

# The Power of Extending SD-WAN to OT Networks

**CISCO** Live !

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Management

# Cisco Webex App

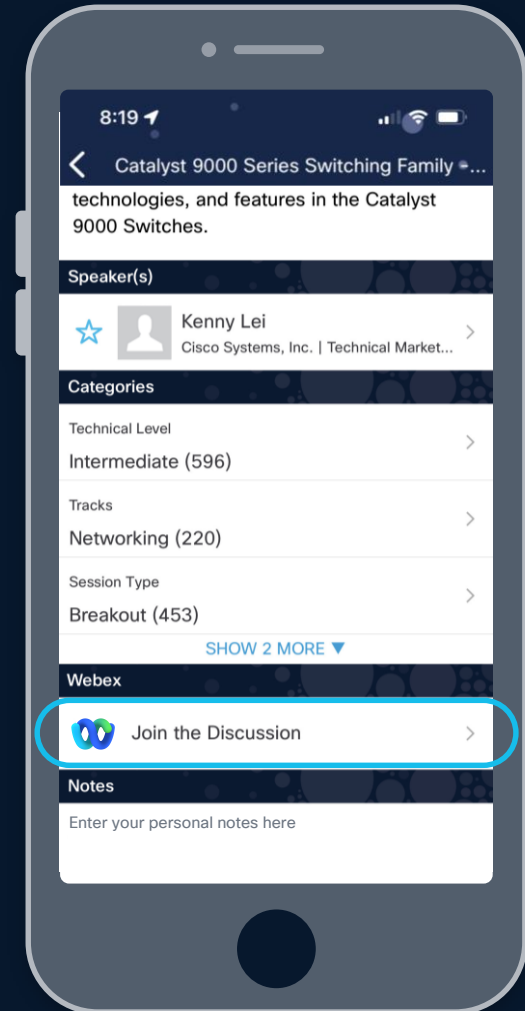
## Questions?

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

## How

- 1 Find this session in the Cisco Live Mobile App
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**Webex spaces will be moderated by the speaker until June 13, 2025.**



<https://cicolive.ciscoevents.com/cicolivebot/#PSOLOT-1041>

# Agenda

The Power of SD-WAN  
Critical Needs of the OT Network  
Extending SD-WAN to OT

# Infrastructure has become more complex & vulnerable

125+

distributed applications used by enterprise

65%

of enterprises will consolidate into a single or dual vendor SASE solution by 2025

