



28 SEP – 21 OCT 2021

WI-FI: POWERING INNOVATION SERIES

Creating new possibilities in a virtual society

Join us for a series of exclusive webinars featuring
top executives from the Wi-Fi industry

REGISTER NOW

#WGCEMEA | www.wirelessglobalcongress.com | #wifirevolution



5 OCT 2021 – 15:30 CET

Wi-Fi Leadership Conference & WBA Industry Awards 2021

Creating new possibilities in a virtual society

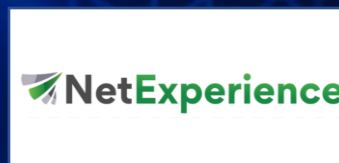
WELCOME
By Tiago Rodrigues

CEO, Wireless Broadband Alliance

#WGCEMEA | www.wirelessglobalcongress.com | #wifirevolution



Thank you to our Sponsors



Wi-Fi Powering Innovation Series

Full Program Agenda

September 28 & 29 – WBA Members Only Working Sessions

September 30 – WBA Members Only Working Sessions: Briefing for Asia-based members

WI-FI POWERING INNOVATION SERIES: 06:30 PT; 09:30 ET; 15:30 CET; 23:30 Singapore

**Tuesday
October 5**

**Wi-Fi Leadership
Conference
and
WBA Industry Awards
2021**

**Thursday
October 7**

**Wi-Fi: Public and Private
Networks and
Convergence with 5G**

**Tuesday
October 19**

**Wi-Fi: Enabling the Smart
Connected Enterprise**

**Thursday
October 21**

**Innovation for Service
Providers, Cities and
Venues with Public and
Guest Wi-Fi**



Wi-Fi Leadership Conference & WBA Industry Awards 2021

OCTOBER 5, 2021



Tiago Rodrigues

Wireless Broadband
Alliance



Matt MacPherson

Cisco



Dr. Derek Peterson

Boingo Wireless



Vijay Nagarajan

Broadcom



Dr. Carlos Cordeiro

Intel

WELCOME TO NEW MEMBERS



UNIQUE YEAR IN TERMS OF MEMBERSHIP



BOARD

MEMBERS



Historical record of members +150

95% of the members are engaged and participating on the activities

Membership diversity: carriers, vendors, startups, enterprises and non-profit

Record of Members joining in the last 12 months +40

List Not Exhaustive

VIBRANT YEAR IN TERMS OF PROGRAMS & PROJECTS



**12 Project delivered
on the last 12 months**

**Participation of
members on activities
increased by 25%**

**+1,200 Unique
Extranet Users
+3,300 Meeting
Participants**

**8 Projects in progress
and 9 new for
2022 Roadmap**

EXCITING YEAR IN TERMS OF MARKETING



Wireless Broadband Alliance (WBA)
5,181 followers
4mo • Edited •

With **#WGCAmericas** - the summer's foremost **#WiFi** event - kicking tomorrow morning, don't miss the presentation from **Broadcom Inc.**'s **Vijay Nagarajan** as he discusses the 6 GHz vision for multi-gigabit broadband. Attendees will also hear exclusive presentations and insightful panel discussions from **AT&T**, **Boingo Wireless**, **Cisco**, **Intel Corporation**, **Marriott International** and **Wi-Fi Alliance** - make sure you don't miss a minute! Register now: <https://lnkd.in/ghNpNTs>

JUNE 3 - JULY 8, 2021
WI-FI: POWERING INNOVATION SERIES

CONFIRMED SPEAKERS INCLUDE:

Vijay Nagarajan
Vice President, Mobile Connectivity Division,
Broadcom Inc.

Gigabit Broadband

56

The deployment of **@Huawei's** Wi-Fi 6 technology in China's Shenzhen University Town (UTSZ) demonstrated the effectiveness that Wi-Fi 6 can have in an educational setting, and paves the way for future deployments around the globe. Learn more here: bit.ly/3q39KLc
pic.twitter.com/LG1UKI9wM5

WI-FI 6 TRIAL CASE STUDY

EDUCATION - SHENZHEN UNIVERSITY TOWN - DOWNLOAD NOW

Wireless Broadband Alliance (WBA)
5,181 followers
1mo •

"**Samsung Electronics** has played a leading role in advancing wireless communication technologies, and we're committed to delivering seamless and secure wireless network connections. We first partnered with **Cisco** to develop and bring **#OpenRoaming** to Samsung devices, and now are proud to see WBA adopt OpenRoaming as an industry standard." Learn more about Samsung's adoption of OpenRoaming by watching the video below, and discover the benefits that OpenRoaming can offer here: <https://openroaming.org/>

OpenRoaming provides the free use of Wi-Fi network

For the collaboration with Cisco, we developed the OpenRoaming service, which allows users to connect to a Wi-Fi network seamlessly and securely.

Samsung Discusses WBA OpenRoaming™
youtube.com

73

ComputerWeekly.com

WBA OpenRoaming enabled in forthcoming Telecom Infra Project OpenWiFi standard

Open technology initiative adopts OpenRoaming Wi-Fi roaming standard to facilitate what is claimed to be seamless roaming connectivity using the wireless network

capacity

News Events & Awards Regions People Community Webinars Dig

Home > Article

Latam's busiest airport rolls out world-first OpenRoaming network over Wifi 6

2h | Melanie Mingas

Facebook Twitter LinkedIn WhatsApp Email

**10 Press Releases
+280 Media articles
+750k views**

**~80% increase in
website traffic**

**~200% increase in
Publication Downloads**

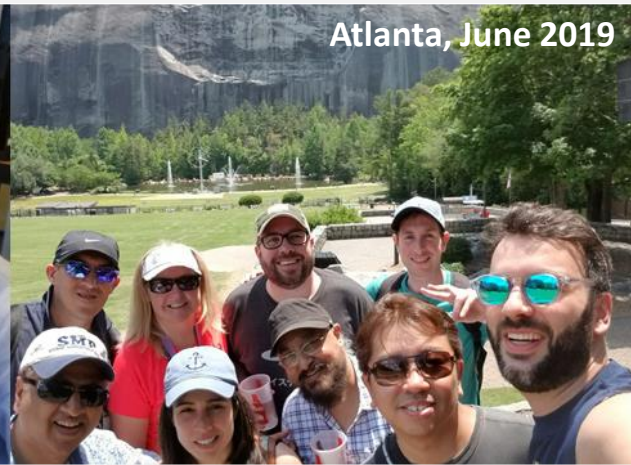
**+20 Media Briefings
in 2021**

**Gartner, Omdia, IDC, Senza Fili,
Mobile Experts, Gigaom, Dell 'Oro**

GET INVOLVED, JOIN WBA



Singapore, Feb. 2020



Atlanta, June 2019



Frankfurt, Oct. 2019



Hong-Kong, Jan. 2019



Frankfurt, Oct. 2019



Singapore, Feb. 2020

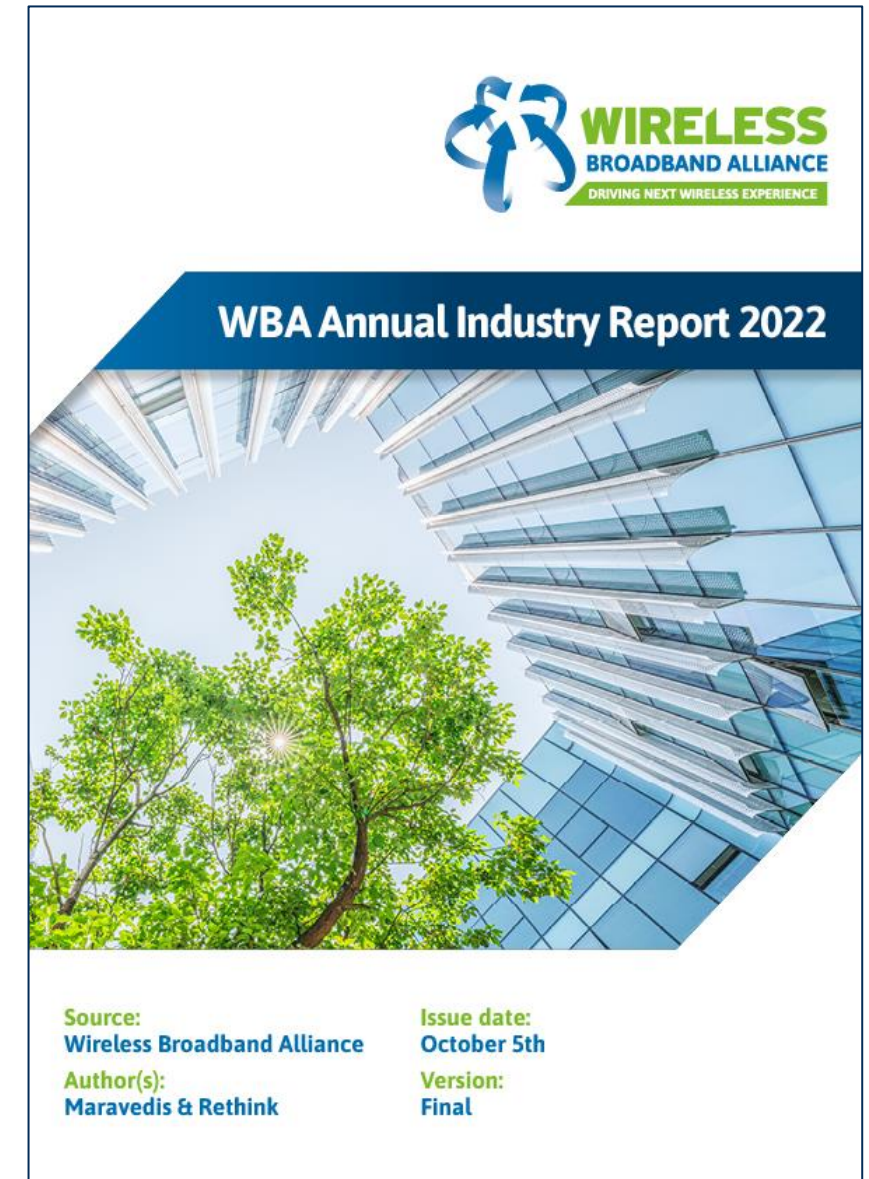
Diverse, friendly and committed group of experts working together (and having fun) to drive Wi-Fi industry forward

WBA Annual Industry Report 2022 Released today

Available at: wballiance.com/resource/wba-annual-industry-report-2022

... As Wi-Fi's capabilities broaden and come closer to those of cellular, convergence and coexistence between licensed and unlicensed technologies becomes a bigger issue each year. For the first time, the two technologies are targeting a very similar set of use cases, and together, can often support a highly innovative approach ...

Source: editorial team (Adlane Fellah & Caroline Gabriel) of WBA Annual Industry Report 2022



Key takeaways

**Market adoption
of Wi-Fi 6**

**6Ghz availability for
unlicensed use**

**Wi-Fi experience becoming
more deterministic**

**Wi-Fi Sensing and other
innovations (Wi-Fi 7)**

**OpenRoaming for Wi-Fi
Roaming & Offload**

**Wi-Fi Security, Privacy and
Identity management**

**Wi-Fi Convergence
with other RANs**

**OpenWi-Fi & OpenRAN for
next gen core networks**

Key data points

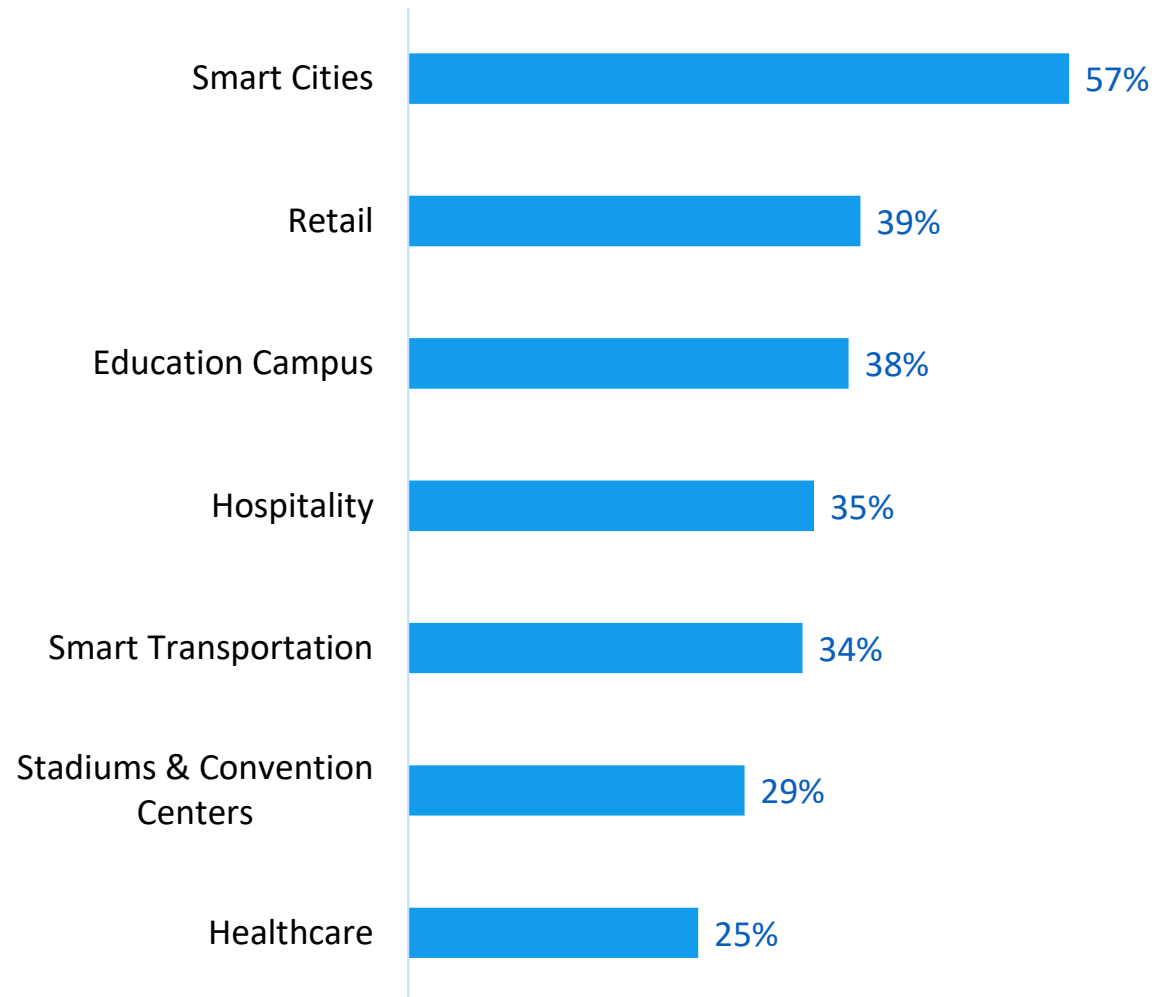
**High interest for Wi-Fi 6 & 6E
83% have deployed or planning to do it in 2022**

