



The bridge to possible

# Intelligent Buildings

## Your Adaptable Workspace Design Strategy for the Future

Denise Lee VP Engineering, Sustainability Office

Eric Knipp VP Sales, Solution Engineering

GENGRN-1000

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#CiscoLive

# Pivotal Moment

in the Global Real Estate Market

## CHALLENGES

Post-Pandemic Vacancy

Occupancy Volatility

New Policy and Regulations

Energy and Material Cost Increases

Generational Shift in Social Norms



**76%**

of employees  
would quit if  
flexible/hybrid  
work ends

Tech.co

**89%**

of companies have  
sustainability as a  
strategic initiative,  
yet only 19%  
have a plan

JLL

# Generational Shift in Workplace Expectations

31%

LEED certified buildings can drive higher rents while these green environments can attract talent and foster return to office



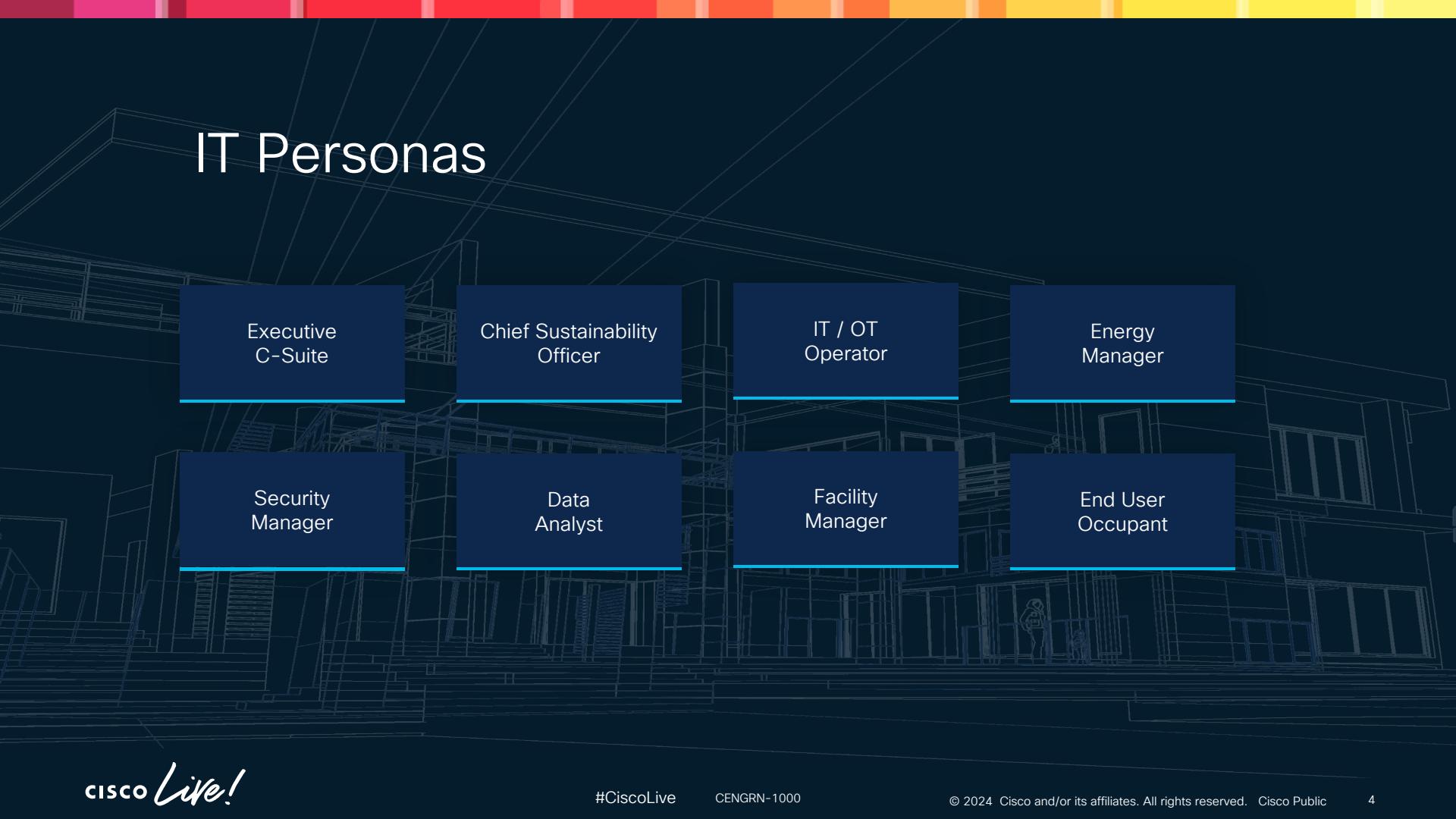
75%

of millennials and Gen Z make up the current workforce



40%

of millennials accepted a job offer because that company was perceived to be environmentally sustainable



