Agenda

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

    3

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

Every industry is going through digital transformation

...every "thing" is getting connected

Warehouses

Healthcare

Grids

Parking Lots

Turbines

Retail

Manufacturing

Transportation

Streetlights

Digitization isn't easy

Organizations have many use cases – each with different requirements

Cisco network at the
main office

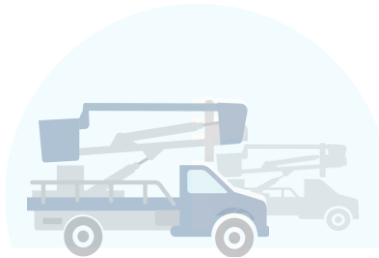Roadside cabinets
for traffic management

Medium voltage primary
substation automation

ATM and kiosks
for banking

Renewable
energy generation

Fleet

EV charging station,
battery banks, billing

Digitization isn't easy

Organizations have many use cases – each with different requirements

Different access technologies
Different protocols and compliance needs
Indoor vs. industrial vs. outdoor environments
Real time vs. best effort data
Remote access to relevant people

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

Cisco IoT Gateways

Catalyst IR8100

Catalyst IR1101

Catalyst IR1800

Catalyst IR8300

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 ➕ Enterprise 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

### 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	Manage with solutions optimized by use case and operations workflow
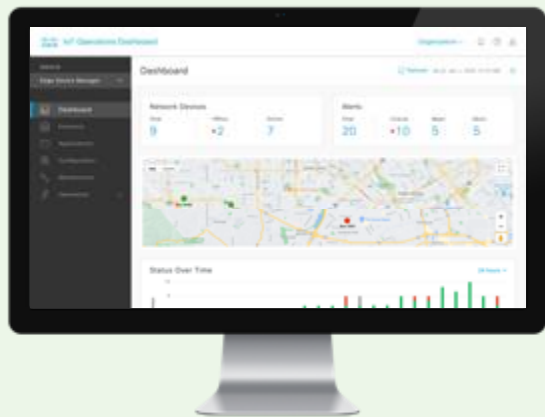
Cisco IoT Operations Dashboard
or Field Network Director

Cisco DNA Center
vManage for SD-WAN

Only Cisco offers a multi-domain network
Common policy and comprehensive security with DNA Center

Catalyst Router

Catalyst Switch

Catalyst AP

Manage it all with DNA Center

Securely

Catalyst Industrial Router

Catalyst IE Switch

Catalyst Industrial AP

Enterprise Network

Industrial Space
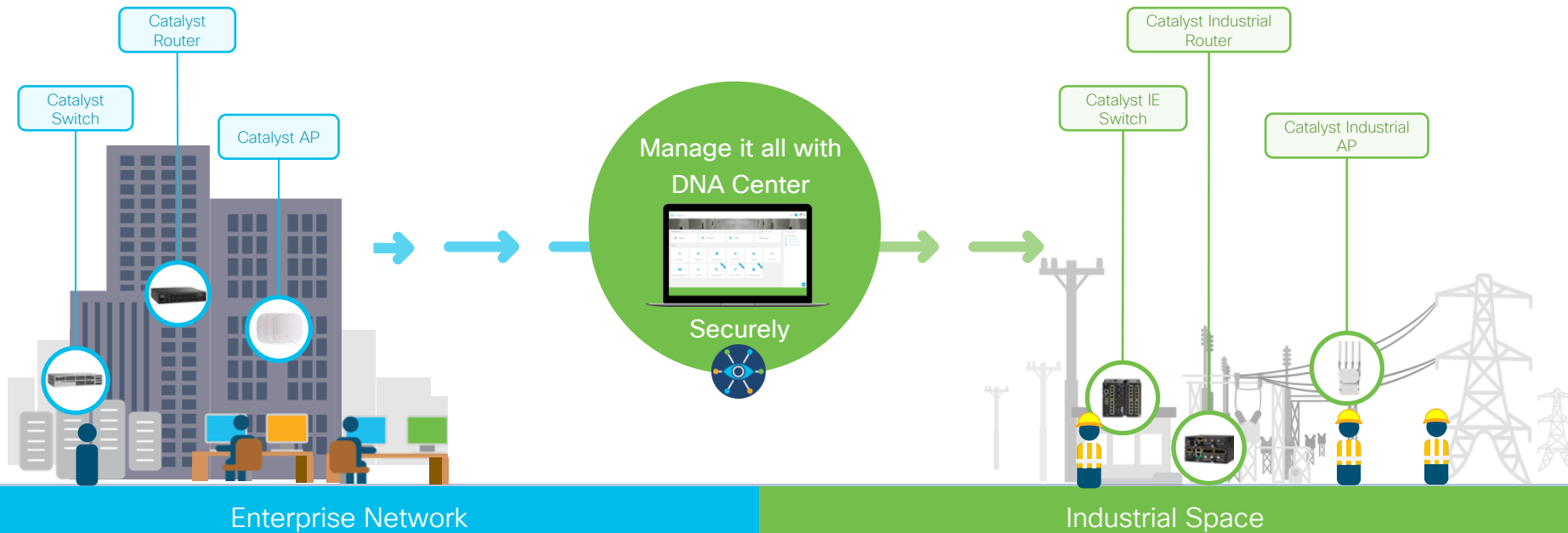
SD-WAN Controller for simplified management