**58% said 6 Ghz plays a critical or very important role
for their Wi-Fi strategy**

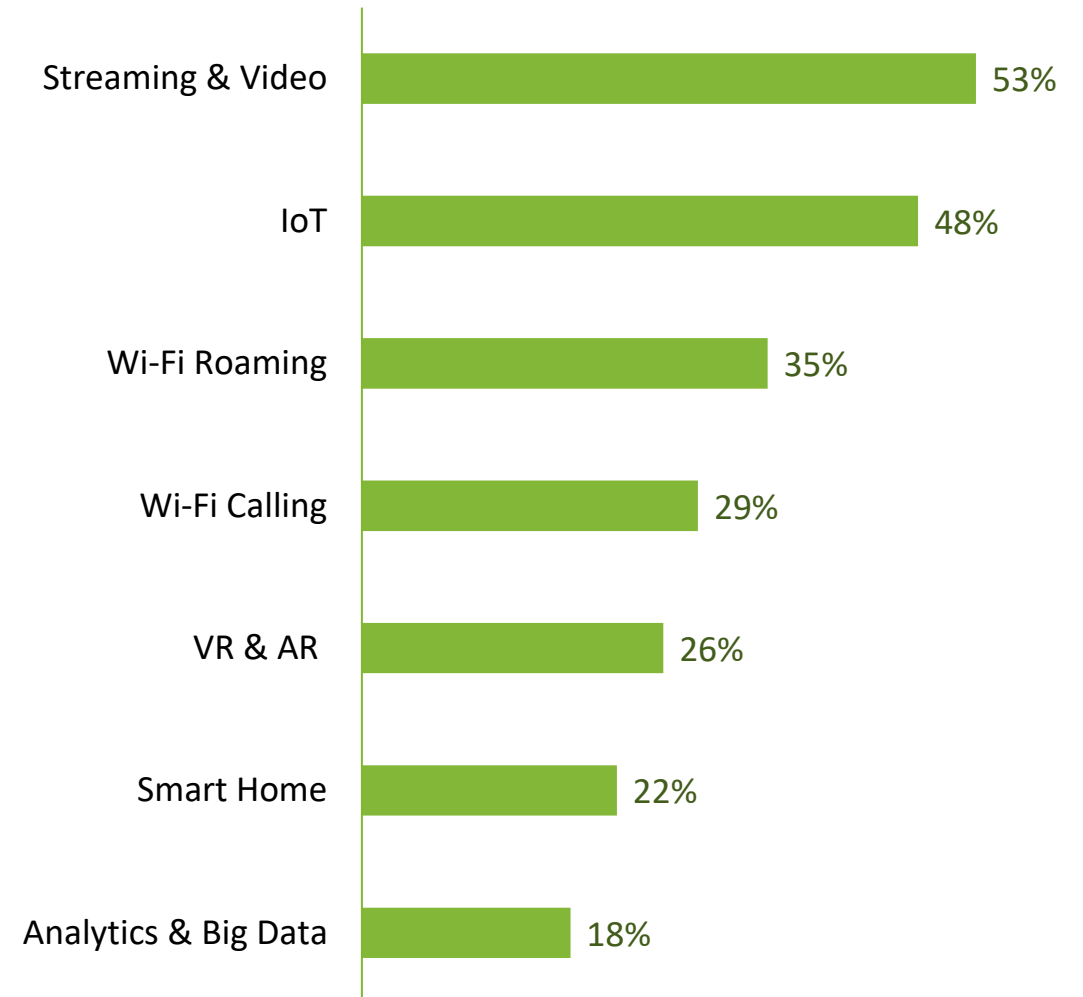
**Growth of OpenRoaming & Passpoint
40% already deployed or plan to deploy in 2021**

**56% are more confident about investing in
Wi-Fi in the coming years**

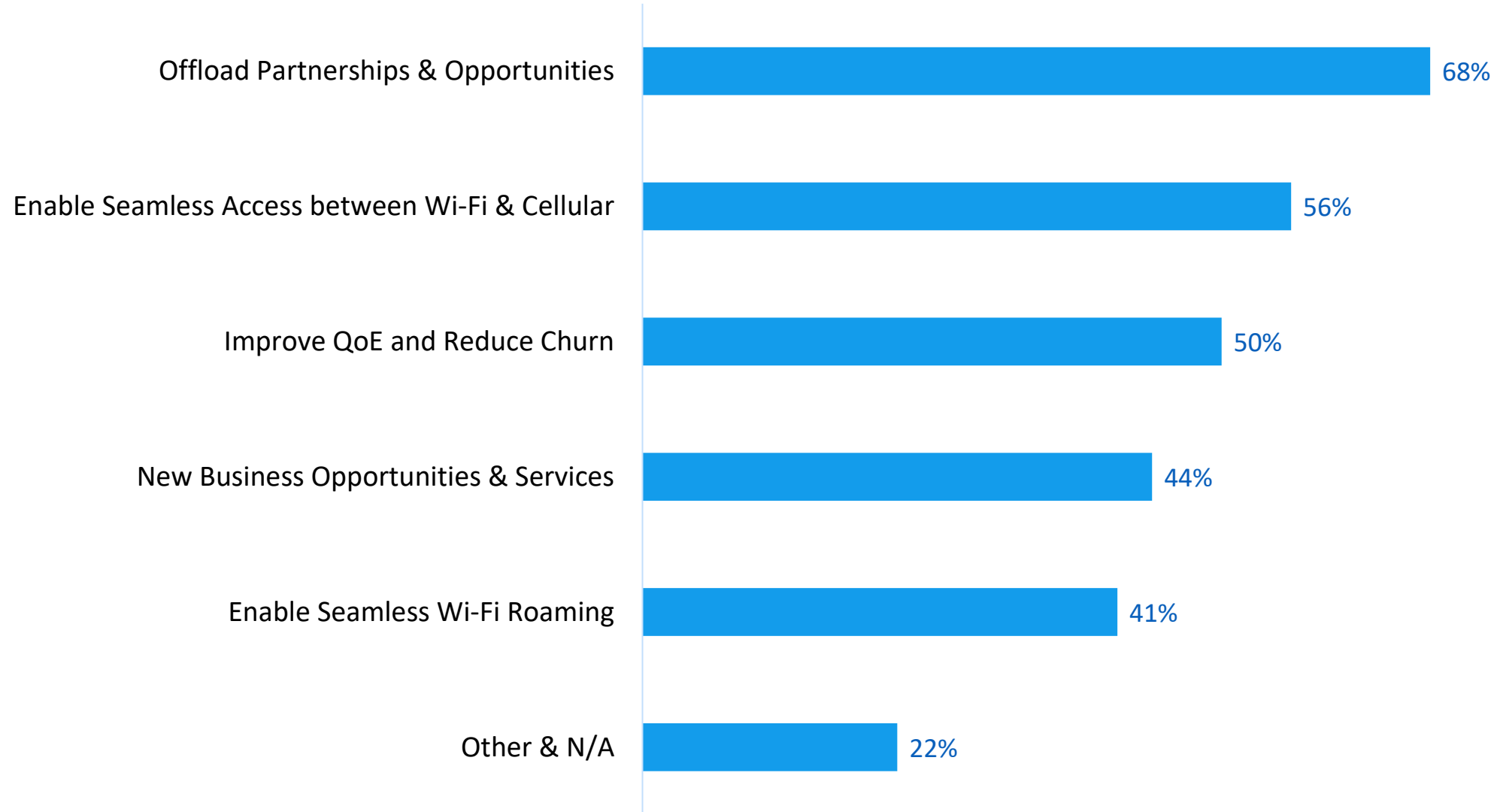
Top Vertical Markets to Grow Investments in Guest-Wi-Fi



Top Wi-Fi Applications for Traffic Growth

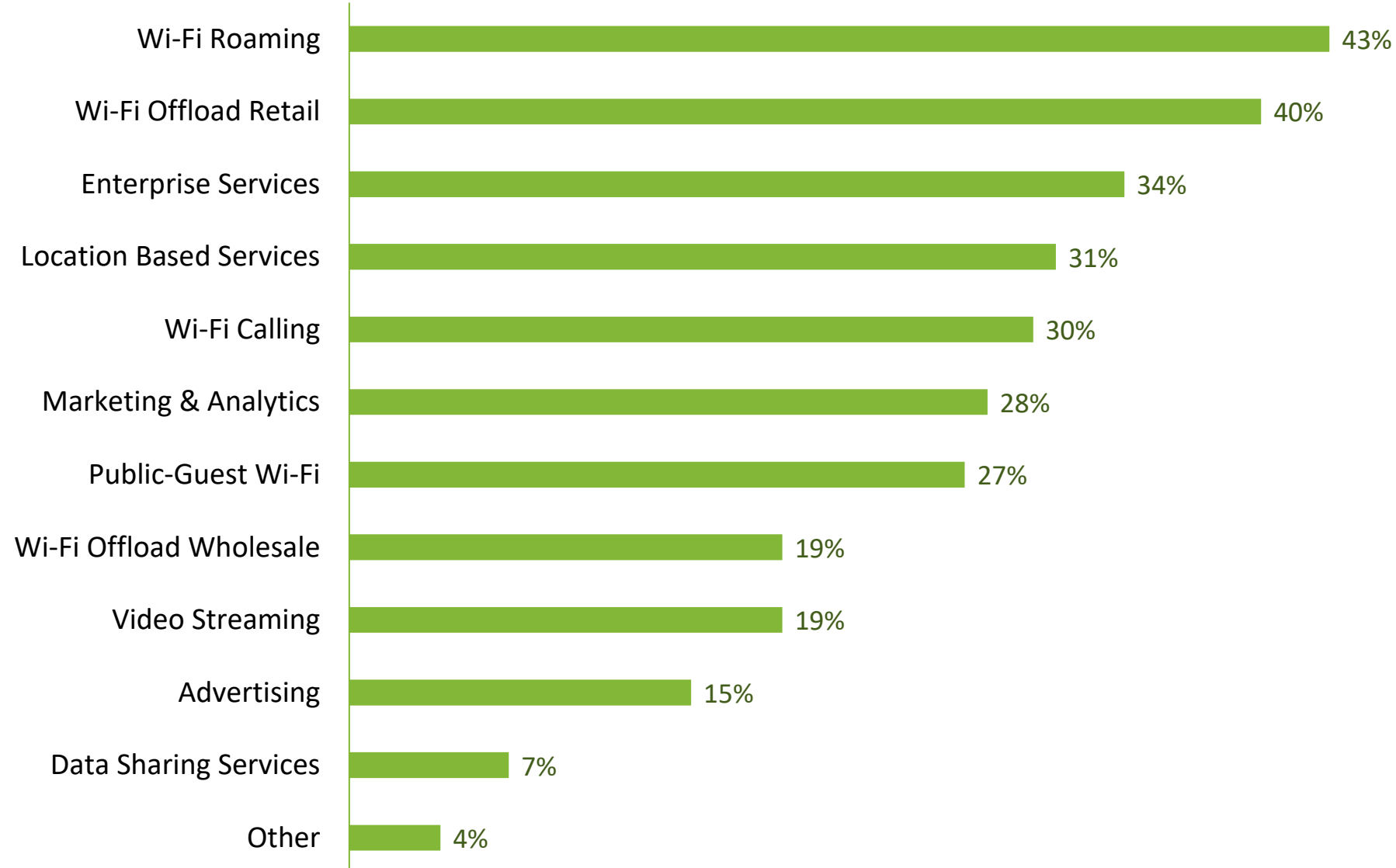


Source: WBA Annual Industry Report 2022



Source: WBA Annual Industry Report 2022

PUBLIC-GUEST WI-FI MONETIZATION STRATEGIES



Source: WBA Annual Industry Report 2022

WBA Annual Industry Report 2022 Released today

Available at: wballiance.com/resources/industry-reports/

... As Wi-Fi's capabilities broaden and come closer to those of cellular, convergence and coexistence between licensed and unlicensed technologies becomes a bigger issue each year. For the first time, the two technologies are targeting a very similar set of use cases, and together, can often support a highly innovative approach ...

Source: editorial team (Adlane Fellah & Caroline Gabriel) of WBA Annual Industry Report 2022



Are we seeing Wi-Fi at the best moment ever since its creation, with Wi-Fi 6/6E/7/OpenRoaming/Passpoint?

Is now the moment to see service providers massively embracing a Wi-Fi 6/6E & 5G strategy?

WBA Leadership Conference & WBA Industry Awards

Time (CET)	Speaker Name	Company	Presentation title
15:30	Tiago Rodrigues	Wireless Broadband Alliance	Welcome & Congress Kick off
15:45	Matt MacPherson	Cisco	Future Wireless Now! Enterprise Everywhere
16:05	Dr. Derek Peterson	Boingo Wireless	The Wi-Fi Opportunity Ahead
16:25	WBA Annual Industry Awards Best Wi-Fi Network Operator Best Wi-Fi Network Technology Best Enterprise Wi-Fi Network		
16:45	Vijay Nagarajan	Broadcom Inc	What's next for 6 GHz Wi-Fi?
17:05	Dr. Carlos Cordeiro	Intel Corp	Future Wi-Fi Innovations 2022-2025
17:25	WBA Annual Industry Awards Best Wi-Fi In Home Network Best Wi-Fi Innovation Best Wi-Fi Social Impact CTO of the Year Award		
17:45	Tiago Rodrigues	Wireless Broadband Alliance	Closing Remarks



Future Wireless Now! Enterprise Everywhere

MATT MACPHERSON

CTO WIRELESS

Cisco





Future Wireless Now!

Enterprise Everywhere

Network Experiences Wireless CTO Group

Matt MacPherson, Wireless CTO

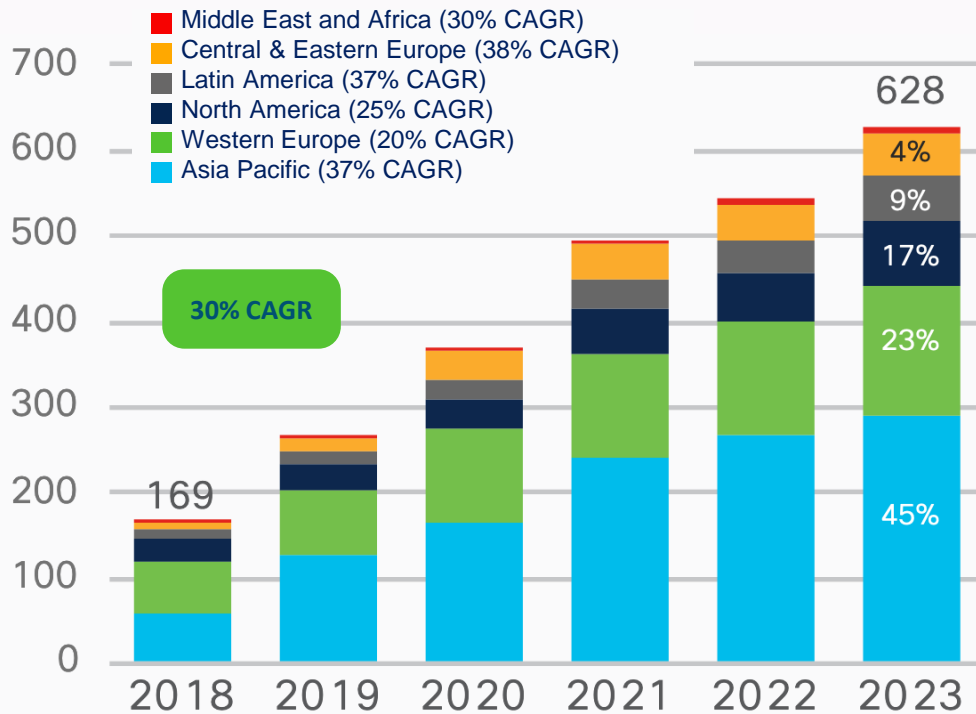
September 2021



Access Network Investment

... leveraging all access for NG Experience!