90%

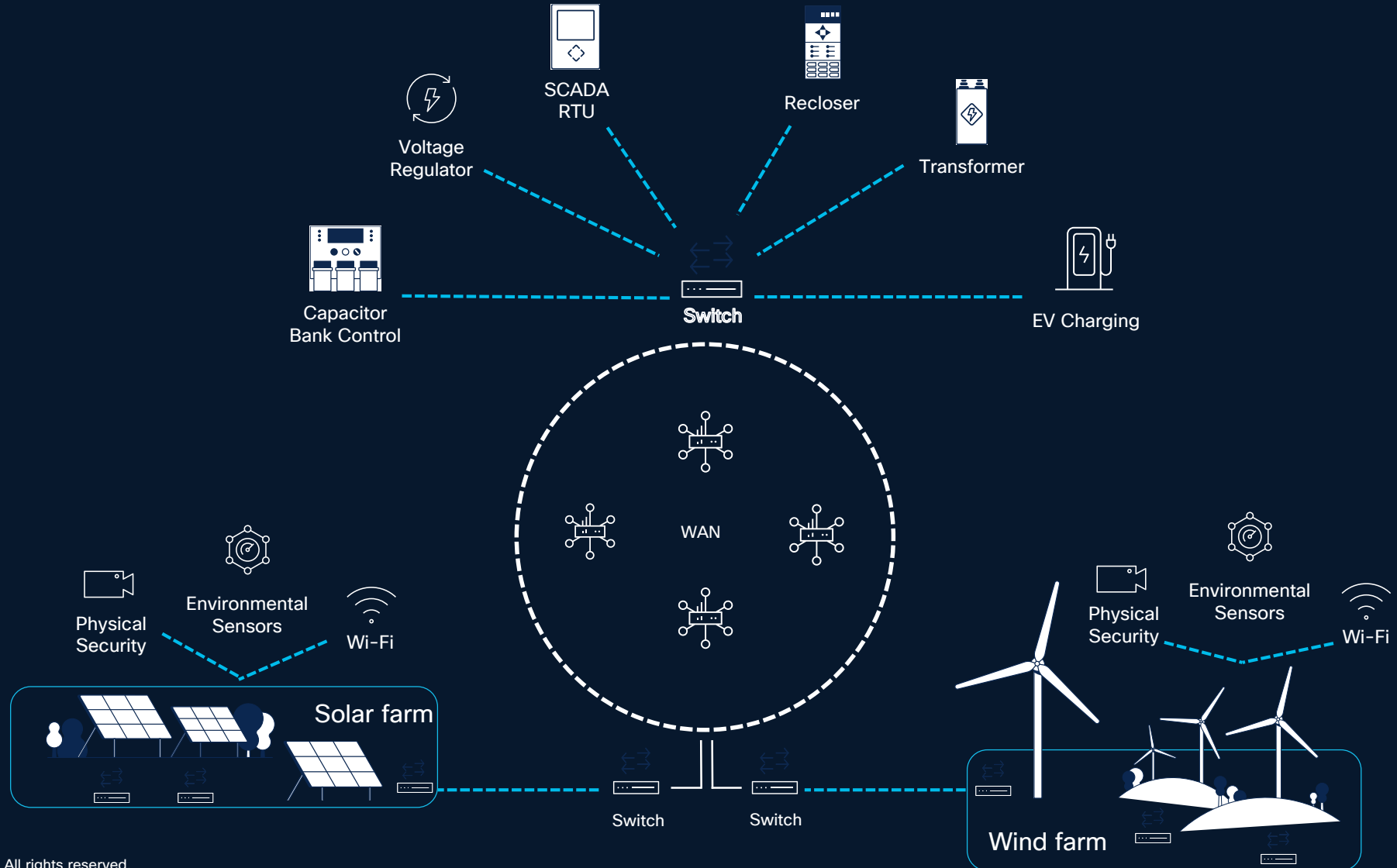
of enterprises will have experienced a security incident related to the edge network by 2026

# OT networks across distributed industries need security and automation at scale



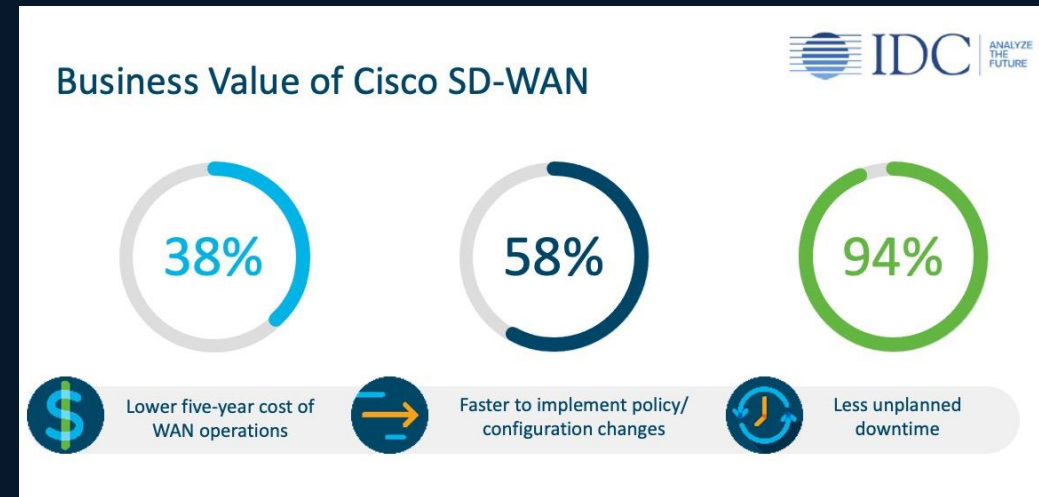
Growing number of assets to connect – Increasing the attack surface

# Massive Scale of OT Networks



# The Power of SD-WAN

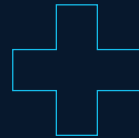
## A CIO View



# Cisco Catalyst SD-WAN

## Summary of basic SD-WAN capabilities\*

Circuit load balancing  
Direct internet access  
Centralized management & orchestration  
Circuit cost savings



