaces & real-time workplace intelligence
- Security everywhere (zero trust → quantum-safe)
- Simplicity at scale for IT
- Interoperability & openness
- Sustainability & efficiency
- Human-centric hybrid policies backed by data

# Where the industry stands today



**Multiple Certifications and Standards**

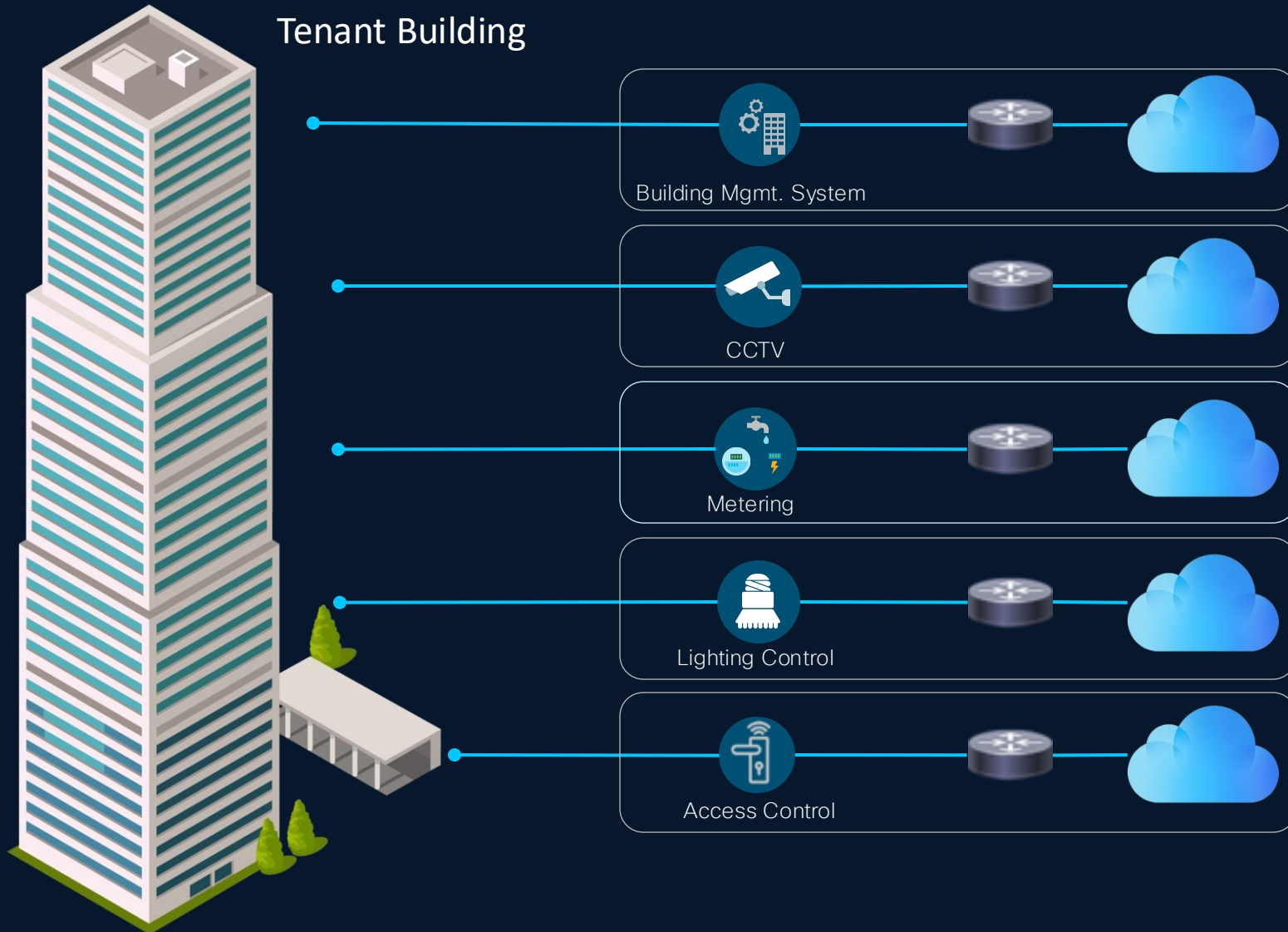


**Poor Vendor interoperability**



**Silo'd Insights**

# Legacy Smart Building Design



## Design Limitations and Concerns

Inconsistent Design by throughout Silos

- Edge device Telemetry unable to share with neighboring Silos.
- Duplicate network structures.
- Nonexistent security policies and enforcement.
- Multiple Edge Device protocols e.g. (BACnet, Modbus, CANbus)
- Automation only capable within each of Silo.
- Separate paths to the internet for each Silo

# Customer Outcomes.



Frictionless  
Experiences



Health &  
Wellbeing



Net Zero  
Goals



Data Driven  
Space Insights



Hybrid/Agile Space



Health & Wellness



Real Estate



Sustainability

# Design Strategy

(Outcome focused)

|                                     |  |  |  |  |
|-------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| LEED Alignment                      |                                                                                     |                                                                                     |                                                                                     | ✓                                                                                   |
| WELL Alignment                      |                                                                                     | ✓                                                                                   |                                                                                     |                                                                                     |
| Consistent End User Experience      |                                                                                     |                                                                                     | ✓                                                                                   |                                                                                     |
| Touchless Room Control              | ✓                                                                                   | ✓                                                                                   |                                                                                     |                                                                                     |
| Integrated Base Building Control    | ✓                                                                                   | ✓                                                                                   |                                                                                     | ✓                                                                                   |
| People Count and Density Monitoring | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   |                                                                                     |
| People Count Data to BMS            |                                                                                     | ✓                                                                                   |                                                                                     | ✓                                                                                   |
| Air Quality Monitoring and Display  | ✓                                                                                   | ✓                                                                                   |                                                                                     |                                                                                     |
| IT & FM Ops Model Reinvention       | ✓                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| USB-C Adoptoin                      | ✓                                                                                   |                                                                                     |                                                                                     | ✓                                                                                   |
| Low Voltage Connected Desk          | ✓                                                                                   |                                                                                     | ✓                                                                                   | ✓                                                                                   |
| Flexibility Technology Swap Out     | ✓                                                                                   |                                                                                     |                                                                                     |                                                                                     |



# Smart Workplaces – Data Analytics & Insights

Key DA&I focus areas:

Employee Experience

Sustainability

Operational  
Planning

Cisco on Cisco

Key  
Stakeholders

IT  
WPR  
P&C

Sustainability Office  
IT  
WPR

IT  
WPR

Sales  
IT  
OneX

## Use Cases:



• User experience

Navigation / wayfinding

Real-time occupancy

Environmental alerts

Personal comfort



• Automation and optimization

Optimized onsite services

Environmental monitoring / alerts

Preventative maintenance

Improved sustainability



• Design & planning

Location analytics

Space utilization



• Safety and security

Real-time occupancy

Proximity / contact tracing

Density alerts

Asset tracking

Data  
Sources

- Cisco Spaces
- Lenal (BIR)
- Office 365

- Workday
- Webex
- Building Mgmt. Systems

- WPR Prod (Oracle)
- ThousandEyes
- Meraki

- ESP
- Tririga
- PowerIQ

# UPOE+ (90W)

## Connected Devices by Construction Division



### Largest ecosystem for solutions

- Industry's largest ecosystem, 30+ partners till date.
- Simplified onboarding using 'Cisco APIs' and 'End-point profiles'
- Two new solutions available for Pilot
  - Occupancy sensing
  - Right-now density metrics

Catalyst 9300, 9400 Access Switch  
w/UPOE & UPOE+

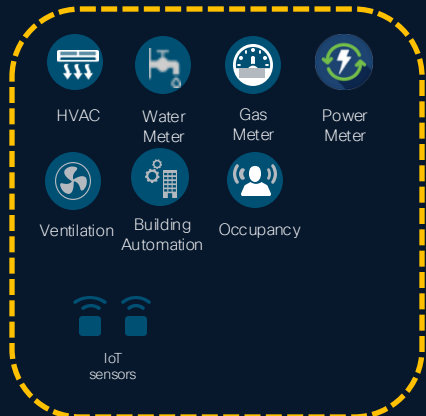


Division 27

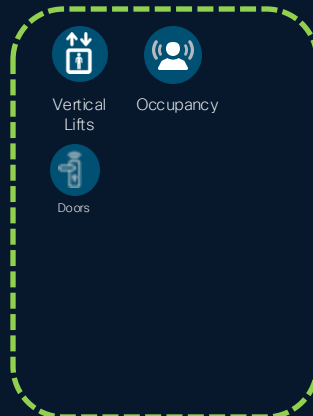
OT Network

IT Network

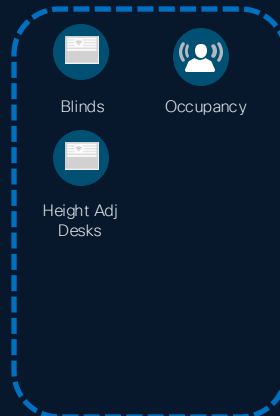
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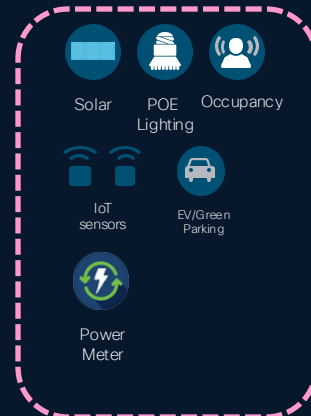
Division 8 & 14



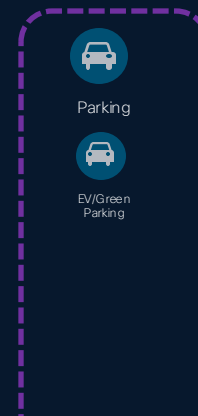
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Division 26



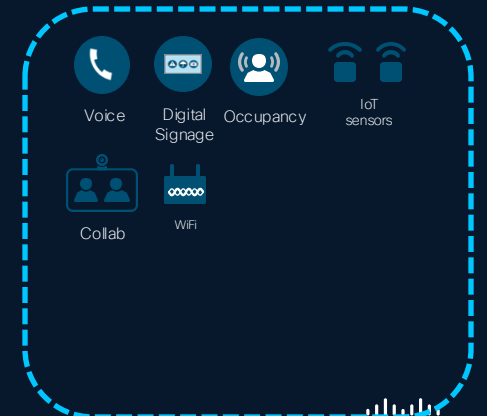
Division 32



Division 28



IT Production Network



# Unleashing New IT/OT Possibilities with Low-voltage Power and Communications



## Smart Building

## POE Endpoints

## 90W Use Cases

### Catalyst 9000 Switches



Cisco UPOE®+  
(Low Voltage DC)



Commercial  
LED PoE  
Fixtures



IoT Sensors  
(Light, Motion,  
CO2/CO, IAQ,  
etc.)



PoE Blinds



PoE Monitors



PoE USB-C  
Dongles



UHD PTZ  
Cameras



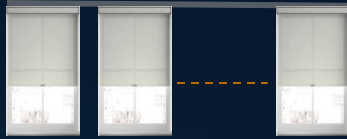
HVAC VAV's



PoE Displays



PoE Lights & sensors



Daisy-chained  
PoE Blinds



High  
Adjustable PoE  
Desk with Light

POE Hub with  
USB-C and USB-A

Daisy-chained POE  
Lights & Sensors

POE Enabled Desk  
(Desk + Monitor +  
laptop charging + data)