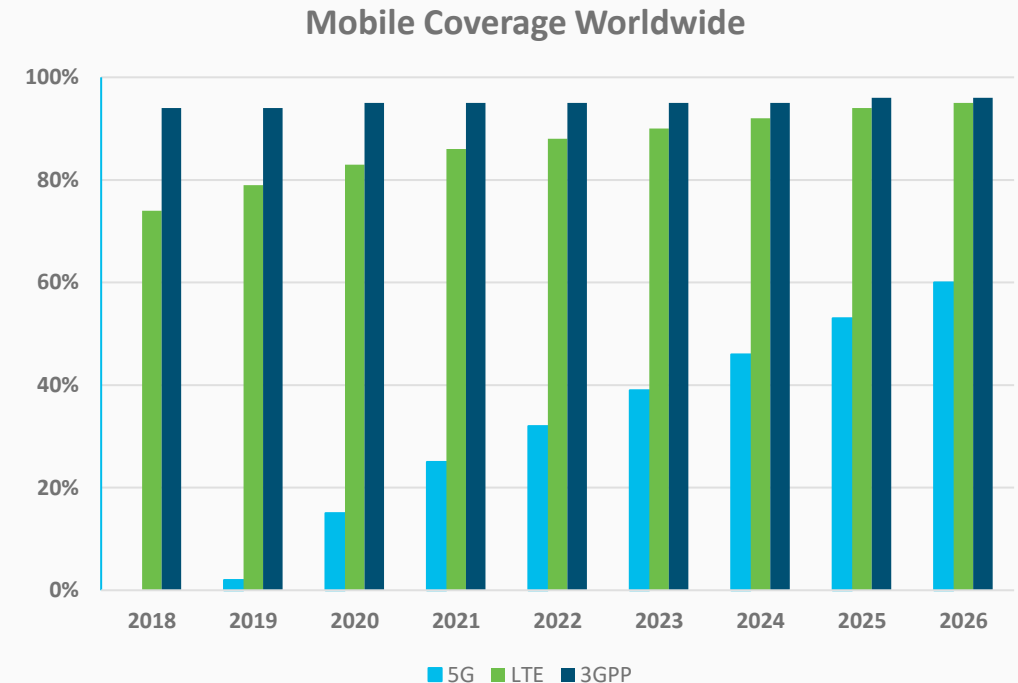
Globally 2018 had 169M public Wi-Fi hotspots
Projection for 2023 is 628M



Globally, Wi-Fi 6 hotspots will grow 13-fold from 2020-2023

Multi-Access Resiliency/Reliability

5G Cellular Coverage Worldwide

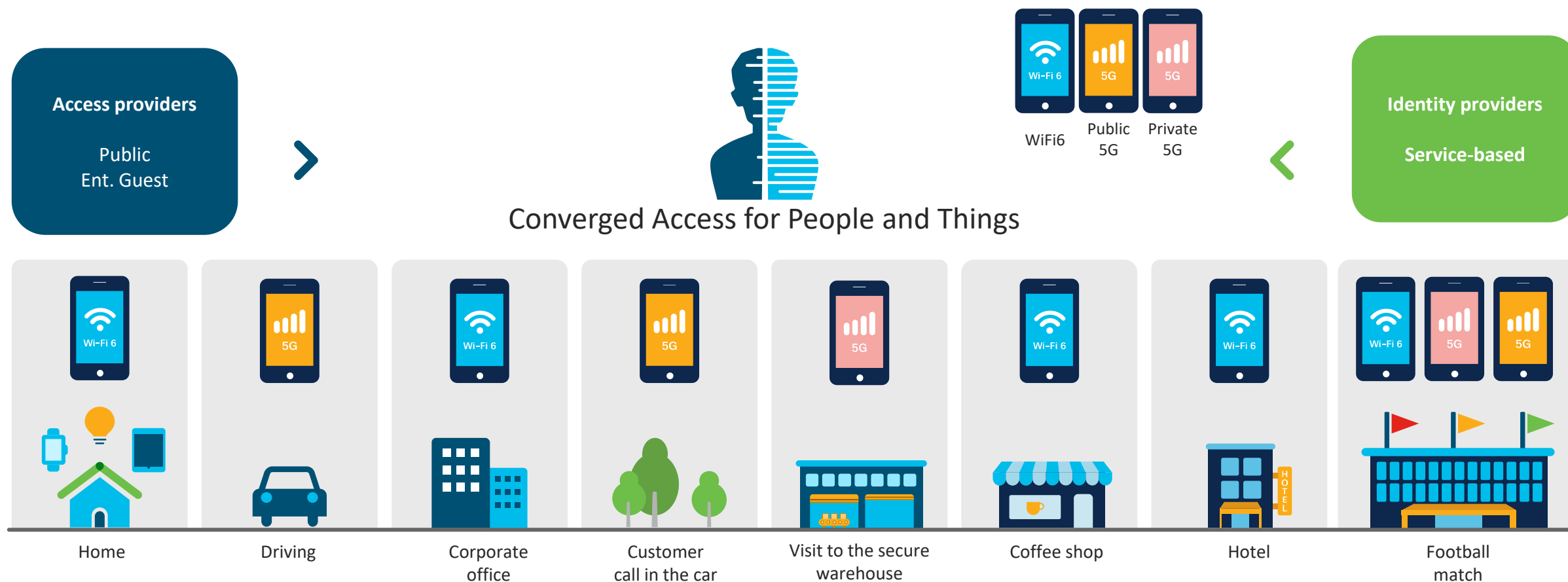


Global private 5G market size
 USD 1,224.3 million in 2020
 USD 14,284.96 million by 2028
39.7% CAGR

Total 5G Market
 USD 80B 2028

Intelligent Access as a Service

Smart Convergence – Seamless roaming across enterprise and service provider based on context and policy



To use all stacks better, we need...

Frictionless Onboarding

OpenRoaming for all stacks
(assure access to all available paths)

Seamless Interworking

Policy-based path selection for
Loosely coupled Access Networks

Seamless Handover

Roaming between Wi-Fi (private)
and cellular (public)

Cloud Driven Mega-trends

The Enterprise dilemma

Enterprise apps migrating to
Multi-Cloud environment



Data center



Multi-Cloud

N=260 Enterprises worldwide



83% of survey respondents say that **cloud** is very or extremely important to their organizations' **future strategy and growth**.



69% say that 60% or more of their organizations' **infrastructure and applications will be in the cloud** in two years.

Source Harvard Business Review: The State of Cloud-Driven Transformation
Sponsored by Splunk

How does Zero-Trust Impact Enterprise Policy?

Workforce going Mobile



Branch/Campus

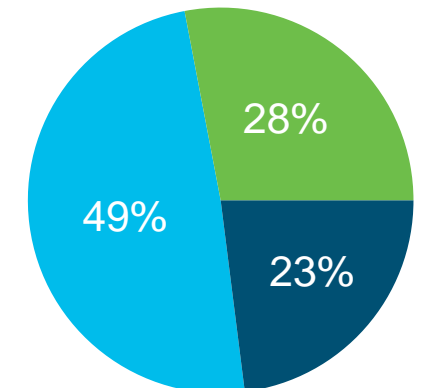


72%

US mobile workforce
by 2019



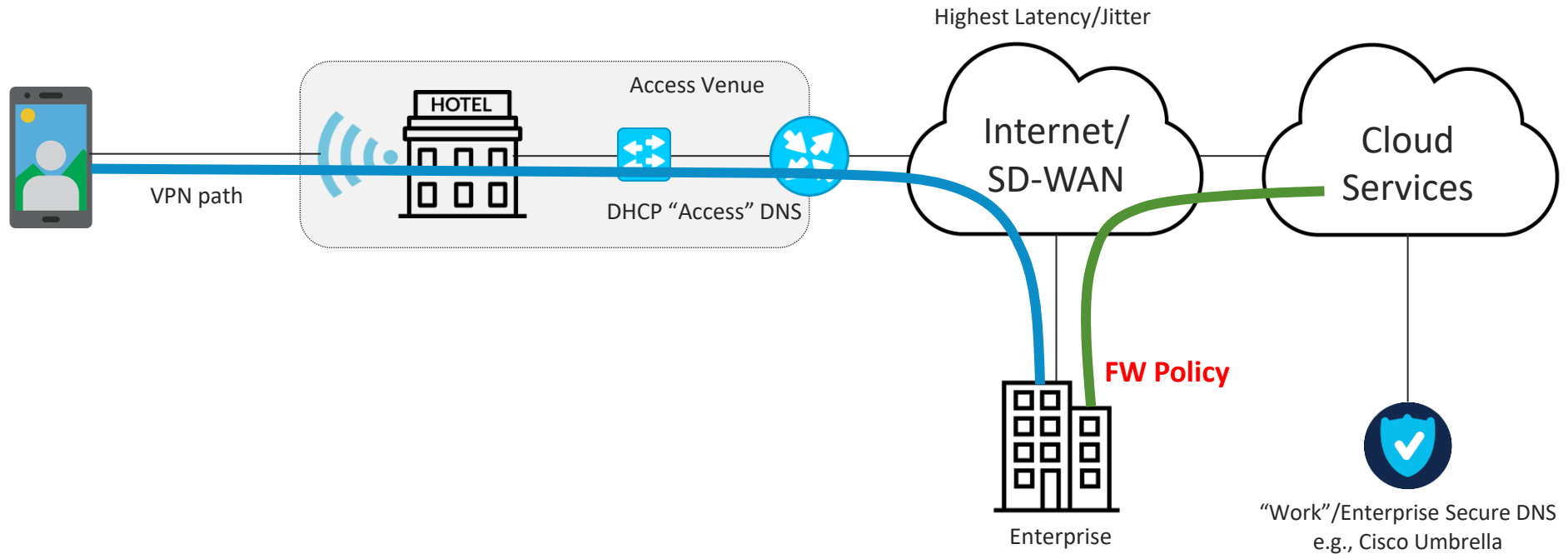
Mobile Access



- Non-mobile Workforce
- Office-based Mobile Workforce
- Non-office based Mobile Workforce

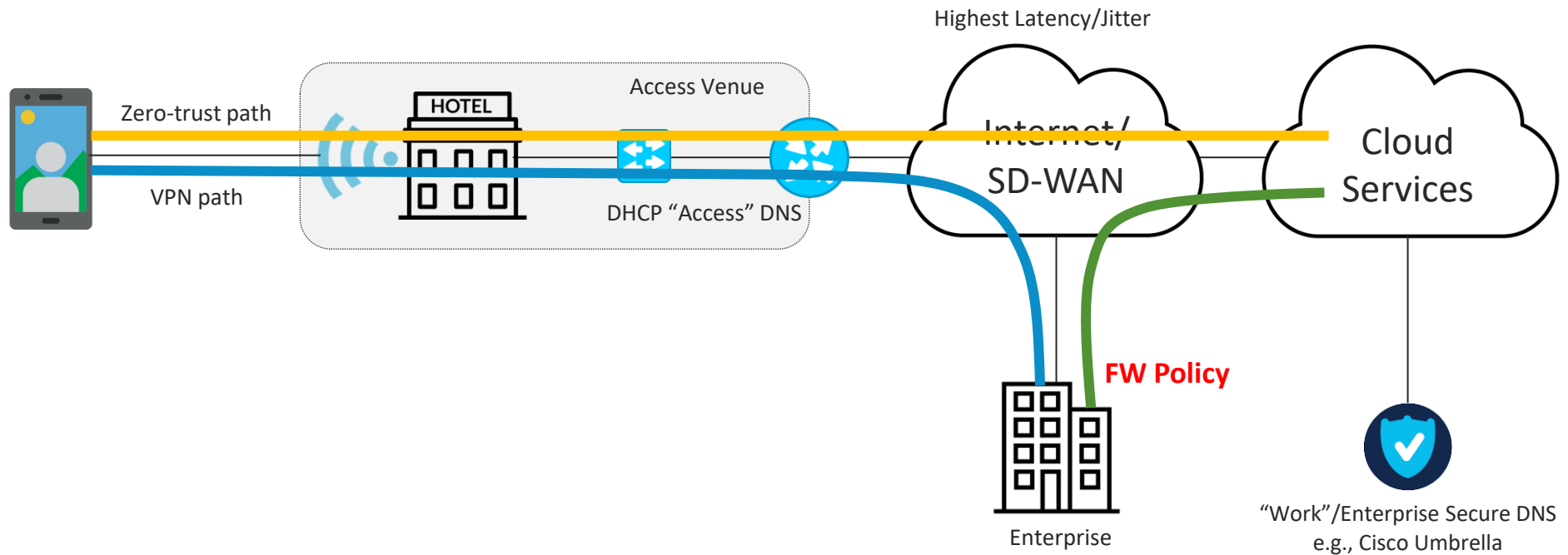
VPN inserts you into enterprise policy from anywhere

