



Secure and Unified Wireless for Industries

Hannover Industry Fair 2025

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“

*"The ultimate goal of technology
is to remove complexity
— not to add it."*

Agenda

- Challenges & Requirements in Industries
- The Cisco Unified Toolbox
- Secure your Industrial Network
- Takeaways
- Q&A



Secure and Unified Wireless for Industries

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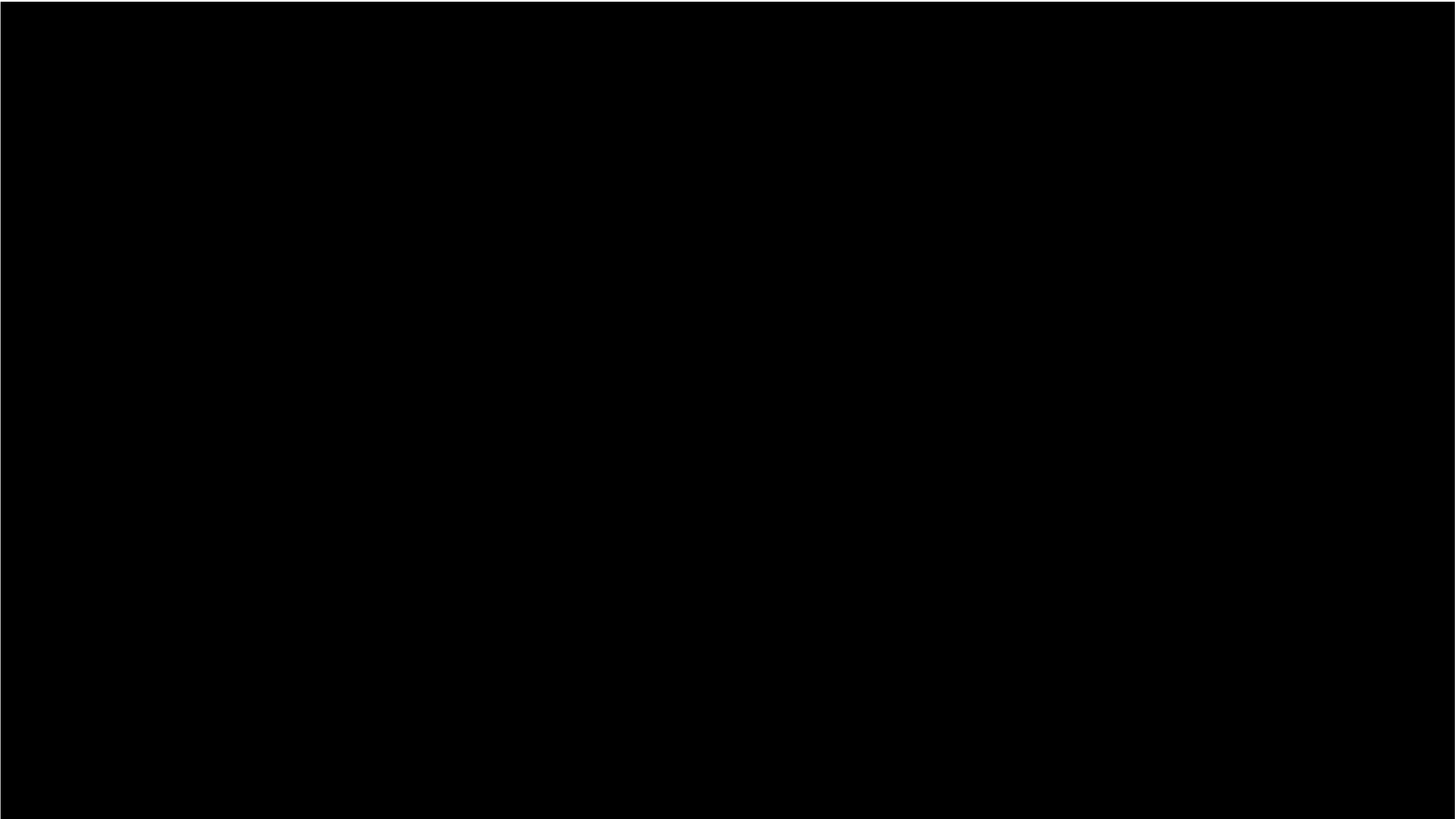
31st March 2025