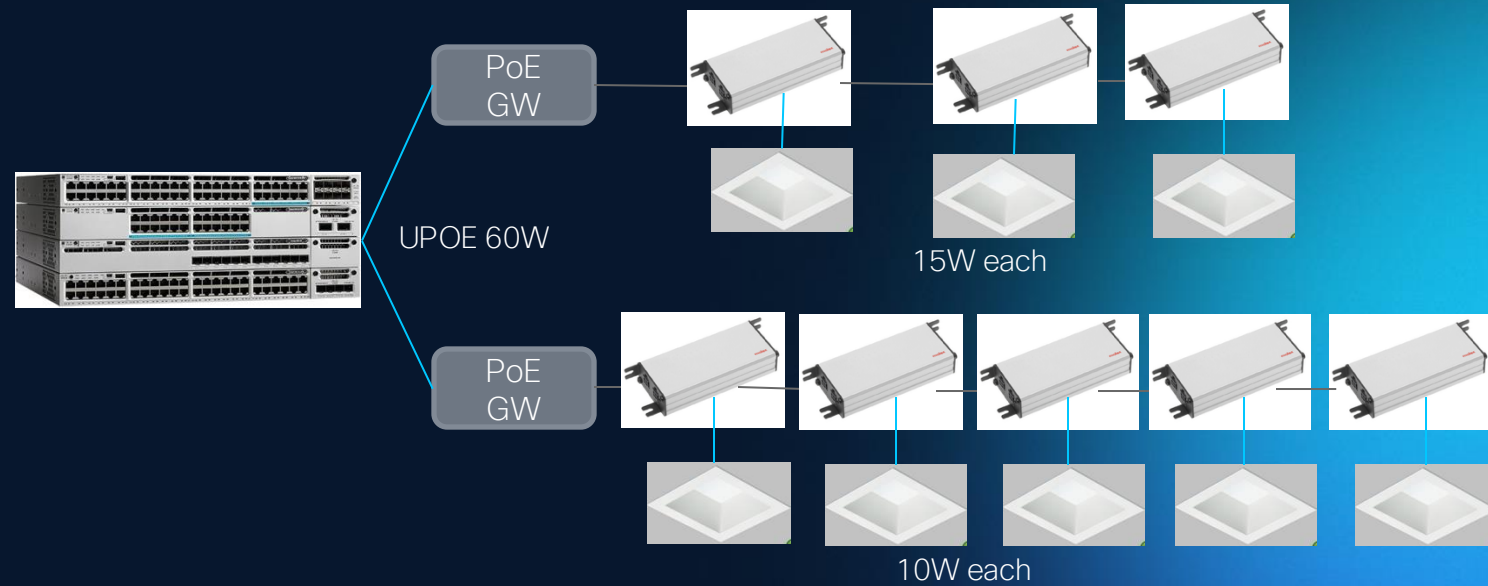
High Power  
PoE End-points

# UPOE+ (90W) – What's the difference?

Example: Molex Lighting (Downlights)

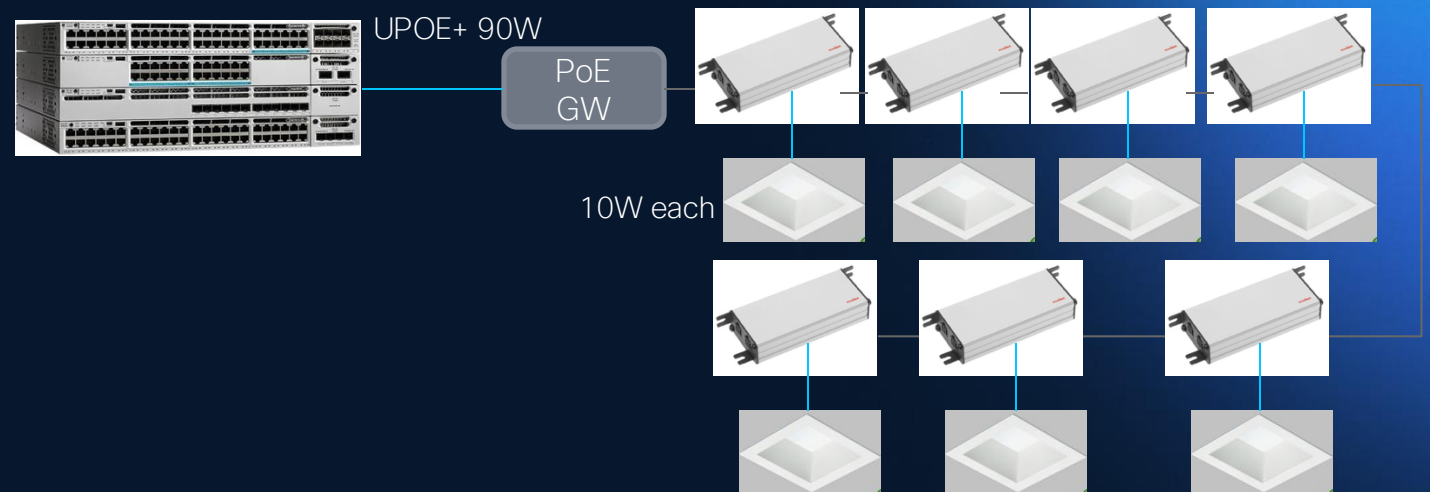
## UPOE (60W) PSE

- 51W available at PD
- 1 UPOE port controls Gateway, 3-5 DC drivers (dependent on wattage of fixture), 3 downlight light fixtures



## UPOE+ (90W) PSE

- 71.3W available at PD
- 1 UPOE+ port controls Gateway, 4-7 DC drivers (dependent on wattage of fixture), 4-7 downlight light fixtures
- Drive efficiency up
- Drive costs down
- 7:5 ratio @10W downlights



# Recent Cisco Delivered Projects

Paris Office



- Heritage Building
- 12000 data points harvested
- Fully converged OT | IT
- Drive efficiency up
- Drive costs down

150 Holborn -London



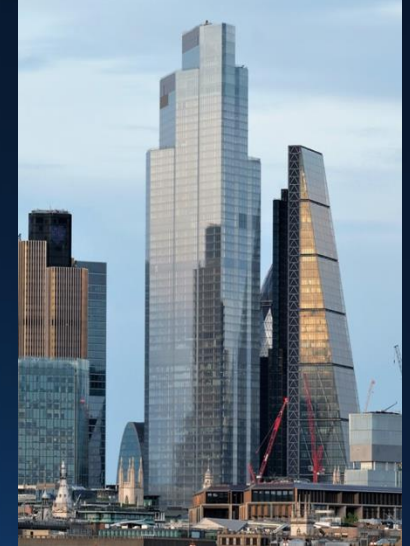
- 200,000 sq ft
- 12 Brands and tenants
- 60,000 data points harvested
- Digital Twin
- Drive costs down
- Fully converged OT | IT
- LEED | WELL | BREEAM

Austin Office



- Data Driven Optimization
- 12000 data points harvested
- Fully converged OT | IT
- Drive efficiency up
- Drive costs down
- PoE lighting, desks, shades

22 Bishops gate



- Cisco Converged Network
- Experience Led Design
- 32,000 data points
- Poster child for Smart Buildings

# Infrastructure becomes a **sensor**

with **CISCO SPACES**



Cisco Spaces



Webex Suite



Meraki Systems Manager



ThousandEyes



Catalyst Center



ISE



Access Points



Switches



Meraki Cameras & Sensors



Board series



Room Series & Kits



Desk Series



Third-party Sensors  
(wired & wireless)