... but hairpins you through corporate

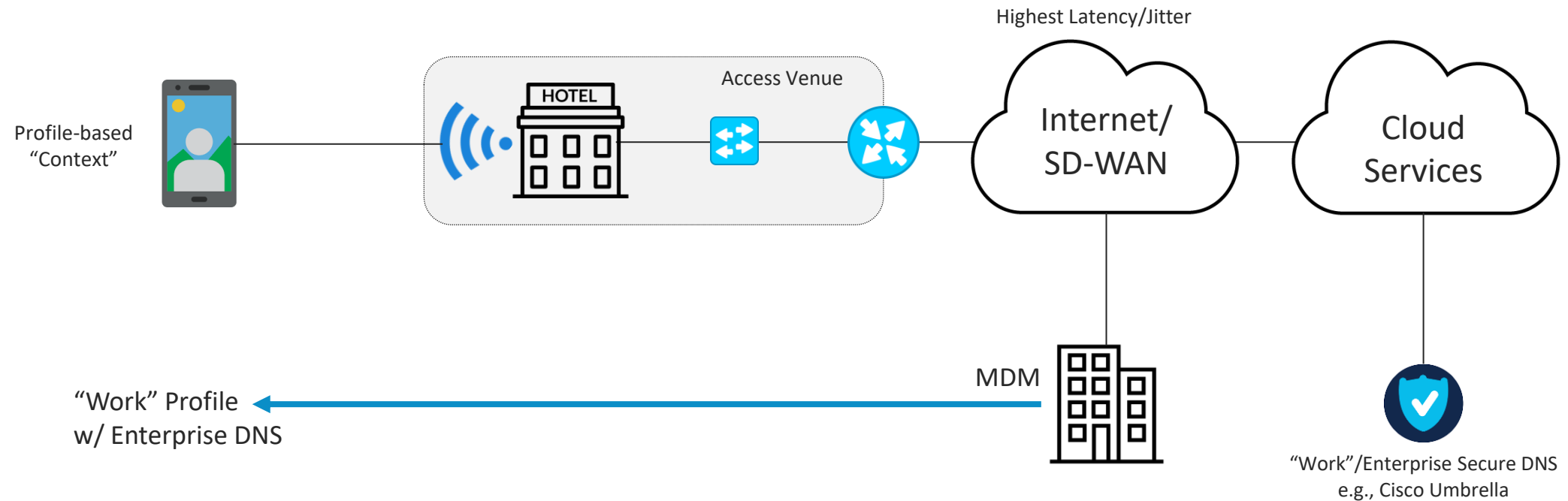


Zero-Trust for better experience

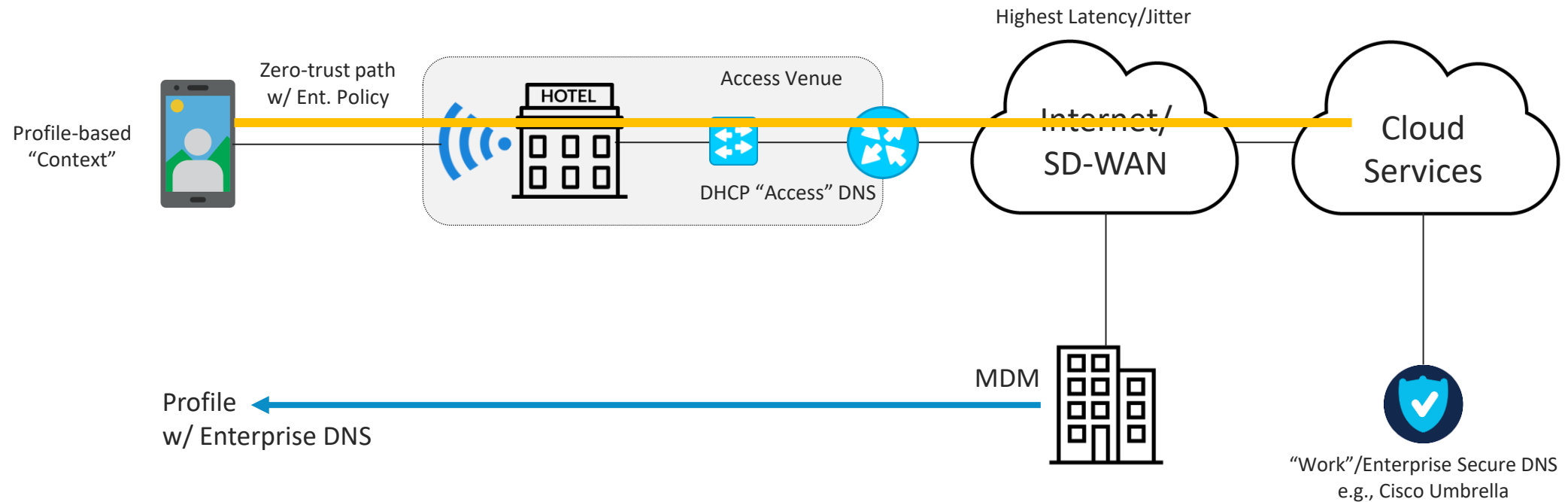
... but Enterprise Policy Lost



“Work” context profile to the rescue



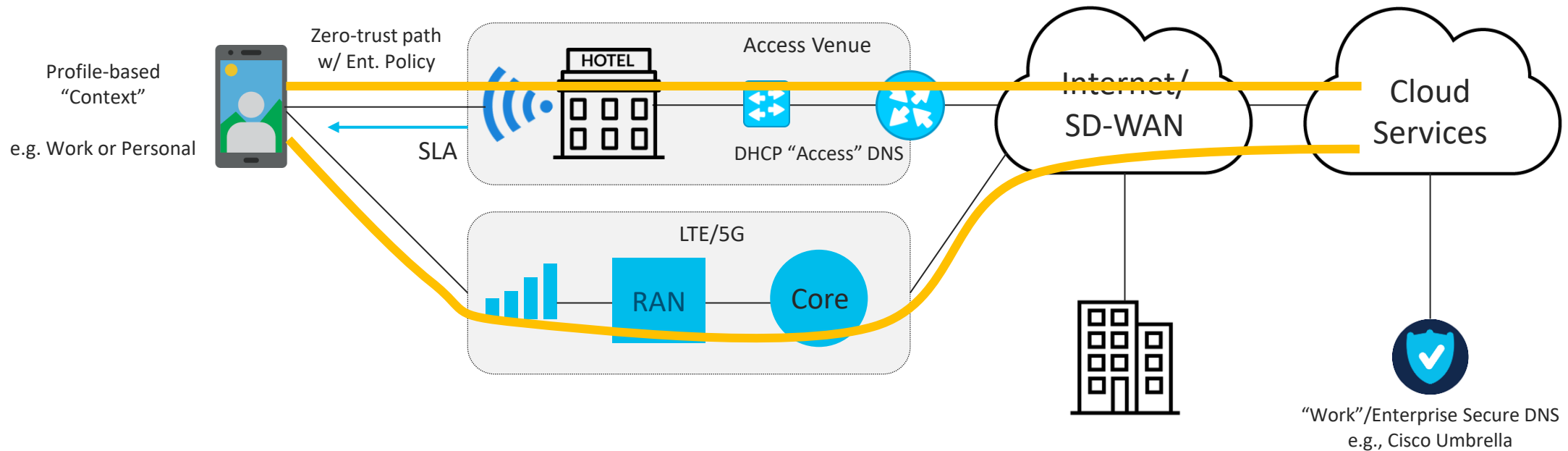
Enterprise policy using zero-trust path



Enterprise policy for any access using zero-trust path

... with intelligent SLA-based path selection

... Experience as a Service (\$)

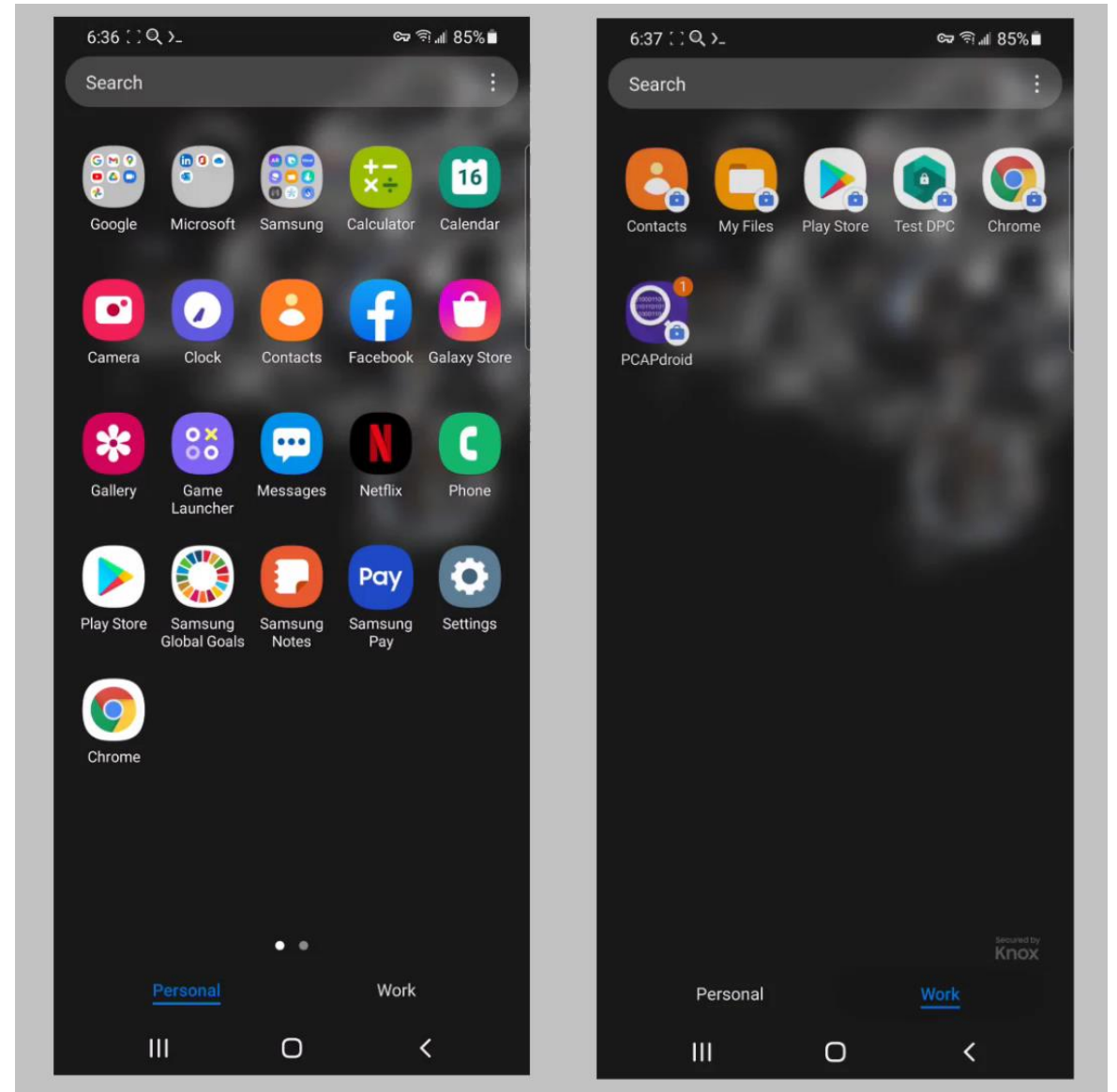


Enterprise Everywhere Secured Service

In the office or on the road:
A corporate internal server is only
accessible from the work profile

Vision:

- In the office, a work/perso flag is received by the network
 - Used to direct traffic to corporate or guest segments
- On the road, work traffic is directed with Umbrella / optionally VPN
 - Other traffic is local



Personal

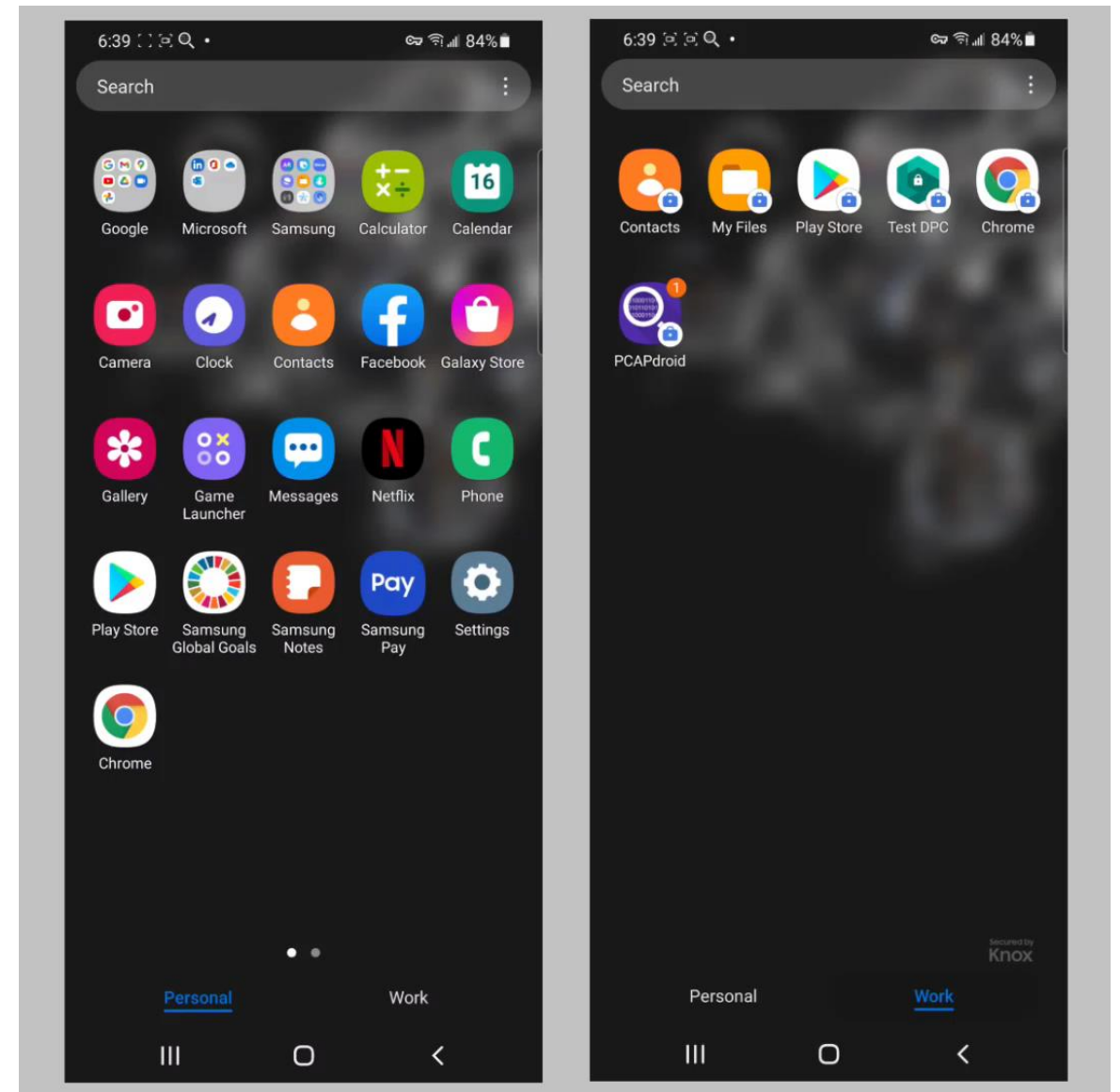
Work

Enterprise Everywhere Secured Internet

In the office or on the road:
Corporate/Umbrella DNS only
applies to work traffic

Vision:

- In the office and on the road, client uses Umbrella and corporate DNS for work traffic
- personal traffic uses general DNS