**Which wireless technologies
are you using
at home?**

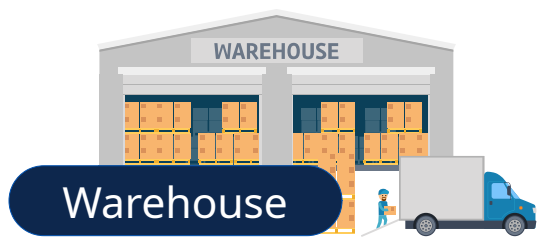
A challenge for you → Video



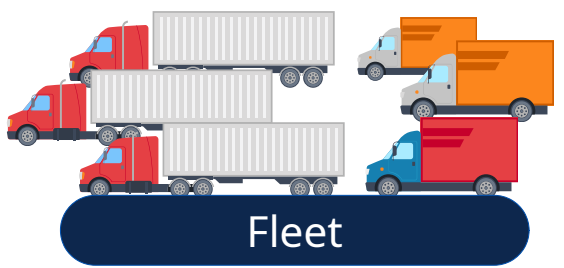


**Which technology fits best here:
5G?
Wi-Fi?**

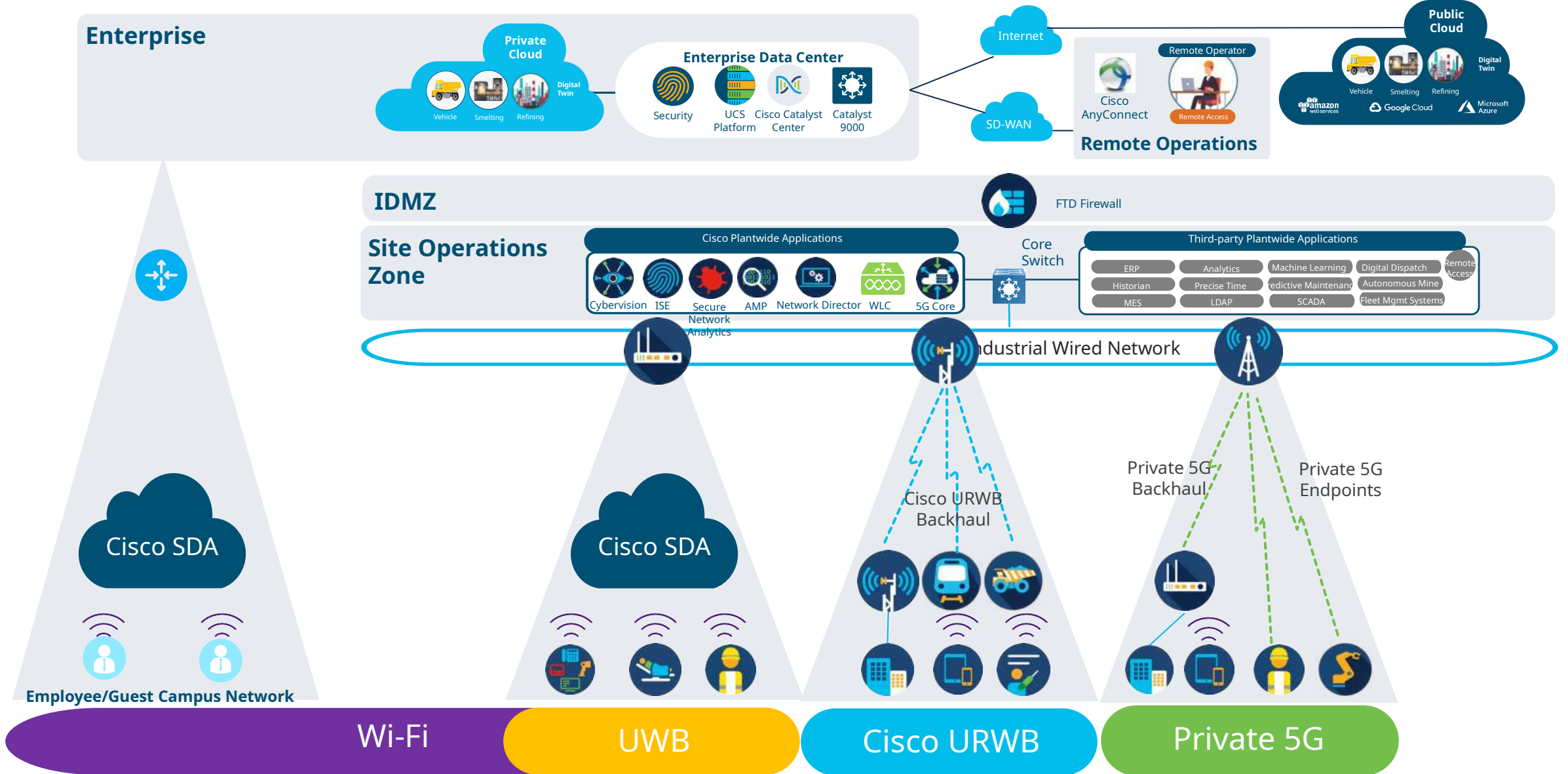




Multiple Wireless technologies - One technology doesn't fit all



Different Wireless Solutions for Different Requirements

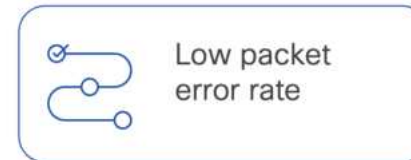


Challenges & Requirements in Industries

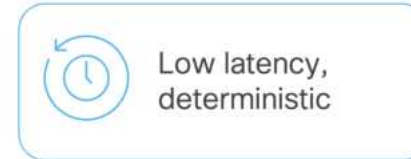
**Interferences from Machinery and Equipment
Size, Distances and Coverage areas**



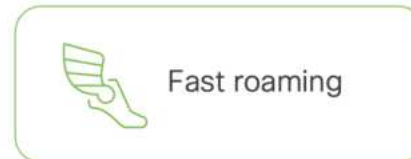
Data Security



Low packet error rate



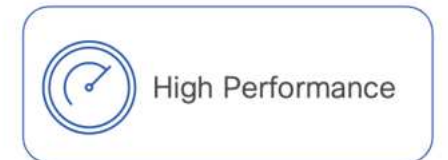
Low latency, deterministic



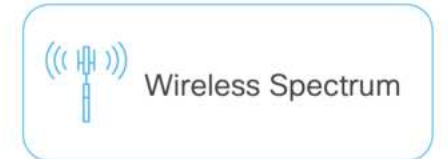
Fast roaming



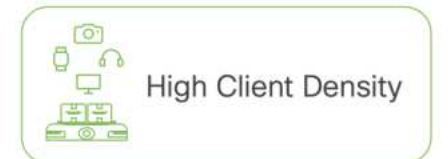
Interference robustness



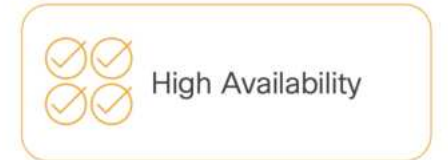
High Performance



Wireless Spectrum

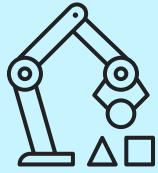


High Client Density



High Availability

Guidance for Technology Selection



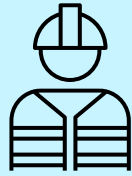
MFG



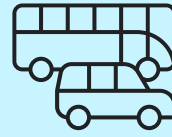
Transportation



Mining



Utilities



Roadways

Customer Use Case:

AGV/AMR, Train to Trackside, Autonomous mining, Remote Crane operations

1

What are the devices to connect?



Devices

Local and global
Eco-system

Handhelds,
AGV/AMR,
Dozer, Cranes, Rail

2

What are the applications requirements?

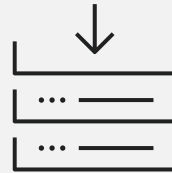


Resiliency

Latency, Reliability,
Scalability, Ease of
operations,
throughput...

3

Deployment Scenarios?



Deployment

Regional regulations:
spectrum ?
Specify Environment:
Indoor / Outdoor
Access / backhaul
Cyber-security

4

What are the potential technology options?



Technology

Wired: Ethernet, serial, DSL
Wireless: Wi-Fi & Ultra-Reliable Wireless Backhaul, Cellular, Wi-SUN
Spectrum:
Unlicensed, Licensed: Private, Public, Shared

5

What are the CapEx and OpEx Implication?



TCO

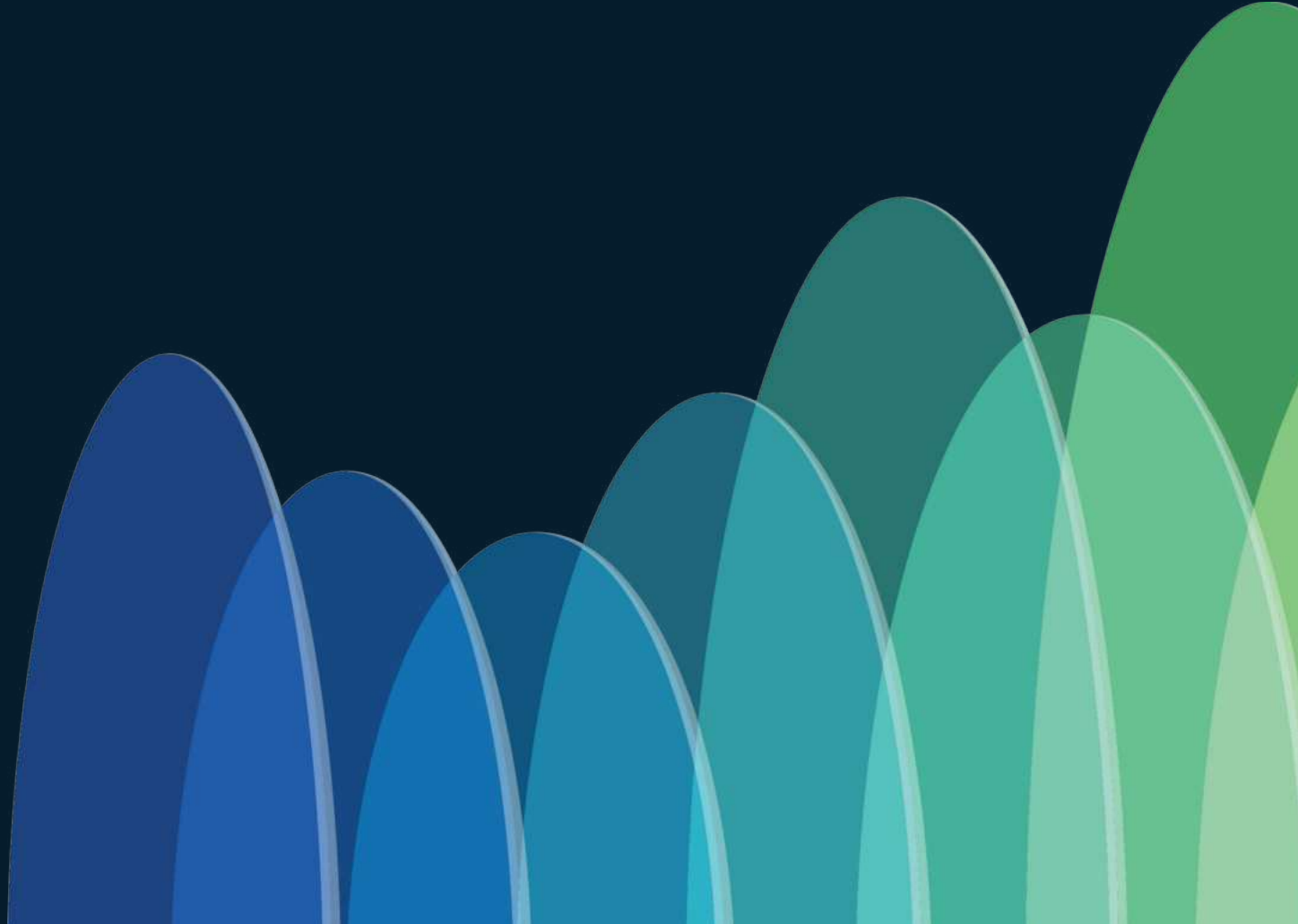
Product costs?
Operational costs?
Complexity?
Training?
Backward compatibility?

