



25 MAY – 8 JULY, 2021

# WI-FI: POWERING INNOVATION SERIES

Creating new possibilities for Carriers,  
Enterprise, Cities and Things.

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**#WGCAmericas | #wifirevolution  
#lovewifi**



# Welcome & Introduction

**STEVE ANDREWS**

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Board Advisor, Wireless Broadband Alliance  
Chairman & CEO Luminet Networks





JULY 8, 2021

# Carrier Grade Wi-Fi Delivering the Future for the Smart Connected Home

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#WGCAmericas | #wifirevolution  
#lovewifi

# Wi-Fi Powering Innovation Series

## Full Program Agenda

May 25<sup>th</sup> & 26<sup>th</sup> – WBA Members Only Working Sessions

May 27<sup>th</sup> – WBA Members Only Working Sessions: **Briefing for Asia-based members**

WI-FI POWERING INNOVATION SERIES: 08:30 PT; 11:30 ET; 15:30 GMT; 23:30 Singapore

Thursday June 3 <sup>rd</sup>	Thursday, June 10 <sup>th</sup>	Thursday, June 17 <sup>th</sup>	Thursday, June 24 <sup>th</sup>	Wednesday, June 30 <sup>th</sup>	Thursday, July 8 <sup>th</sup>
<b>Wi-Fi Innovations Connecting Your World – Leadership Conference</b>	<b>Connecting the Wi-Fi Enabled Enterprise</b>	<b>Wireless Innovation, Operation &amp; Customer experience –  Where next for operators?</b>	<b>Wi-Fi Innovation For Hospitality</b>	<b>Connected Cities get Smarter with Wi-Fi in the 5G Era</b>	<b>Carrier Grade Wi-Fi delivering the future for the Smart Connected Home</b>



# Thank you to our Sponsors





# Carrier Grade Wi-Fi Delivering the Future for the Smart Connected Home



**Steve Andrews**

Wireless Broadband Alliance / Luminet Networks



**Tiago Rodrigues**

Wireless Broadband Alliance



**Christian Nascimento**

Comcast



**Metin Taskin**

Airties



**Bill McFarland**

Plume Design



**Kevin Robinson**

Wi-Fi Alliance



**Andrew Skafel**

Edgewater Wireless



**Rida Zouaoui**

Orange



**Johan Terve**

Aptilo Networks



**Chris Beg**

Cognitive Systems



**Wael Guibene Ph.D. - SMIEEE**

Samsung Research America

# Carrier Grade Wi-Fi Delivering the Future for the Smart Connected Home

TODAY'S AGENDA	
08:30am (Pacific time)	<b>Welcome &amp; Introduction</b> Steve Andrews, Board Advisor, Wireless Broadband Alliance; Chairman & CEO Luminet Networks
08:35am (Pacific time)	<b>Securing your remote work force post Covid 19 – in the new 'Work from Home' era</b> Christian Nascimento, Vice President, Product Management & Strategy, Comcast.
08:45am (Pacific time)	<b>Managed Home Wi-Fi for Broadband Operators</b> Metin Taskin, Co-founder & CTO, Airties.
09:00am (Pacific time)	<b>Realizing the Power of Wi-Fi 6</b> Bill McFarland, CTO, Plume Design
09:15am (Pacific time)	<b>Panel Discussion</b> Airties, Comcast, Wi-Fi Alliance, Edgewater Wireless
09:35am (Pacific time)	<b>What do consumers need to meet their future connectivity needs in-home</b> Rida Zouaoui, Head of New Business Strategy, Orange
09:45am (GMT)	<b>Enabling Wi-Fi IoT Connectivity Control for the Smart Home</b> Johan Terve, VP Marketing, Atilo Networks.
10:00am (Pacific time)	<b>Wi-Fi Sensing: Insights from its 1st year in market</b> Chris Beg, Analog Designer, Cognitive Systems
10:15am (Pacific time)	<b>Home Connectivity: The Evolution From Heterogeneous Networks to User-centric Smart Home</b> Wael Guibene Ph.D. - SMIEEE, Senior Staff Engineer, Wireless and IoT Standards, Samsung Research America
10:25am (Pacific time)	<b>Panel Discussion</b> Atilo Networks, Cognitive Systems, Orange, Samsung Research America
10:45am (Pacific time)	<b>Close</b> Tiago Rodrigues, CEO, Wireless Broadband Alliance



# Securing the Workforce Post-Covid-19 In the New 'Work from Home' Era

**CHRISTIAN NASCIMENTO**

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Vice President, Product Management & Strategy

