



The bridge to possible

# 2G/3G is sunseting. Are you prepared?

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PSOIOT - 1202

# 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 until February 24, 2023.





# Agenda

- Introduction
- Customer challenges
- Cisco's unifying solution
- Routing product portfolio
- Customer case study
- Key takeaways

# The heart of your business is the edge

It is everywhere



Manufacturing



Vehicles and fleets



Oil and Gas pipeline



Roads and intersections

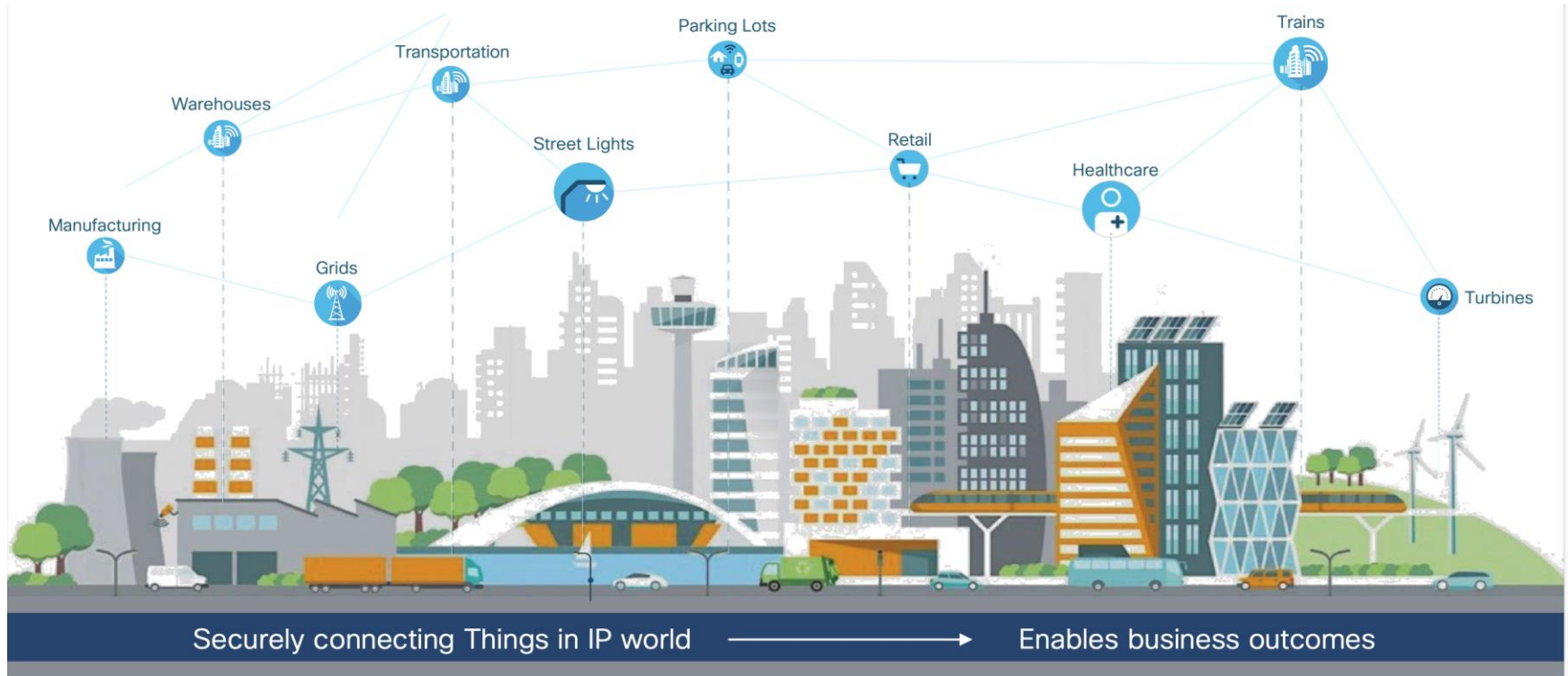


Kiosks and vending machines



Substation

# Infrastructure Expansion for Industrial IoT



# Wireless technologies are key pillars of IoT, *but one size does not fit all*



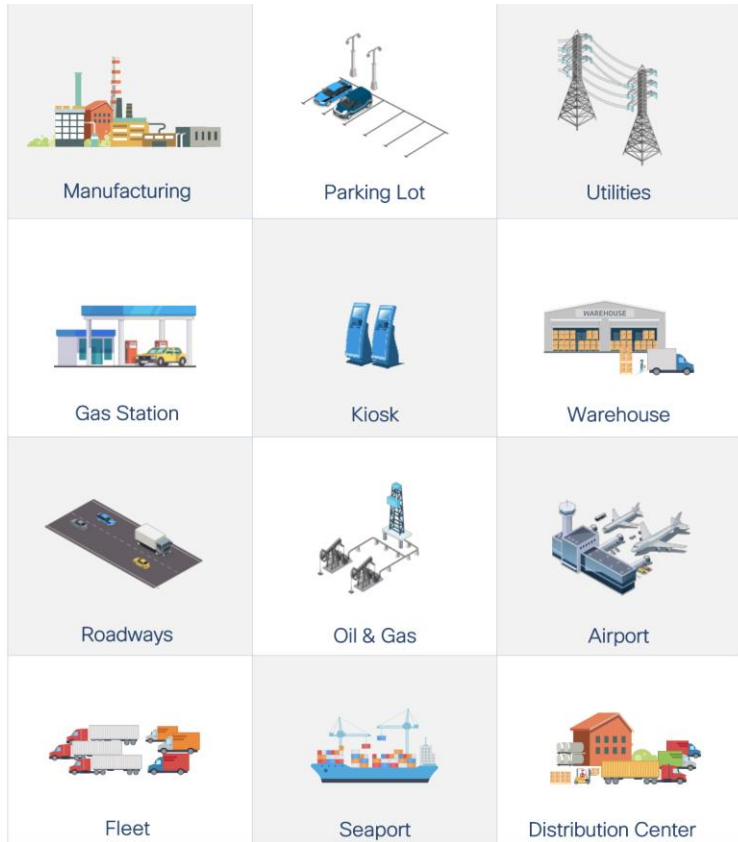
While Ethernet has always been the foundation for wired connectivity in industrial IoT spaces, how to select the appropriate wireless technologies?



Wireless provides the flexibility and agility to upgrade, deploy and reconfigure a network with less operational downtime, while integrating autonomous devices.



As organizations expand their IoT deployments, the need to manage multiple access technologies will grow.



# 2G & 3G services getting shutdown

*Non-exhaustive view*

2020

2030

Modularity of cellular interface is key for easy evolution