# IT Personas

Executive  
C-Suite

Chief Sustainability  
Officer

IT / OT  
Operator

Energy  
Manager

Security  
Manager

Data  
Analyst

Facility  
Manager

End User  
Occupant

# Cisco in Smart Buildings

## Top Priorities for Businesses

### Sustainable

Energy efficient, carbon reducing designs that create an agile environment, with 90W PoE technology built in as the 4<sup>th</sup> utility



### Convergence

Eliminating siloed networks; powering, connecting and securing the building and simplifying design and operations



### Future of Work

Enable flexible workspaces, hoteling and hot desking with space utilization and insights to enable employees to use as desired



# Sustainability Starts with Energy Management

## Smart Environment Automation

Use real-time insights of energy consumption to identify patterns, peak usage times, and areas of high energy consumption

## Smart Space Utilization

Unlock occupancy insights and asset management features to inform and automate HVAC and lighting systems

## Carbon Footprint

Measure and track the building's carbon footprint to support sustainability goals and ensure compliance standards and regulations

## Operational Costs

Track and analyze operational costs, including energy costs, maintenance expenses, and other operational expenditures

**Generative AI is making tremendous strides in this area.**

It can help make use of this data in ways that modernize processes through automation, provide valuable IT/OT insights, and improve occupant experiences

# Improving Energy and Resource Efficiency



## Consolidate data and power networks

Consolidate data and power networks by deploying 90W PoE architecture in place of AC power

Reduce carbon from steel and copper wiring and improve energy conversion efficiency



Simple cabling, less materials and cost



On par with AC in overall energy efficiency



More efficient with renewable energy



Granular visibility and control



Large and growing ecosystem

# The Network is the Foundation

## Building Foundation & Compliance

- Energy Efficient Design in OT Networks
- 4<sup>th</sup> Utility

## Safety & Security

- Trusted Workplace
- Devices & Systems



## Automation & Optimization

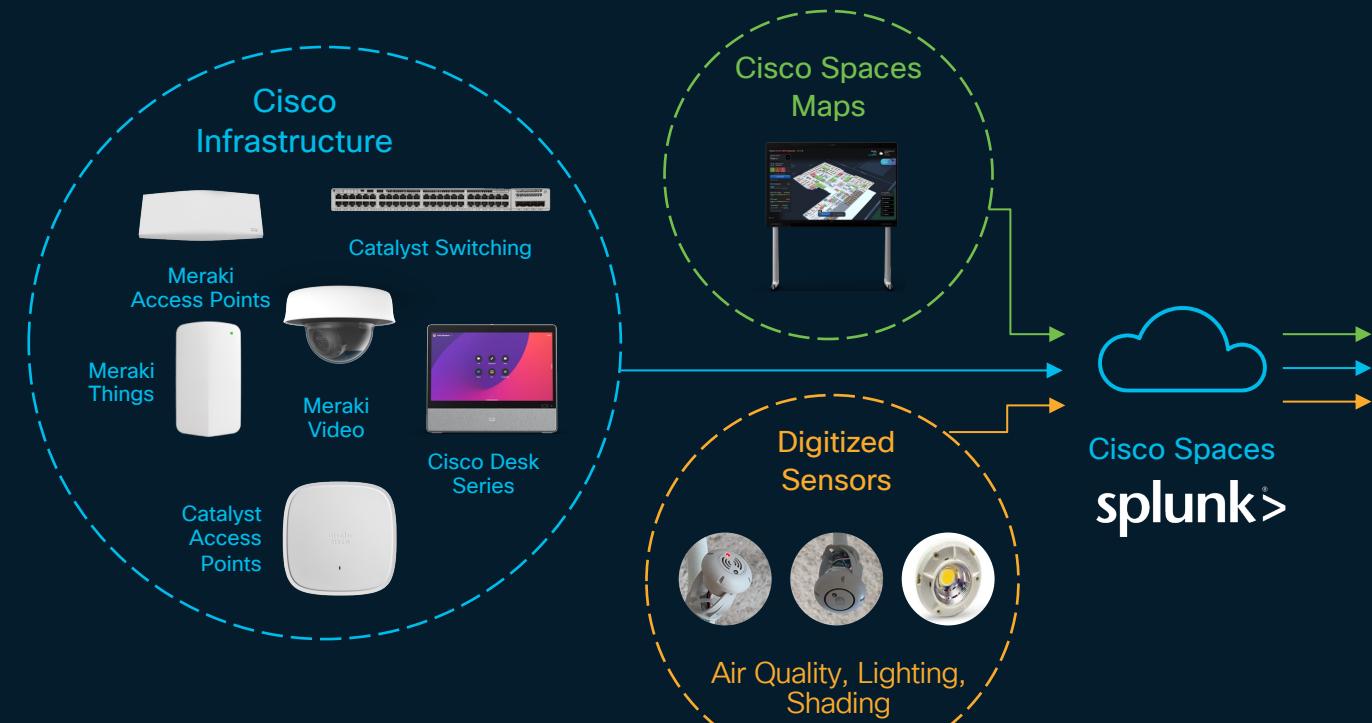
- Asset Tracking
- Environmental Monitoring
- Energy Savings
- Floor Connectivity