Personal

Work

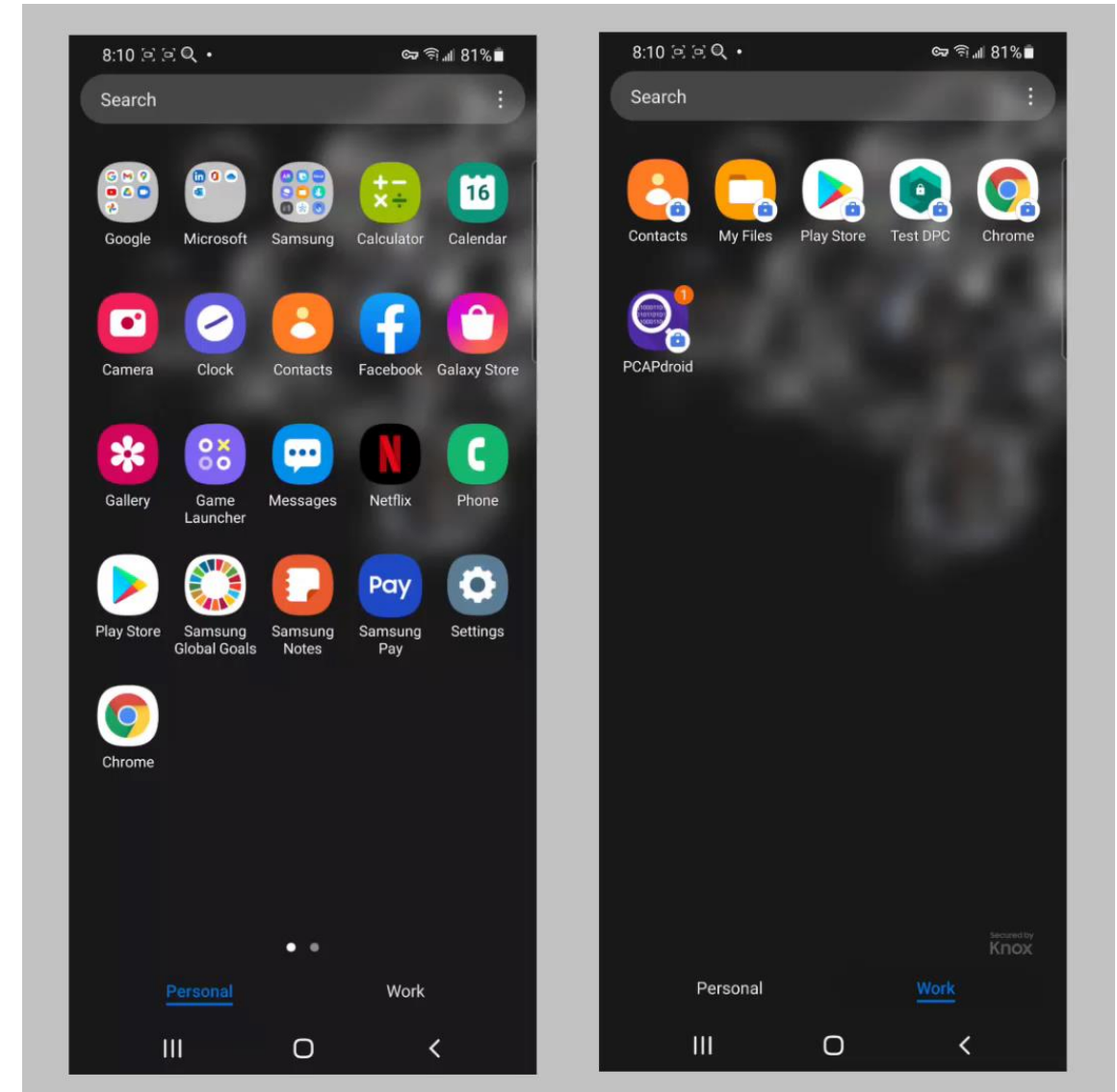
Enterprise Everywhere

“Enterprise Class” QoS

In the office or on the road:
Optimized QoS applies to work
(Enterprise Class) traffic

Vision:

- In the office, work traffic gets QoS treatment, personal traffic is best effort
- On the road, enterprise may select premium access (\$) for work traffic

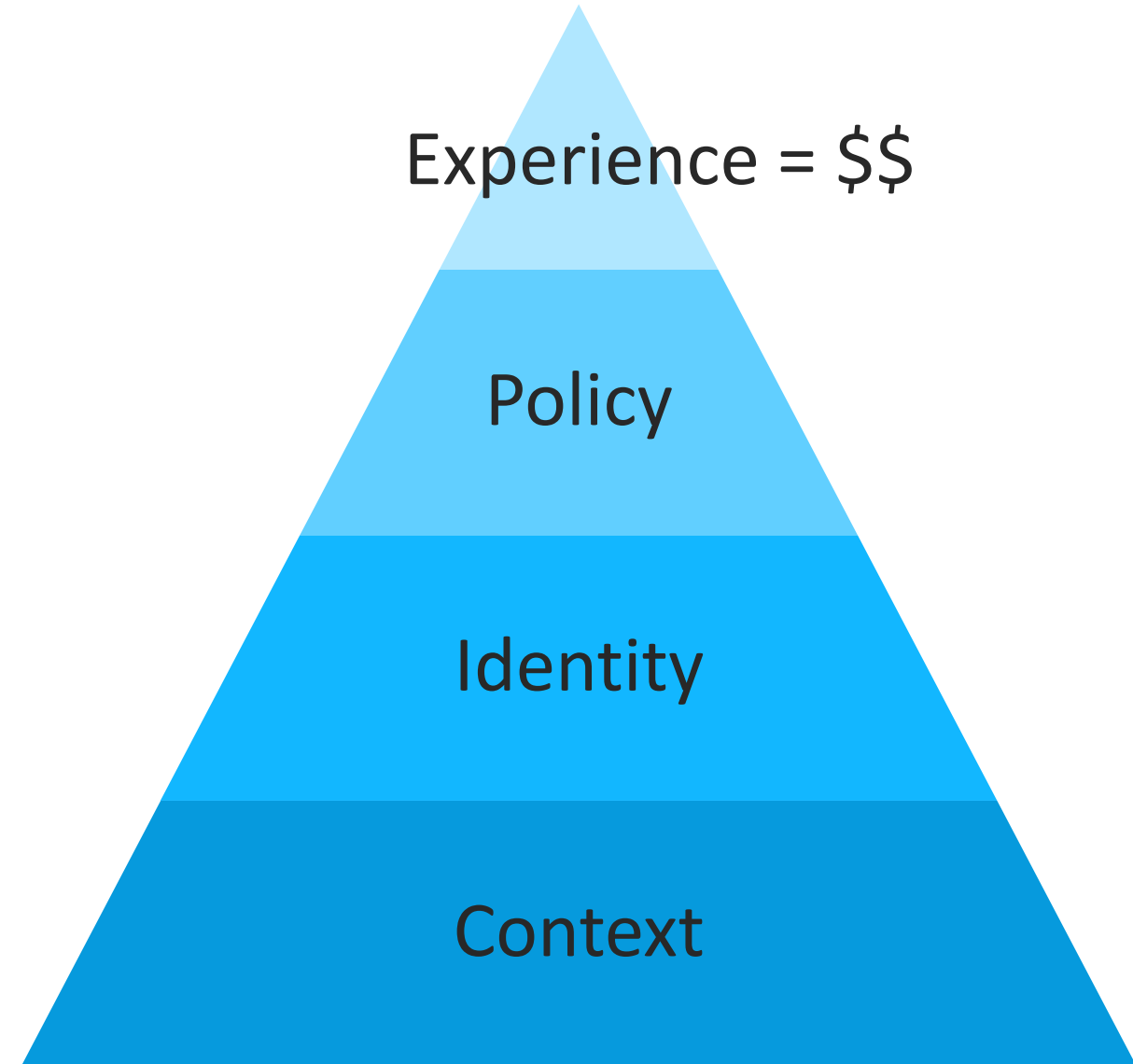


Personal

Work

Conclusion –

- Context determines Identity
- Identity determines Policy
 - Security
 - Privacy
 - Quality of Service
- Policy determines Experience
- Experience is monetized





WIRELESS
BROADBAND
ALLIANCE

“Where Networking Happens!”





The Wi-Fi Opportunity Ahead

DR. DEREK PETERSON

CTO

Boingo Wireless





THE WI-FI OPPORTUNITY AHEAD

WBA WIRELESS GLOBAL CONGRESS EMEA | OCTOBER 5, 2021

Dr. Derek Peterson, CTO, Boingo

WORLD CLASS WIRELESS

FOR THE

**WORLD'S PREMIER
PROPERTIES &
ENTERPRISES**

Boingo delivers
unparalleled
wireless solutions
at iconic venues
serving more than

▶ **1** ◀
**BILLION
CONSUMERS
ANNUALLY**

Boingo's Leadership in the 5G Era



Deploying
5G, Wi-Fi 6 and Private
Networks over CBRS



Convergence strategy
powers connectivity with
fast speeds and
low latency using licensed,
unlicensed and shared
spectrum



Uniquely positioned
as neutral host provider
to manage the
challenge of multiple
5G technologies in the
same venue



Helping write 5G era
standards through
leadership positions
with WBA, OnGo, CTA
and more

An aerial night view of a city skyline, likely New York City, with the Hudson River and several large cruise ships docked. The sky is dark with some clouds, and the city lights are visible. Overlaid on the image are several glowing white lines that form a network or web pattern, connecting various points across the city and sky. The text "Trends & Challenges" is prominently displayed in the center.

Trends & Challenges

High Demands, High Pressure

COVID-19 has challenged the global business ecosystem, putting more pressure and demand on wireless networks.



77%

Of CEOs stated that the pandemic has accelerated their digital transformation plans



3-4_{yrs}

Pace at which companies have accelerated digitization



\$6.6 trillion

The forecasted 2021 value of the digital payments industry, a 40% jump in two years

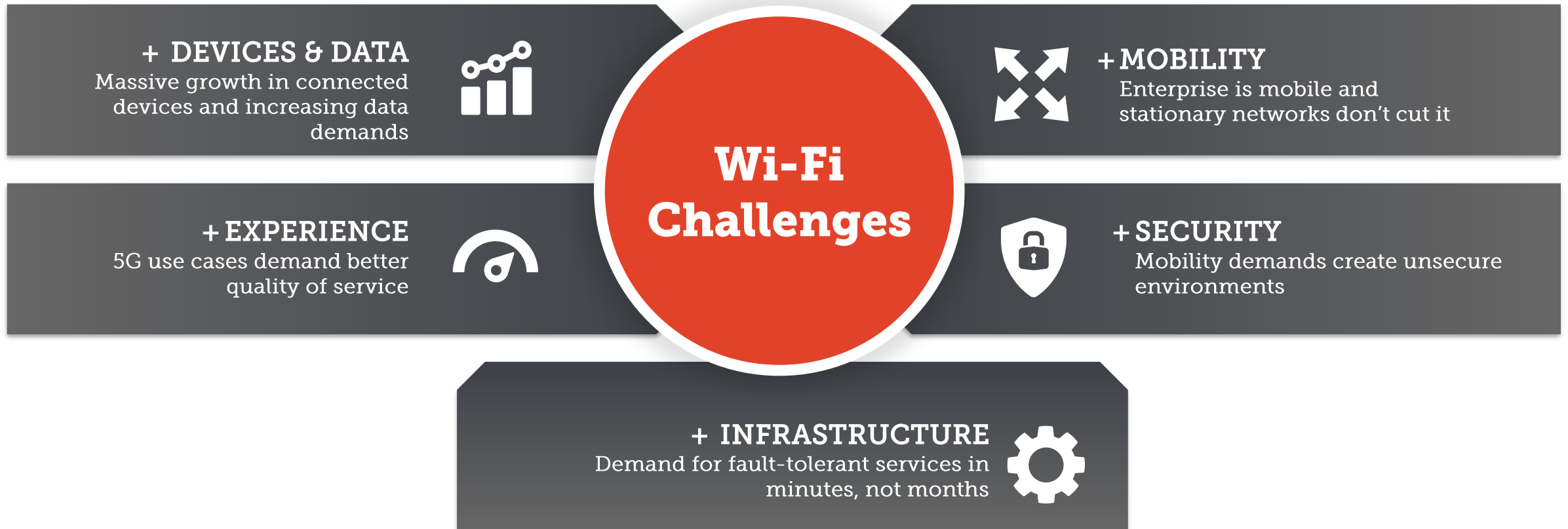


60%

Of airlines are focused on investing in biometric self-boarding gates

Wireless Future Comes with Challenges

To realize a new connected generation, there are key Wi-Fi challenges to overcome.





Every Challenge
is an Opportunity

+ DEVICES & DATA

Massive growth in connected devices and increasing data demands

Opportunity: Wi-Fi 6/6E

ENHANCED

Efficiency

Speed

Capacity

Performance



DENSE/DEMANDING
ENVIROMENTS



SUPPORT GROWING
MOBILE TRAFFIC



ACCOMMODATE FUTURE
USE CASES



CONNECT MORE
DEVICES



QUICKER RESPONSE
TIMES

São Paulo/Guarulhos International Airport

1st airport-wide Wi-Fi 6 network

Q2 Stadium

Wi-Fi 6 powers Austin
FC stadium connectivity

Large Commercial Install

22 acres of Wi-Fi 6 in NYC
















+ MOBILITY

Enterprise is mobile and stationary networks don't cut it

Opportunity: OpenRoaming

OPENROAMING

- More networks for seamless and secure connectivity anywhere, globally
- Opens the door for all wireless players to power new opportunities in 5G era
- Quality standards from Boingo influenced the framework of OpenRoaming, as OpenRoaming adds a quality classification measure to bring carrier-grade Wi-Fi service more places

	TIER ONE	TIER TWO	TIER THREE
Availability			
Speed			
Low latency			
Mobility/ AP to AP handoff			
Reporting			

+ EXPERIENCE

5G use cases demand better
quality of service

Opportunity: Better QoS

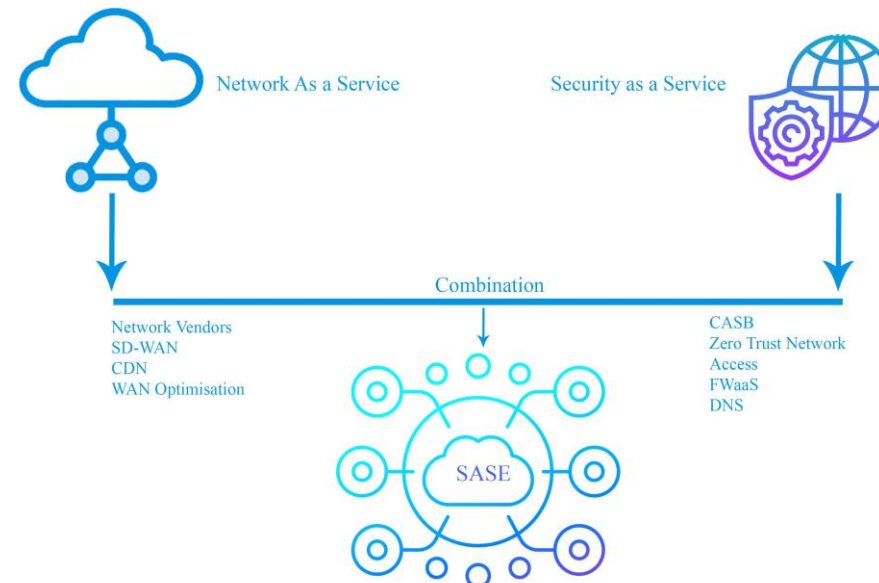
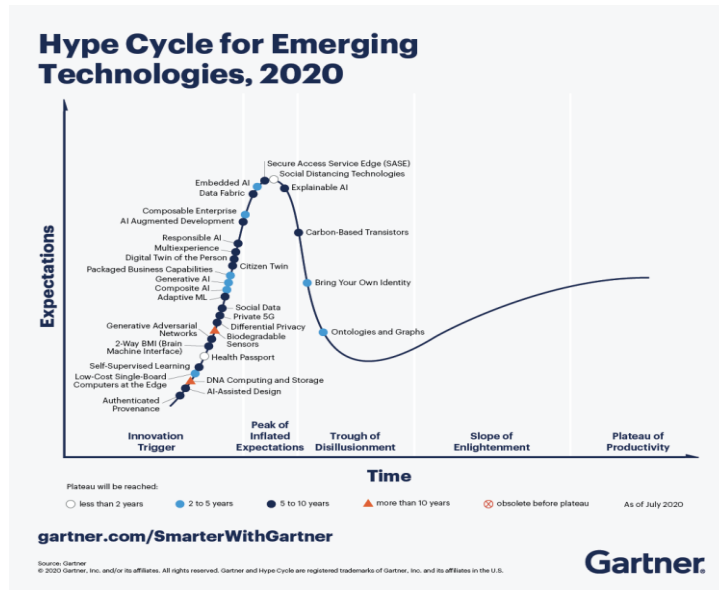
- Recognizing one size does not fit all
- Quality needs
 - Empower the ability to negotiate **service** quality
 - Higher/Lower data rates, Ultra Reliability Low Latency Connections (URLLC), Massive Machine Type Connections (mMTC)
 - Support multiple QoSs for a variety of **services** as opposed to current networks that are purpose built for limited set of QoSs
- The realization of the network slice as a combination of all resources, functions and assets required to deliver the **service**

