



# IT and Sustainability

## *Sustainability at Cisco*

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*Director, Sustainable Solutions EMEA*

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23 Gennaio 2024



It Started 7000 Years Ago



There is  
NO Planet B





# What We Need Right Now ...



Data



Metrics



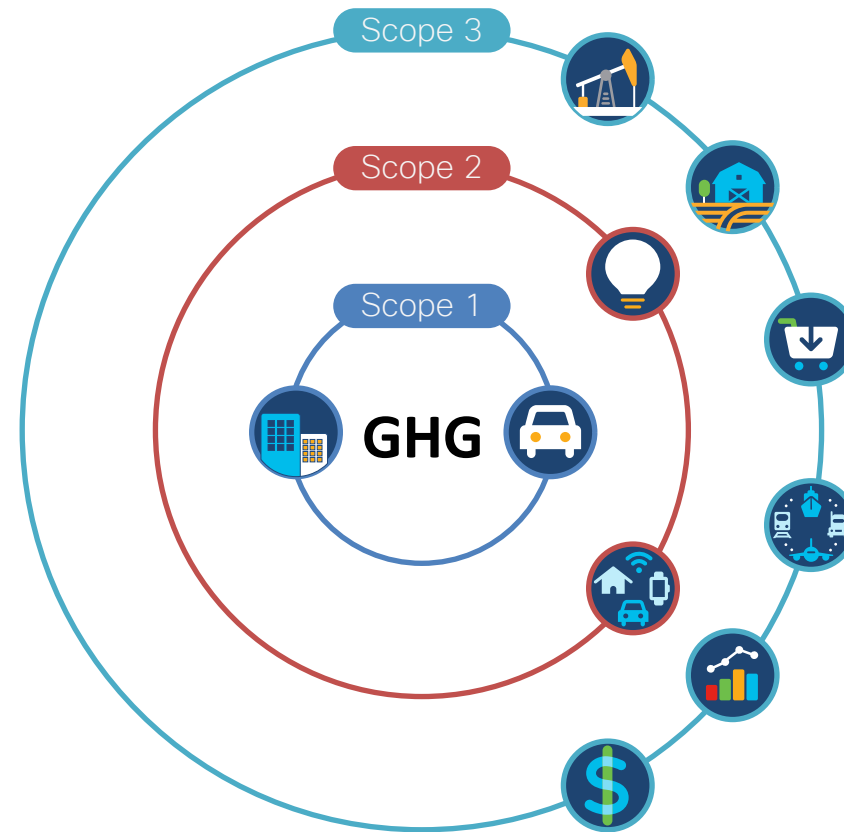
Sustainable Goals



# Good News: We Have Goals



# Good News: We Have Metrics



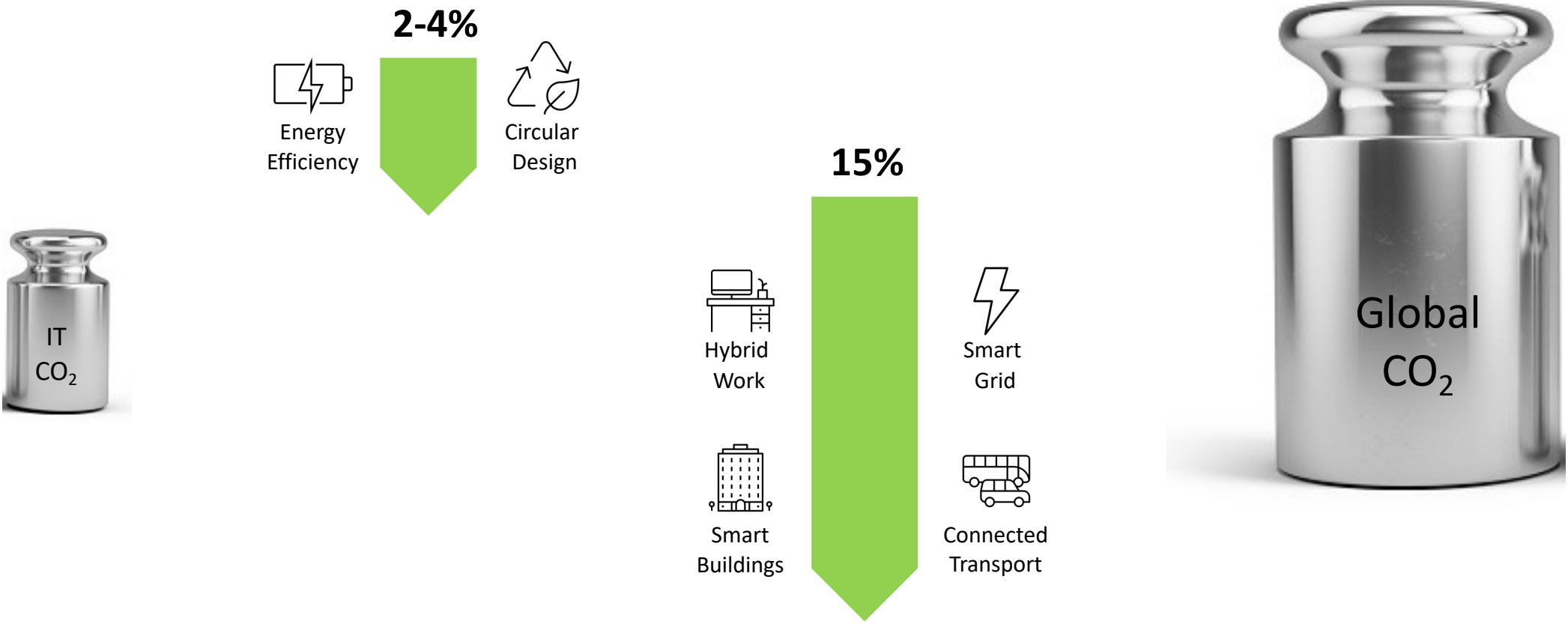


# Good News: We Have Data





# IT Plays a Bigger Role Than You Might Think





# Why do We Have to Act Now?



**Rapidly developing**  
stakeholder demands &  
regulatory landscape



**85% of top 100 EMEA**  
companies have committed  
to or have Net Zero  
ambitions



**Majority of RFPs** have ESG  
requirements

The Sustainability Movement



## Sustainability at Cisco



# Power an inclusive future for all

Information and communication technologies (ICT) solutions offer the potential to suppress as much as **15%** of greenhouse gas (GHG) emissions by 2030 according to analysis from the Exponential Climate Action Roadmap\*



