EN Wi-Fi

PLATFORM UPDATE

October 2021

Trends that will Define **Network Experience**

IoT
Future of Work is Hybrid

Multi-cloud
Future of Apps is Distributed

Cyber Security
Future of Security is Borderless

AIOps
Future of Operations is Efficiency

Users and devices — **29B** Networked devices and connections by 2023

- Wireless everywhere
- Remote Collaboration
- Smart buildings

Apps and Services — **70%** of apps deployed in the cloud will use containers by 2023

- Internet is the new core
- Office is where user is
- End to end visibility

Security and Compliance — **600%** Increase in attacks to exploit work from home users

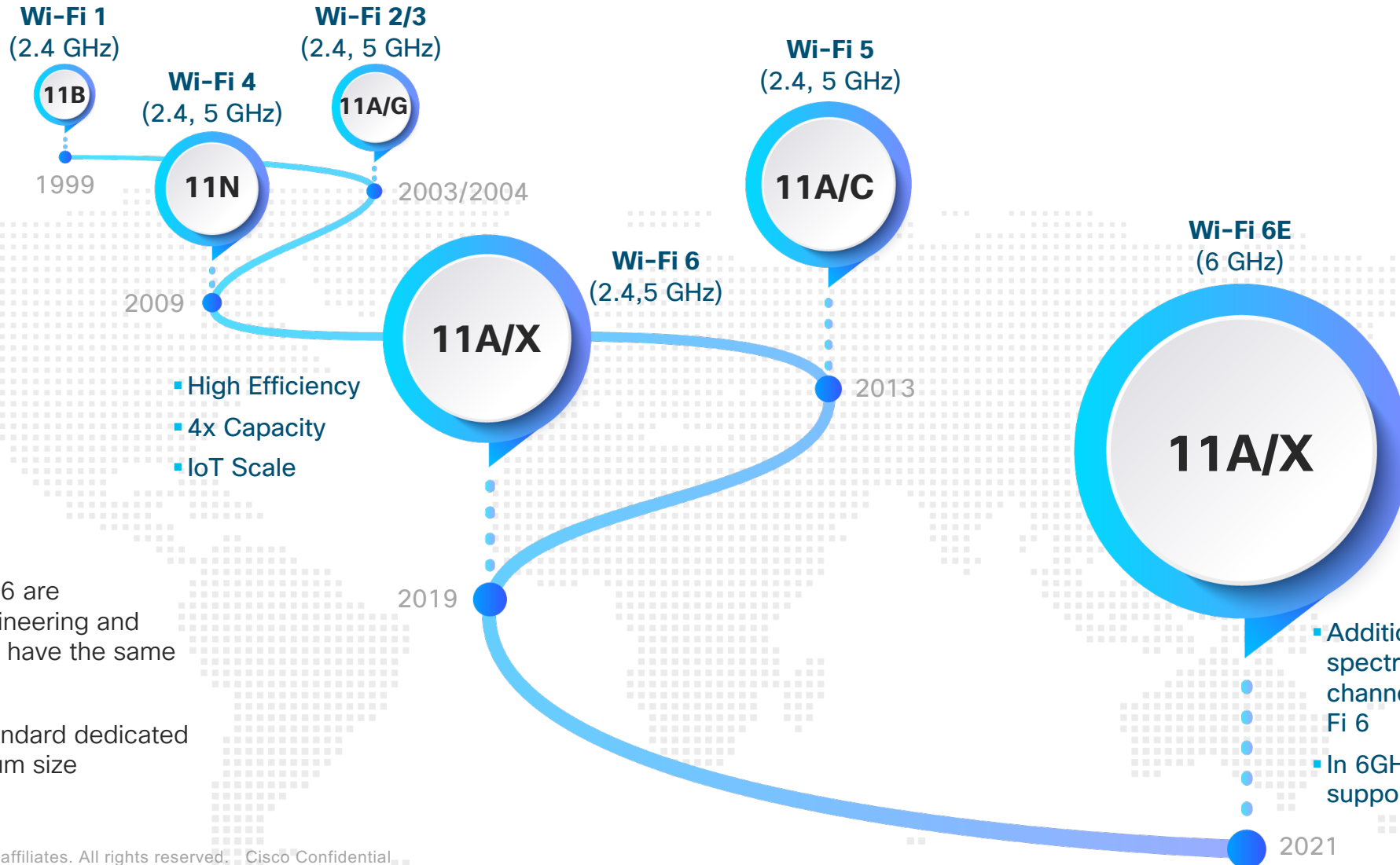- User and Apps are everywhere
- Nothing is controlled