Occupancy

Occupancy

People Count

Room Occupancy

Room Occupancy

Room Occupancy

Occupancy

\*Air Quality

IoT Gateway

Air Quality

People Count

People Count

People Count

Air Quality

\*Temp, Humidity

Temp, Humidity

Ambient Noise

Ambient Noise

Ambient Noise

Temp, Humidity

BLE Gateway

CO<sub>2</sub>

Temp, Humidity, IAQ

Temp, Humidity

Asset Location

# The Future Proofed Building Infrastructure



Cloud Services

Workplace Mapping & Efficiency



Environment Sensor Framework



Workplace Collaboration



Data Warehouse

Building Operation

Cisco Converged Network



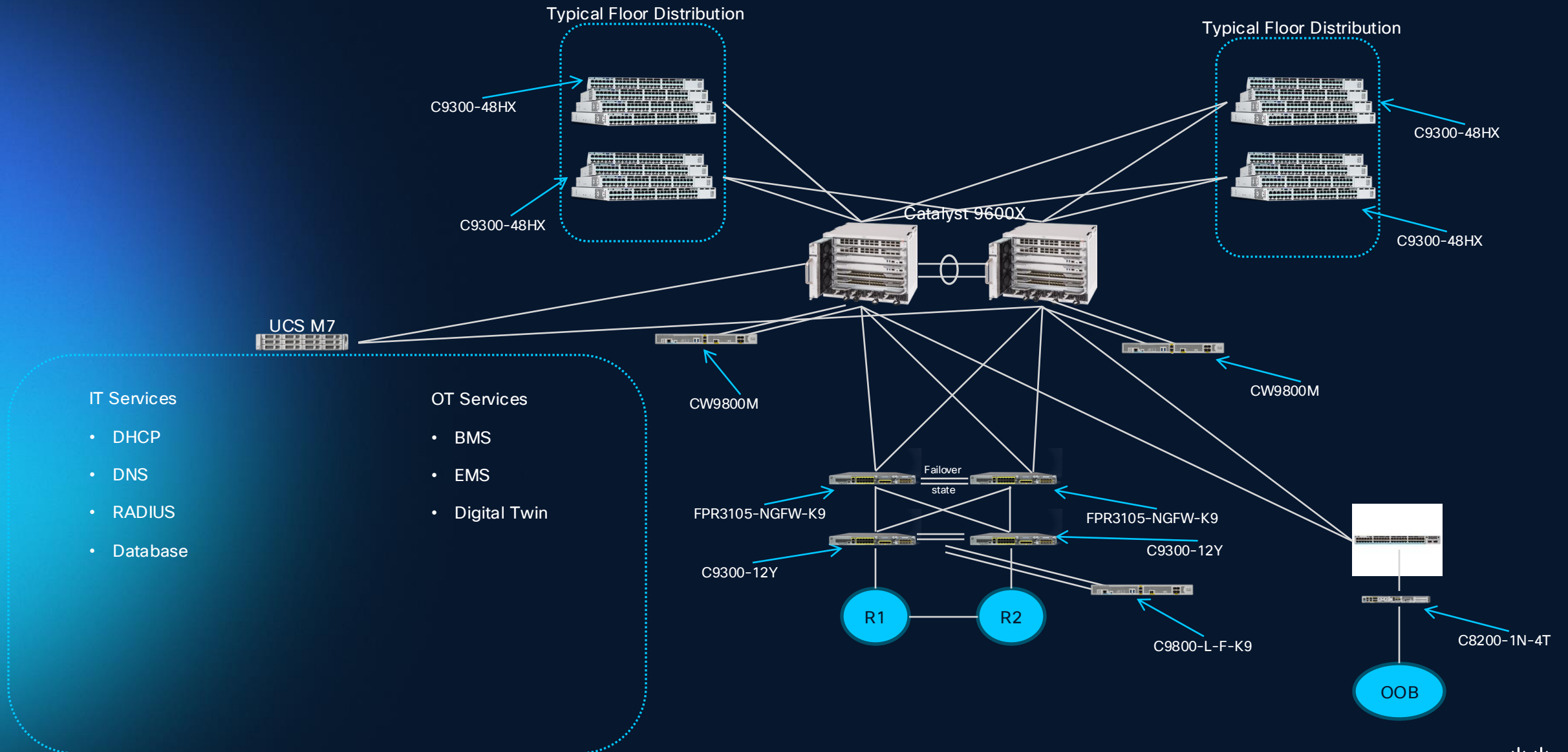
## Intelligence, Efficiency & Experience Enablement

Unlock the true potential of an by leveraging pre-validated technologies that enable key energy, efficiency, collaboration and occupancy satisfaction needs  
PARA Consulting to specify modular elements

## The Infrastructure

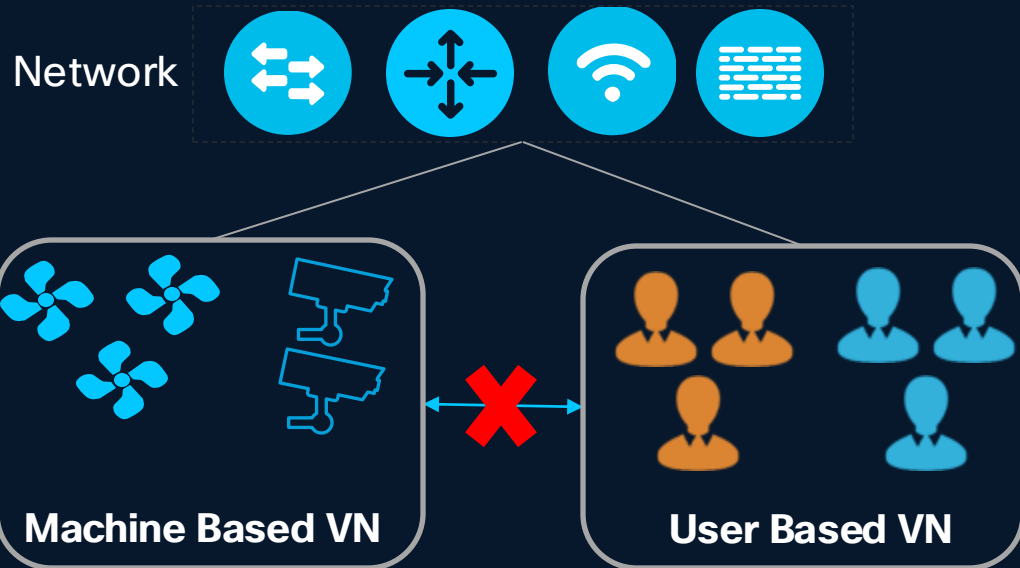
This validated architecture ensures your building is **Future Proofed** and to address the current and future needs.