SCIENCE  
BASED  
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Set goal to  
reach net zero  
GHG emissions by  
**2040**



EUROPEAN GREEN  
DIGITAL COALITION

Proud member of  
European Green  
Digital Coalition



DISCLOSURE INSIGHT ACTION

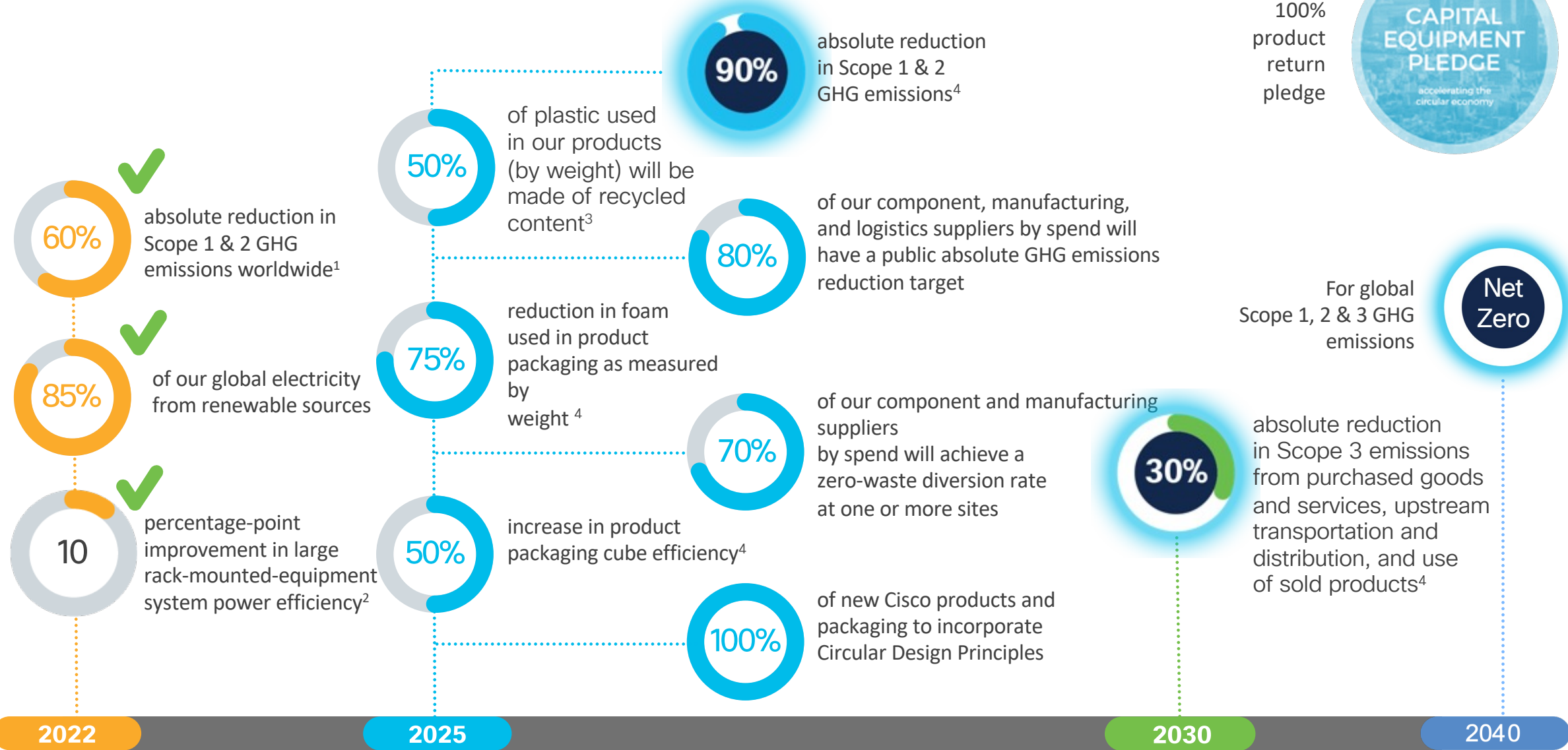
2022 Climate  
Change A List

  
**CISCO**  
Foundation

Cisco Foundation  
investing **\$100M** in  
climate solutions



# Cisco's Public Sustainability Goals



<sup>1</sup> FY07 base year  
<sup>2</sup> FY16 base year

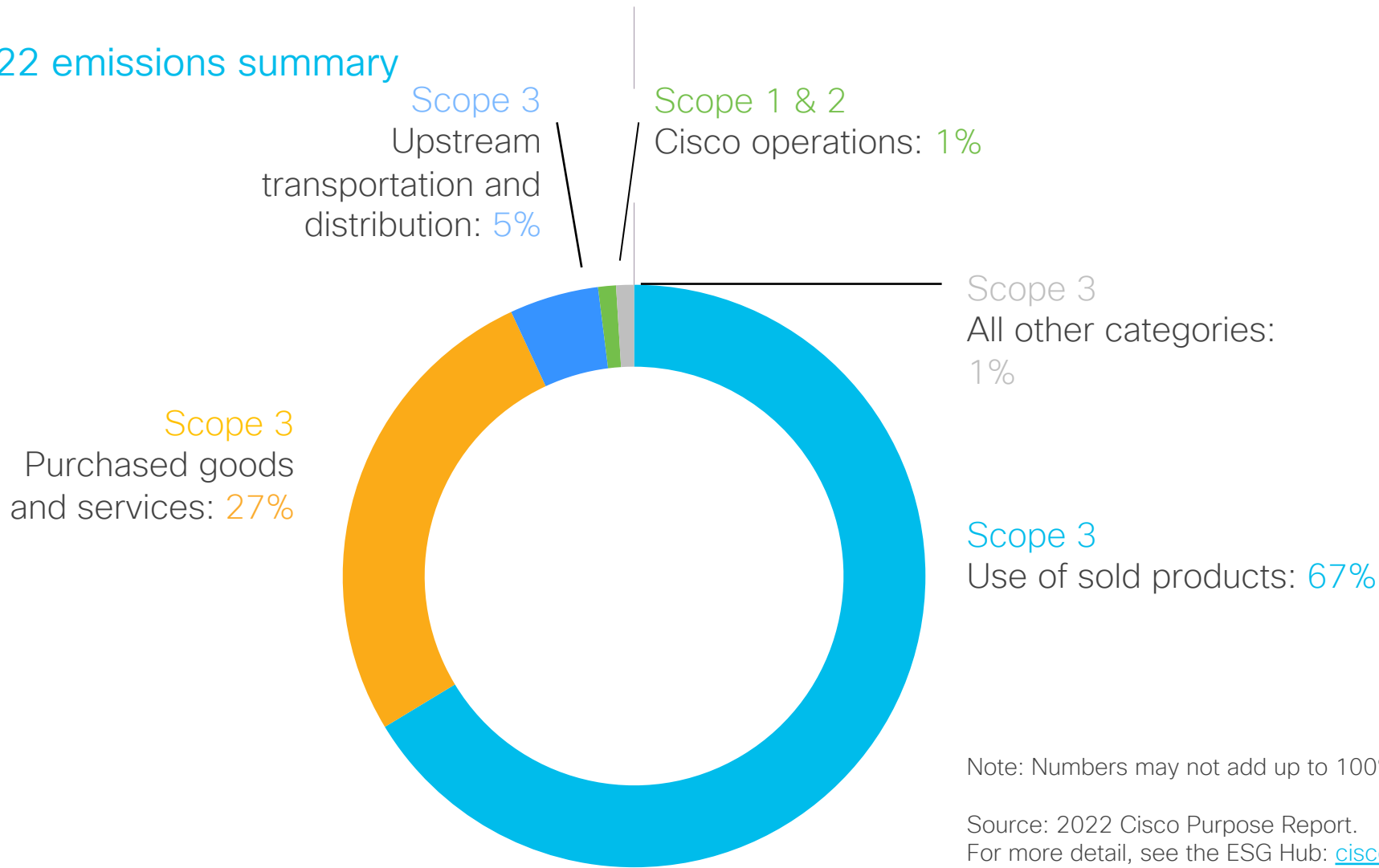
<sup>3</sup> Excluding those plastics contained in commodity components sourced from suppliers (e.g., plastic screws, fans, and cables)

<sup>4</sup> FY19 base year



# Cisco's Scope 1, 2 and 3 emissions

## Fiscal year 2022 emissions summary



Note: Numbers may not add up to 100% due to rounding.

Source: 2022 Cisco Purpose Report.  
For more detail, see the ESG Hub: [cisco.com/go/esg-hub](https://cisco.com/go/esg-hub)





# Net zero success factors



## Sustainability commitment

Sustainability has been a priority since Cisco set its first GHG emissions reduction goal in 2006 and we are helping customers on their sustainability journey



## Solutions

Cisco delivers end-to-end architecture to accelerate your journey towards creating and achieving sustainability goals

- Smart Buildings
- Data Centers
- Industry Solutions
- Energy Management



## Technologies

Build IT and OT infrastructures with products designed for efficiency, circularity, and intelligent software automation

- Software