+SECURITY

Mobility demands create
unsecure environments

Opportunity: Borderless

- SASE (Secure Access Service Edge)
 - Combination of NaaS and SaaS solutions to provide secure access for any edge device (PC, Server, IoT Sensor, Mobile etc.) across any network to access services available anywhere



+ INFRASTRUCTURE

Demand for fault-tolerant services in minutes, not months

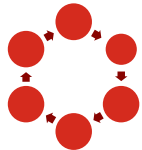
Opportunity: Resiliency

DEVELOPMENT PROCESS

Introduce new services and upgrade exiting services in **minutes** rather than in months

CLOUD-NATIVE

DevSecAIOps



Agile



Waterfall



LEGACY

APPLICATION ARCHITECTURE

Resilient and fault-tolerant, deploy and redeploy without compromising the service

Microservices



N-Tier



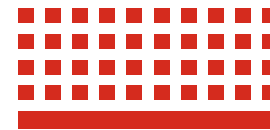
Monolithic



DEPLOYMENT AND PACKAGING

Lightweight and portable, allows scaling resources at 0.1% of CPU granularity

Containers



Virtual Servers



Physical Servers



INFRASTRUCTURE

High-speed, low-latency multi-cloud interconnection, leverage **best-in-class** capabilities

Multi-Cloud



Hosted



Data Center



An aerial night view of a city skyline, likely New York City, with the Hudson River and several large cruise ships docked. The sky is dark with some clouds, and the city lights are visible. Overlaid on the image are several glowing white lines that form a network or mesh pattern, connecting various points across the sky and city. The text "Convergence Evolves" is prominently displayed in the center.

Convergence Evolves

Call for Convergence

OPEN ECOSYSTEM

Interdependent

Individual modular components working together

Standardized

Open platform, moving away from proprietary solutions

Interoperable

Separating RU/DU/CU for increased variation



BETTER
COVERAGE &
CAPACITY



MORE
CUSTOMIZATION



INCREASED
INNOVATION



LOWER COST
OF OWNERSHIP



Realizing the Vision

Powering intelligent communities of the future requires convergence at every level.

PLTE

Private LTE



Wi-Fi



Macro



DAS



Passpoint



HEALTHCARE

- Remote diagnosis and treatment
- Home healthcare for disabled populations
- Support aging in place
- Secure data management

PUBLIC WORKS

- Environmental monitoring
- Smart metering
- Water and waste management
- Weather monitoring stations

TRANSIT HUBS

- Touchless passenger journey
- Advanced security cameras
- Increased connectivity speeds
- Seamless ease-of-use for travelers

MANUFACTURING

- Integrated safety management
- Equipment asset tracking
- Connected utilities
- Logistics and supply chain management

OFFICE BUILDING

- Touchless experience
- Smart building solutions
- BYOD
- Predictive maintenance
- Energy monitoring and savings

PUBLIC SAFETY

- Real-time emergency response
- Drone patrol
- Intelligent cameras
- Traffic management
- Digital signage

OUTDOOR SPACES

- Smart outdoor lights
- Detect overcrowding
- Mobile Wi-Fi hotspots
- Food trucks
- Tenant services

STADIUM

- Touchless experience
- Mobile apps
- Wagers/betting
- In-seat ordering
- AR/VR
- Queueing
- Rideshare

THANK YOU

Dr. Derek Peterson

CTO, Boingo Wireless
dpeterson@boingo.com





WBA INDUSTRY AWARDS



What's next for 6 GHz Wi-Fi?

VIJAY NAGARAJAN

VICE PRESIDENT, WIRELESS COMMUNICATIONS & CONNECTIVITY DIVISION

Broadcom



What's next for 6 GHz Wi-Fi

October 2021



Fast facts on 6 GHz band Wi-Fi



1,200 MHz of spectrum available



Worldwide availability would provide **\$512 billion** in global economic benefit **by 2025****



Unlocks unlicensed innovation **for the next 25 years**



Designed for **digitally immersive experiences**



Wi-Fi 6E brings **2 Gbps**; Wi-Fi 7 will bring **5 Gbps**



Supports **5G performance**



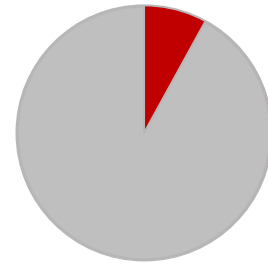
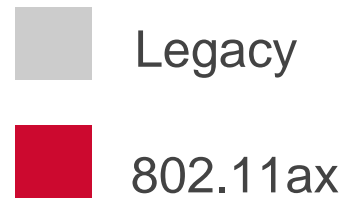
Provides **< 1 ms latency**



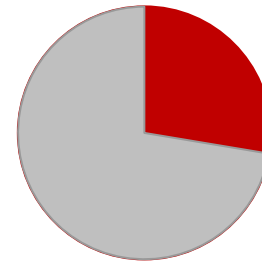
Enables **telemedicine** and **education**

** *Economic Value of Wi-Fi: A Global View (2021-2025)*

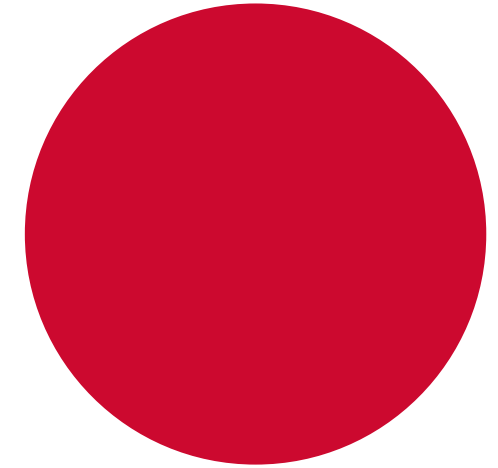
Wi-Fi that's exclusive *and* efficient



2.4 GHz



5 GHz



6 GHz

Wi-Fi data-rate in Phones

2.4 GHz (20 MHz)

237 Mbps

5 GHz (80 MHz)

1.2 Gbps

6 GHz (160 MHz)

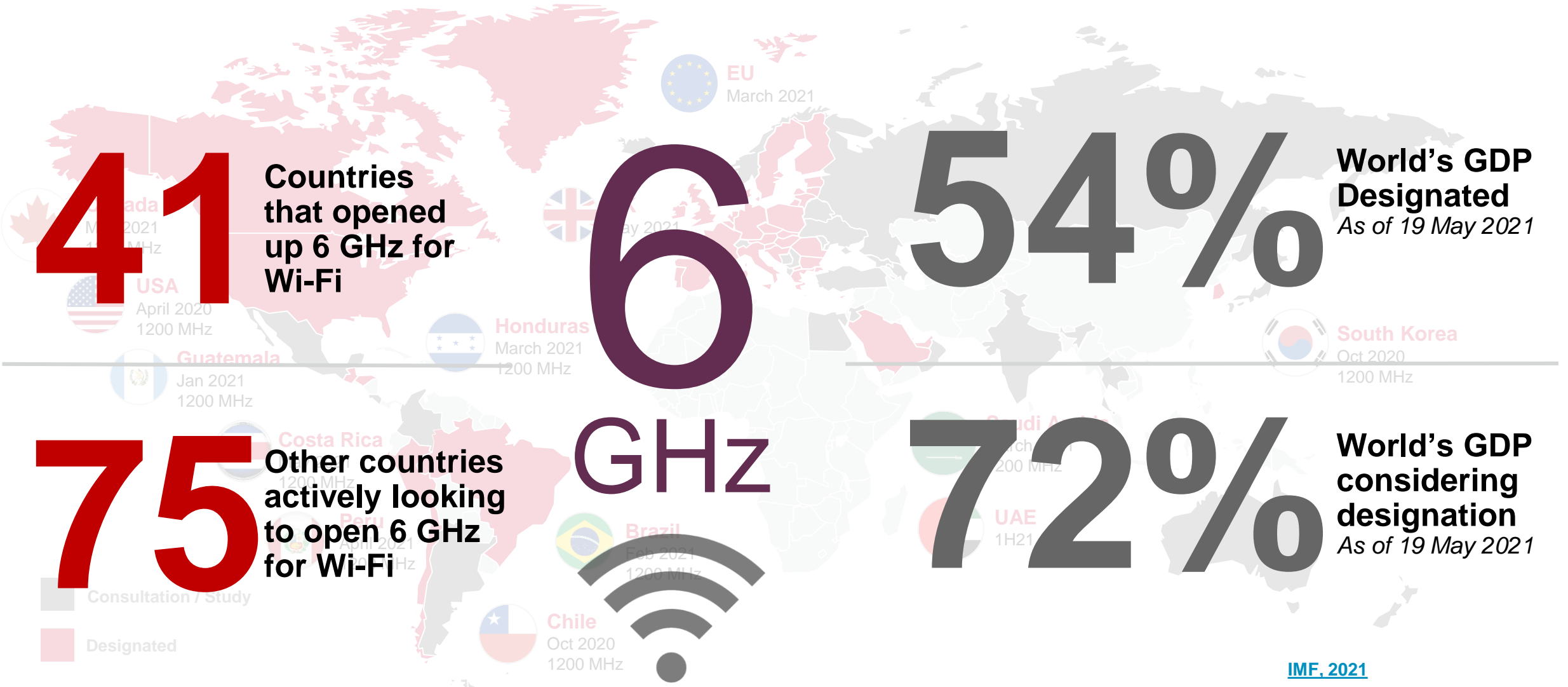
2.4 Gbps



6 GHz Wi-Fi today



Regulatory Momentum



IMF, 2021

Wi-Fi that enables robust **Low Power indoor use cases**



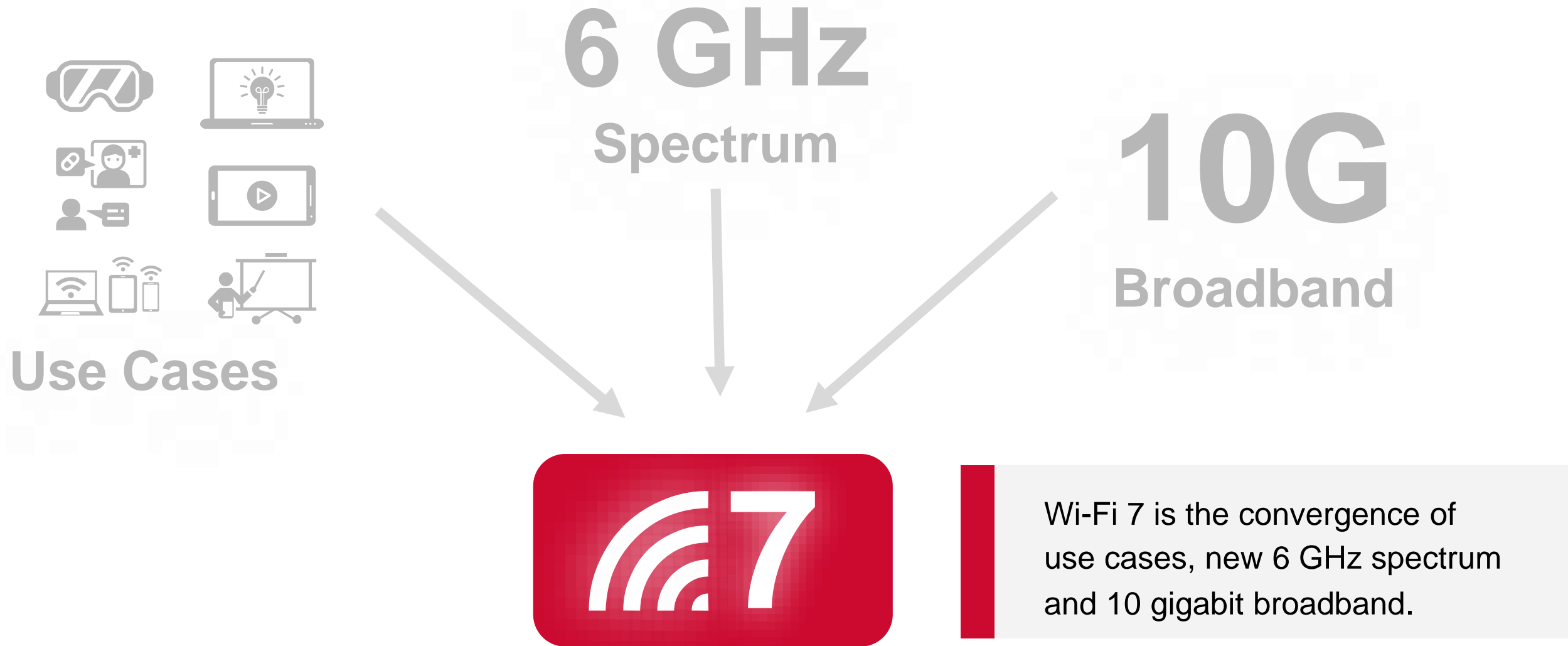
6 GHz delivers whole home
Gigabit+ throughput