## User Experience

- Meeting Room Experience
- Contactless Engagements
- Space & Desk Utilization

# IT Data Journey

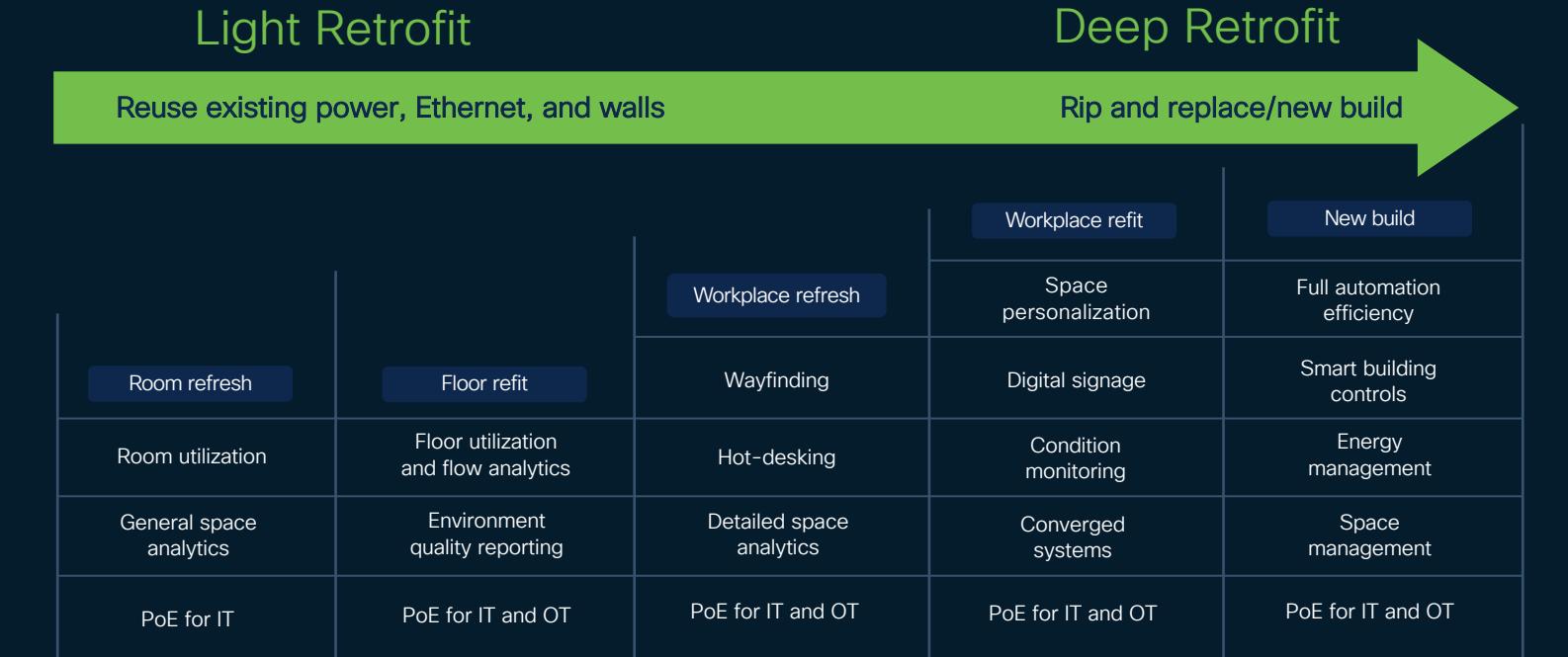
## Your network becomes a **sensor**



### Sustainable Outcomes

- Space Optimization
- Energy Savings
- Health + Wellness
- Security Analytics
- Enhanced User Experience
- Net Zero Goals