- Cloud-managed Sustainability
- Silicon One/ASICs
- IoT and Meraki Sensors
- RON



## Lifecycle management

Through hardware-as-a-service or product return, reuse and recycle programs, Cisco offers customers choice in how they manage their equipment lifecycle



## Partner ecosystem

Cisco's commitment to sustainability extends to our valued Partners with specific programs to support their sustainability goals

# Cisco programs supporting sustainability

## CISCO Refresh

- Certified remanufactured products
- **Can help customers reduce emissions associated with the manufacture of new products**
- Same warranty and support options as new products
- Often ships faster than new equipment
- Available globally in over 70 countries
- Link [here](#)

## CISCO Capital

- Green Pay Program (launched April 2022)
- Cisco Green Pay offers a 5% incentive on Cisco hardware, predictable payments and free product returns
- Financing terms from 3 to 5 years
- **Cisco Takeback included in offer**
- Confirmation of entry of returned equipment into Cisco's circular economy
- Available in select countries worldwide
- Link [here](#)

## CISCO Takeback and reuse

- Cisco provides a free product takeback program upon request for Cisco and selected non-Cisco used equipment
- Helps Cisco and customers achieve their sustainability and circularity goals
- **Cisco reuses or recycles nearly 100% of what is returned to us**
- Increases the stock of refurbished products (Refresh)
- Mobile app available in the US, UK and all European Union countries
- Link [here](#)