Continuous Innovations — **50%** of large enterprises will adopt AIOps solutions by 2024

- Big data from network, people and security

What is **Wi-Fi 6E**

Wi-Fi 1
(2.4 GHz)

11B

Wi-Fi 4
(2.4, 5 GHz)

Wi-Fi 2/3
(2.4, 5 GHz)

11A/G

11N

1999

2003/2004

Wi-Fi 5
(2.4, 5 GHz)

11A/C

2009

11A/X

Wi-Fi 6
(2.4,5 GHz)

Wi-Fi 6E
(6 GHz)

- High Efficiency
- 4x Capacity
- IoT Scale

2013

11A/X

2019

- 802.11ax and Wi-Fi 6 are interchangeable engineering and marketing terms that have the same meaning

- Wi-Fi6 "E" – First standard dedicated to increasing spectrum size

- Additional 6GHz spectrum 59 new channels augmenting Wi-Fi 6

- In 6GHz, ONLY 11ax, no support for legacy

2021

Wi-Fi 6: Enabling New **Mobile Experience**

Increased Throughput

Improved SLA

Distributed Network Load

Improved Security & Segmentation

Wi-Fi-6

Increased Data Rates
Higher modulation (Up to 1024 QAM)

Higher Density
Efficient Spectral Re-use (OFDMA, BSS Coloring)

Reduced Latency
Uplink resource scheduling (OFDMA)

Greater IoT Coverage
Deterministic Capacity (OFDMA)

Power Efficient
Flexible Low-power Scheduling (Target Wake Time)

Use Cases **Wi-Fi 6E** will Solve

Wi-Fi 6E Means MORE Different Verticals

Education	Healthcare	Retail	Workspaces	Manufacturing	Public Venues

Education
AR/VR/XR learning, e-learning, digital educations

Healthcare
Telemedicine, robotics, smart IoT devices and wearables, asset tracking

Retail
Self-service/ checkout, digital price tags, smart trace-tracking, AR

Workspaces
Digital collaboration (video conf., digital whiteboards, etc.), teleworking