The Cisco Unified Wireless Toolbox

Wireless Technologies
explained

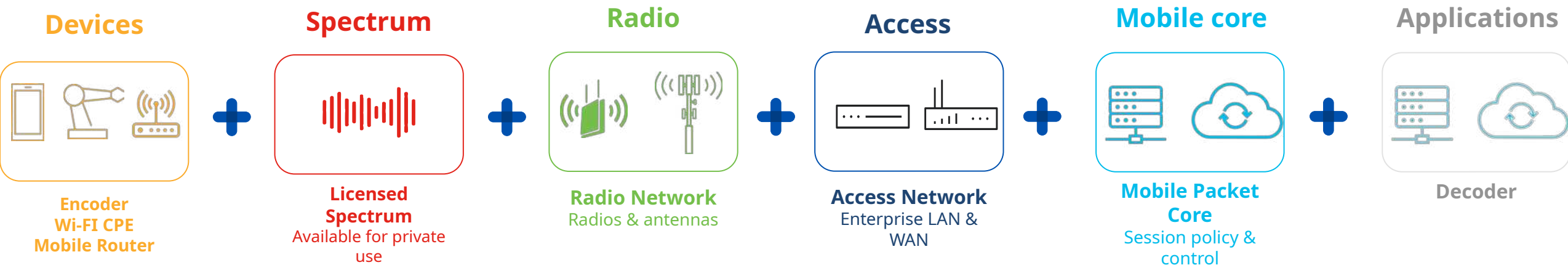


Private 5G



What is private 5G?

A private network that is built using **3GPP 5G technology, licensed radio spectrum**



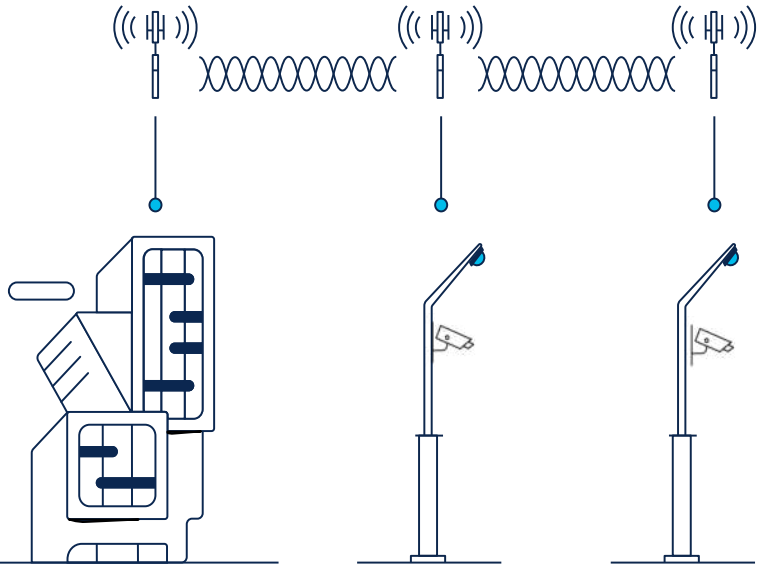
Cisco Ultra Reliable Wireless Backhaul - CURWB



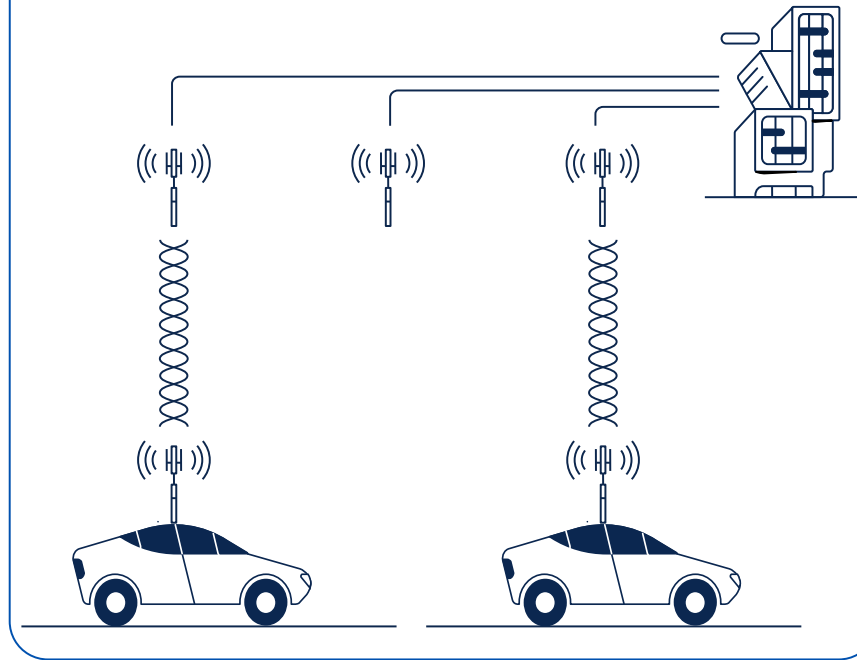
What is Cisco Ultra-Reliable Wireless Backhaul?