## Cisco's Sustainable solutions strategy





# What About Your Journey? Let's Walk it Together





**cisco**  
**You & us!**

Quick results

**CIO**

Scope 1 & 2

Data driven optimization | circular design & lifecycle thinking



Apply Circular Design



Increase efficiency



Cisco Refresh



Hardware as a Service



Take IT Back



Energy Advisory

Medium term

**CSO**

Scope 1 & 2

Plan and implement green solutions for the company



Sustainable data centers



Smart buildings



Energy management



Industry solutions



Internet for the Future



CPAS

Long term

**CEO**

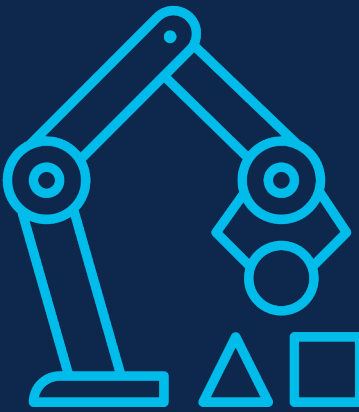
**CX** Cisco  
**Customer Experience**



# Cisco's Circular Design Principles



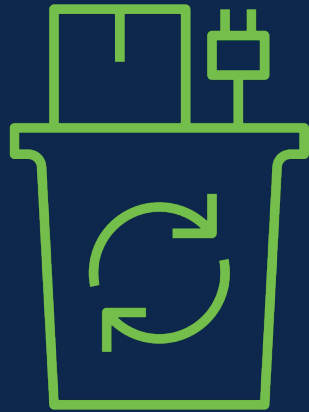
of new Cisco products and packaging incorporate circular design principles by 2025



Material use



Standardize and modularize



Packaging & accessories



Smart energy consumption



Disassembly, repair and reuse



# Cisco Devices are designed with circularity in mind

## Room Bar

Applying circular design principles to support sustainability outcomes.

- Increased use of Post-Consumer Resin (PCR) in plastic parts
- Thinner and lighter form factor, improved shipping efficiency
- Simplified, foam-free, recyclable and 62% lighter packaging
- Easy to disassemble, repair, reuse and recycle
- Smart energy consumption and workspace optimization



# 44%

packaging volume reduction allows significant shipping efficiency and reduced logistics carbon emission\*

# 74+

tons of packaging material expected to be saved per year with lighter, simplified, foam-free, recyclable packaging\*

# 16+

tons of component material expected to be saved per year with simplified, thinner and lighter video bar unit\*

# Large data center migration example



Old Architecture

Nexus 2k, 5k and 7k



New Architecture

Nexus 93XX



2.5 GWh -> 0.7 GWh  
Estimated yearly energy saving

Estimated savings – \$0,7m/y\*



26 -> 10  
Racks consolidation

Estimated savings – \$0,33m/y\*\*

ROI and  
Green Pay  
Value

| HW cost                      | Estimated*** yearly savings | ROI Years | Green Pay annual cost (M) |
|------------------------------|-----------------------------|-----------|---------------------------|
| Est. \$5.7m                  | Est. \$1.04M                | Est. 5.4  | \$1.08M                   |
| "Self-sustainable solutions" |                             |           |                           |

\*0.4€/kWh <https://www.iea.org/reports/electricity-market-report-2023/executive-summary>  
\*\*50€/U <https://www.servermania.com/kb/articles/how-much-does-it-cost-to-put-a-server-in-a-data-center/>  
NUMBERS MAY BE DIFFERENT BASED ON REGION/TIME  
\*\*\*Estimation based on HW typical power usage



**CISCO**  
**You & us!**

Quick results

**CIO**

Scope 1 & 2

Medium term

**CSO**

Scope 1 & 2

Long term

**CEO**

Data driven optimization | circular design & lifecycle thinking



Apply Circular  
Design



Increase  
efficiency



Cisco  
Refresh



Hardware as  
a Service



Take IT  
Back



Energy  
Advisory

Plan and implement green solutions for the company



Sustainable data  
centers



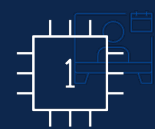
Smart  
buildings



Energy  
management



Industry  
solutions



Internet for  
the Future



SPA



Cisco  
**Customer Experience**





Data centers

# Sustainable data centers

The world is expected to generate **181 zettabytes** (21 zeros!) of data by 2025.

Customers considering a “green refresh” can benefit from greater performance, energy efficiency, and circular economy features such as product takeback programs and modular systems

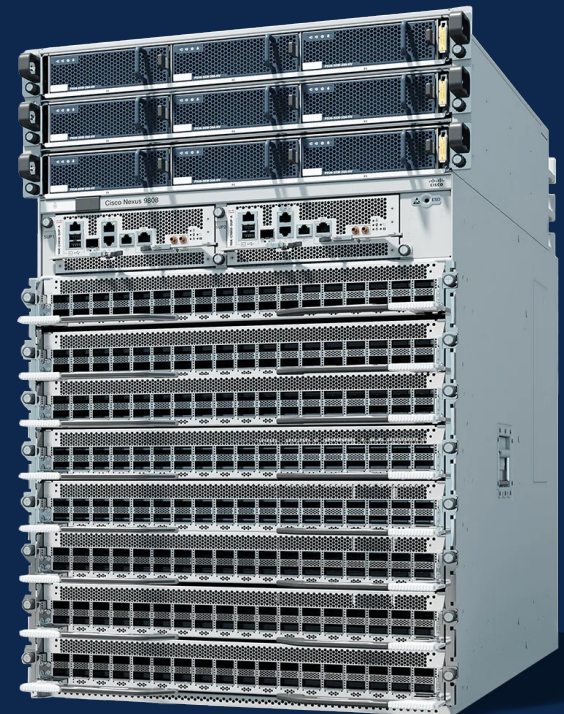




# Foundation for the Sustainable Data Center

Cisco Nexus 9800 Series

Capacity increase from gigabytes per second to terabytes per second with Silicon One



- High Performance
- More performance, smaller footprint
- Powers modern apps and traditional workloads
- Flexible, sustainable, easily upgradeable solution
- ✓ Massive throughput with Silicon One
- ✓ Both fixed and modular systems
- ✓ Enabled through open APIs and protocol
- ✓ Enables less equipment needed to scale higher