# Network Architecture



# The strategy

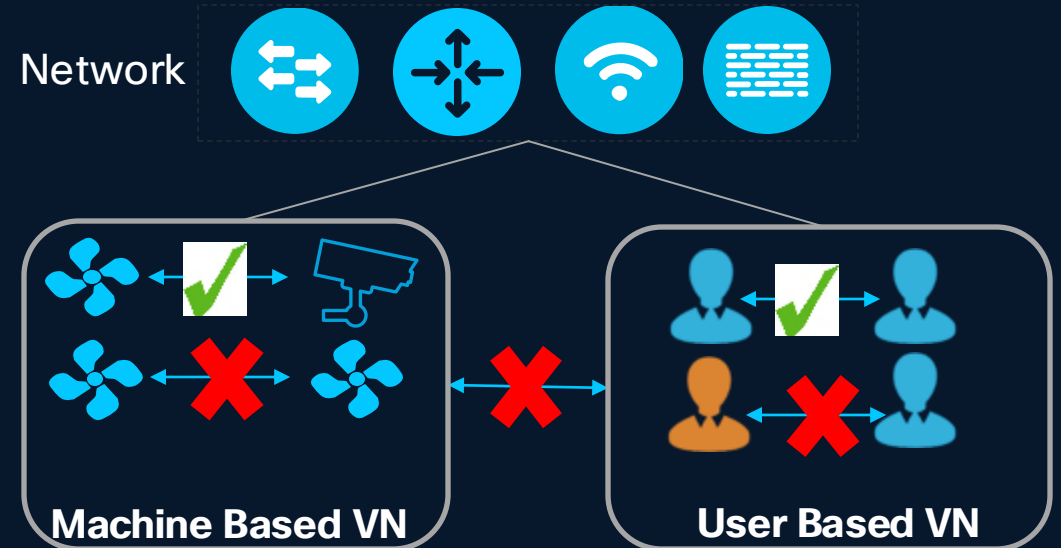
## Macro Segmentation



### Virtual Network (VN)

First level Segmentation ensures **zero** communication between specific groups. Ability to consolidate multiple networks into one management plane. A VN is a VRF.