Cisco vManage
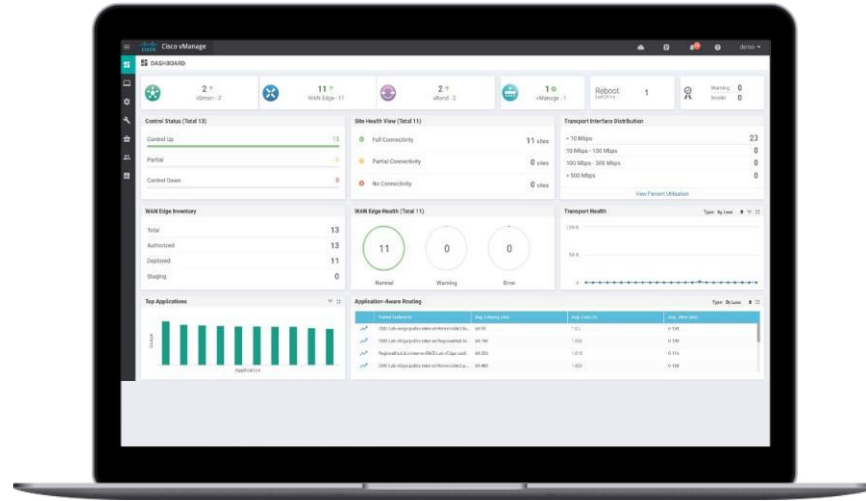
Single Monitoring Dashboard

| Configuration: OnRamp, Security, Devices, Policies, Templates | Lifecycle Management | Role based access/ Multi-tenant |

One management dashboard for branch, IoT edge, cloud and security

Catalyst IR8100
Catalyst IR1101
Catalyst IR1800
Catalyst IR8300

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)
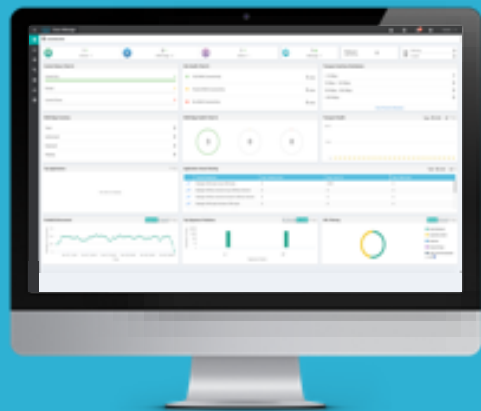
Available on all industrial Catalyst routers