# Cisco UCS X-Series

Powered by Cisco Intersight



Industry-first innovation, only from Cisco

Flexible, sustainable, easily upgradeable solution

More performance, smaller footprint

Powers modern apps and traditional workloads

Cisco's most energy-efficient server chassis

✓ Multiple power and cooling configurations

✓ End-to-end 100G networking

✓ Intel 4<sup>th</sup> Gen Scalable Xeon Processor

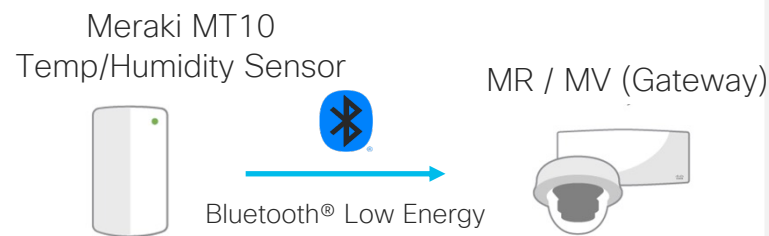
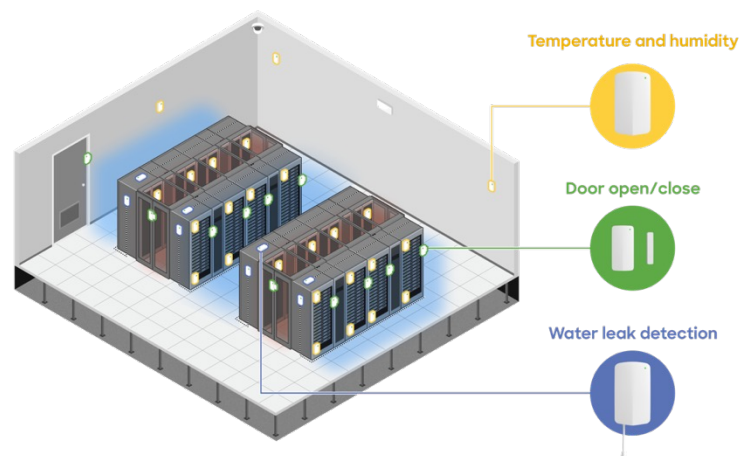
ON THE HORIZON UCS Mini, CXL Chassis



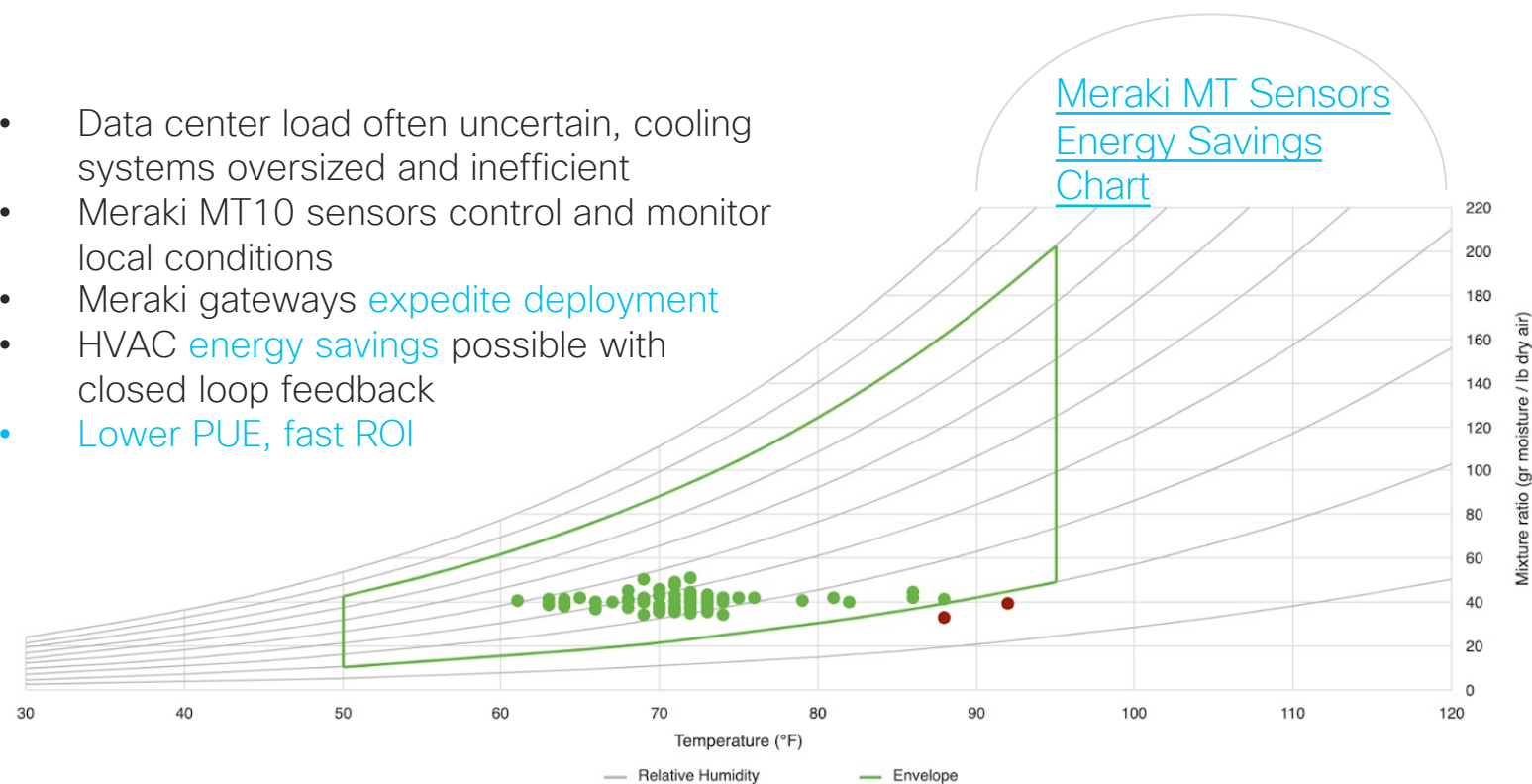


# More Efficient Air Conditioning Enabled by Meraki MT

## Consistent Meraki API for integration into HVAC



- Data center load often uncertain, cooling systems oversized and inefficient
- Meraki MT10 sensors control and monitor local conditions
- Meraki gateways expedite deployment
- HVAC energy savings possible with closed loop feedback
- Lower PUE, fast ROI