2G shutdown



3G shutdown  
Deutsche Telekom  
Vodafone  
Telefonica



2G/3G shutdown  
AT&T  
Sprint  
T-Mobile  
Verizon



3G shutdown  
Telecom Italia  
Vodafone



3G shutdown  
EE  
Vodafone



2025 - 2G/3G shutdown



2025 - Orange 2G shutdown  
2028 - Orange 3G shutdown



2G shutdown  
Vodafone



# Dedicated LTE infrastructure for blackout resiliency



## Power Utilities

Distribution Automation/SCADA



## Public Safety

Police Cars, Boats, Mobile Stations



## Government

Coastal Radio Stations, Maritime Communication



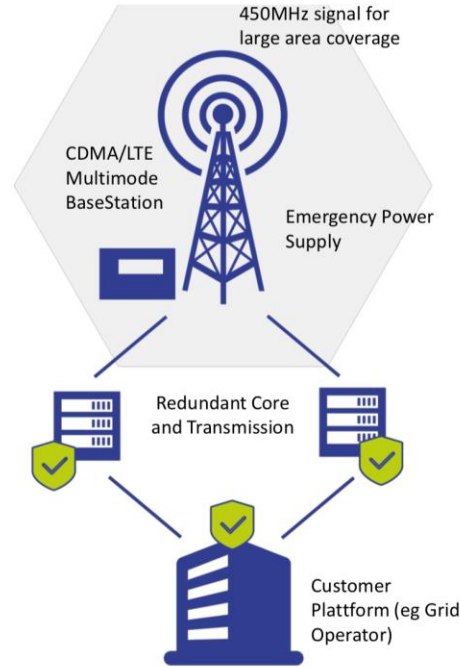


# Why 450MHz LTE in Europe?

Both **CDMA450** and **LTE450** can be applied, optimised for **M2M** communications

**Standardised and proven** mobile communications technologies to achieve high **performance** (capacity, latency, priority handling, scalability)

**Customer control** on lifecycle management by long term commitment on technology standards



Large **coverage** area and deep **indoor penetration**

**Power supply backed up** using batteries and generators to continue services during (major) power outages

**Stand alone network** without public mass market services, allowing for **resilience** and **security**

 450connect

 UTILITYCONNECT

 Net1

 TERACOM

Picture source:



 CISCO Life!