# Smart Build Journey



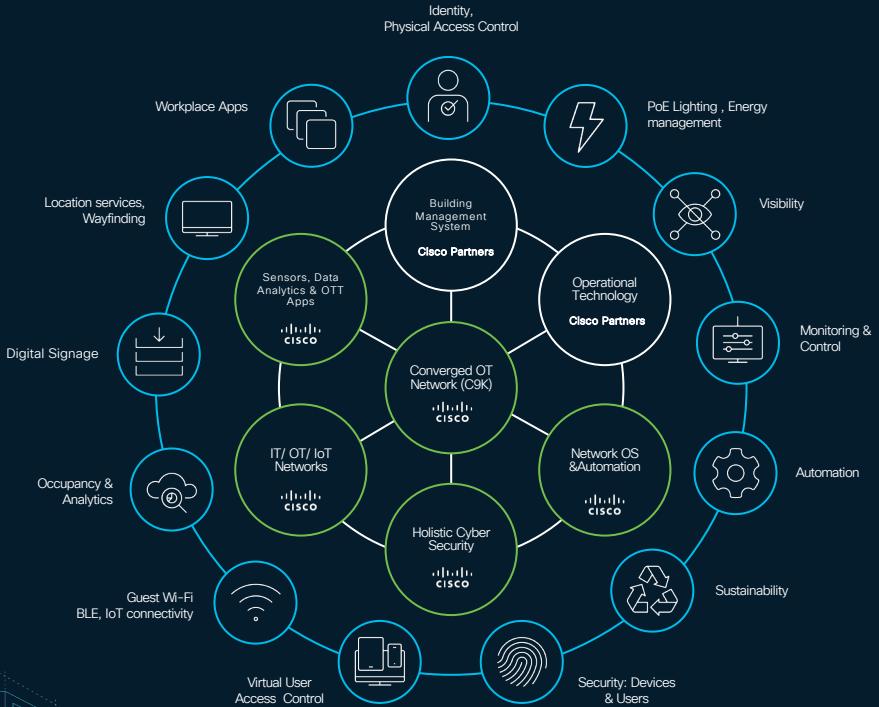
Technology decisions will need to be made at each stage

# Key Considerations



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 Adoption	✓			✓	✓
Low Voltage Connected Desk	✓		✓	✓	✓
Flexible Technology Swap Out	✓			✓	✓

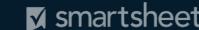
# An Ecosystem Built On Delivering Sustainable Outcomes