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
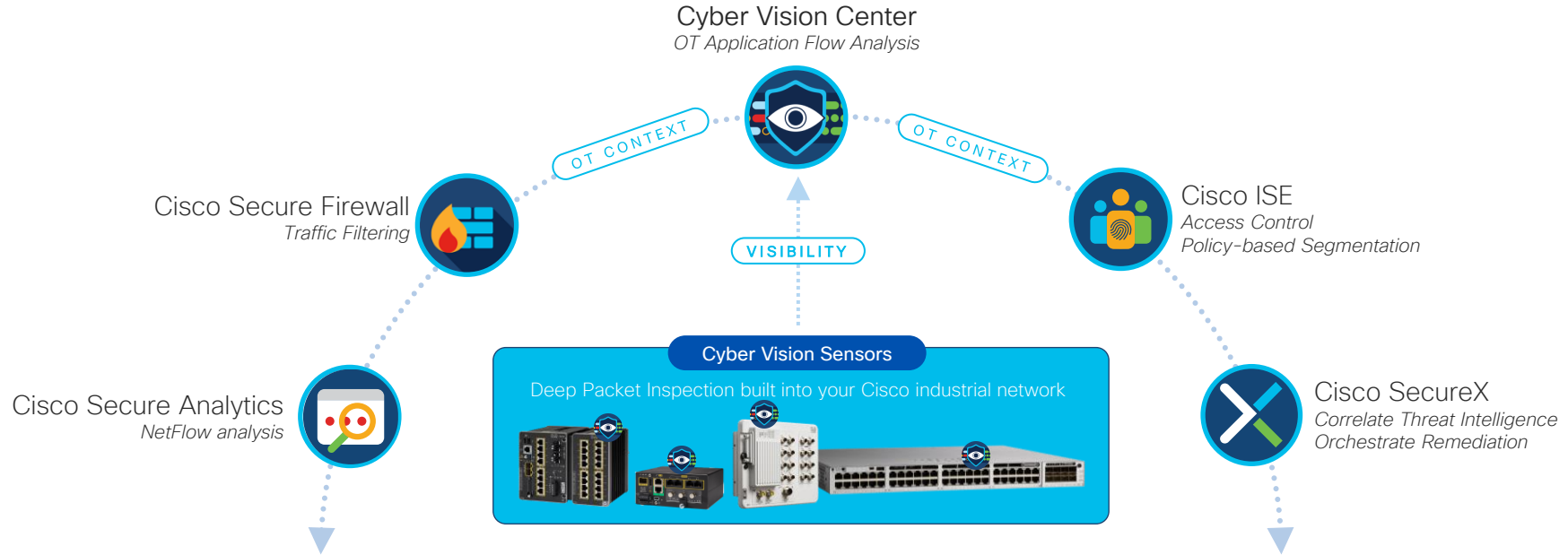- Network telemetry

Operations security

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

CISCO _Live!_

Your network gains visibility to drive security

Cyber Vision Center
OT Application Flow Analysis

OT CONTEXT

OT CONTEXT

Cisco Secure Firewall
Traffic Filtering

Cisco ISE
Access Control
Policy-based Segmentation

VISIBILITY

Cyber Vision Sensors

Deep Packet Inspection built into your Cisco industrial network

Cisco Secure Analytics
NetFlow analysis

Cisco SecureX
Correlate Threat Intelligence
Orchestrate Remediation

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		High volume Simple M2M deployments

ATMs, low voltage substations, roadside traffic cabinets	Remote monitoring, streetlights, intersections	Kiosks, vending machines, coffee machines

5G Catalyst IR1101

5G Catalyst IR8100

IG20

Fleet, first-responders, pipelines	Factory, high voltage substations	Cisco IoT Gateways

5G Catalyst IR1800

Catalyst IR8300 **5G**

IG31R

LTE Pluggable Innovations

Available now

5G

5G Ready

1H FY21
Shipping

FirstNet
**FirstNet B14
Cat 18 CBRS LTE**
Lte

P-LTEAP18-GL (7)