Reliable fiber-like wireless connectivity, anywhere

Connectivity where fiber isn't available or is too costly



Connectivity for moving assets



High Performance

99.999% availability - MPO

<10 millisecond latency

Zero packet loss

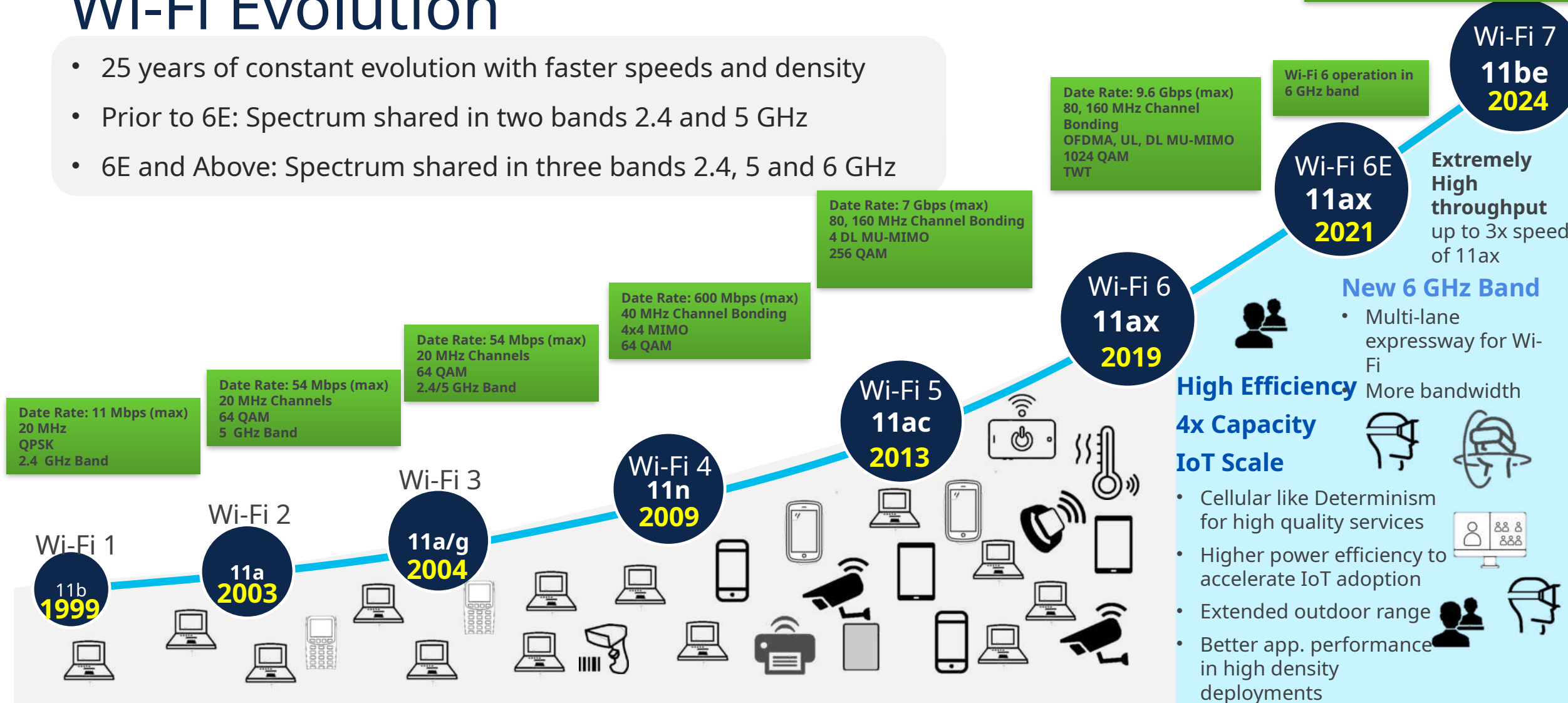
Proven • Deploys like Wi-Fi • Full control of your network • Unlicensed spectrum

Wi-Fi 7

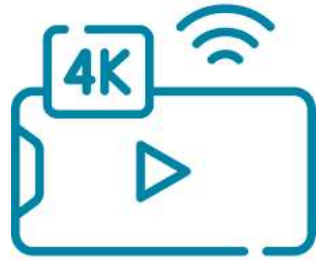


Wi-Fi Evolution

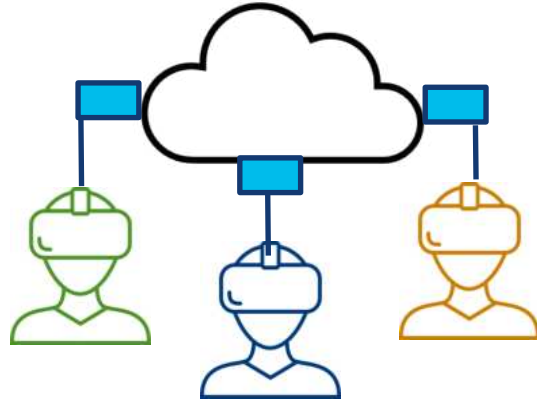
- 25 years of constant evolution with faster speeds and density
- Prior to 6E: Spectrum shared in two bands 2.4 and 5 GHz
- 6E and Above: Spectrum shared in three bands 2.4, 5 and 6 GHz