## Cisco Catalyst SD-WAN extended capabilities

### Multi-layered security



Security & Segmentation



Analytics & Visibility

### Application optimization



Voice Optimization

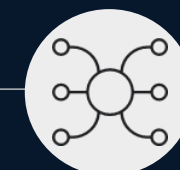


SaaS/IaaS Optimization



App Aware Dynamic Routing

### Enterprise scale



Open and Programmable



Multi-Tenant/  
Multi-Domain

\*Gartner Critical Capabilities for WAN Edge Infrastructure, December 2018

# Benefits of Deploying Cisco Catalyst SD-WAN

Predictable app experience



Support for evolving business application strategy

Cloud, On-prem, Data Center

Right security, right place



Secure segmentation across entire network stack

Full edge security stack from branch/ OT edge to cloud/DC

Enterprise grade, simplified



Harness predictive intelligence to let your network do the heavy lifting

Proven deployments to over 10,000+ sites

**~2,400+**  
Cloud Customers

**Thousands**  
+  
On-Prem Customers

**One user interface for security and SD-WAN across branch offices or OT edge**

Secure WAN

# Innovation Priorities



Platform Based  
Security



Simplification



AI-Native Network  
Operation



Cloud  
Capabilities

# SDWAN for OT Networks.....



Roadways



Ports



Mining



Substation



Public Safety



Pipeline

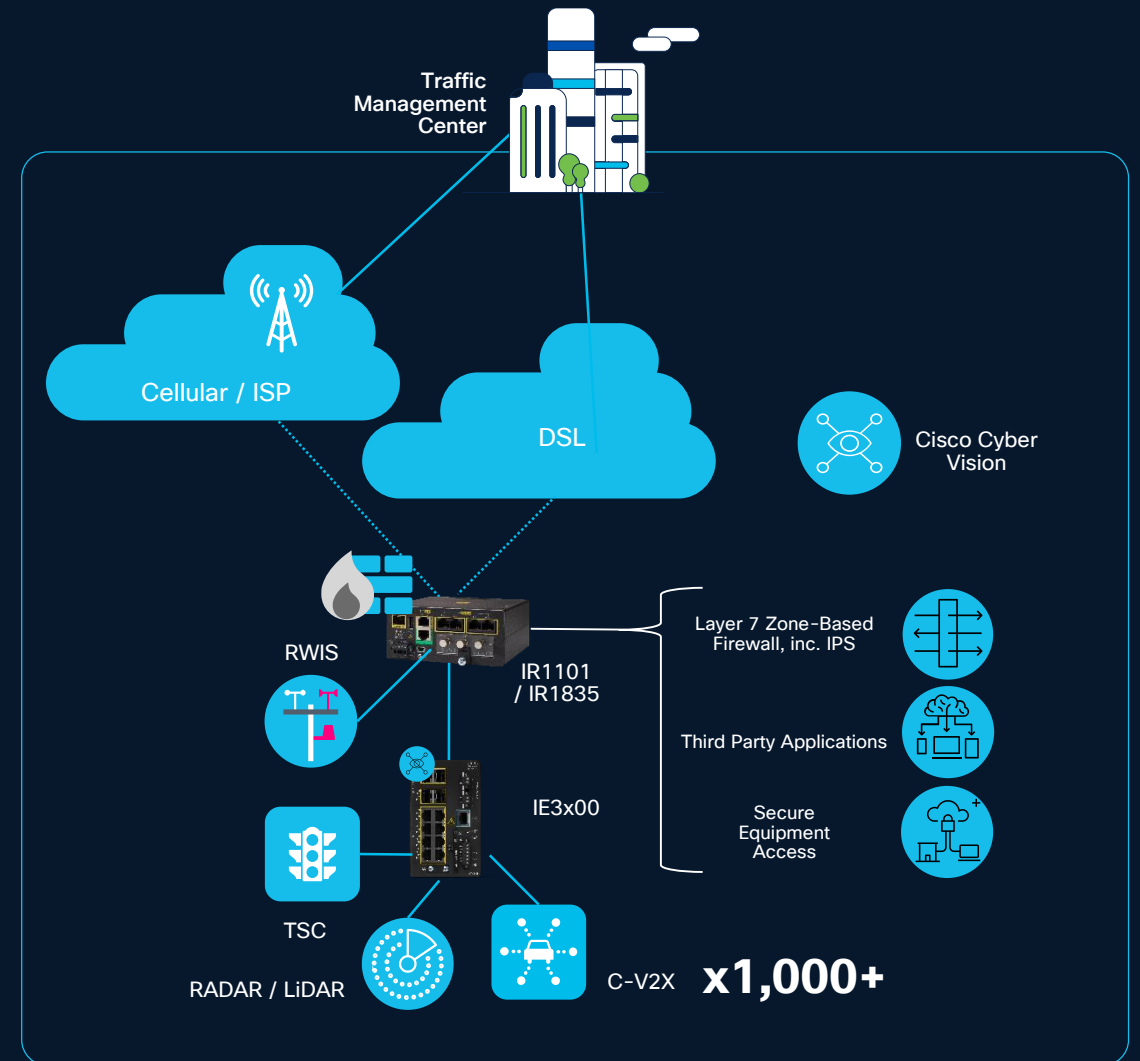
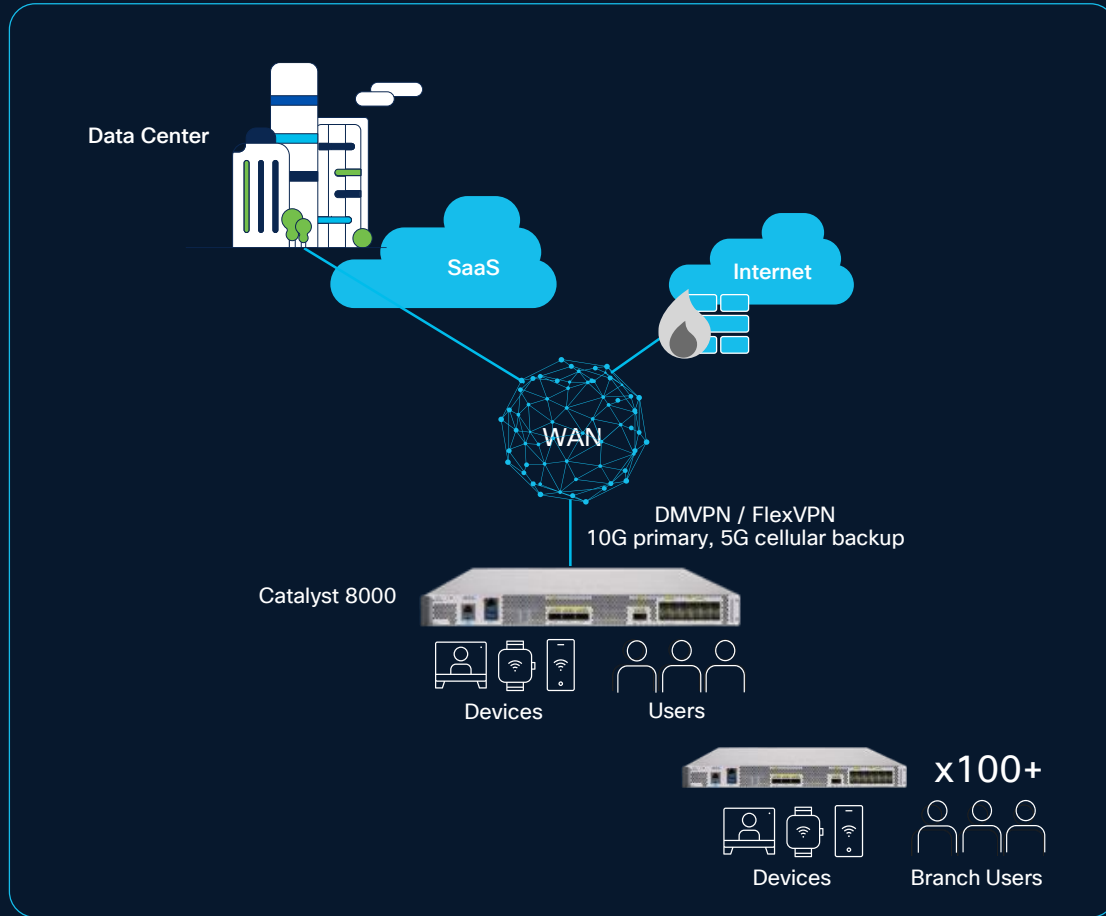


Utilities



Railways

# IT and OT Networks Compared



IT and OT networks both need security and automation at scale to succeed

# What is Critical for OT Networks

## Day 1

- Easy, secure onboarding of hundreds of thousands of devices at scale
- Template-style configuration management for OT deployments
- Security key management and tunnel provisioning at scale