# Legacy solutions don't meet your needs



Multiple networks  
with multiple vendors  
for indoor and outdoor



Limited resources  
to deploy, manage and  
secure



Unable to add new  
processes or technologies  
*5G, Wi-Fi 6, SD-WAN*

Missed insights and blind spots | Increased safety and security risks | Difficult to scale

We have a better way



Catalyst IR1101

Catalyst IR8100



Catalyst IR3300

Catalyst IR1800

# Unite your edge with Cisco's new industrial router portfolio

Improve insights, efficiencies and productivity



Scalable



Flexible



Secure

Everything IT and operations/LOB needs to digitize at scale

# A united solution for IT & operations/LoB

Say hello to the Cisco Catalyst IoT portfolio



Industrial grade

## Purpose built for the Industry

- Built for harsh & outdoor environments
- Industry Use-cases & Certifications
- Industrial protocol support
- Operations security & safety
- Built-in edge compute



Enterprise grade

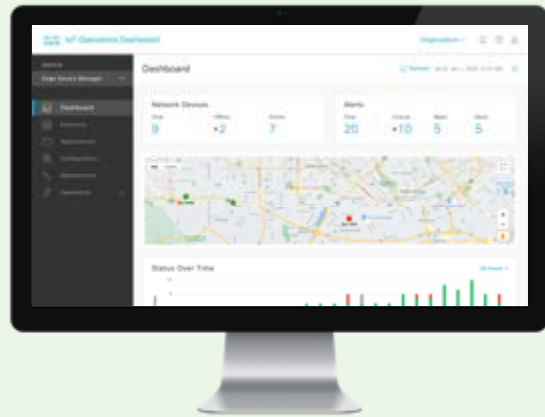
## Leverage your existing knowledge & investments

- One network – extend the corporate IT network
- Same toolset: DNA-C, vManage & IOS-XE
- Industry-leading Cisco security: SecureX & FTD
- Consistent licensing & commercials