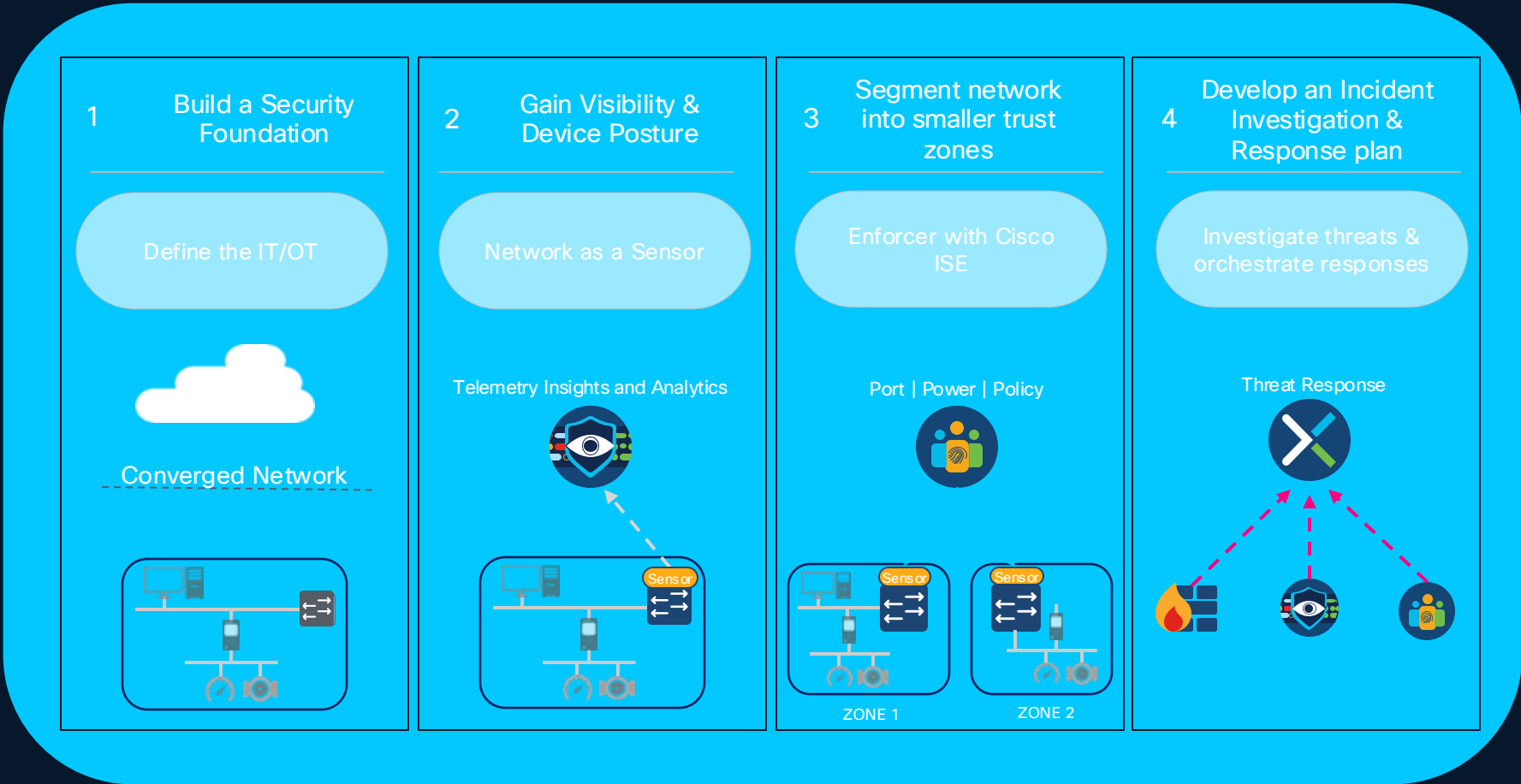
## Micro Segmentation



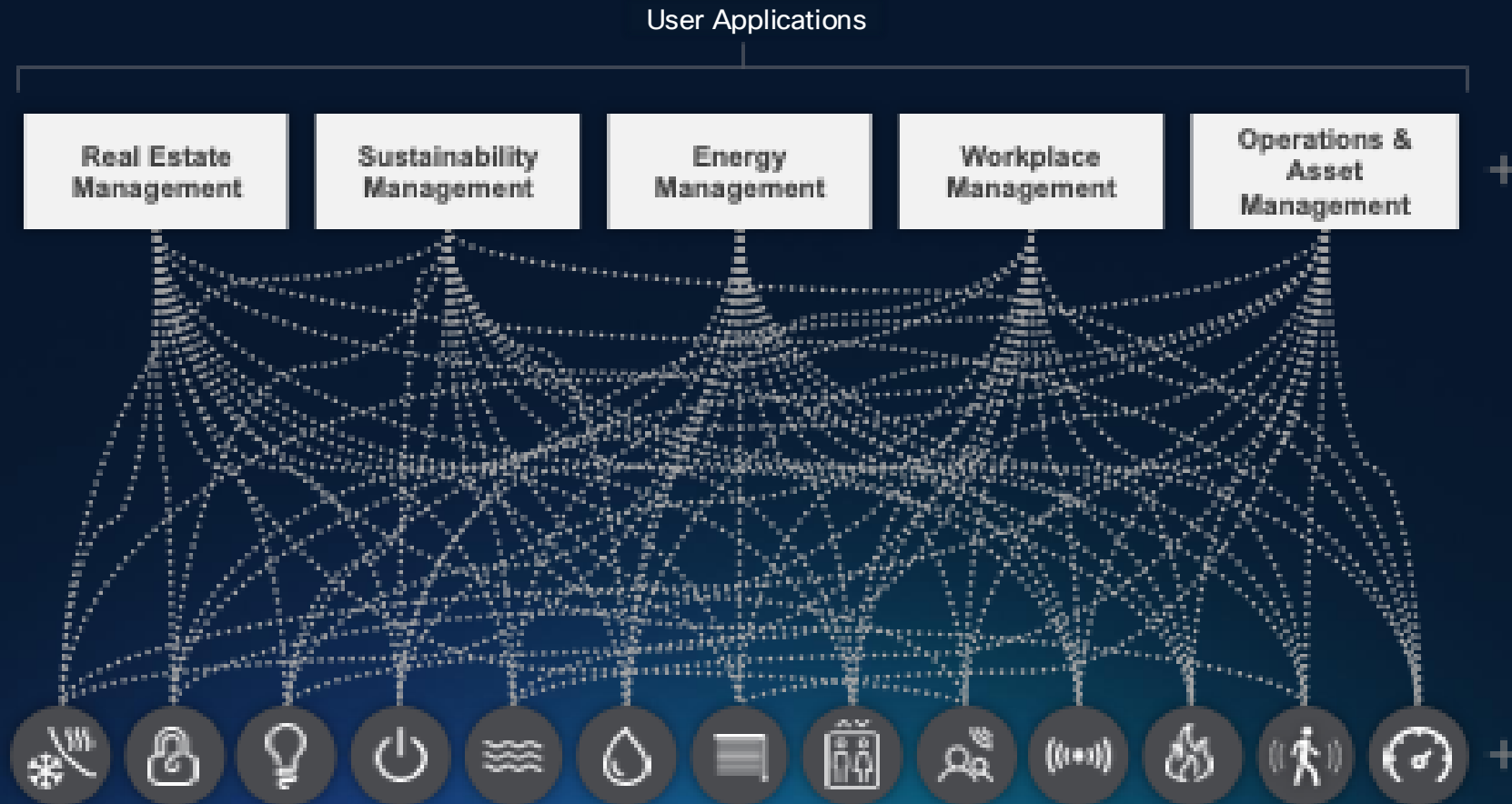
### Security Group Tag (SGT)

Second level Segmentation ensures **role based access control** between two groups within a Virtual Network. Provides the ability to segment the network into either line of businesses or functional blocks.