Default Settings

All temperature and humidity sensors, A2 [50-95°F, 20%-80% RH]

Conformance: 98% ▶ Non-conformance: 2% ▶



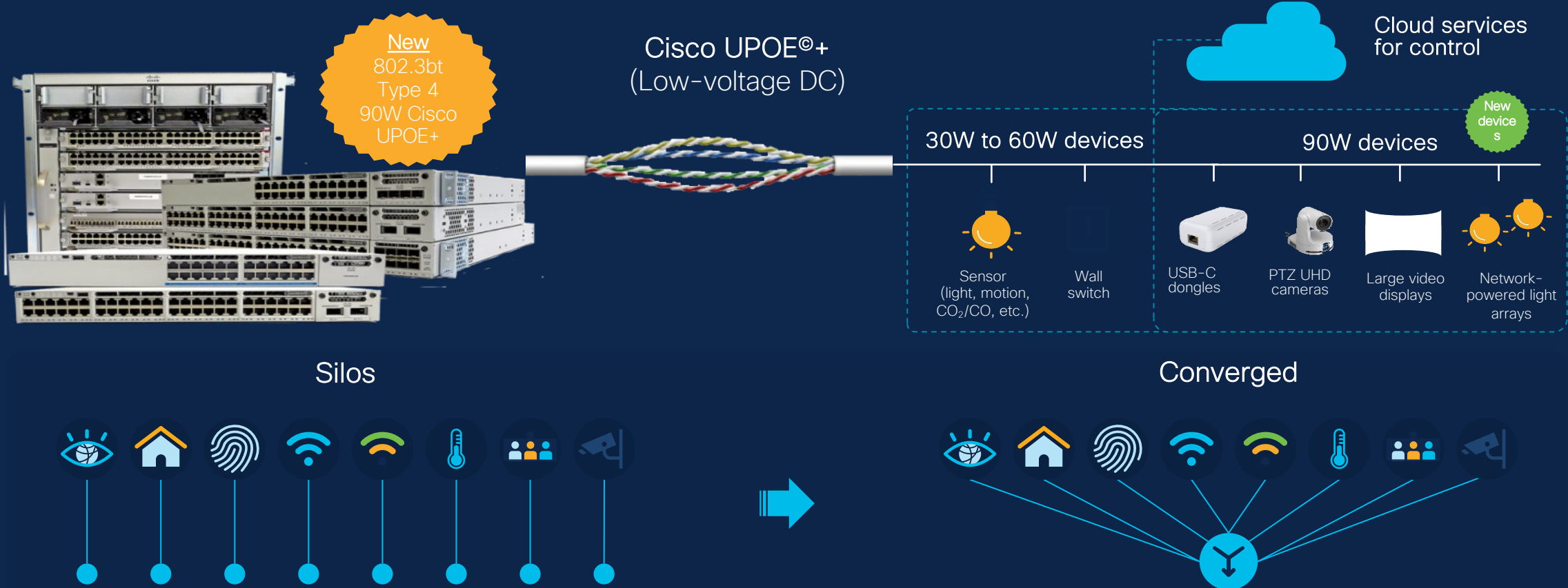
# Smart buildings

**Buildings and construction account for an estimated 37% of global CO<sub>2</sub> emissions\***

Cisco's cross-architecture portfolio, with Cisco Catalyst as the backbone, can help accelerate the workplace transformation in support of today's priorities: hybrid work, sustainability, digital real estate, and employee well-being



# 90W enables greater ROI for IT/OT convergence



End-to-end solution managed by central IT provides lowered costs, intelligent control, new experiences

# Sustainable Design

## Future of Smart Workspaces

- Power Efficiency & Lower Material Costs
- Reduced Heating & Cooling HVAC
- Security & Safety
- Intelligent Experiences

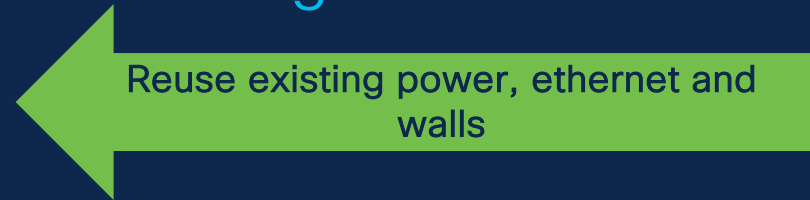
Cisco Spaces provides insights to help reduce energy consumption and increase occupancy utilization in smart buildings





# Where do you start?

## Light retrofit



## Deep retrofit



- Room Refresh
- Room Utilization
- General Space Analytics
- PoE for IT

- Floor Refit
- Floor Utilization & Flow Analytics
- Environment Quality Reporting
- PoE for IT & OT

- Workplace Refresh
- Wayfinding
- Hotdesking
- Detailed Space Analytics
- PoE for IT & OT

- Workplace Refit
- Space Personalization
- Digital Signage
- Condition Monitoring
- Converged Systems
- PoE for IT & OT

- New Build
- Full Automation Efficiency
- Smart Building Controls
- Energy Management
- Space Management
- PoE for IT & OT

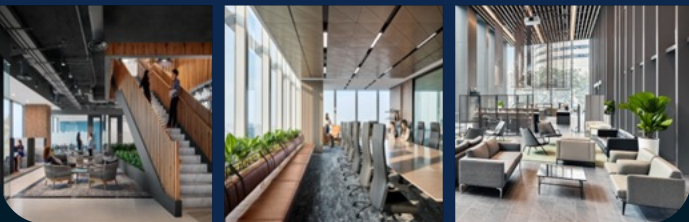
Use case enabled

Technology decisions will need to be made at each stage.