# Run connected operations at scale – your way

Choice of tools to meet IT and operations needs

Manage by extending the enterprise network to the industrial edge



Cisco IoT Operations Dashboard  
or Field Network Director

Manage with solutions optimized by use case and operations workflow

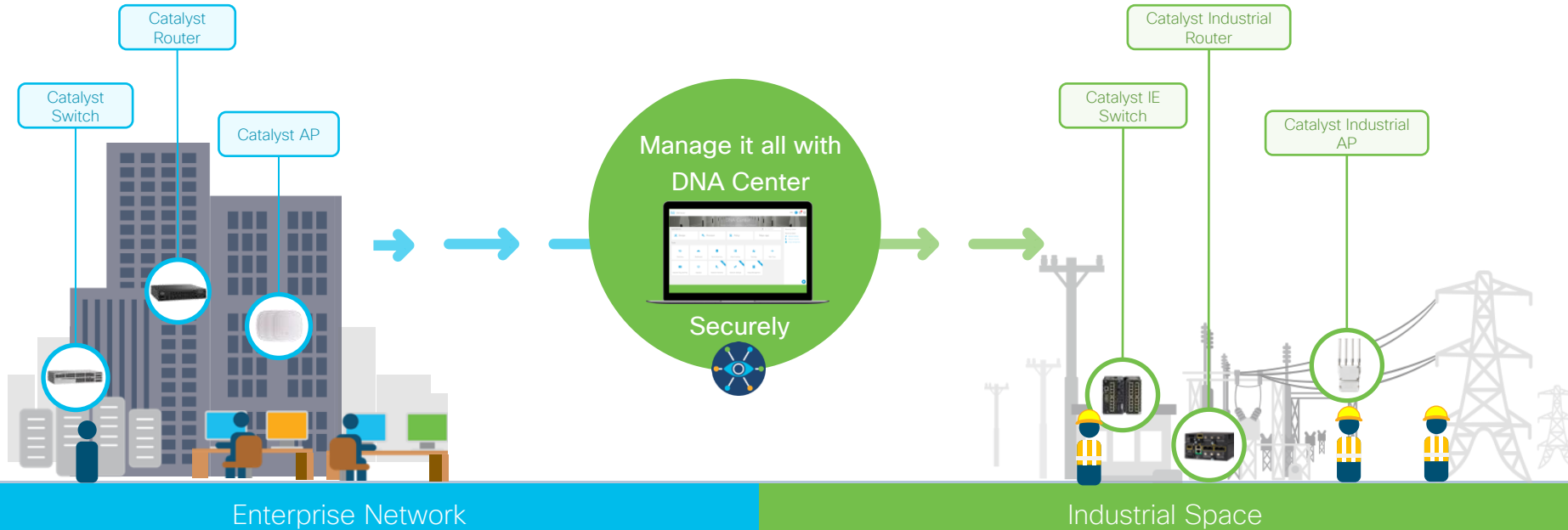


Cisco DNA Center  
vManage for SD-WAN



# Only Cisco offers a multi-domain network

Common policy and comprehensive security with DNA Center



# Extend SD-WAN to IoT edge

## Simplicity at scale from the enterprise to the IoT edge

*Increase visibility and control, saving time and resources from the enterprise to the edge.*

Save time and reduce workloads as you scale

Intelligent monitoring of failover and policy management

Ensure mission critical infrastructure is uninterrupted

Prioritization of data and control traffic

Automate complex security setup from enterprise to edge

Secure segmentation

Cost savings with intent-based mgmt. tailored to SLA's

Multiple active paths (MPLS/Ethernet/LTE)

Available on all industrial Catalyst routers



Catalyst IR1101



Catalyst IR8100



Catalyst IR8300



Catalyst IR1800



# Securing remote assets with end-to-end industry-leading security

Built-in, not bolted on

## Device security



- ACT2
- SUDI
- Input alarm for digital sensors
- Secure boot
- Sim card locking plate
- Life cycle security (CSDL)

## Network security



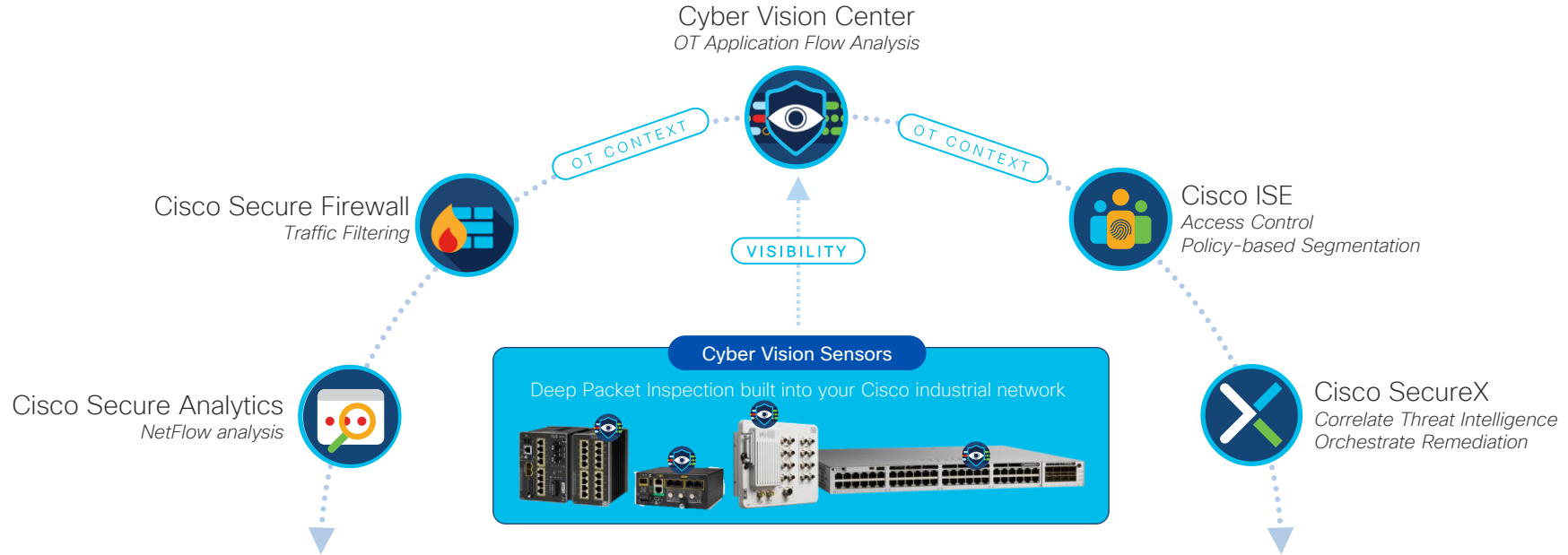
- Private APN
- Multi-PDN
- SIM Authorization
- VPN (FlexVPN, DMVPN)
- Advanced traffic segmentation
- Hardware encryption
- Network telemetry