Wi-Fi 7 Use Cases



High Definition Video Streaming



Multi-user AR/VR/XR

Extremely High throughput



Emergency Preparedness Communication Services



Industrial IoT



Hybrid Work



Immersive Gaming & Entertainment

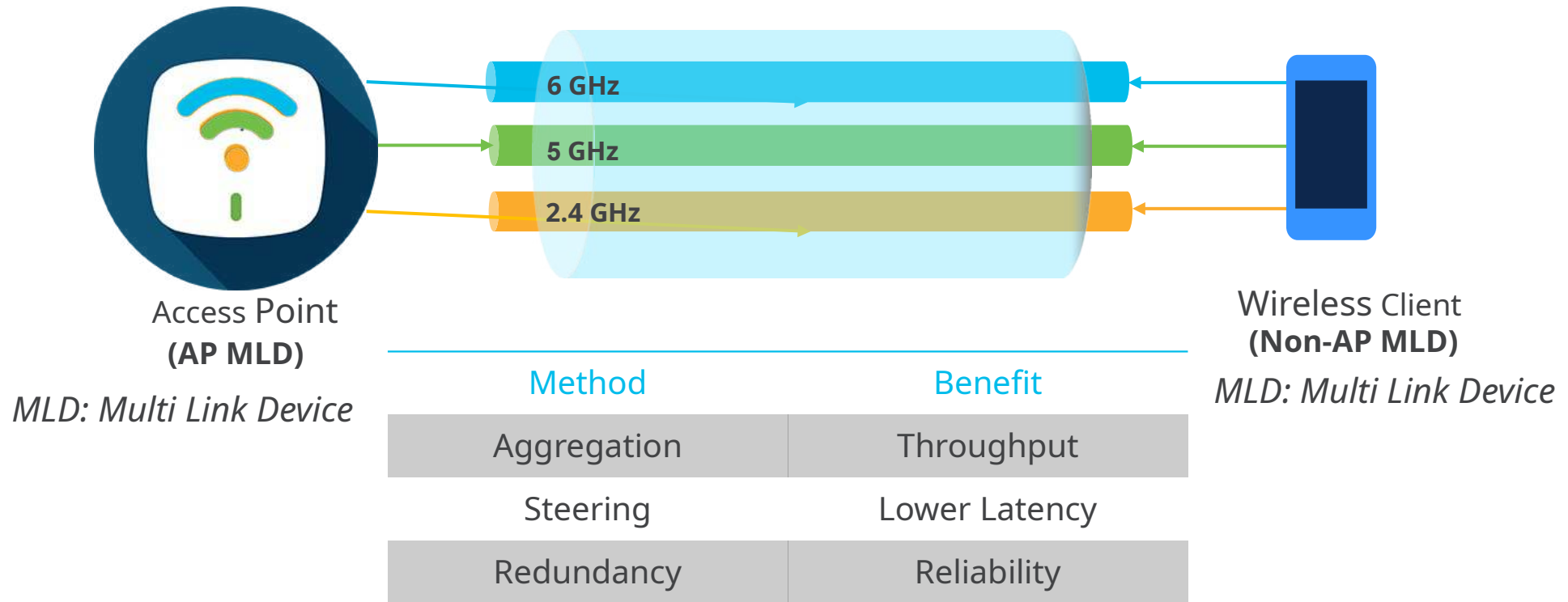


Automotive



Immersive Learning

Wi-Fi 7 – Multilink Operations -> MLO



Steering: If one lane gets too full, it **steers traffic to another lane**, it **prioritizes the fastest lane**

Wireless Technologies – Attributes and Sweet Spots



Attributes

- Unlicensed bands
- High density
- Most devices offer built-in Wi-Fi support



- Low latency
- Reliability – hitless
- High speed mobility



- Clean spectrum
- Large, outdoor coverage
- Macro mobility

Sweet Spots

- Reliable indoor coverage and short range outdoor
- Office, retail, healthcare, education, venues
- Growing support for IoT devices

- Rail
- Ports, mining
- Manufacturing

- Ports, bases
- Fixed wireless access
- Manufacturing
- Guaranteed video transmission