-
- Homes
 - Apartments
 - Offices
 - Indoor public venues
 - Industrial IoT

The 6 GHz future



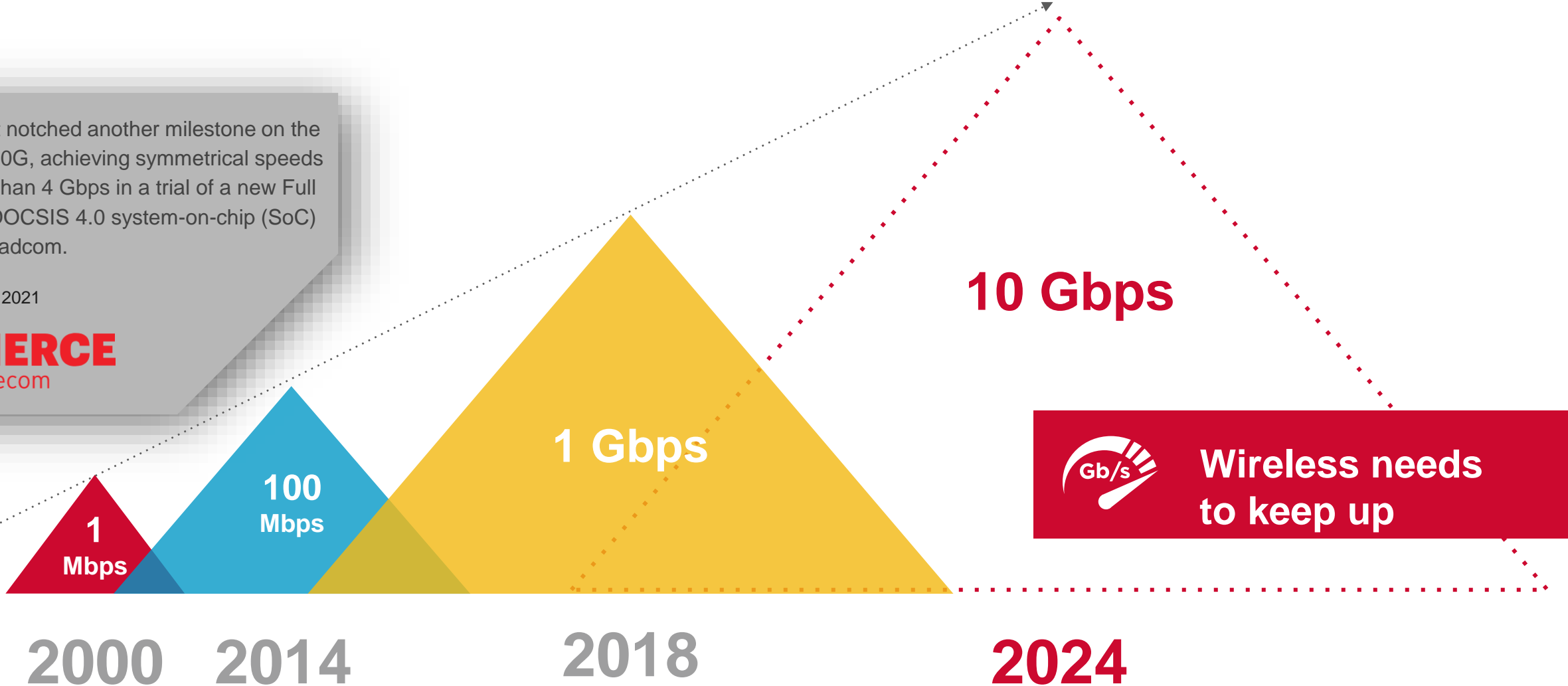
Wi-Fi in 6 GHz is the broadband complement



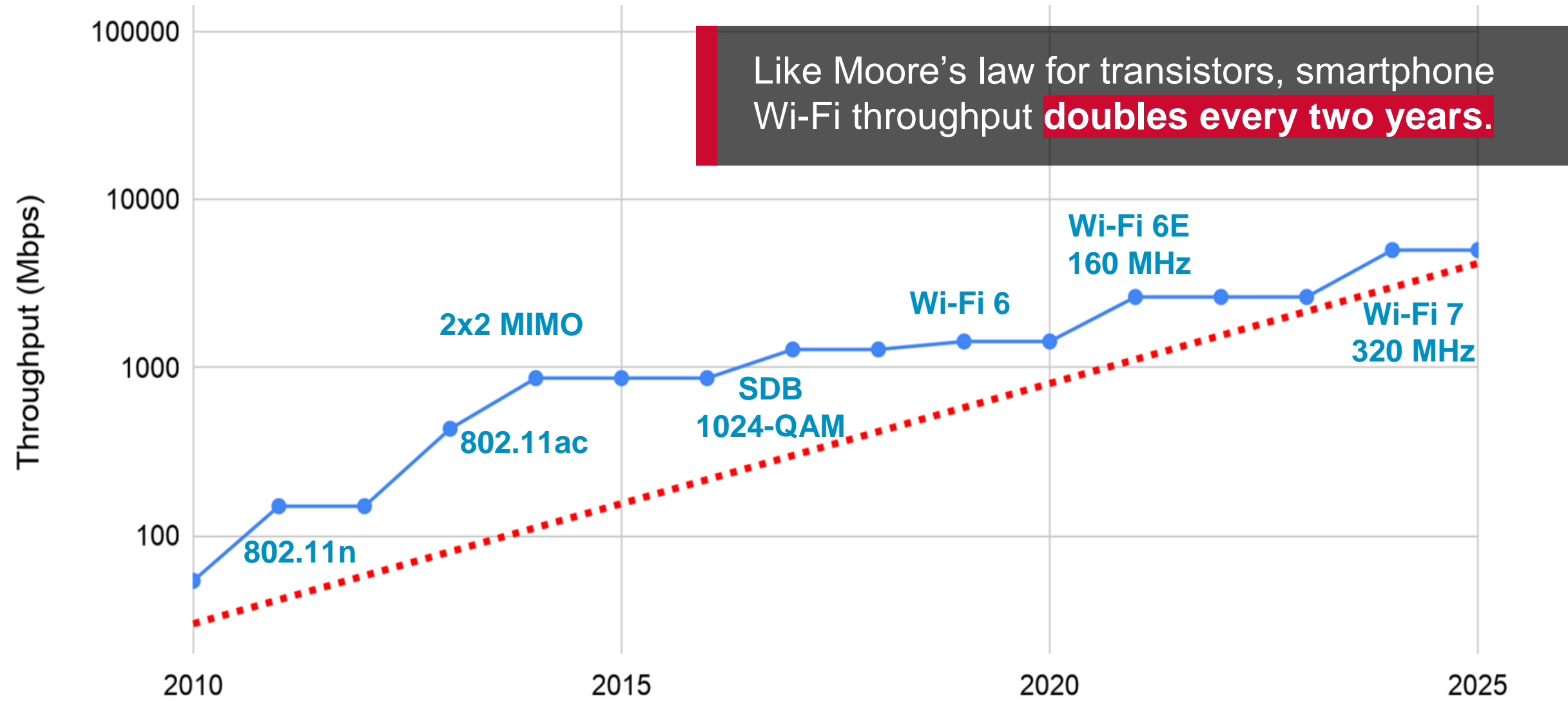
As Broadband migrates to 10Gbps...

Comcast notched another milestone on the road to 10G, achieving symmetrical speeds of more than 4 Gbps in a trial of a new Full Duplex DOCSIS 4.0 system-on-chip (SoC) from Broadcom.

APRIL 22, 2021



6 GHz Wi-Fi speeds will match up to it



And coverage and range today can be a challenge



- 6 GHz Wi-Fi devices today can only operate indoors and only at low-power
- To increase power, incumbent presence needs to be assessed and protected

Low power indoor Wi-Fi 6E

But all that is about to change with AFC



Low power indoor Wi-Fi 6E



Standard power Wi-Fi 7 everywhere

But all that is about to change with AFC and Wi-Fi 7



Standard power Wi-Fi 7 everywhere

- Standard power 6 GHz Wi-Fi networks will use AFC to protect incumbent operations
- In an unoccupied 6 GHz channel, AFC helps Wi-Fi devices communicate at standard power akin to 5 GHz
- It also opens the door for outdoor Wi-Fi in 6 GHz band
- AFC enables more pervasive, blazing fast Wi-Fi 7

Venues will greatly benefit from AFC



Wi-Fi 7 AFC

Wi-Fi 6E

Wi-Fi 6

AFC and Wi-Fi 7 will fulfil the promise of 6 GHz

- Up to **20 gigabit per second** outdoor coverage (e.g., parks, stadiums, LinkNYC)
- Provides **multigigabit point-to-multipoint rural connectivity**
- Can deliver **low-latency Wi-Fi calls, and next-gen fan experiences with AR/VR**



Wi-Fi 7 provides whole home multi-gigabit broadband



Improved mesh

320 MHz 6 GHz Backhaul



Whole home

Multi gigabit coverage



Latency

Multilink redundancy

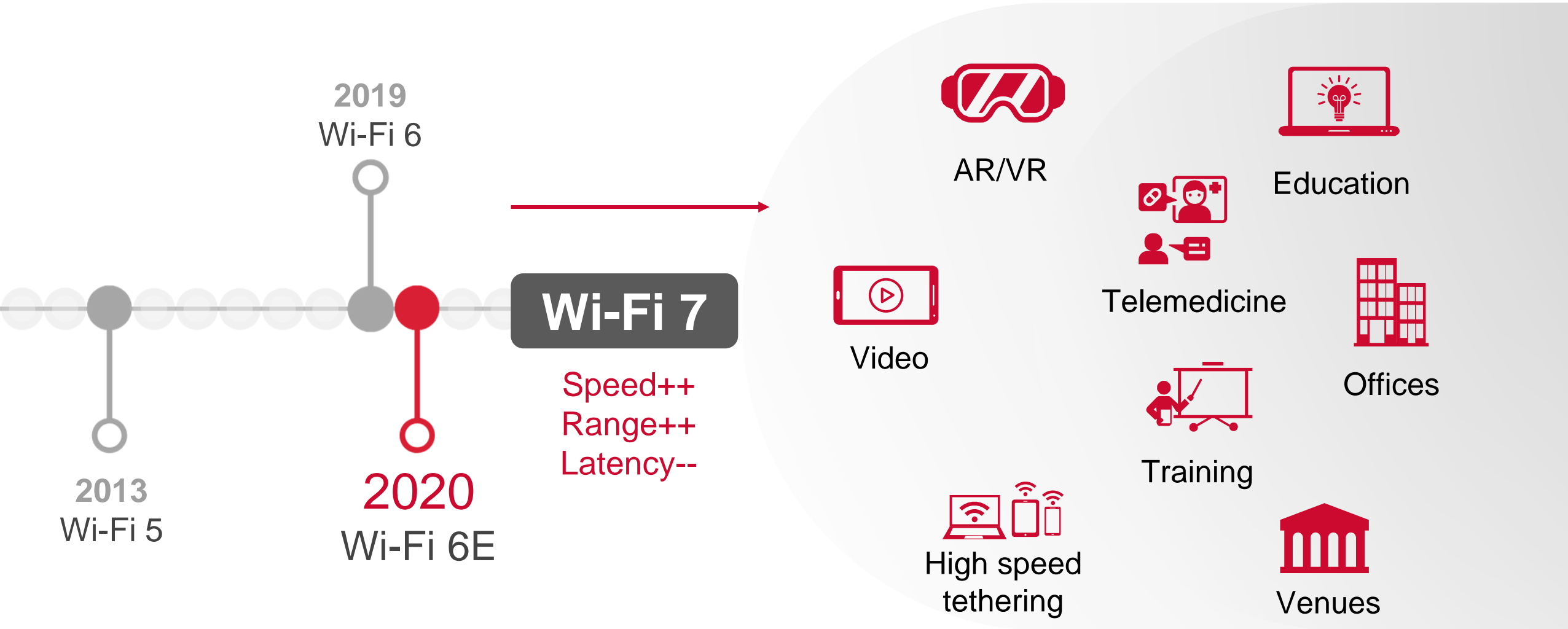


Range

AFC boost



Wi-Fi 7 delivers value for the next decade



The logo features the text '6E7' in a large, white, sans-serif font. To the left of the '7' is a red Wi-Fi symbol consisting of three concentric arcs. The background is a dark red with a geometric, low-poly pattern.

6E7

AFC

Open AFC: catalyst for standard power Wi-Fi 7

- Spearheaded by Broadcom, Cisco and Facebook to catalyze AFC operation in 6 GHz
- Open source software group for design, development and testing of AFC software that
 - Provides available channel list for standard power Wi-Fi operation
- Accelerates ecosystem readiness to support active FCC efforts to authorize AFC operators
- You can join Open AFC via the Telecom Infrastructure Project
 - Contribute and get access to AFC software
 - Be on the inside track for 6 GHz Wi-Fi

Summary

- Unmistakable regulatory and product momentum for 6 GHz Wi-Fi in 2021
- Wi-Fi 7 together with AFC will fulfil the promise of 6 GHz
- 6 GHz Wi-Fi complements multi-gigabit broadband for whole home coverage
- If you are interested in AFC for 6 GHz Wi-Fi, join the Open AFC effort





Future Wi-Fi Innovations 2022 - 2025

DR. CARLOS CORDEIRO

WIRELESS CTO
Intel Corporation



October 05, 2021

Future Wi-Fi Innovations (2022-2025)

Carlos Cordeiro
Wireless CTO



Many Wi-Fi Innovations Expected (2022-2025)

Wi-Fi Usage Expansion



Wi-Fi Technical Advances



Deterministic Wi-Fi



Consumer / IOT / Enterprise Usages



Wearables



AR / VR



Ultra-Low Latency



Automotive

Industry 4.0 Usages



AGV / AMR



Robotics



Smart Manufacturing

Contextual Usages: Sensing, Ranging, & Location

Health/Activity
Monitoring



Find My Device



Proximity Lock/Wake



Facial Recognition



Space
Utilization/Control



Asset Tracking



Gesture Recognition

01

Wi-Fi 7
Becomes Real

02

Deterministic
Wi-Fi Expands

03

Peer-To-Peer
Across Usages

04

Spectrum Sharing
w/AFC in 6 GHz

Key Wi-Fi Driven Innovations

Wi-Fi Enables
Enterprise Everywhere

05

Wi-Fi For More
Than Comms

06

Home Wi-Fi Network
Health Critical

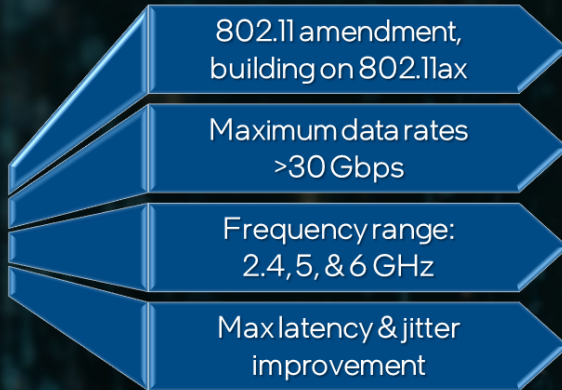
07

Seamless Operation
Wi-Fi / Cellular

08

Wi-Fi 7: ~3.6x Faster vs. Wi-Fi 6*

Wi-Fi 7 Goals



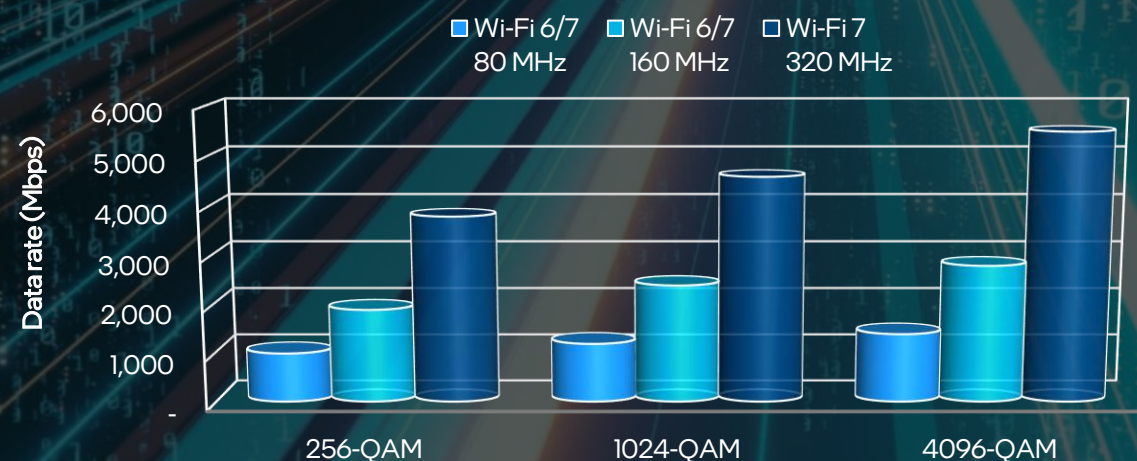
Key Enhancements**



Peak Data Rates

	Wi-Fi 6	Wi-Fi 7
Max channel bandwidth	160 MHz	320 MHz
Highest order modulation	1024-QAM	4096-QAM
Max number spatial streams	8	8
Max single link data rate	~9.6 Gbps	~23 Gbps
Max dual-link data rate	N/A	~35 Gbps