1H FY20
Shipping

FIRSTNET.
Built with AT&T
READY

FirstNet
**FirstNet Band 14[1]
Cat 4 LTE**

P-LTE-MNA (6)

1H FY20
Shipping

lte 4Dvanced **Cat 6 LTE**

P-LTE-EA (5)

P-LTE-LA (4)

2H FY19
Shipping

lte **Cat 4 LTE**

Cellular pluggables shared with Cisco ISR 1100

P-LTE-GB (3)

P-LTE-US (2)

P-LTE-VZ (1)
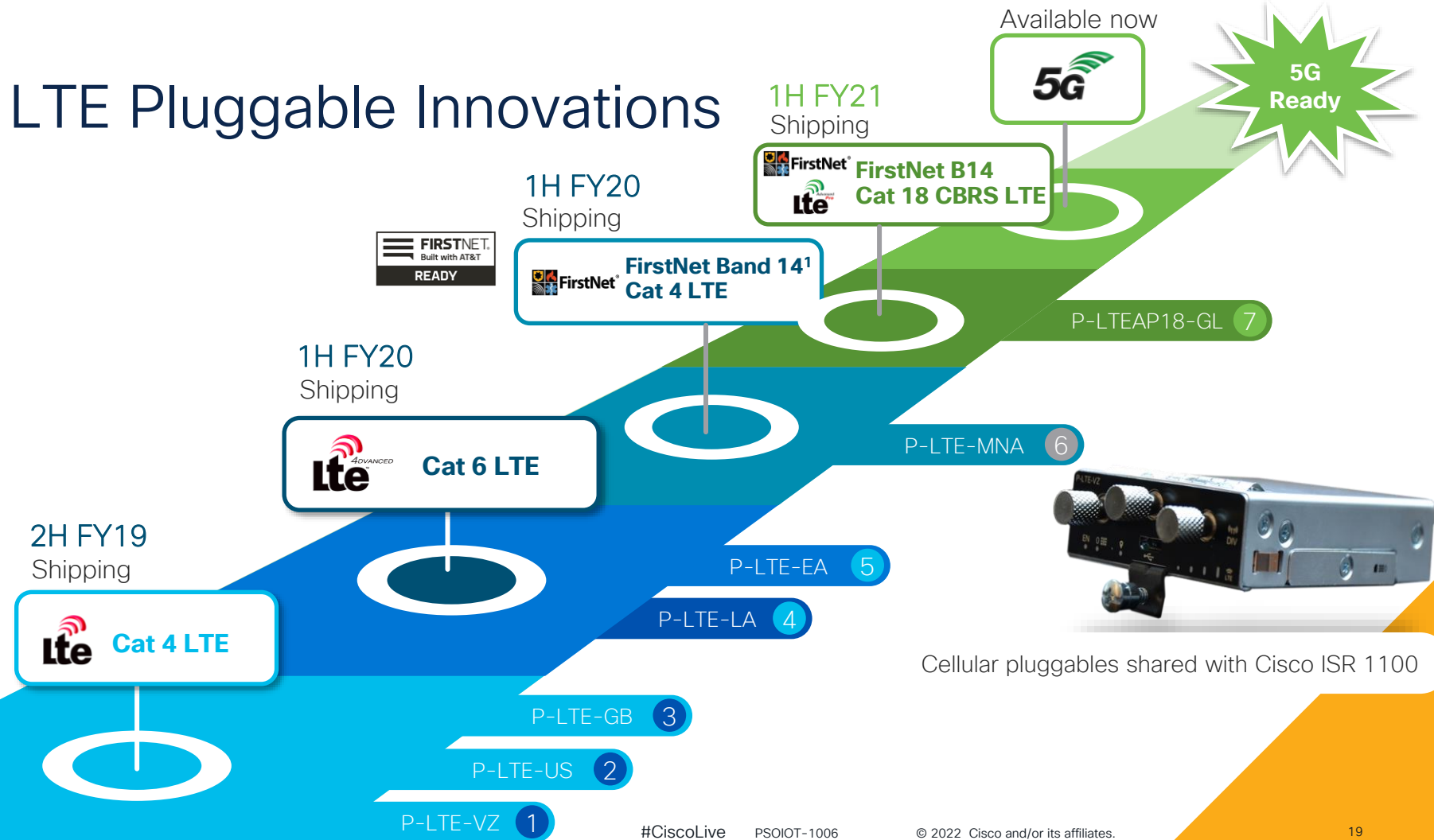
Cisco Catalyst IR1100 Rugged Series Router