# Larger Ecosystem of Partnerships and Integrations for Smart Buildings



Ease  
Attendance



# Smart Building Success Story | Paris Office

Building Origin 1820

70% collaborative spaces

WELL Gold/Platinum rated

70 bicycle spaces reduced parking needs

81% reduction in lab footprint

Real time air quality & space utilization

1500m2 of gardens and terraces

# Smart Building Success Story | Atlanta Office

Phase 1 Completion

62,000 sustainably designed space

8000~ optimized data points analyzed

800~ low voltage sit-stand desks

100% Power-over-Ethernet

Real time air quality & space utilization

LEED & WELL Platinum rated

# Smart Building Success Story | Penn 1

## Annual Figures

27,000 KWh less power

11 million tonnes CO2e reduced

35.6% savings in energy usage

100% Power-over-Ethernet

Real time air quality & space utilization

LEED & WELL Platinum rated



# Expanding The Ecosystem with Cities

## Canary Wharf



## National Landing

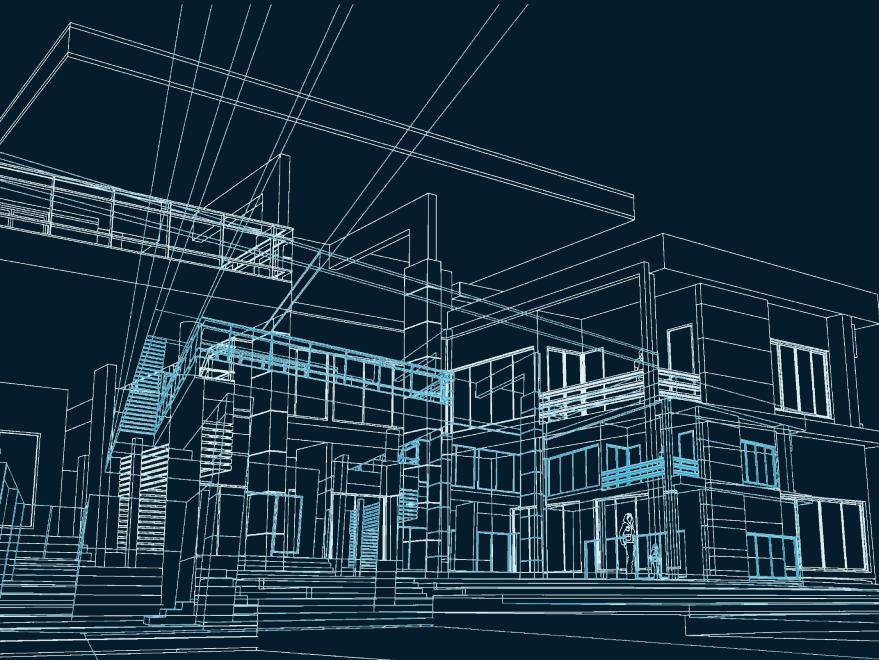


- 9 million SF multi-use space | 5G WI-FI 6
- 1,100 residential dwellings
- Retail, restaurants, hotels
- Natural living environments, parks
- Financial center, tenant / owner office space

- 12.3 million SF of office space
- 16,700 residential units
- 5,500 hotel rooms and 3 million SF of retail space
- Multitude of technology and defense demand drivers including the Pentagon and Amazon HQ2
- Vibrant transit oriented live-work-play environment

# Evolution of Buildings

## From Smart to Intelligent



### Predictive Automation

Rich telemetry data combined with AI models allow IT operators to predict equipment maintenance, utility and amenity demands, enabling automation to improve both tenant experience and operational efficiency.

### Grid-Interactive

Local energy generation and storage, as well as load shedding and load shifting capabilities enable buildings to reduce grid draw or even feed the grid during peak demand hours.

### Adaptable

Open data format and communication protocols, along with flexible infrastructure support extending the building's capabilities with cutting edge technology.

### Secure

Ever-expanding data-sets and interconnectivity require cyber and physical security to be included from the design phase, not as an afterthought.

# The Power of PoE

Cisco is a leader in PoE innovation for over twenty years

By deploying 90W Power over Ethernet (PoE) through the Cisco Catalyst portfolio, organizations can consolidate power and data networks, reduce embodied carbon from the use of steel conduits and copper wiring and improve energy conversion efficiency.



Simple Cabling, Less Materials and Cost



On Par with AC in Overall Energy Efficiency



More Efficient with Renewable Energy



Granular Visibility and Control



Large and Growing Eco System

# Evolution of Energy Networking

Creating networks that connect and distribute energy more simply, safely, and sustainably.