Secure your Industrial Network

Common Wireless Architecture & Policy

End-end Automation and Policy

Comprehensive Telemetry and Assurance

Consistent Security and Segmentation

Common Enterprise Policy

Enterprise Security Integration

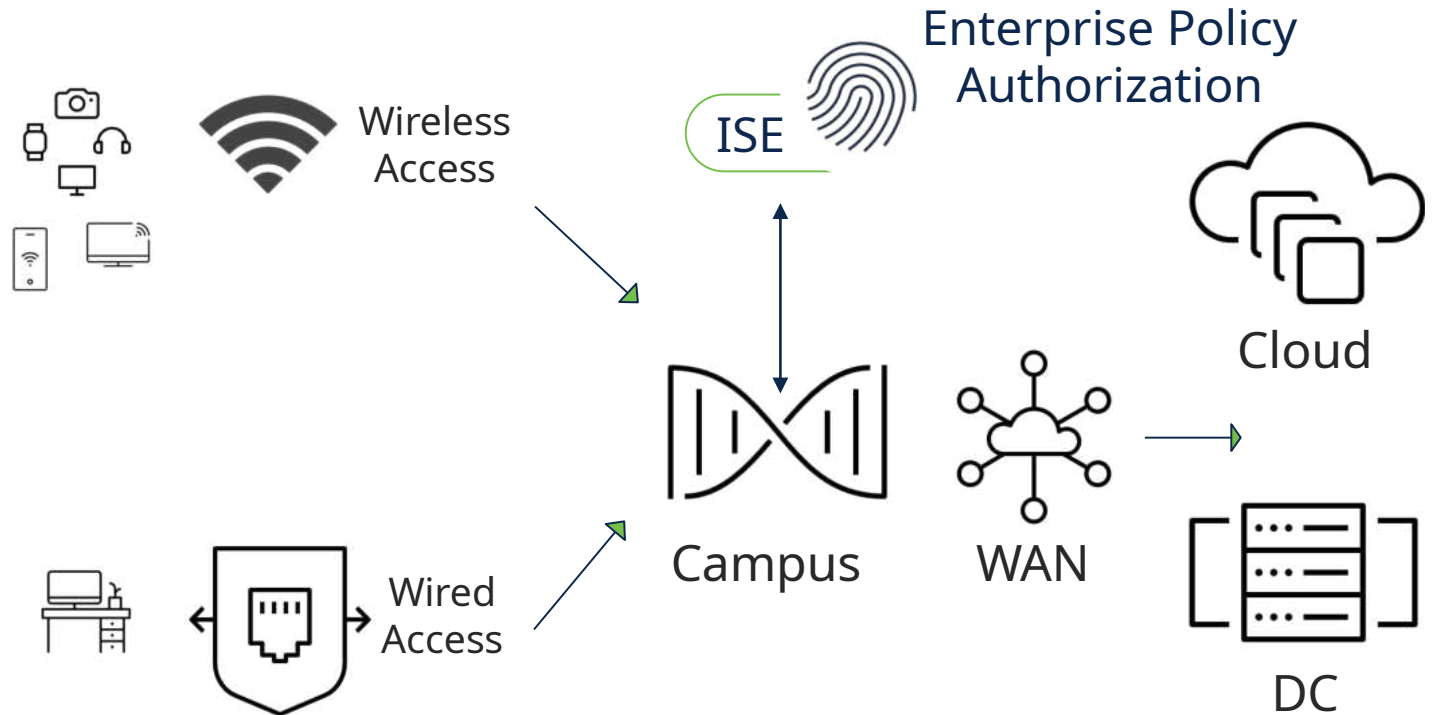
Cisco Endpoint/IoT GW Integration

Consolidated Insights & Analytics

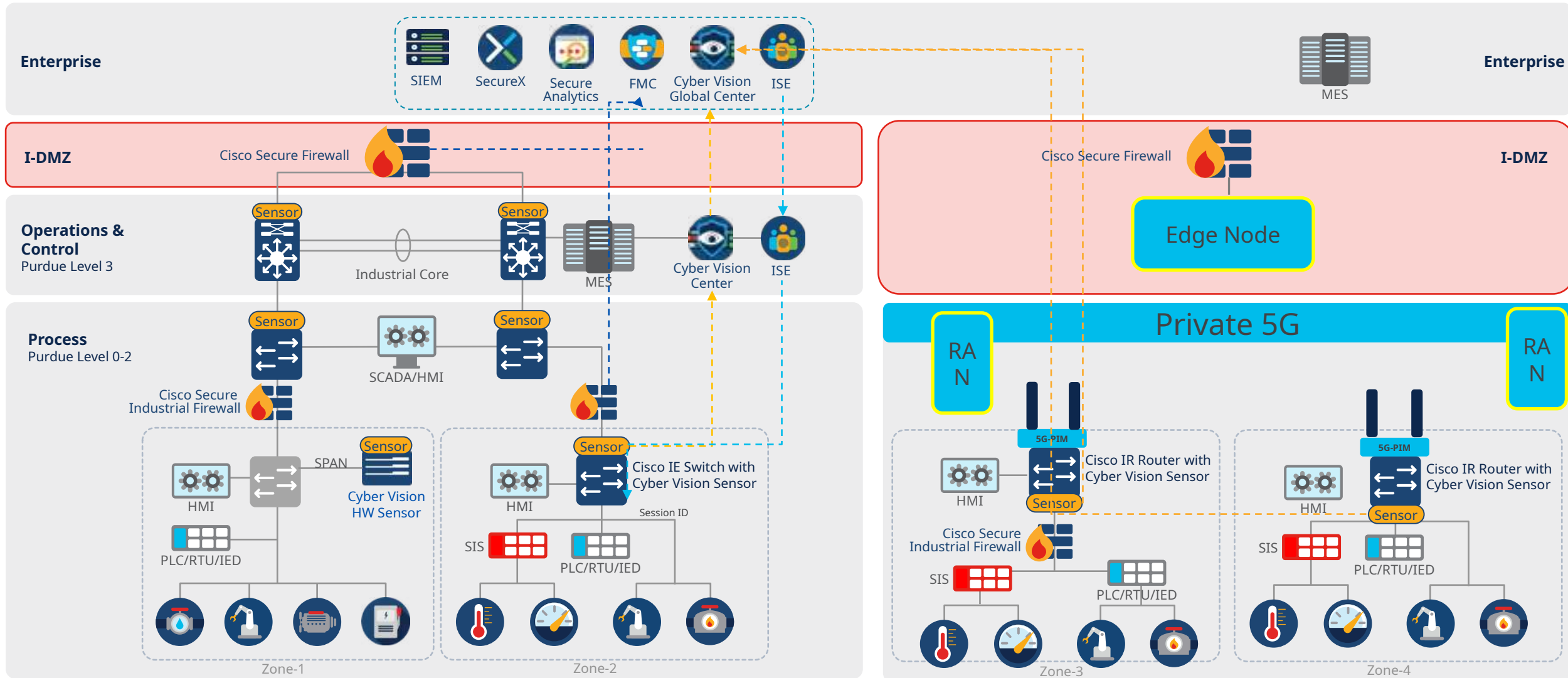
Unified Identity Framework

Private & Public Mobility

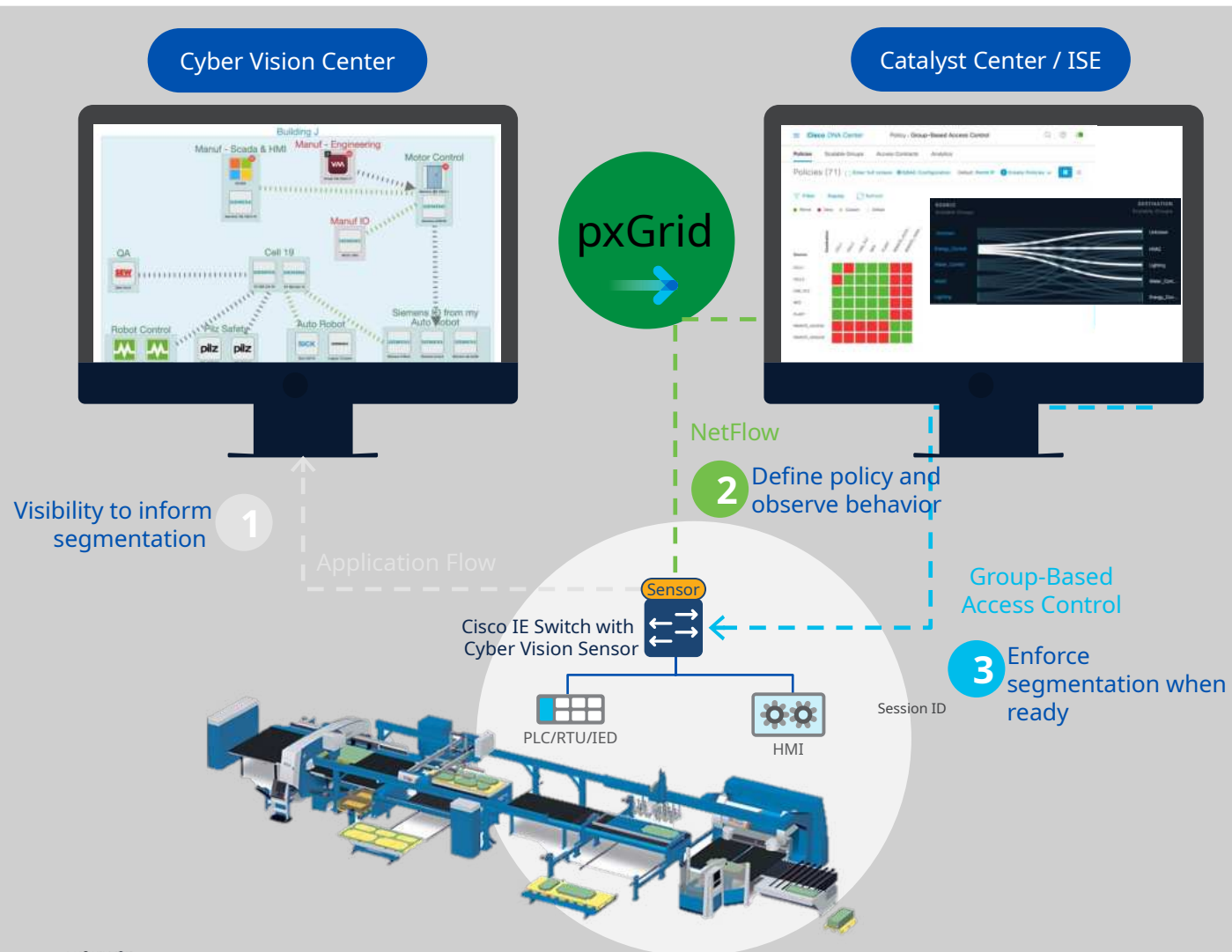
Unified EN Operations



Extend security operations to OT



Cyber Vision facilitates OT Segmentation



Visualize Zones & Conduits

Group endpoints into zones to visualize aggregated flows as conduits to inform segmentation policy



Dynamic SGT Mapping

Cyber Vision grouping results in dynamic Group-based policy assignment to endpoints through ISE



Monitor Before Enforcement

Visualize Group-based network behavior in Catalyst Center and enable enforcement when confident after monitoring