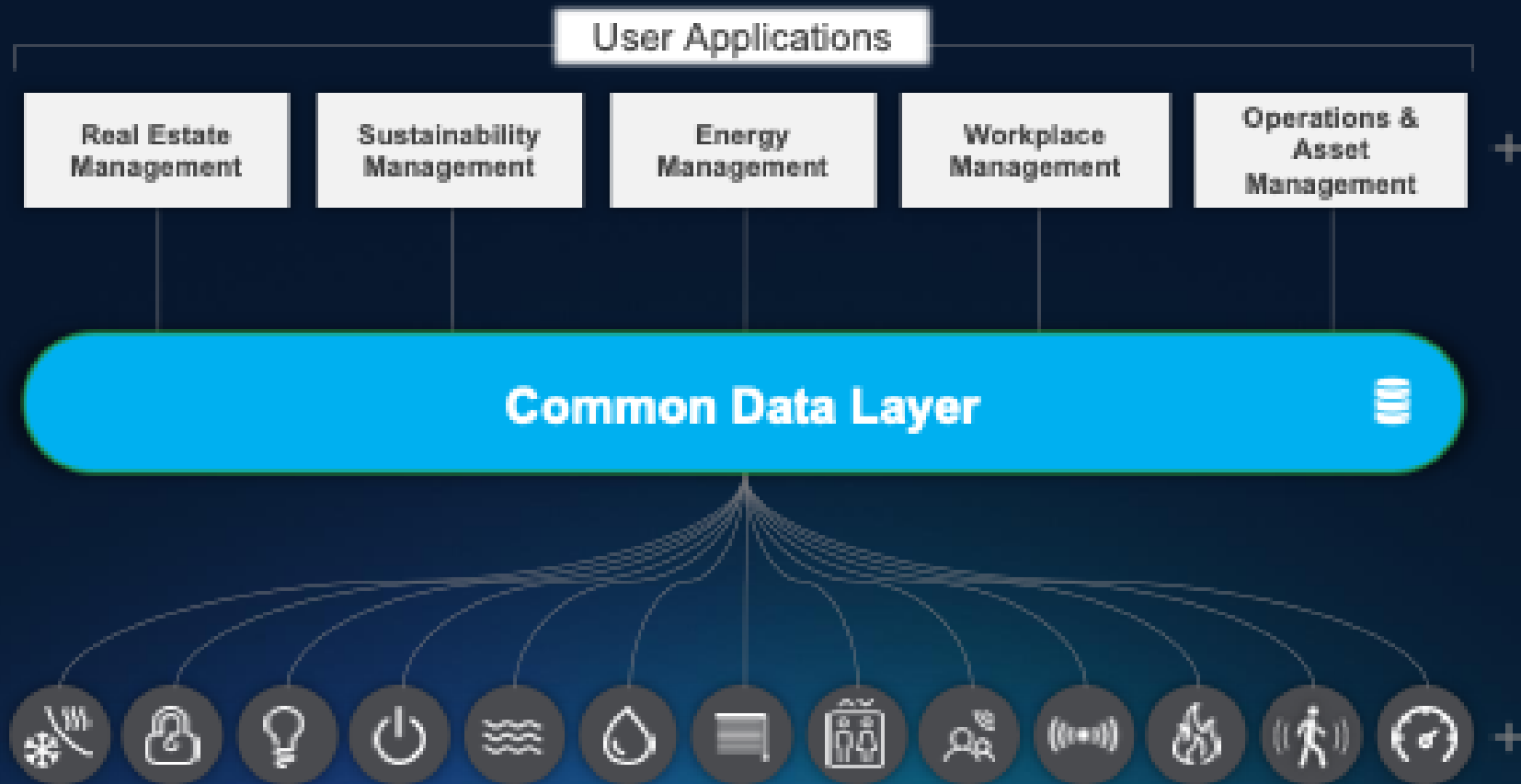
# The Principles



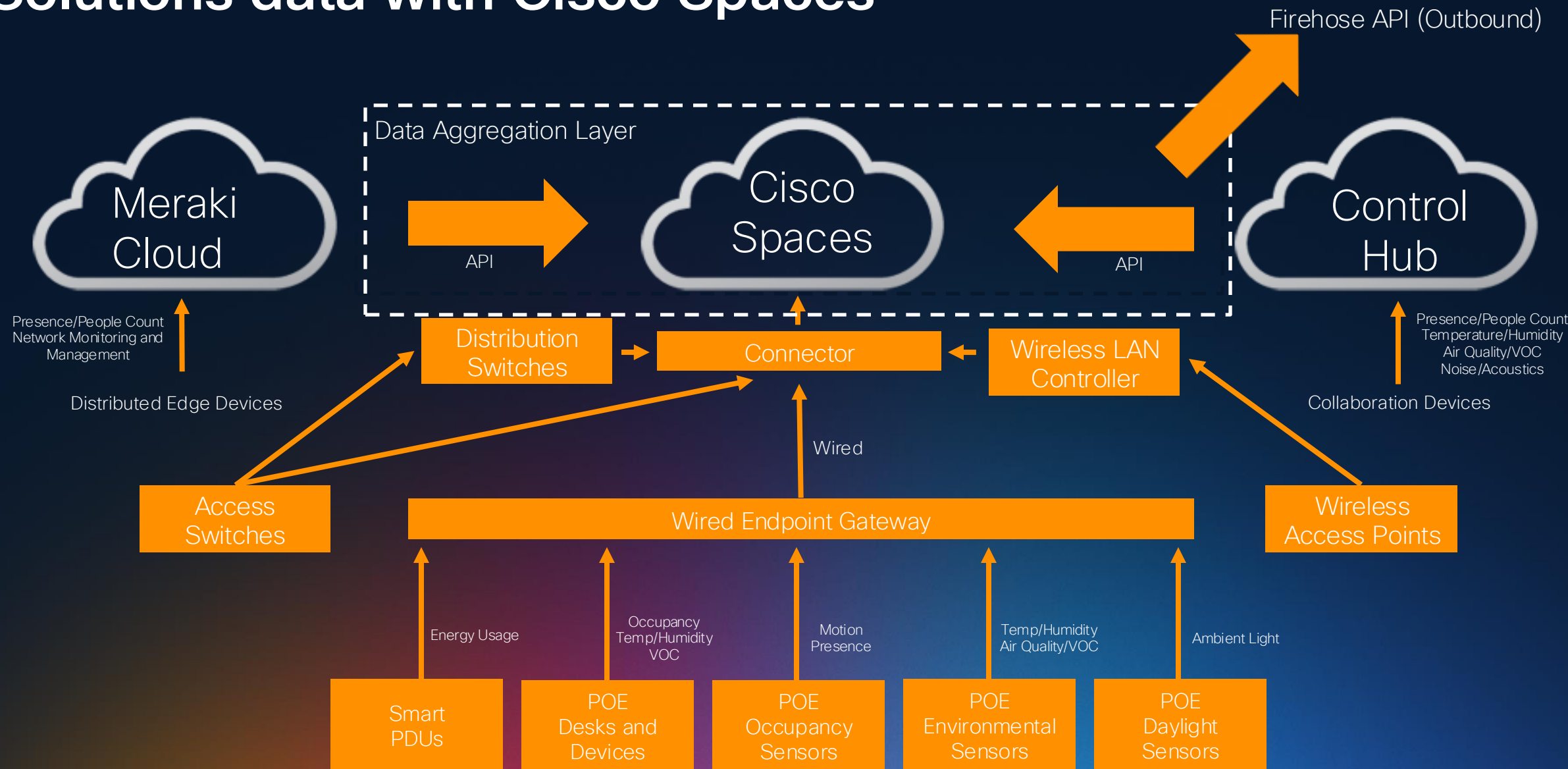
# Traditional Siloed Solution Approach



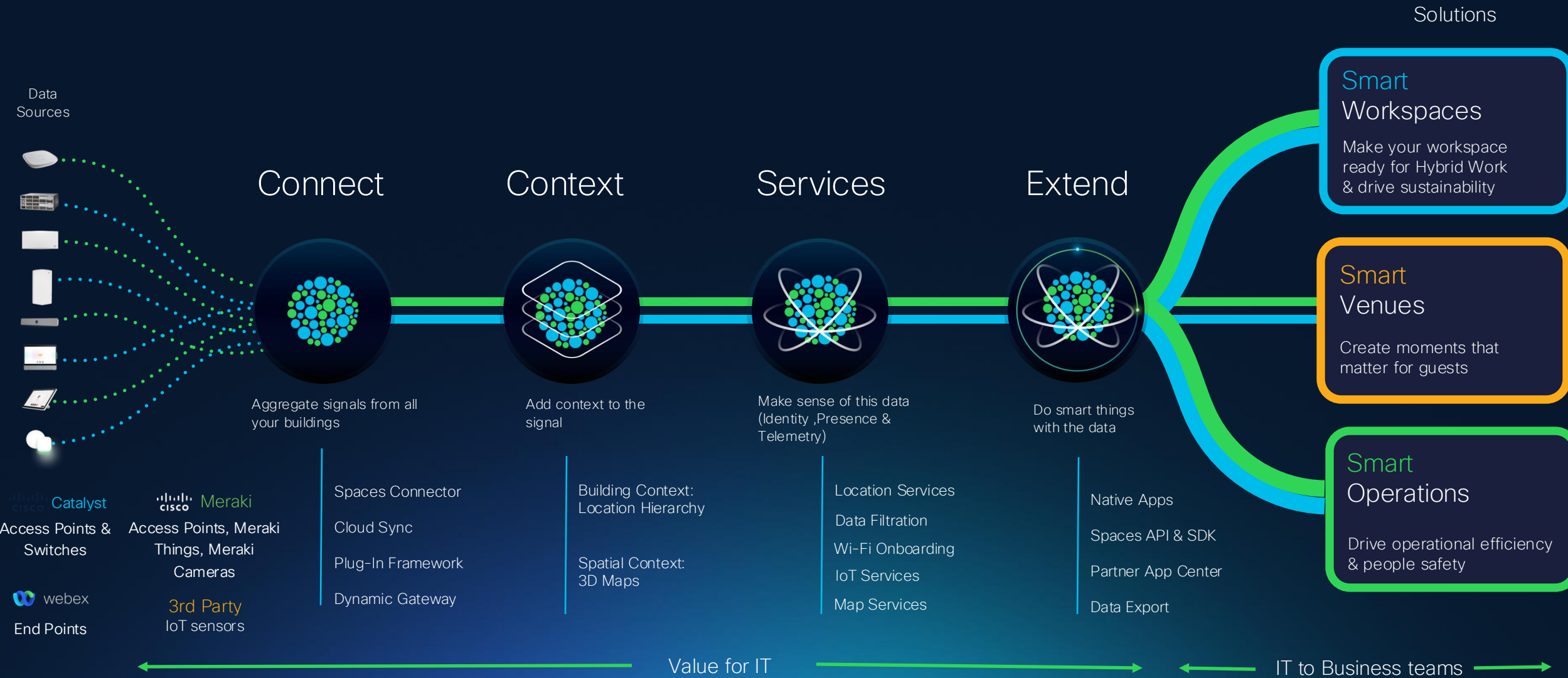
# Unified Data Layer



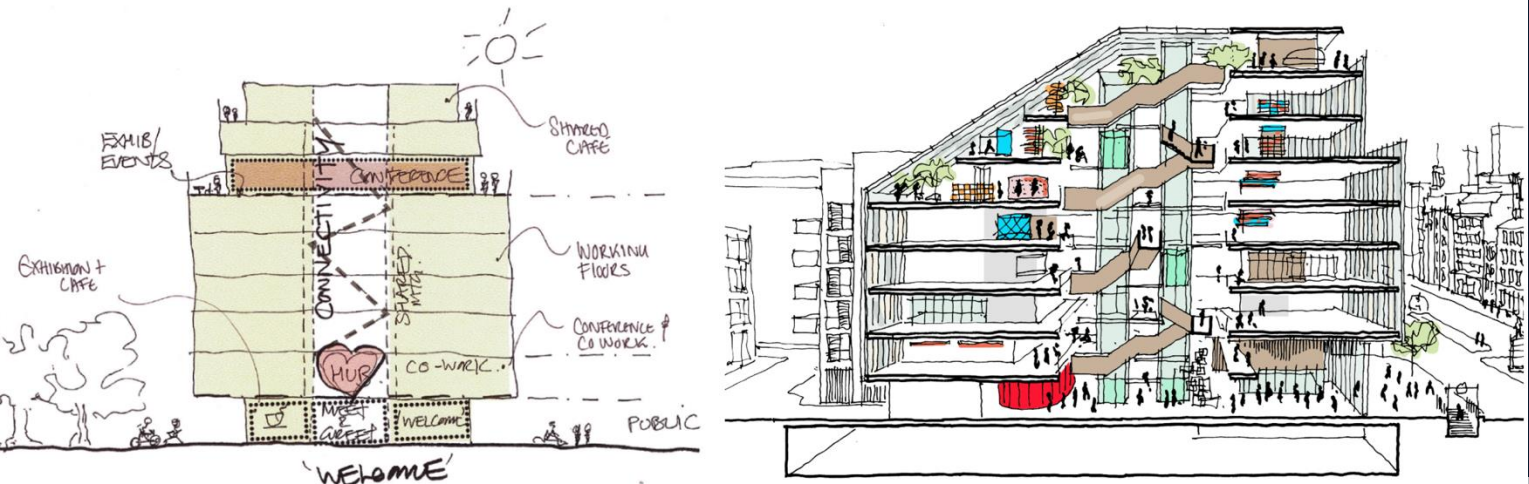
# Solutions data with Cisco Spaces



# Insightful **Data Driven** Intelligent Office space



# 150 Holborn



Client, Architect,  
Consultant and Occupier

MEP Engineering OT  
& BMS Partner

Secure CNS  
Systems Integrator

Data Visualisation &  
Digital Consulting

Secure, Converged  
Connectivity Platform





## ATL TECH SQUARE

GROSS FT<sup>2</sup>  
**62k**

USABLE FT<sup>2</sup>  
**49k**

KEY DATES

**2019** CODA BUILDING BUILT

OCT **2021** PROJECT START

FEB **2023** PHASE 1 COMPLETION

KEY PARTNERS

**Georgia Tech.** OWNER

**WT** GENERAL CONTRACTOR

**CALLISON RTKL** ARCHITECT

**FAITHFUL+GOULD** PROJECT MANAGER

**DBS** TECHNOLOGY DESIGN & INSTALL

**EOS** IT SOLUTIONS

FURNITURE

**office revolution**  
Primary interiors / furniture partner

**SALAMANDER DESIGNS**  
Infiniti Table, Mobile Carts, Credenzas

**teknion**  
PoE Desks

EMPLOYEE DEMOGRAPHICS

**~1.1k** METRO ATLANTA

**+700** NEW HIRES OVER NEXT FIVE YEARS

### SUPPORT HYBRID WORK

#### SPACE BREAKDOWN

|                             |             |                                       |
|-----------------------------|-------------|---------------------------------------|
| HOT DESKS + TOUCHDOWNS      | <b>87</b>   | <b>10%</b>                            |
| COLLABORATION SEATING       | <b>~450</b> | <b>55%</b>                            |
| FLEX SEATING                | <b>~270</b> | <b>35%</b>                            |
| TOTAL SEATS                 | <b>~800</b> |                                       |