**AC power**  
Alternating current



**DC power**  
Direct current



**FMP power**  
Fault Managed Power

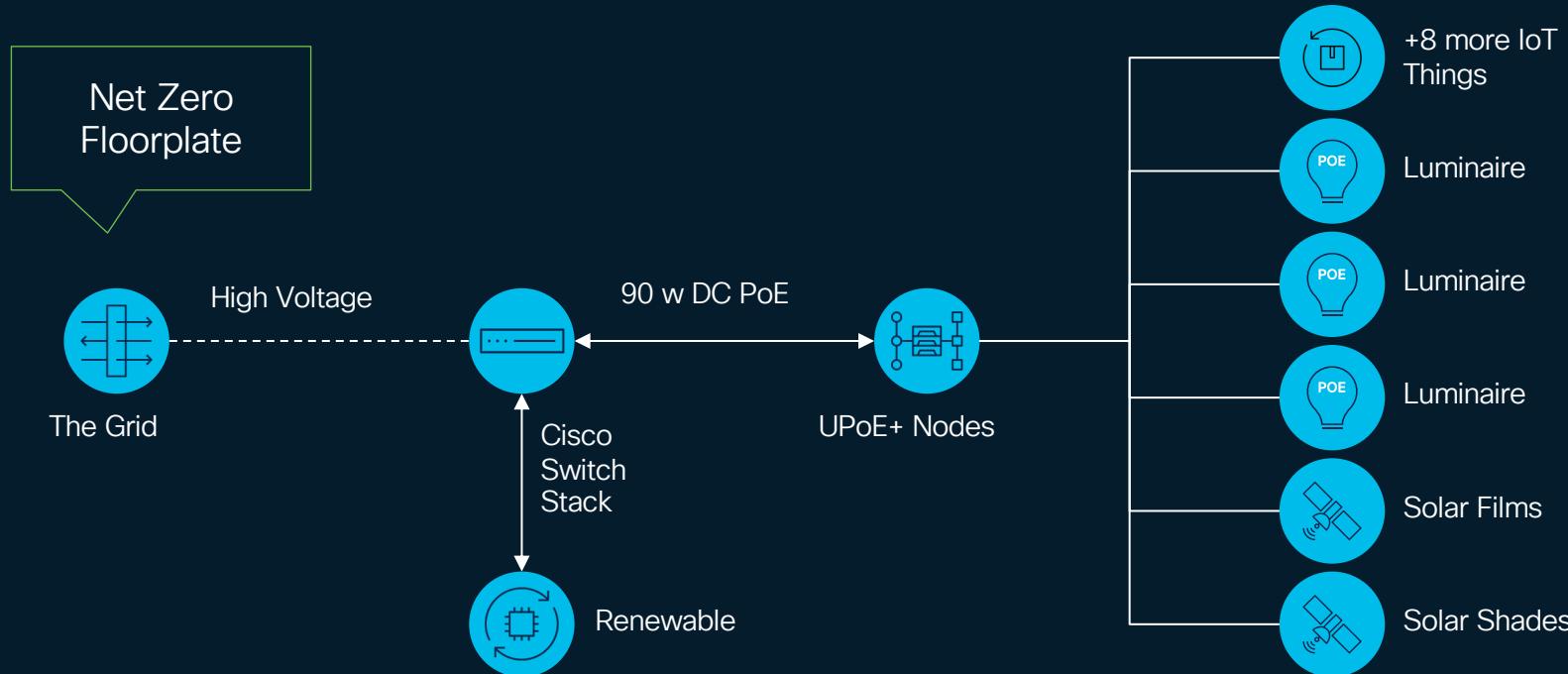
AC power systems

90W PoE

380V DC

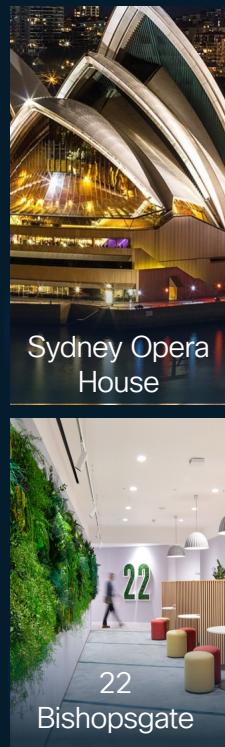
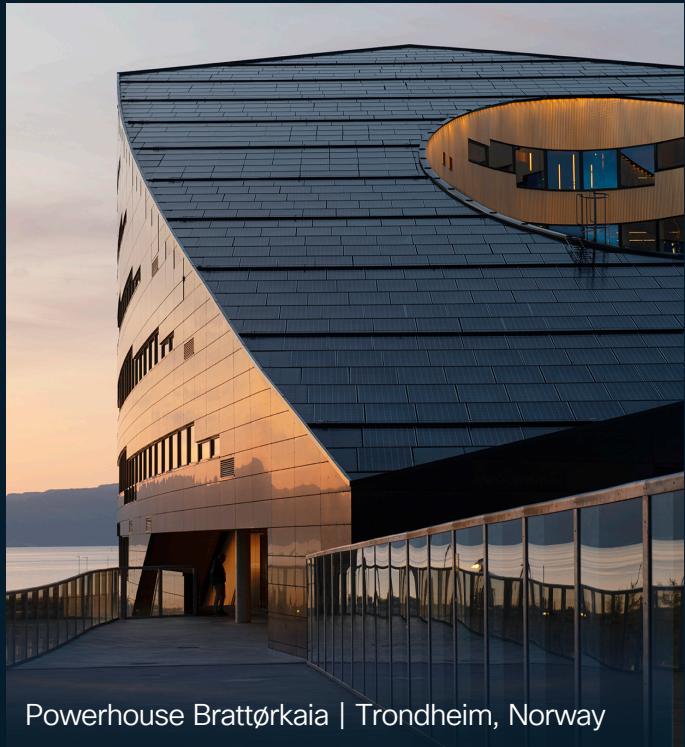
Class 4 FMP 380V

# DC Microgrid Long-Term Vision for Buildings



# A Glimpse of the Future

From Smart to Intelligent



From 2022 to 2026  
the number of smart  
buildings is expected  
to **jump over 155%**  
from 45M to 115M

Jupiter Research

# Beyond Green to Regenerative

## Embracing the future

There is a demand to work in sustainable buildings with energy efficient spaces, powered by renewable energy, circular consumption, and reduction of waste.

The shift towards multi-purpose real estate, combining commercial, residential, and industrial uses will continue to increase.

This will lead to the creation of smart cities and even larger ecosystems that are part of communities designed to blend seamlessly with nature.

# Getting Started

1.

Define Your Goals and Objectives

2.

Assemble a Qualified Team

3.

Conduct a Needs Analysis

4.

Choose the Right Technologies

5.

Integrate Sustainable Systems

6.

Automate Energy Management

# Learn More | Smart Building Resources



Sustainable  
CTO Report



Intelligent  
Buildings



Smart Building  