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

5G

Modular   Cloud or prem managed   Ruggedized

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

FIRSTNET.
Built with AT&T
READY

WiFi 6 CERTIFIED

Verizon Frontline
The advanced network and
technology for first responders

verizon✓

5G

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

VerizonFrontline
The advanced network and
technology for first responders

verizon✓

FIRSTNET.
Built with AT&T
READY

*PoE only available on IR8140H-P-K9

5G

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

VerizonFrontline
The advanced network and
technology for first responders

verizon✓

5G

Modular

Cloud or prem managed

Ruggedized and fanless

CISCO *Live!*

Cisco IoT Gateways

Simple, essential connectivity for mass scale

✓ **All-in-one solution**
Gateway and IoT Operations Dashboard

✓ **Low upfront costs**
Affordable subscription

✓ **Fast and simple day 0 set up**
Plug in, power on - no staging
Automated SIM activation

✓ **Mass scale**
Manage any number of assets

| CAT 1 / CAT4 LTE | Wi-Fi 802.11b/n | Cloud managed | Indoor and ruggedized versions |

Customer Case Study
Central Ohio Transit Authority

Service area of 1.2 million residents
Providing nearly 19 million passenger trips
annually
Fixed-Route Ridership: 10,322,467

Customer Challenges

- Critical real-time information not available for security operations and emergency personnel
- Desire to update Customer Experience on the fleet
- Streamline line of sight of to the buses – very manual process
- Operational resource constraints limiting the number of projects the network team can support

Solution Overview

- Cisco IE4010 Rugged switches, Cisco IR1833 rugged routers with Wi-Fi 6 & 5G modules
- IoT Operations Dashboard – 5 -year Refresh cycle
- Moving to a 5G prioritized network from 4G consumer network
- Cisco Access Points – combination of 2800 and 91XX
- CURWB for Bus Rapid Transit (BRT)

Business Outcomes

- Increased security on buses by 10X with 5G
- Increased ridership with Wi-Fi experience – The 5G experience
- Increase in project capacity by 33%
- IE 4010 PoE has saved $1M while supporting COTA's sustainability goals

Only Cisco can support IT and Operations

Accelerate industrial digitization

Best of enterprise and industrial networks

Single architecture

IT teams – support operations without retraining

Ruggedized for any environment

Market leading industry expertise

#1 in market share across enterprise and industrial networking

Decades of experience

Resources to ensure success

Cisco Validated Designs

Award-winning dev program

CX services

330 specialized partnerships globally

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

ENGIE · Statkraft · SCOTTISHPOWER

Traffic signal controller — **Video surveillance** — **Dynamic message signs** — **Electronic toll stations**

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

NSW GOVERNMENT | Transport

Refrigeration monitoring — **Warehouse monitoring** — **Equipment monitoring** — **Remote facility monitoring**