Comcast





# Securing The Workforce Post-COVID 19

In the new work from home era

**Christian Nascimento**

Vice President, Product Management & Strategy

# Demand will continue to grow

**Many companies are not going back to the “old normal”...**

“Our best estimate is that

**25-30%**

of the U.S. workforce

will be working-from-home multiple days a week by the end of 2021.”<sup>1</sup>

**56%**

of the U.S. workforce

holds a job that is compatible (at least partially) with remote work.”<sup>2</sup>

**82%**

of the U.S. office workers

say they want to continue to work from home, at least weekly, when the pandemic is over (approximately 75 million U.S. employees).<sup>2</sup>

<sup>1</sup> Kate Lister, President of Global Workplace Analytics

<sup>2</sup> Global Workplace Analytics' Global Work-from-Home Experience Survey

# What executives think about WFH...



## 74% of CFOs

say their company will reduce office space because employees have adapted to working from home, according to a survey of over 300 CFOs by Gartner, a Connecticut-based research and advisory firm.

Source: 2020 Iometrics and Global Workplace Analytics

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“When you go through something like this, it forces you to ask questions and think about things differently.”

– CEO, **Financial Services**

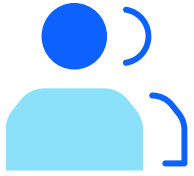
“Our bias against working from home has been completely exploded.” He said employees have stayed engaged while at home and the company was “not seeing any discernible drop in productivity.”

– Chief People Officer, **Real Estate**

“I don’t think we’ll go back to the same way we used to operate,” ...  
“I really don’t.”

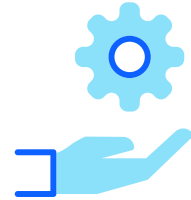
– Chief HR Officer, **Social Media**

# Challenges with working from home



## Connectivity

Ensuring employees have the right internet and Wi-Fi solutions to accomplish their work-related activities.



## Management

Scaling, provisioning and maintaining 100's+ of devices in home offices is daunting.

Teaching employees how to use additional software, tools and password generators can be tedious.



## Visibility

Lack of end-to-end utilization and connection health on all corporate devices.

Insight into security risks is challenging.



## Open

Remote workers can simply turn off client VPN to bypass enforcement policies.

# Delivering the office experience at home via WiFi

- **Remote Access Point**

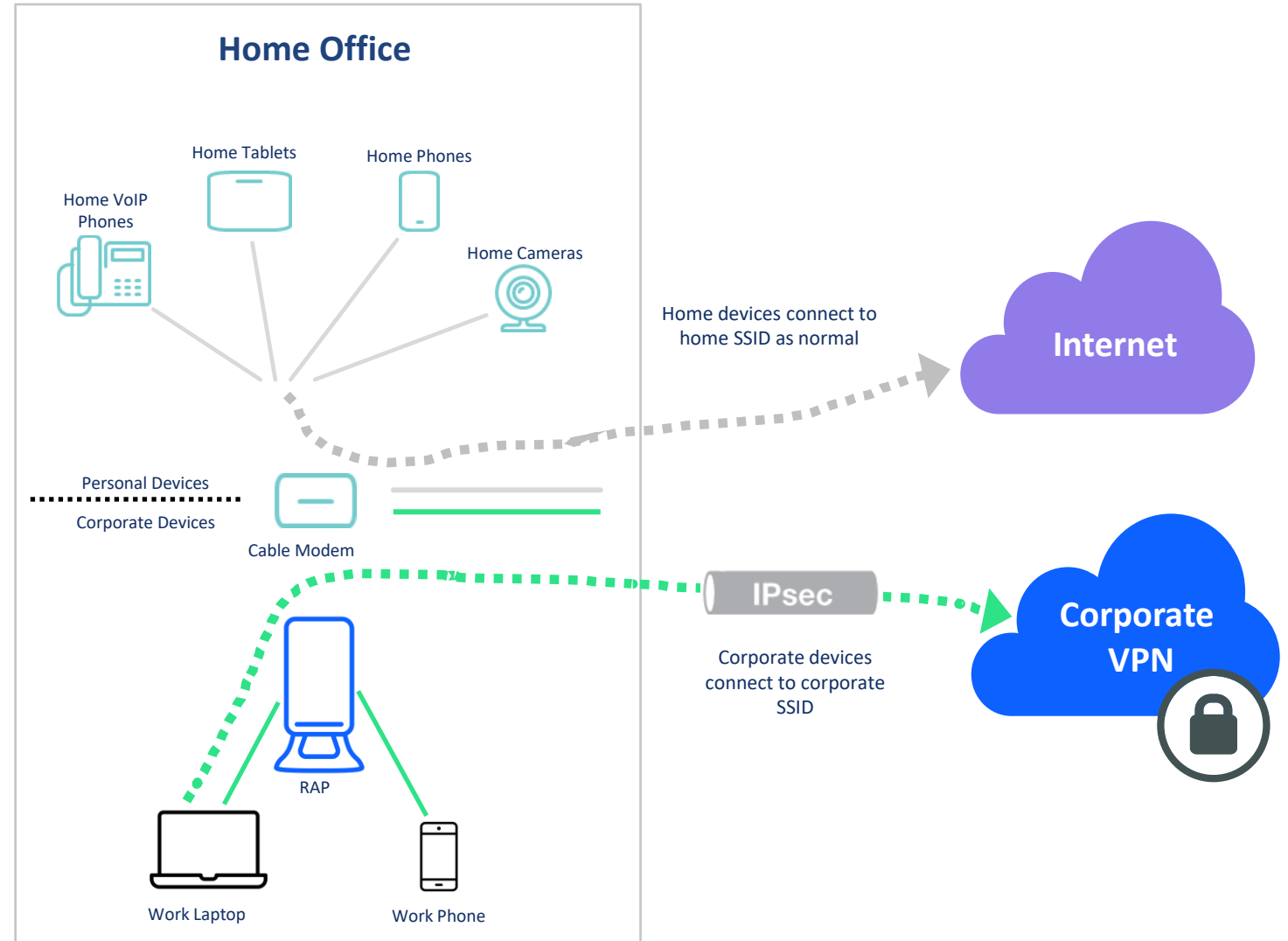
- Automatic VPN connection; No special software required
- Wi-Fi 6 capable device delivering corporate SSID in the home
- LAN connectivity to wired devices (802.1x)