## Day 2+

- Single dashboard for all OT and IT devices with health status
- Quick fault awareness and remediation
- Configuration drift avoidance and notification
- Optimized routing path selection based on application experience requirements
- Multiple WAN uplink options

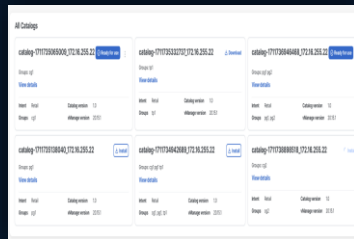
# Catalyst SDWAN Manager

## - The Right Capabilities for IT and OT

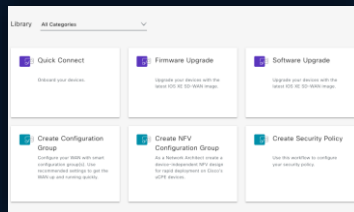
Day 1



Global Topology

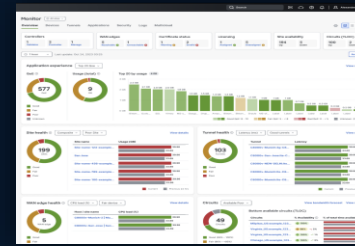


Configuration Catalog

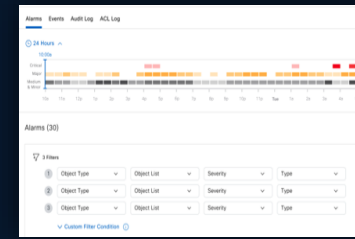


Simplified Configuration

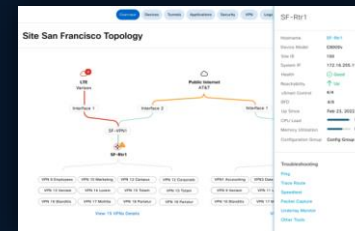
Day 2+



Customizable Dashboards



Alarms & Events Correlation



Smart Troubleshooting

# Cisco SD-WAN for Oil & Gas Pipeline Monitoring



## Challenge



- Due to recent acquisitions of other midstream companies customer had limited visibility and connectivity in some portions of network
- Current solution unable to provide level of visibility into network to see what vulnerabilities exist in addition to data traffic flow granularity
- Remote access lacking under Zero Trust Framework

## Solution



- Cisco IR1101 paired with Serial Module and choice of LTE-MNA or 5G module with SDWAN
- CyberVision for asset visibility and Secure Equipment Access
- Introduction into Cisco End to End Segmentation Strategy (TrustSec, ISE, Catalyst Center)

## Business Outcomes

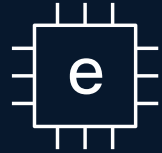


- Provided SDWAN for Midstream network along with visibility
- Better insights, increase in performance, estimating \$100K/year in cost savings