## Operations security



- Visibility on industrial assets
- Operational insights
- Intrusion and threat detection
- Process anomaly detection
- Intrusion prevention (IPS)
- Application aware firewall
- Advanced malware protection

# Your network gains visibility to drive security



The broadest OT security solution on the market • Powered by Talos threat Intelligence

# A complete portfolio

## Secured and optimized for every use case

Demanding, mission critical deployments

ATMs, low voltage substations,  
roadside traffic cabinets



Catalyst  
IR1101

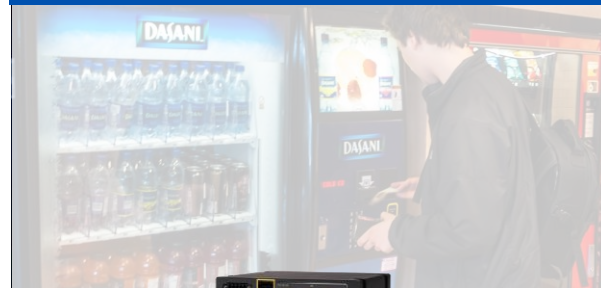
Remote monitoring,  
streetlights, intersections



Catalyst  
IR8100

High volume  
Simple M2M deployments

Kiosks, vending machines,  
coffee machines



Catalyst  
IR1101

Fleet, first-responders, pipelines



Catalyst  
IR1800

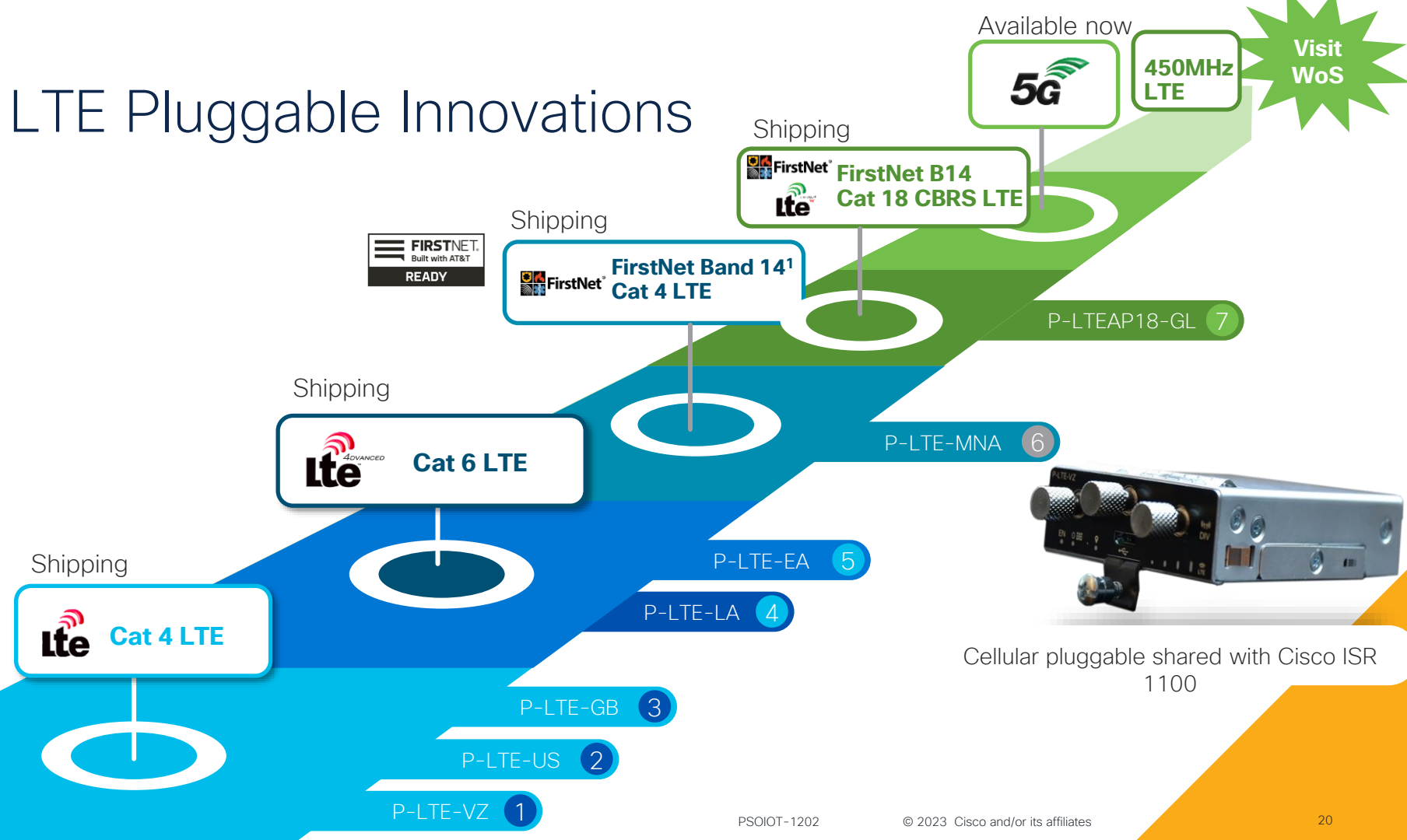
Factory, high voltage substations



Catalyst  
IR8300



# LTE Pluggable Innovations





# Cisco Catalyst IR1 100 Rugged Series Router

Compact, modular router for connecting remote assets

- ✓ Compact
- ✓ Low power
- ✓ Utility certification
- ✓ FirstNet Ready
- ✓ Cisco IOS XE
- ✓ Support for Cisco Cyber Vision and Umbrella
- ✓ Cisco SD-WAN
- ✓ Verizon Frontline



Modular

Cloud or prem  
managed

Ruggedized

CISCO *Live!*