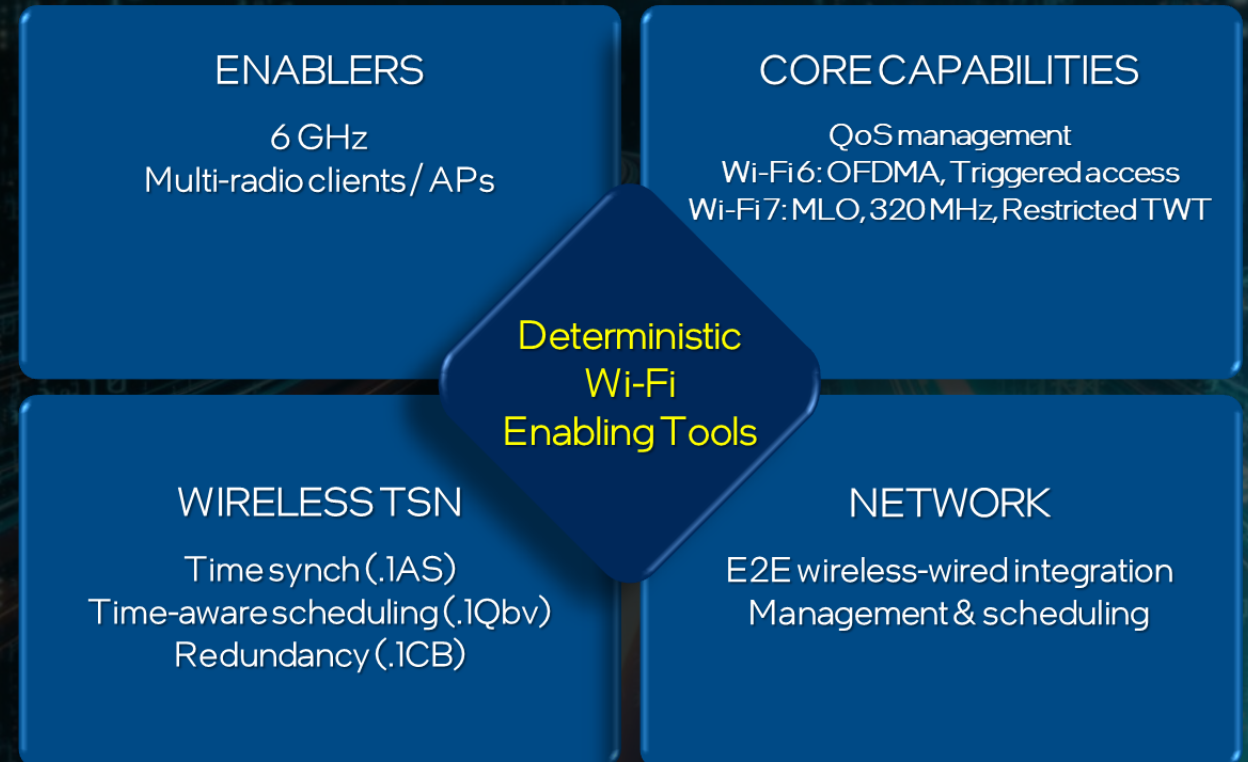
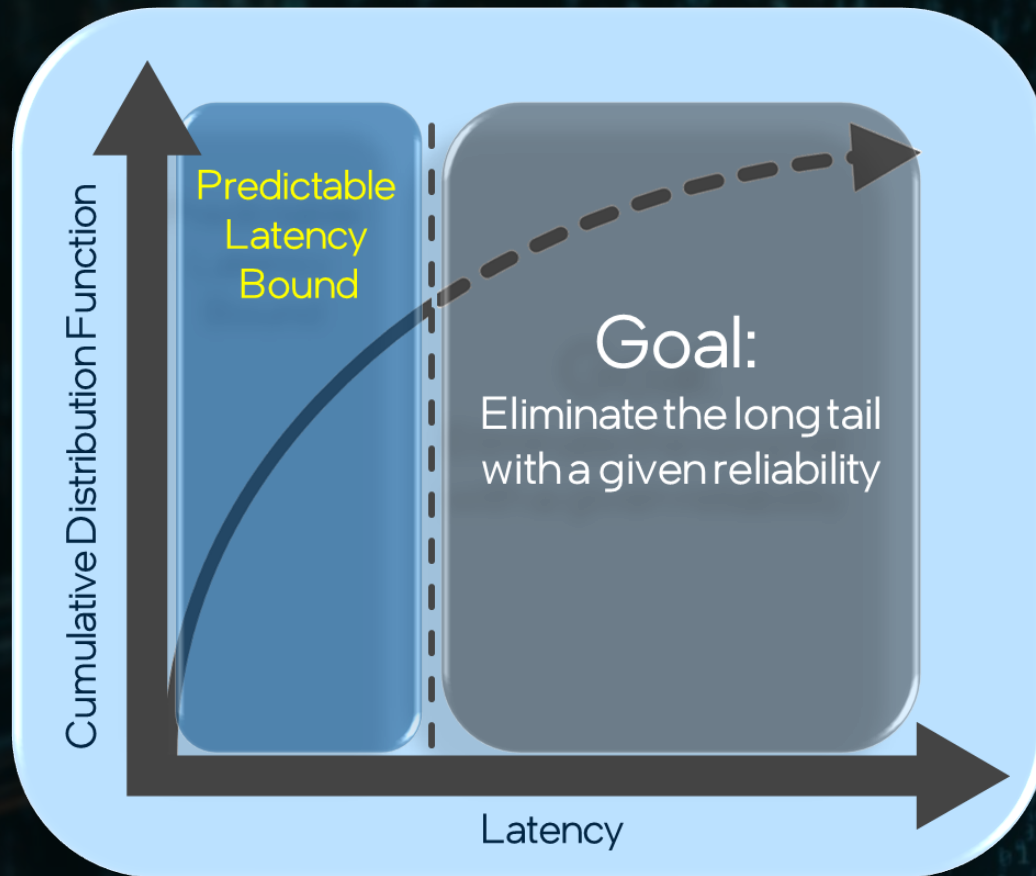
Practical (2-Stream) Data Rates



* Assumes aggregate capacity from max PHY data rate increase and multi-link operation (a 5 GHz and a 6 GHz link).

** Feature set accurate as of July 2021, Draft 1.1. Feature set and their specification are subject to change.

Deterministic Operation Will Expand Wi-Fi to New Applications



Expanded Peer-to-Peer Experiences & Technologies

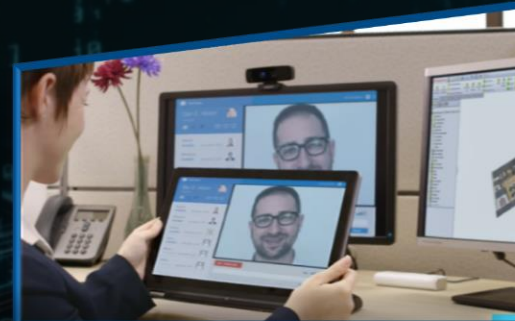
Device Sharing Experiences

Resources (e.g., compute, screen, hotspot),
Data, notifications, etc...

Wireless Capabilities Required

Secure pairing, Low-latency,
Dual / Concurrent connectivity,
Ranging, and others...

Display Expansion
(Wireless display connection)



Inking / Stylus
(Companion inking device)

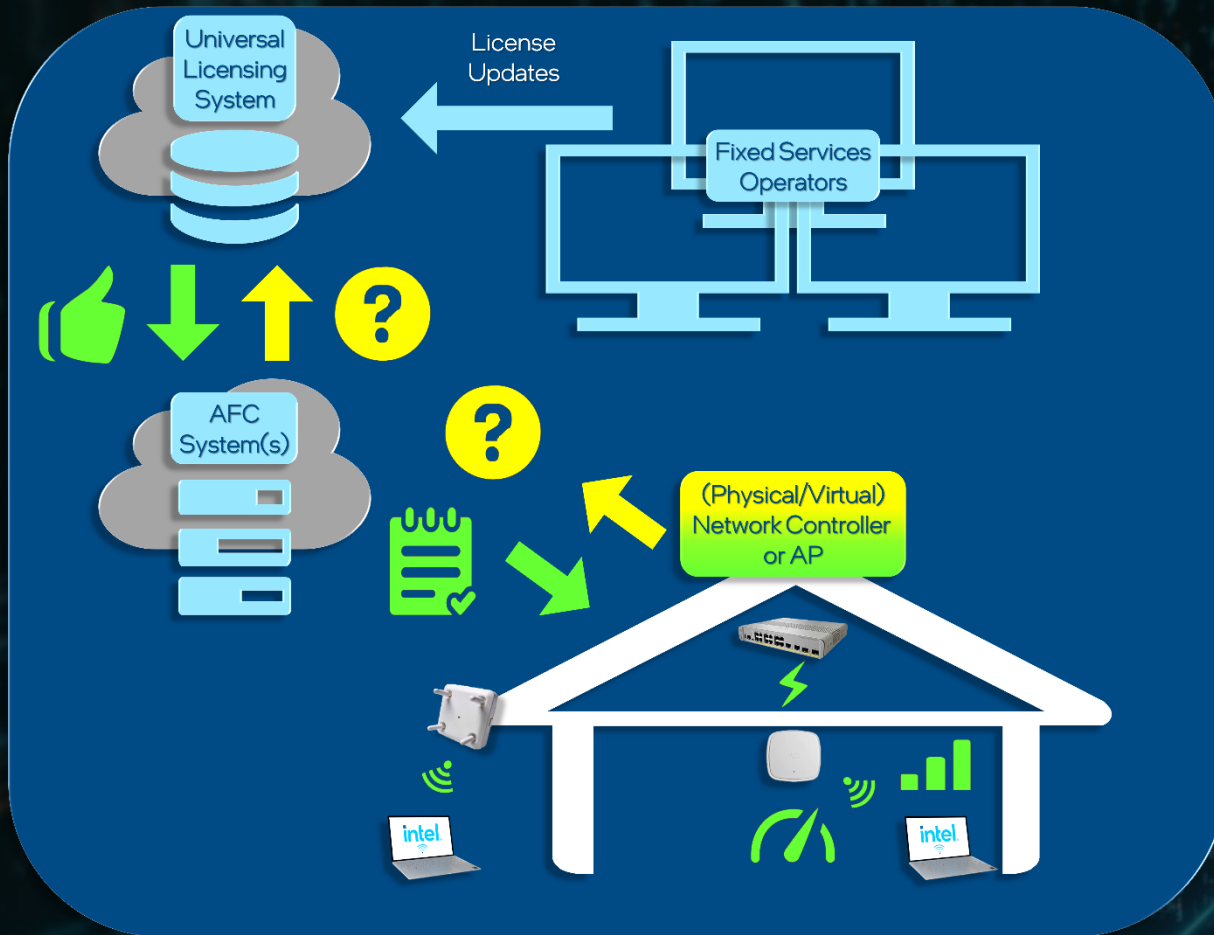


Camera
(Multi-camera / platform)



PC – Phone Collaboration
(Seamless, cross-device app usage)

6 GHz AFC (Automated Frequency Coordination) Can Enable Outdoor & Improved Indoor Connectivity



Incumbent channel frequencies
documented & protected

Channel availability &
permissible TX power communicated
to 6 GHz Wi-Fi network inquiries

6 GHz outdoor Wi-Fi enabled

Indoor 6 GHz Wi-Fi
performance improved

Many Wi-Fi Innovations Expected (2022-2025)

Wi-Fi Usage Expansion

- Augmented / Virtual Realities
- Consumer / Industrial IOT
- Contextual Applications



Wi-Fi Technical Advances

- Wi-Fi 7
- Expanded Peer to Peer Capabilities
- Improved Performance w/6 GHz AFC



Deterministic Wi-Fi

- Combination of New Capabilities
- Predictable Wi-Fi Performance
- Improved Reliability & QoS



Questions?



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WBA INDUSTRY AWARDS

THANK YOU
to all participants of the
WBA Annual Industry Awards

Final Remarks and Close

TIAGO RODRIGUES

CEO

Wireless Broadband Alliance

Wi-Fi Powering Innovation Series

Tuesday October 5th

WBA Leadership Conference & WBA Industry Awards

This autumn's premier Wi-Fi event kicks off with a celebration of all things Wi-Fi and the exciting developments we can look forward to in 2022. The WBA Industry Awards will honor the innovation and excellence from the best of the best in the Wi-Fi Industry. We'll also be looking at strategic impacts of Wi-Fi on the global economy in 2022 and beyond; new innovations in technology and business models for Wi-Fi through 2025; and featuring the highlights of the WBA Annual Industry Report, including the current leading market trends and drivers on Wi-Fi.

Thursday October 7th

Wi-Fi: Public and Private Networks and Convergence with 5G

What does the future hold for public and private networks, and what role will 5G convergence play? In this session, hear the very latest on Wi-Fi 6, including ongoing use cases, case studies and a deep dive on operational benefits. We'll also be looking at the new opportunities and developing use cases for Wi-Fi 6E and taking a snapshot of the global rollout of the 6 GHz spectrum; the role of emerging technologies such as Wi-Fi 7, FWA, 802.11bf and beyond; and much more!

Tuesday October 19th

Wi-Fi: Enabling the Smart Connected Enterprise

When it comes to enterprises looking to get 'smart' and offer outstanding connectivity for employees and consumers, the role of Wi-Fi can't be understated. Hear how companies can secure their IoT infrastructure with Wi-Fi; how smart Wi-Fi can support customers and operations for verticals such as retail, transportation, healthcare, and the carpeted enterprise; the impacts that the 'bring your own device' (BYOD) era can have on security, privacy, and data integrity; and how Wi-Fi is creating emerging opportunities for Industry 4.0 in the 5G era.

Thursday October 21st

Innovation for Service Providers, Cities and Venues with Public and Guest Wi-Fi

How can Wi-Fi address the emerging needs of enterprise to innovate and adapt in a post-COVID-19 world? This session will explore the latest on emerging opportunities for Industry 4.0 and IoT deployments in the discuss the game changers for the connected retailer and automotive industry; and examine how train operator are stepping up to offer outstanding Wi-Fi connectivity for passengers leading up to 2030.

THANK YOU TO OUR WGC EMEA SPONSORS





THANKS FOR ATTENDING

Next Time:

7 October 2021

**Wi-Fi: Public and Private Networks and
Convergence with 5G**

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