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

BRIDGES

Cisco Webex App

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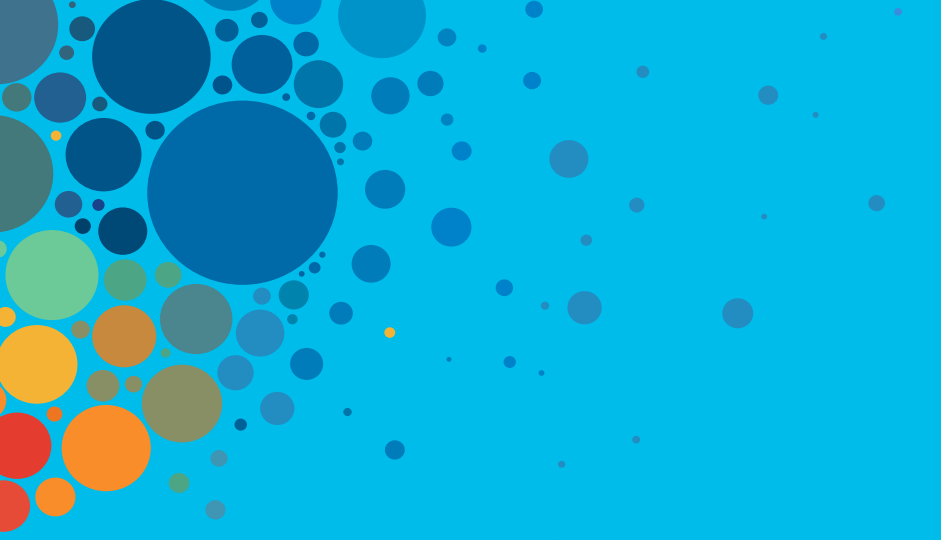Use Cisco Webex App to chat
with the speaker after the session

How

(1) Find this session in the Cisco Live Mobile App

(2) Click "Join the Discussion"

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(4) Enter messages/questions in the Webex space

Webex spaces will be moderated
by the speaker until June 17, 2022.

https://ciscolive.ciscoevents.com/ciscolivebot/#PSOIOT-1007
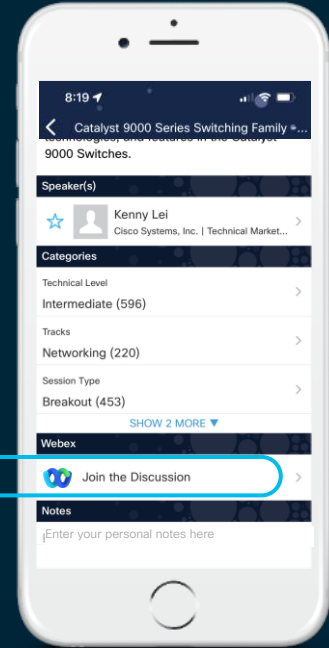
Continue your education

- Visit the Cisco Showcase for related demos

- 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

Mon June 13

BRKIoT-1150
How Autonomous Vehicles will Change your World
Mon 8-9a –Lagoon J

BRKIoT-2720
Connected Factory Architecture
Mon 930-1030a Lagoon J

PSO-IOT1004
Digitizing Industrial Operations with IoT Operations Dashboard
1030 Level 3, South Seas J

BRKIoT-2353
Leveraging Visibility to drive Zero Trust for Industrial Security
Mon 1-2p Lagoon J

BRKIoT-1086
Hazardous Location Wireless, Expanded
Mon 230-330p Lagoon I

PSO-IOT1005
Wireless, Wireless Everywhere . . . How to Navigate the Choices for Your Industrial Use Cases
Mon 300p
Level 3, South Seas J

Tues June 14

BRKIoT-1125
Digitizing Mass Transit through Cisco IoT and Cloud Management
Tues 230p Lagoon J

DEVLIT-1340
Can your robot race car go 192 MPH? Tues 3-3:30P

IBOIOT-2757
Terminal Operations Digitization w/ Cisco Connected Port & Term Solution Mon 11:00a
Level 2, Breakers I

BRKIoT-2025
Secure and Highly-Available Networking for Conn Roadways and Smart Cities
Mon 11a-Noon Lagoon J

BRKIoT-2011
Extending Your Network to the Great Outdoors
Mon 4-5p
Lagoon I

BRKIoT-2083
Real-World Industrial IoT SD-Access Deployment Use Cases
Tues 1030-1130a –Lagoon J

PSO-IOT1006
Connect and Secure Your Edge Devices with 5G, Wi-Fi 6 Rugged Routers
100p Level 3, South Seas J