Manufacturing
Automated and digitized operations and supply chain, cobots

Public Venues
Self-service shopping, smart location-finding/trace-tracking, tracking visitors flow
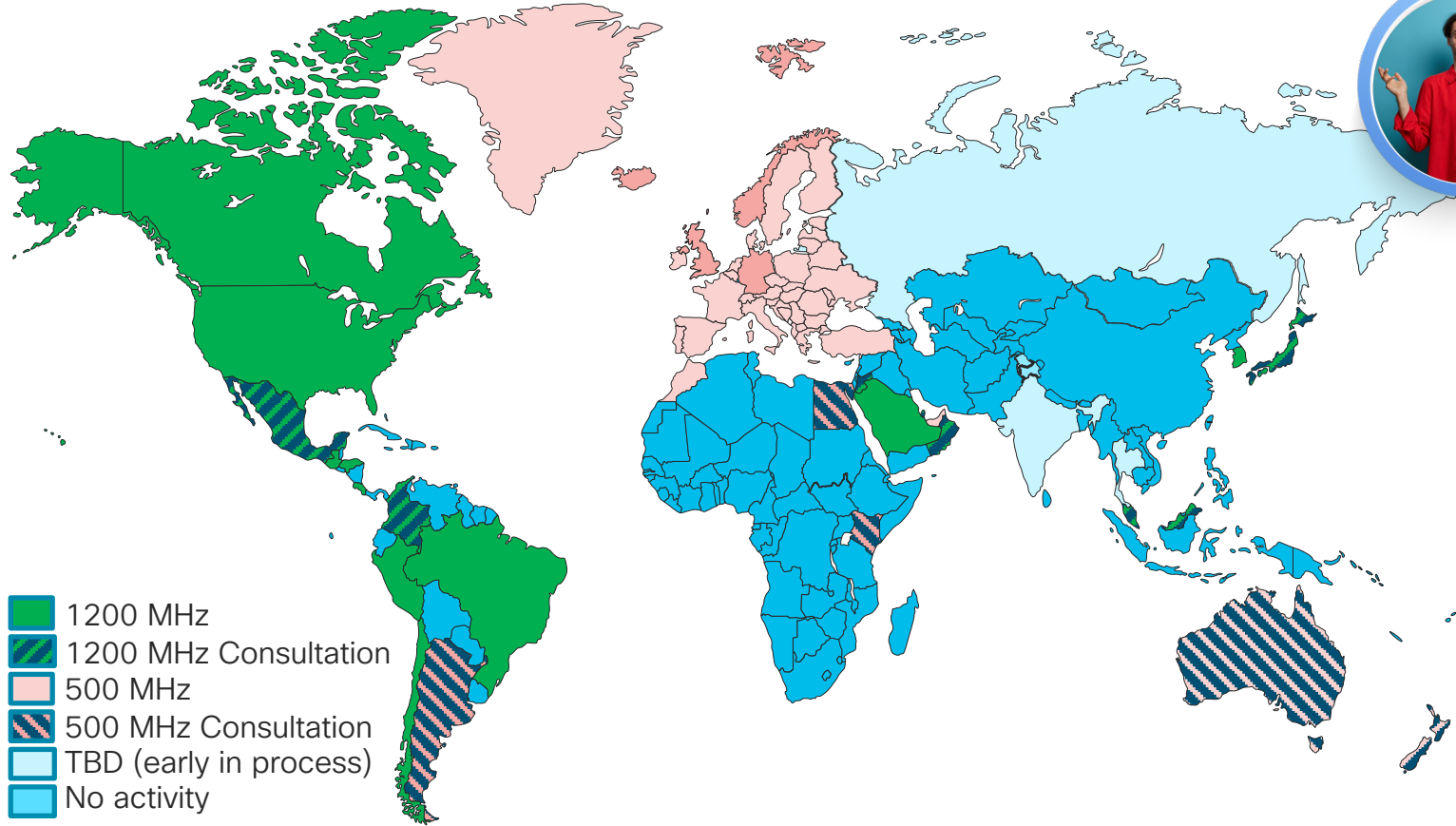
"IT" needs
Support for

Capacity | Density (IoT devices) | Performance | Low latency

Global Availability of **6 GHz Band** for Wi-Fi

Is Wi-Fi 6 an Option for me Based on my Geo Specific Location?

Deployment means more than just replacing old APs with new Wi-Fi 6E APs. Ask yourself:

1. Can my network handle the speed? Yes. If your current switches can support a gigabit or more. If no, current Cisco Catalyst switches supports mGig data rates, so you should upgrade.

2. Are there even Wi-Fi 6E client devices available? Yes. But there aren't a lot of client devices on the market yet; a few laptops and Samsung phones and TVs. But more are hitting the market every month. Be ready!

3. Does my country even support Wi-Fi 6E? Maybe. Worldwide support for Wi-Fi 6E isn't here yet and should be available sometime in 2022. But a Wi-Fi 6E AP offers investment protection so you can be ahead of the curve when that technology is approved.

Legend:
- 1200 MHz
- 1200 MHz Consultation
- 500 MHz
- 500 MHz Consultation
- TBD (early in process)
- No activity

(https://www.wi-fi.org/countries-enabling-wi-fi-6e)

Why is Cisco Leading with **High-end Access Points?**

It's all about putting our best foot forward and leading with our best.

- Early adopters of new network technologies tend to be Enterprise, education and healthcare. They need APs that can handle the traffic on their networks.

- Our competitors feel that being first is important but they're only offering a Wi-Fi 6E solution with 2x2 radios. The Cisco Catalyst 9136 Wi-Fi 6E AP employs an 8x8 radio and two 4x4 radios.