Putting it all together

Cisco is enabling industrial operations of the future

Best of Cybersecurity
Comprehensive capabilities



Best of OT Networking
Deep understanding of industrial requirements



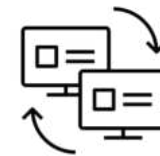
OT Visibility



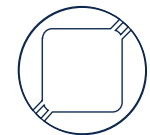
Zero Trust
Network Access



Network
Segmentation



Cisco + Splunk
SOC of the future

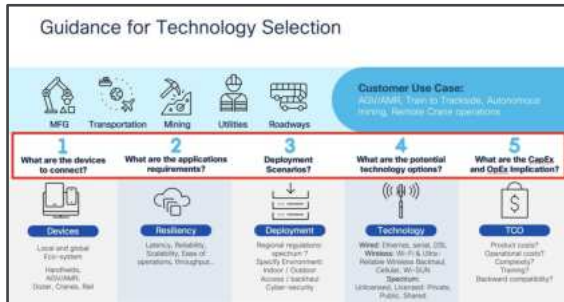


Threat Intelligence
& Incident
Response

From OT visibility to Cross-Domain Detection, Investigation, and Remediation
Cisco is helping customers connect and secure their industrial infrastructure

Takeaways

Takeaways & Take actions



- Define the problem statement before selecting a Wireless technology
- Cisco Unified Wireless and Security Solutions as plug-in to existing infrastructure
- Come and Talk to us today about your Wireless project

Q&A Time