# Cisco Catalyst IR1800 Rugged Series Routers

High performance, modular router for mobile and remote assets

- ✓ Wi-Fi 6
- ✓ PoE
- ✓ Gigabit Ethernet ports
- ✓ Dead reckoning GPS
- ✓ CANBus
- ✓ Transportation Certified
- ✓ FirstNet Certification - *pending*
- ✓ Cisco IOS XE
- ✓ Support for Cisco Cyber Vision and SD-WAN
- ✓ Verizon Frontline



Modular

Cloud or prem  
managed

Ruggedized

# Cisco Catalyst IR8100 Heavy Duty Series Routers

Heavy duty router for connecting remote outdoor assets

- ✓ IP67 rated
- ✓ Battery backup
- ✓ PoE\*
- ✓ Modular: CPU, connectivity, battery, power supply
- ✓ Utility certified, Wi-SUN compliant
- ✓ FirstNet Ready
- ✓ Cisco IOS XE
- ✓ Support for Cyber Vision and Umbrella
- ✓ Cisco SD-WAN



\*PoE only available on IR8140H-P-K9



Ultimate in  
modularity

Cloud or prem  
managed

Heavy duty for  
harsh outdoor  
conditions

# Cisco Catalyst IR8300 Rugged Series Router

All-in-one high-performance routing and switching

- ✓ Router with advanced switching powered by Cisco silicon
- ✓ UPoE up to 60 watts
- ✓ Precision timing source
- ✓ Rackmount
- ✓ Speed and scale: Combined Cisco QFP and UADP forwarding architectures
- ✓ Utility certified
- ✓ FirstNet certification - *pending*
- ✓ Cisco IOS XE
- ✓ Support for Cisco Cyber Vision and SD-WAN