- Legacy clients still need support so an Enterprise network with 2x2 radios is not going to cut it. Despite supporting the new technology, their network capacity is cut in half.

- Furthermore, Wi-Fi 6E Enterprise customers who choose Cisco won't have to replace 2x2 APs on the network when the Enterprise-level APs are released. They're already here! Don't buy the same AP twice.

Redefining the **Hybrid Access Experience** with Catalyst Wireless
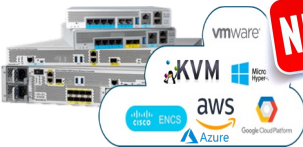
CONNECT

NEW Best of breed Wi-Fi6 & Wi-Fi 6E* platforms and custom-built long-range UHD solution

NEW Seamless end-user experience through device ecosystem partnerships

NEW Multilingual APs with Flexible controller deployment options

SECURE

Policy and Identity-based segmentation with SDA & Best of Breed over the Air security with Rogue and AWIPS

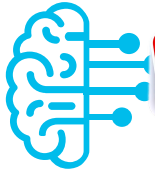**NEW** AI-powered intelligent IOT & device profiling with AI End Point Analytics

NEW Random Mac Solutions to provide security with out compromising privacy

AUTOMATE

NEW Immersive NetOps with 3D Map Analyzer

NEW Smooth Wireless Experience With AI backed predictive and Intelligent RRM

Superior Application experience with App QoS

Catalyst Wi-Fi 6/6E **Access Points**

Purpose-built for Immersive Experiences

Catalyst 9136 Series
Industry-leading Wi-Fi 6E AP, build to take advantage of 6GHz band expansion with 16 Spatial Streams (4x4+8x8+4x4) tri-band radio architecture and full stack DNA Software.

Catalyst® 9105 Series
Most versatile AP for teleworkers, office, branch, dorm room, etc.

Catalyst 9130 Series
Industry-leading Wi-Fi 6 AP with 8x8, tri-radio architecture and full iCap. Industry's only 8x8 AP with external antennas, new High gain Ultra High Density with C9104 antenna

✅ Powered by Cisco RF ASIC

Catalyst 9115 Series
Ideal for small to medium-sized deployments with dual radio architecture

Catalyst 9124 Series
Custom designed for delivering best-in-class connectivity in outdoor and challenging environments

✅ Powered by Cisco RF ASIC

Catalyst 9120 Series
Designed for mission-critical deployments with dual 5-GHz and integrated IoT radio