- **Comcast managed & delivered**

- Reduce help desk calls
- Zero Touch Provisioning
- Plug & Play ready

- **Securing home workers**

- Reduce help desk calls
- Ensure users have secure, corporate access
- Provides optimal WiFi experience



# Comcast Business Corporate Network Access

Utilizing Deep Blue's years of Experience to deliver a Wi-Fi Enabled VPN solution to the home



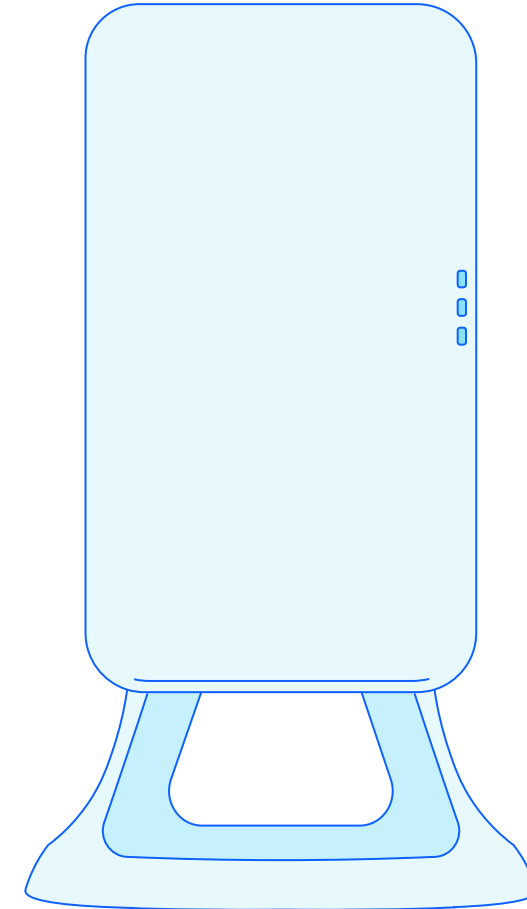
Easy to deploy and use



Simple to maintain



Price and technology scalable  
to any number of seats



# Thank You!



# Managed Home Wi-Fi for Broadband Operators

**METIN TASKIN**

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Co-Founder & CTO

Airties





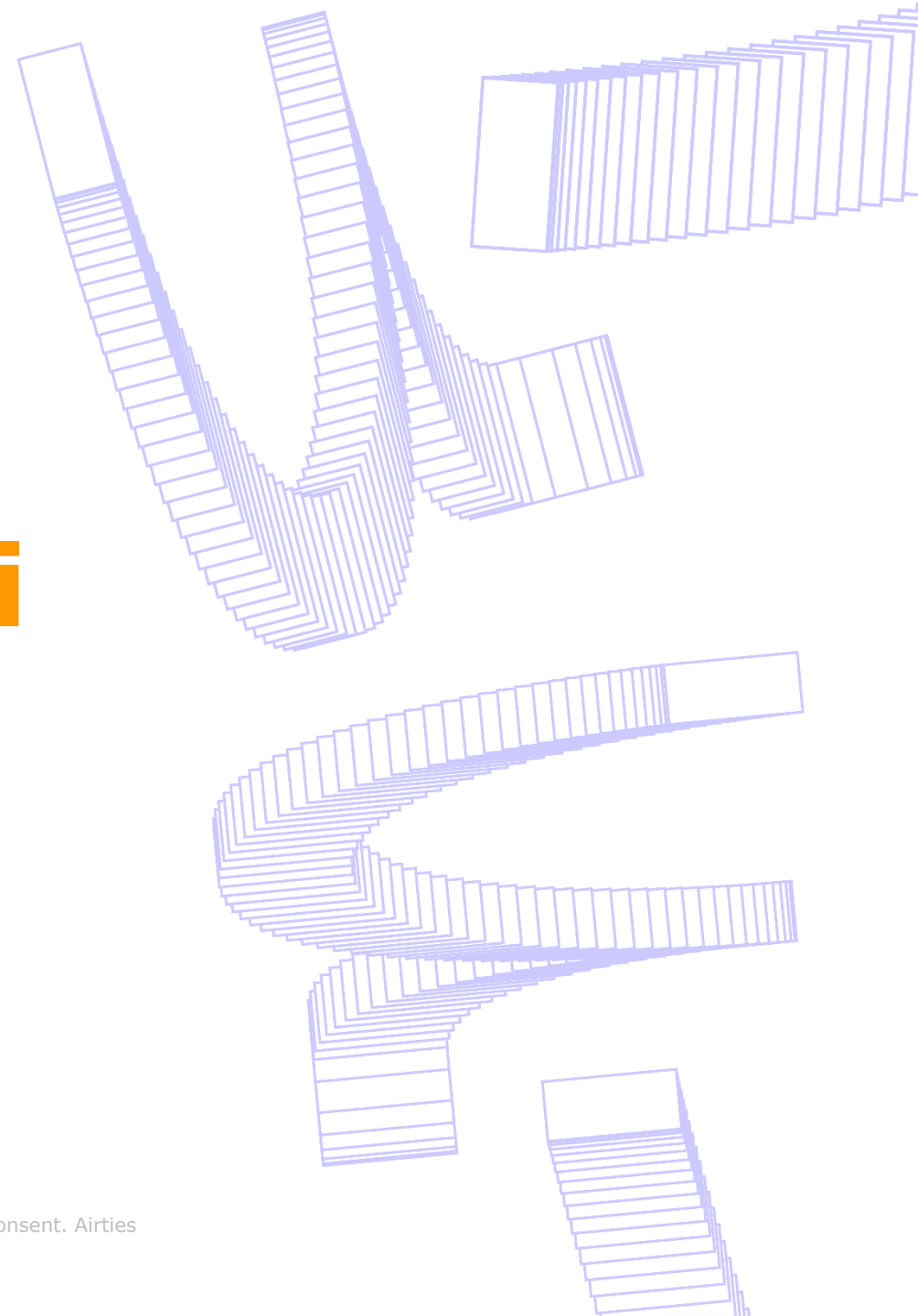


# Managed Home Wi-Fi

For Broadband Operators

**Wireless Global Congress 2021**

The information contained in this document is confidential to Airties and cannot be distributed or shared with a third party without consent. Airties reserves the right to change any part of the information contained in this document without prior notice.