# Power of Extending SD-WAN to OT Networks



Forward Error Correction



eSim Management



Controller Disaster Recovery



SLA- & App aware Routing / Failover



Global Operations



Serviceability & Resiliency



Packet Duplication

5G

Active / Active 5G



On-prem Cluster or cloud-based



Support LEO Satellite



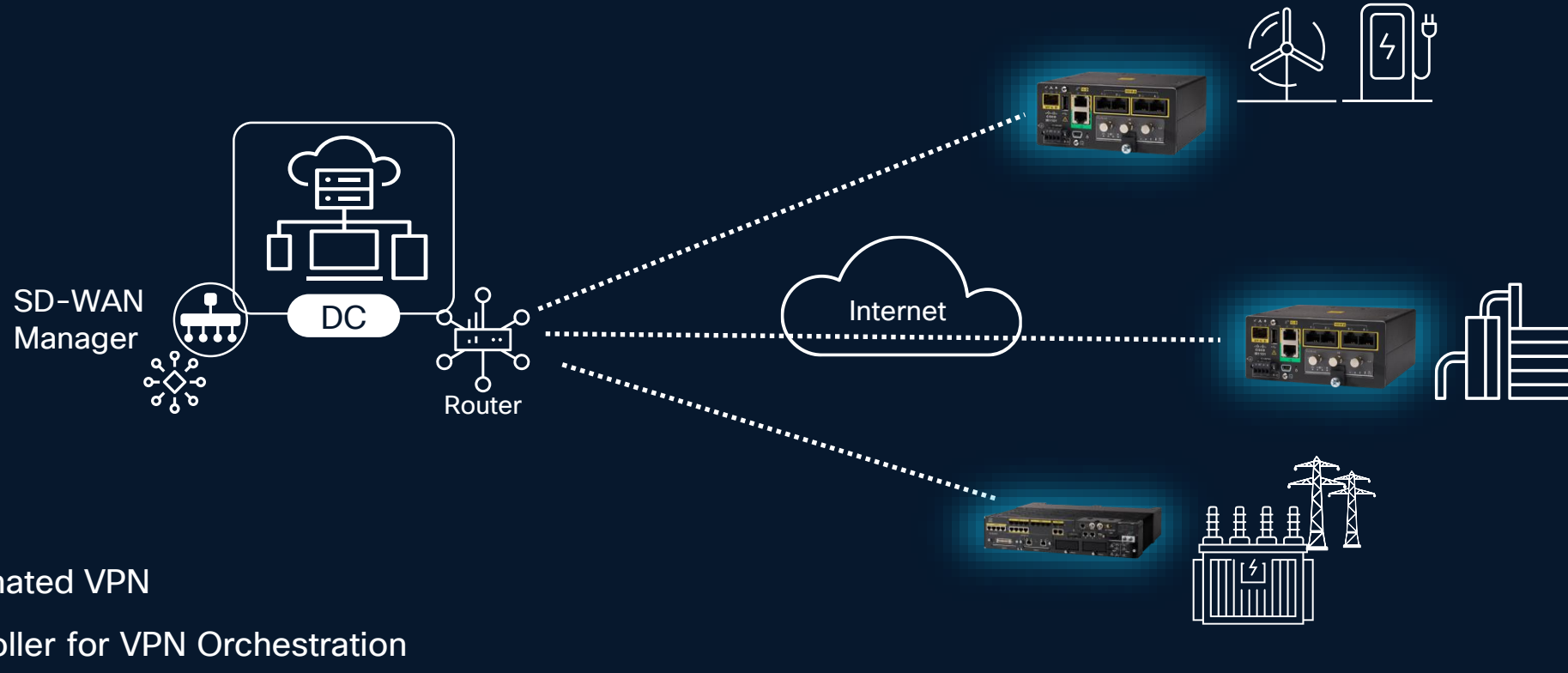
IIOT Routers



Compliance & Certification

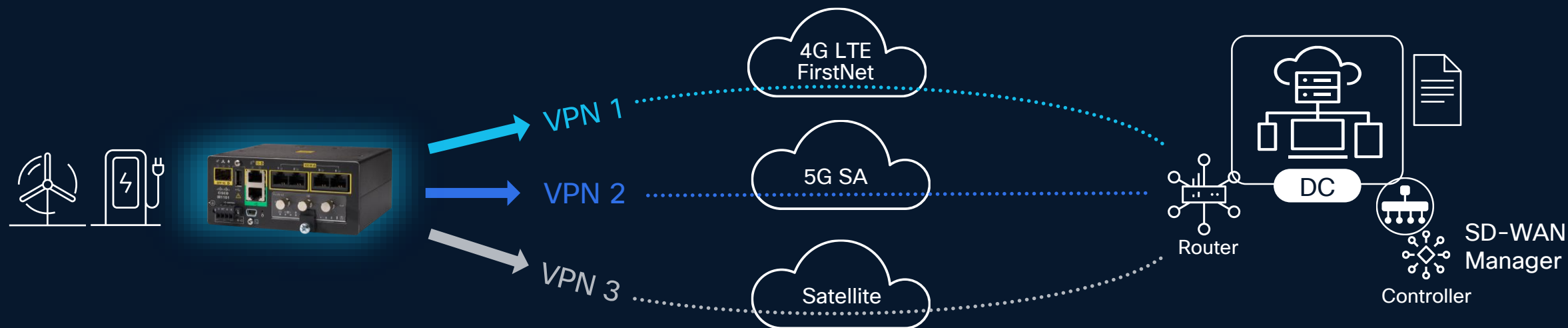
# Automated VPN

- Security key management (rotation)
- Automated IPsec connectivity
- Custom topologies at scale



# Application Aware Routing

If path is defined as preferred AND it meets the SLA, it is chosen



App aware routing policy:

Mission critical: 10ms, 1% loss, 5ms jitter

High volume traffic: 100Mbps, 140ms, 1% loss, 10ms jitter

Mission critical backup

# Configuration Catalog

with Cisco Validated Profiles

# 4 New catalogs

1

Catalogs are predefined templates that you can use right away, tailored for Industrial Routers

2

Designed for Industrial IOT use case. Optimized default settings for LTE data usage reduction.