Modular

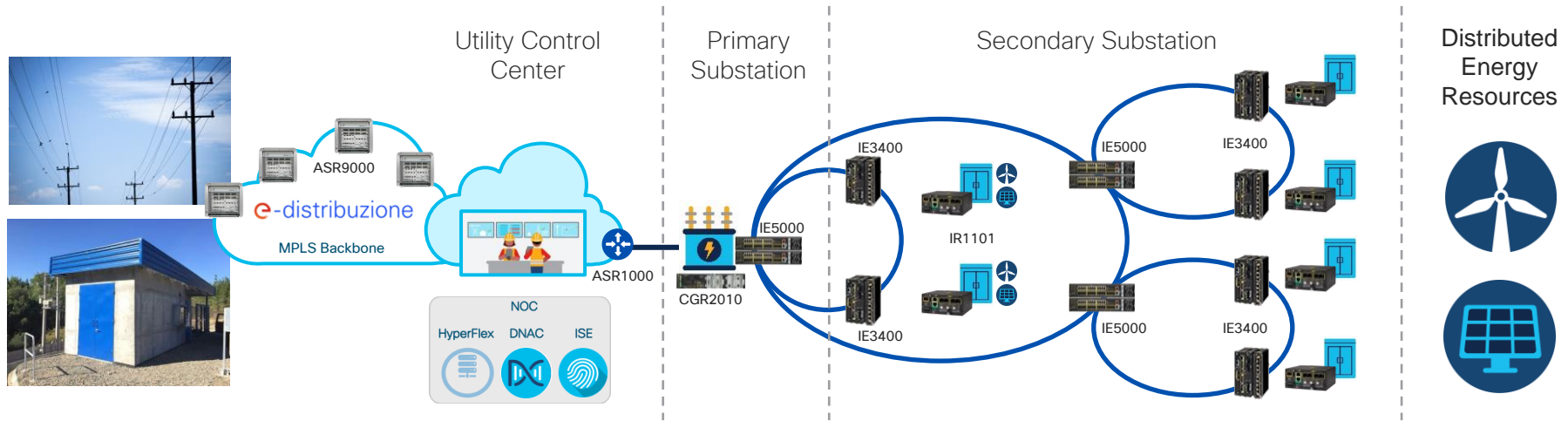
Cloud or prem  
managed

Ruggedized  
and fanless



# Utility Distribution Automation Across Italy

## e-Distribuzione (ENEL Group)



### Project Scope:

- End-to-end Cisco solution enabling IT-OT alignment for the digital transformation of Italy's distribution grid over 5 years
  - **Product Mix:** IE4K, IE3400, IR1101, IE5K, CGR2K, CGS2K and DNAC
  - **Technical Services:** Smartnet
  - **CX** design support

### Business Outcomes:

- Sustainability with renewable energy sources at scale
- Grid stability, high quality of energy and data analytics for further grid health monitoring
- Reduced operative and maintenance costs with a unified Cisco solution

# Cisco IoT solutions help our customers

Deliver a more sustainable future



Wind Farms



Storage



Utilities



EV Charging



Manufacturing

**Industrial Connectivity & Security**  
Accelerating the electrification value chain



Traffic signal controller



Video surveillance



Dynamic message signs



Electronic toll stations

**Connected roadways intersections, toll booths**  
Improve traffic flows to reduce emissions



Refrigeration monitoring



Warehouse monitoring



Equipment monitoring



Remote facility monitoring

**Cisco Industrial Sensors**  
Optimize energy and resource use, reduce truck rolls





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Book your one-on-one Meet the Engineer meeting.



Attend any of the related sessions at the DevNet, Capture the Flag, and Walk-in Labs zones.



Visit the On-Demand Library for more sessions at [ciscolive.com/on-demand](https://ciscolive.com/on-demand).



The bridge to possible

# Thank you

CISCO *Live!*

CISCO *Live!*

ALL IN