# All Around the World with Smart Buildings

## SINGAPORE Cisco Office



### Retrofit Existing Space

- Leverage existing ports and Wi-Fi
- Upgrade to PoE switching infrastructure
- Add Endpoints: Cisco + Partners
- Maximum real estate utilization

## NEW YORK Penn1

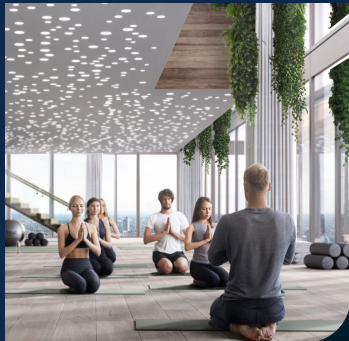


Penn1  
VR Experience

### Tenant Build-Out

- Converge building OT environment
- Reduced power consumption and costs
- Improved user experience
- Data and insights

## LONDON 22 Bishopsgate



### New Build

- Smart BMS, HVAC, CCTV
- Converged IT, OT and energy management
- Visibility & automation drives power efficiency
- Reduce CapEx and OpEx





# Enabling Hybrid Work

Helps Achieve Sustainability Goals

## Work from Anywhere

Collaboration, security, networking, cloud and applications bring ease with every hybrid meeting in the office, at home or anywhere

## Flexibility and Security

Our flexible, integrated approach unites security and networking in the cloud to connect and protect users wherever they work, on any device

## Sustainable Design

Combine IT and IoT from networking to sensors and analytics to build new experiences make your buildings more intelligent and optimized to manage power

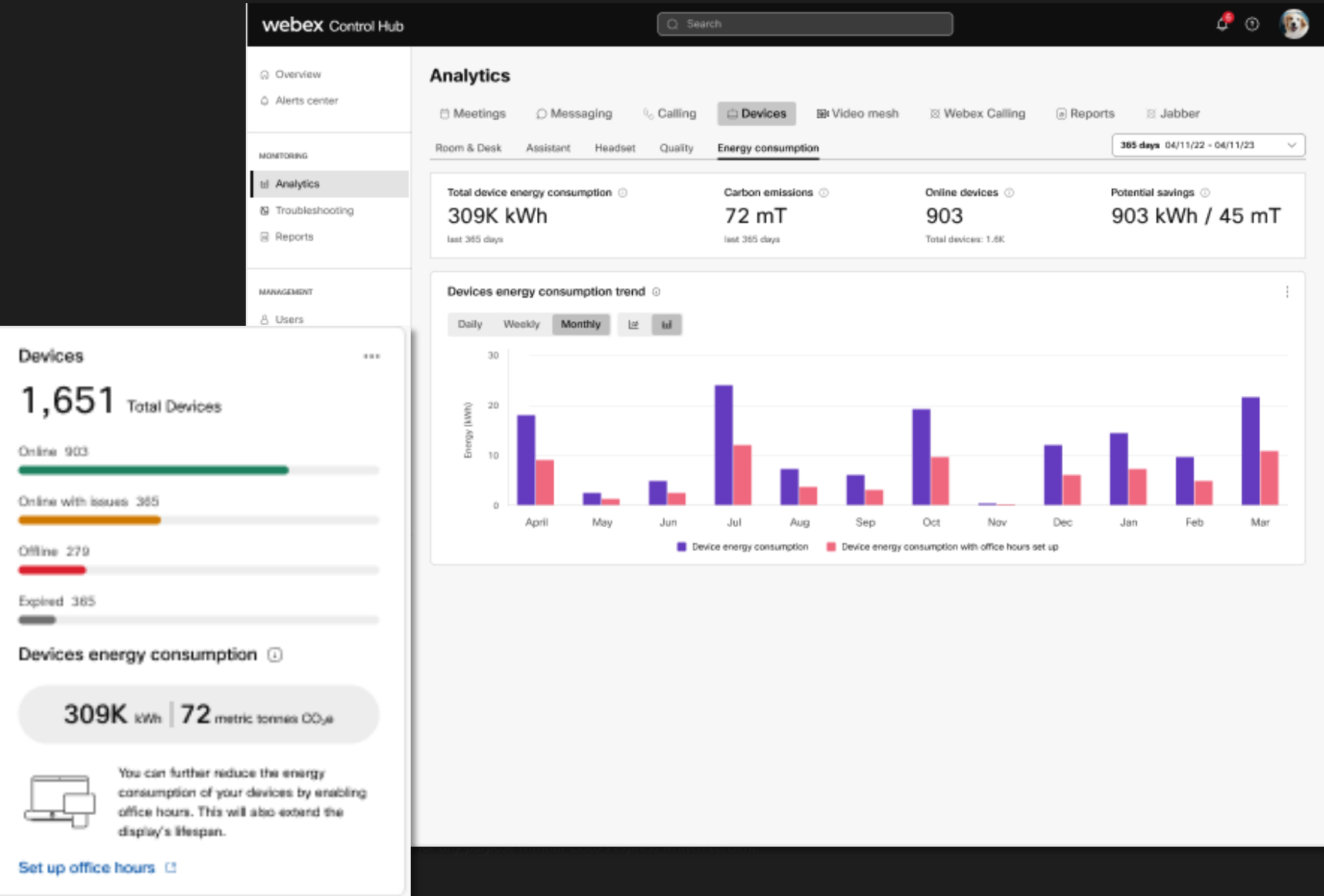


# Cisco Device carbon emission insights dashboard\*

## Energy Consumption & Carbon Emissions Insights\*\*

Optimize energy consumption and have increased visibility on energy use

**Office Hours:** Turn off ‘always on’ digital signage and automatic wake-ups to save on energy



\* The Carbon Emissions Insights in Webex Control Hub is under development and is subject to change. This graphic is illustrative only and does not convey any commitment or guarantee from Cisco. It may not be shared further or used for any purpose without Cisco's express written consent.  
\* \*\*To display carbon emissions (CO<sub>2</sub>e) resulting from energy consumption, the admin will need to provide the carbon emission rate for their electricity source in Control Hub