3

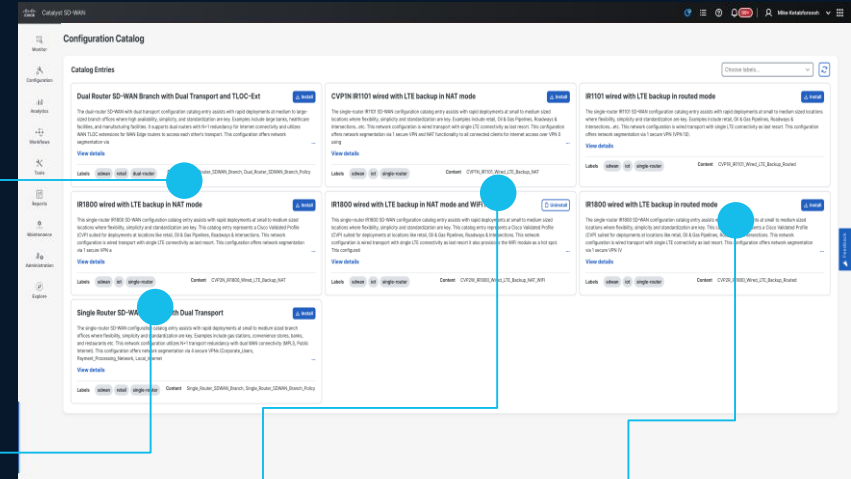
Proven and tested - improve security and streamline deployment times

IR1101 for Roadways

IR1835 for Roadways

IR1101 with LTE backup in wired mode

IR1101 with LTE backup in NAT mode



# Cisco Industrial Routers with Next-Gen Firewall



+  
Cisco Security  
built-in



Application Firewall

>5000 layer 7 apps classified (1500 on box)



Network Segmentation

Virtual Isolation between network segments



DoS Protection

Protection against denial-of-service attacks



TrustSec

End-to-end micro-segmentation



URL Filtering

Custom Domains & Web Reputation Score



Advanced Malware Protection

File Reputation & Sandboxing



Snort IDS/IPS

Most widely deployed IPS engine in the world



SSL Decryption

Detect Threats in Encrypted Traffic

IR8340 Only



Secure Access Service Edge

SASE with Cisco Secure Access

IOS-XE

NGFW Add-On

SSE



Ethernet



Cellular



MPLS



5G



Starlink

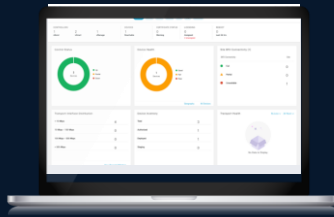


Fiber

Multi-transport Agnostic

The most advanced rugged routers with comprehensive network security and SD-WAN features

# Scale to New Heights by Leveraging SD-WAN Across IT and OT



SD-WAN Manager



# C-Suite values a more unified approach

OT decision makers, particularly executive leadership, believe there will be significant value in a consolidated cybersecurity approach right across the business, from the boardroom to the factory floor.



92%

significant value in having a unified cybersecurity solution for both enterprise and industrial networks



84%

influence of IT leadership in the decision-making process around operational networking and security

## 2024 State of Industrial Networking Report

A global view of the evolution of operational technology and its impact on security, IT, and future innovation.

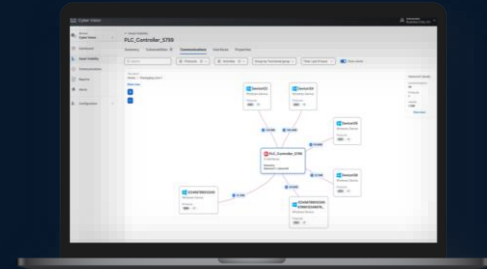
# Futureproofing Industrial Networking for Cybersecurity and AI



19 new industrial switches for an AI-ready infrastructure



URWB + Wi-Fi: uninterrupted wireless for AI-driven mobility



AI-powered security to protect industrial networks

# Discover more



SD-WAN for Industrial Networks



Industrial Routers on Cisco.com



Industrial Routers with NGFW  
Solution Overview

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Thank you

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