PSO-IOT1007
Gaining visibility into OT with Cyber Vision to Secure your Industrial Networks
300p Level 3, South Seas J

BRKIoT-2015
The New Digital Substation - efficient, secure & ready for Grid applications
Tues 4-500p Lagoon I

730p Celebration

Wed June 15

BRKIoT-2012
Industrial Zero Trust: Opportunities and Realities
1030-1130AM –Lagoon J

BRKIoT-1083
Cisco Industrial Asset Vision: Simplifying Industrial Sensor Solutions!
Wed 230-315PM

Labs
Cisco Ultra-Reliable Wireless Backhaul – LABIOT-2152

Securing Industrial Networks - LABIOT-2357

Featured iTalk
INTIOT-1300
Digitizing the Physical World with Mass-scale Industrial IoT to Move Industries Forward
Tues 3- 3:30P – Innovation Talks - Level 2, Oceanside C-D

Thurs June 16

BKTIOT 2014
Mining Made Safer and More Efficient w/ Autonomy
Thurs 0930a
Level 2, Lagoon J

BRKIOT-2013
Solving Duplicate IP Addressing Problems with Layer2 NAT -
Thurs 1100a
Level 2, Lagoon G

PSO-IOT2007
A path forward with Cisco's IoT Switching Portfolio: Addressing challenges within your Industrial Networks
Thurs 1030a
Level 3, South Seas B

DevNet
DEVWKS-2200
How to leverage Cisco IOx to host your application?
Tues 12-12:45
Wed 3-3:45

Connect, Automate, and Operate Anywhere

Join the Webinar

Introducing new wireless and remote operational capabilities from Cisco IoT

June 21st

3 session times to best suit your schedule:
EMEAR: Tuesday, June 21 at 3:00 PM CET
AMER: Tuesday, June 21 at 10:00 AM PST
APJC: Wednesday, June 22 at 11:00 AM SGT

- How to meet new requirements in wireless networking and security
- How operational networks can benefit from enterprise-grade capabilities
- The latest Cisco innovations in industrial wireless technology from Wi-Fi 6 to fiber-like wireless connectivity
- Improving IT and OT more efficiently through better visibility and enhanced tools to enable operations from anywhere

CISA Alerting Critical Infrastructure to Take Cybersecurity Measures

JOIN our June 22nd CISA Webinar covering critical infrastructure modernization and steps towards zero trust across OT and IT environments

Update! New cybersecurity alert for infrastructure.

Register now

In this webinar, you'll learn how to respond to the newest CISA advisories and secure your assets and infrastructure. Come and learn with a panel of Talos experts and Cisco Secure experts to get a breakdown and a deep understanding of the current threat landscape.

If your agency manages any critical infrastructure such as water, power, defense, or transportation, you'll want to be on this call. We'll be talking about how your agency needs cybersecurity resilience, and even better, how to fund it.

Join us on **June 22nd, 3 PM EST / 12 PM PST**

Register now

Join the Critical Infrastructure Webinar

June 22nd
AMER: Tuesday, June 22 at 3:00P EDT / 12:00P PDT

Technical Session Surveys

- Attendees who fill out a minimum of four session surveys and the overall event survey will get Cisco Live branded socks!

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Subscription-based product, technology, and certification training

Cisco Modeling Labs
Network simulation platform for design, testing, and troubleshooting

Cisco Learning Network
Resource community portal for certifications and learning

Train

Cisco Training Bootcamps
Intensive team & individual automation and technology training programs

Cisco Learning Partner Program
Authorized training partners supporting Cisco technology and career certifications

Cisco Instructor-led and Virtual Instructor-led training
Accelerated curriculum of product, technology, and certification courses

Certify

Cisco Certifications and Specialist Certifications
Award-winning certification program empowers students and IT Professionals to advance their technical careers

Cisco Guided Study Groups
180-day certification prep program with learning and support

Cisco Continuing Education Program
Recertification training options for Cisco certified individuals

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Thank you

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