VR Experience



Hybrid Work  
Design Guides

# Learn More | Cisco Resources



Sustainable  
Solutions eBook



IDC CIO  
Whitepaper



Data Center  
VR Experience



Cisco 2023  
Purpose Report



The bridge to possible

# Thank you

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# Cisco Webex App

## Questions?

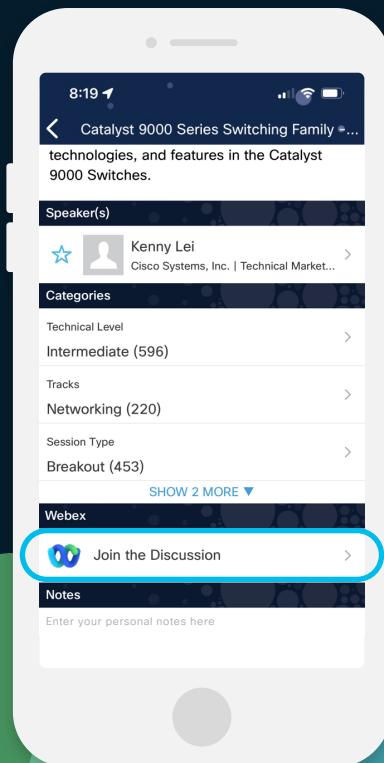
Use Cisco Webex App to chat with the speaker after the session

## How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 7, 2024.

[https://ciscolive.ciscoevents.com/  
ciscolivebot/#CENGRN-1000](https://ciscolive.ciscoevents.com/ciscolivebot/#CENGRN-1000)



# Complete Your Session Evaluations



Complete a minimum of 4 session surveys and the Overall Event Survey to be entered in a drawing to **win 1 of 5 full conference passes** to Cisco Live 2025.

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**Earn 100 points** per survey completed and compete on the Cisco Live Challenge leaderboard.

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Level up and earn **exclusive prizes!**

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Complete your surveys in the **Cisco Live mobile app**.

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- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at [www.CiscoLive.com/on-demand](http://www.CiscoLive.com/on-demand)