| VIDEO ENABLED COLLAB SPACES | <b>115</b>  | <b>80%</b> AD HOC <b>20%</b> BOOKABLE |
| VIDEO ENABLED HOT DESKS     | <b>74</b>   | <b>100%</b> <b>0%</b>                 |
| # PERSONAL OFFICES          | <b>X</b>    |                                       |
| COLLAB SPACES VIDEO ENABLED | <b>100%</b> |                                       |

### CORPORATE SUSTAINABILITY

CISCO NET ZERO GOAL BY YEAR **2040**

BASE ARCHITECTURE (lighting, shading, environmental controls, IoT Sensors) **100% PoE**

**REDUCED EMBODIED CARBON** **CO<sub>2</sub> FOOTPRINT**

**SUSTAINABLY SOURCED MATERIALS**

**RE-USED FURNITURE 20%**

**RECYCLING/ WASTE ELIMINATION**

**PAPER-LESS OFFICE / CLEAN DESK POLICY**

**U.S. GREEN BUILDING COUNCIL LEED PLATINUM USGBC** \*in progress

### EMPLOYEE HEALTH & WELLNESS

**MAXIMIZE NATURAL DAYLIGHT**

**THERMAL COMFORT**

**MEASURE & DISPLAY AIR QUALITY**

**HEALTHY SNACKS**

**LIVING WALL & NATIVE PLANTS**

**SIT / STAND DESKS**

**REFLECTION & GAME ROOMS, OUTDOOR PATIO**

**DIGITAL SIGNAGE & ALERTS (APPSPACE)**

**WELL PLATINUM** \*in progress

**756 West Peachtree Street Nort...** Very Walkable

**Walk Score 89**

**Transit Score 65**

**Bike Score 76**

**Walk Score**

### DIGITIZE CISCO REAL ESTATE

DATA POINTS BEING HARVESTED **~8000**

**CISCO Meraki**  
Floor occupancy (macro floor plate load)

**webex by CISCO**  
People count, Ambient noise, Temp, Humidity, TVOC

**Mecho**  
Shade pocket temperature and light levels

**molex**  
Occupancy, Temp, Humidity, TVOC, CO<sub>2</sub>

**2600 Network Ports** **60% OT / 40% IT** Power Consumption

**64 WiFi Access Points**  
Occupancy, Temp, Humidity, TVOC

**CISCO SPACES**  
Smart Buildings cloud platform to ingest the sensor data

**Thank you**