# Energy management

**You can't control what you can't measure**

The network can help optimize energy consumption, lower costs, minimize carbon footprint, and monitor energy use and energy networking across your organization.





## OUR TRANSFORMATION

- **20% reduction in office space** through our global campus vision.
- Partnering with **16 organisations** to deliver a standardised platform.
- Consolidating **200 data centres down to 8**.
- **71,000 colleagues** moving into at least **54 world-class, net zero campuses** by the end of 2025, powered entirely by renewable electricity.



Paris



Toronto



Brussels



Dusseldorf

## IN PARTNERSHIP WITH CISCO

- Estimated **carbon savings of 86 kilotons** through monitoring – the equivalent of planting **1.5 million trees per annum**.
- **44% cut in cooling energy** and a **27% drop in total energy consumption** for our data centre in Sea Containers House, London, thanks to closer monitoring.
- Estimation that through tools such as Cisco Meraki, WPP IT can reduce its own energy-related emissions by **60%** and help buildings achieve **30% reductions**.





# Industry solutions

**Support sustainability goals through hybrid work, sustainable facilities, and renewable energy**

Integrated sustainable technologies can deliver sustainable solutions for utilities, manufacturing, transportation and more.





# Saving Precious Resources in Manufacturing



**Challenge** No resource usage visibility, unpredictable costs

**Solutions** Connected plant with Real Time visibility

**Outcomes** Saving energy, natural gas and water. GHG overall positive impact



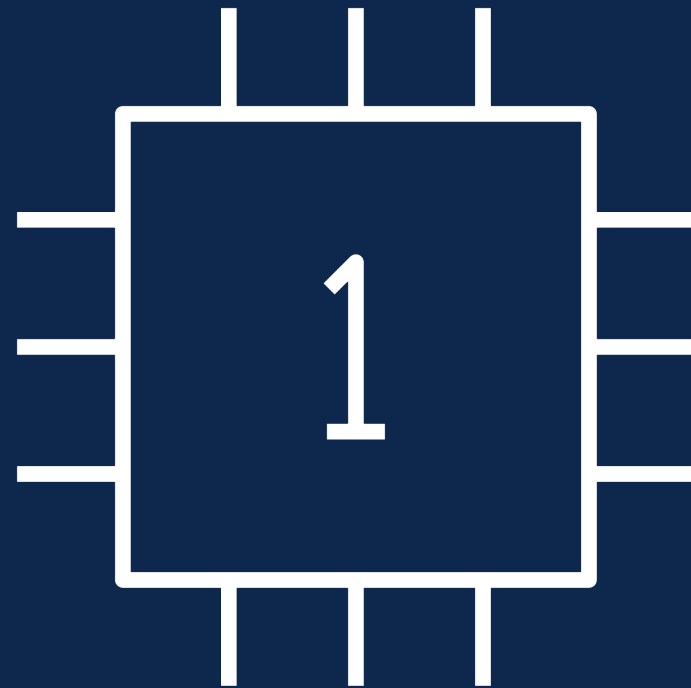


Internet for the Future

# Internet for the Future

**Expand on earlier technology including new silicon, optics and software**

You can reduce the cost of building and expanding your networks while making them more sustainable using Cisco's Routed Optical Networking (RON) architecture





# Internet for the Future

## IP and Optical Convergence Sustainable Architecture

Cisco's Routed Optical Networking (RON) Architecture lowers internet costs by reducing equipment and energy consumption

### Simplify the Network

By merging routing and optical layers onto a single network with end-to-end automation through Cisco 8000 routers and Silicon One

### RON is Cost Reducing

Due to a reduction in energy consumption, cooling, and space requirements

### Routed Optical Networking



Increased optics speed and a small footprint

5x  
Power reduction

70%  
Space reduction



Chip performance  
12-18m innovation cycles

2x  
Power reduction

3%  
Space reduction



Evolution of cloud enhanced applications

2x  
Memory reduction

2X  
Boot time reduction



Built-in layered end-to-end automation

70%  
Less time to operate

46%  
Transport savings



Service Optimized Power

57%  
Opex savings

35%  
Capex savings





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CPAS



Cisco  
Customer Experience





# Be more sustainable with Cisco CX

## CX Advisory Capabilities



Energy  
Optimization  
Assessment Service



Smart Buildings  
Advisory Design  
Services



Sustainability Priority  
Assessment



Industrial  
Digitalization

---

## Technology Enablers



Automation



Sustainability  
Insights



Cloud  
Transformation



Enable energy  
transformation



# New Partner Specialization since April 22

## Environmental Sustainability Specialization



This is a time of tremendous change

The circular economy is expected to unlock \$4.5 trillion of economic value by 2030. By offering new solutions and new ways to use and reuse our technology, together we can help our customers achieve sustainability goals, meet government mandates, and transform their businesses.

[Become a Cisco partner](#)

[Already a partner? Log in](#)

- Access to TakeBack incentive
- Offers incremental discounts of up to 7% on new products registered as part of Takeback Incentive deals on refresh or migration opportunities



**GRAZIE PER L'ATTENZIONE**

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