✅ Powered by Cisco RF ASIC

❋ Bluetooth®   Wi-Fi 6 CERTIFIED

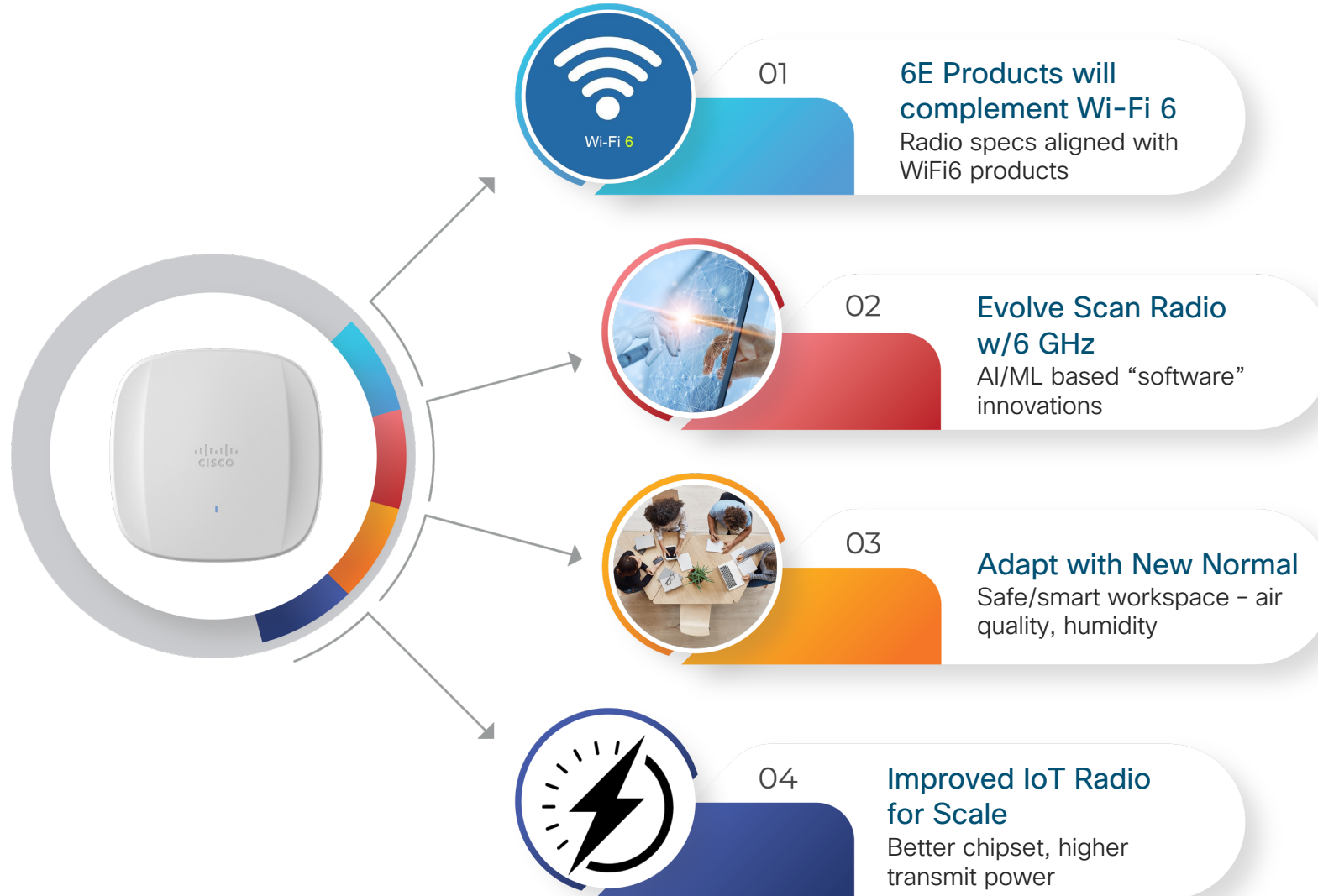# Catalyst **9136 Series** Access Points

Wi-Fi 6 Extension with Adoption for New Normal

Wi-Fi 6

01 **6E Products will complement Wi-Fi 6**
Radio specs aligned with WiFi6 products

02 **Evolve Scan Radio w/6 GHz**
AI/ML based "software" innovations

03 **Adapt with New Normal**
Safe/smart workspace – air quality, humidity

04 **Improved IoT Radio for Scale**
Better chipset, higher transmit power

Specifications

Scale and Performance
- 4x4 + 8x8 + 4x4
- Tri Band concurrent
- 10.2 Gbps data rate
- Uplink ports 2x5G

Intelligence for IT/OT
- Software upgradeable scan radio
- Improved IOT radio w/ peaceful co-existence
- Embedded Env sensors (w/ DNA Spaces)

Eco System Innovations
- Client eco system partnership beyond 6E standards
- WPA3, Zero Trust solution
- Full iCAP with decrypted data packet captures
- Client Analytics to enhance Cisco DNA Assurance

Clean Spectrum
Additional 1.2GHz with no interferences

High Throughput
Wider channels (>1 Gbps)

Ultra-low latency

Getting Ready for **Wi-Fi 6**

Eco System

Regulatory

- Indoor AP– Majority countries*
- External/Outdoor (US/Canada)– Requires AFC

Client

- Samsung Device (Mobile, TV)
- Intel Adapter
- Windows 11

Network

- Switch port >1G, preferably 5 Gig
- UPOE/802.3bt Power for full functionality High End
- POE+/802.3at Cisco will provide fix and configurable options
- Brackets backward compatible, no masonry work
- Cisco Catalyst 9800 Controller only (No AireOS !!)