# Wi-Fi is the Key Enabler of the Connected Home



**Nearly 100% of connectivity at home is through Wi-Fi**



**Home networks must manage increasing complexity**



**Consumers rely on operators to deliver the home network**



**Operators can harness the Connected Home opportunity**



**Wi-Fi network to become a platform for operators to deliver new services**

# Why Airties' Exclusive Focus on Broadband Operators?

# 89%

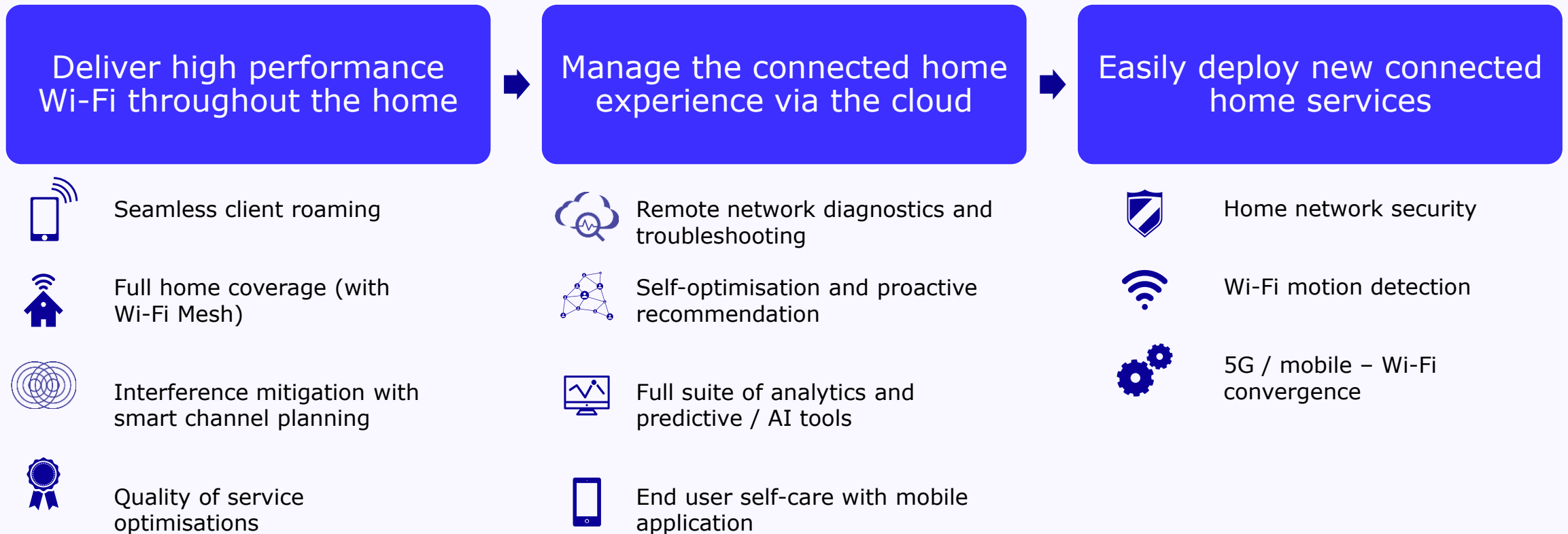
Of consumers prefer their broadband operator to provide Wi-Fi equipment instead of buying from retail\*

# 66%

Of consumers would upgrade their broadband for a bundle with premium Wi-Fi\*



# What does managed Wi-Fi mean for broadband operators?



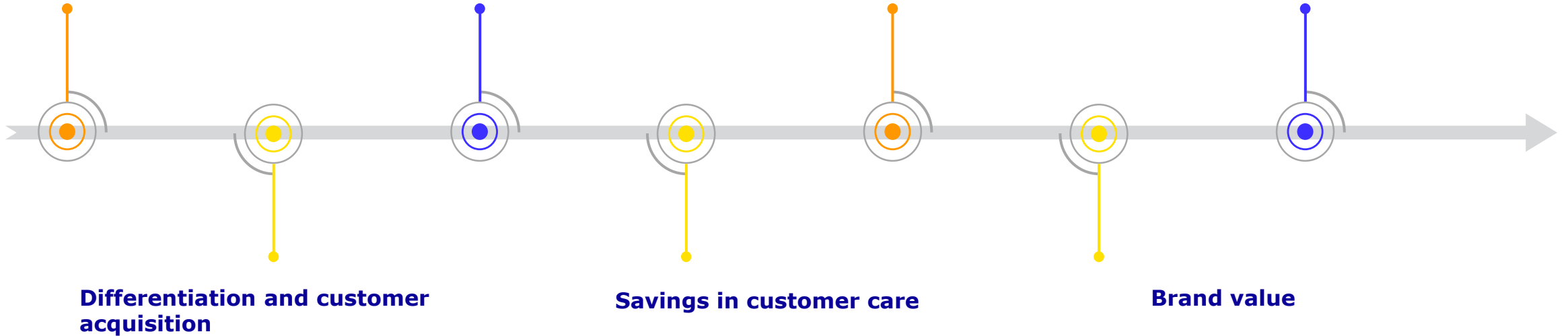
# The benefits of managed Wi-Fi service

**Delivering true  
Connected Home**

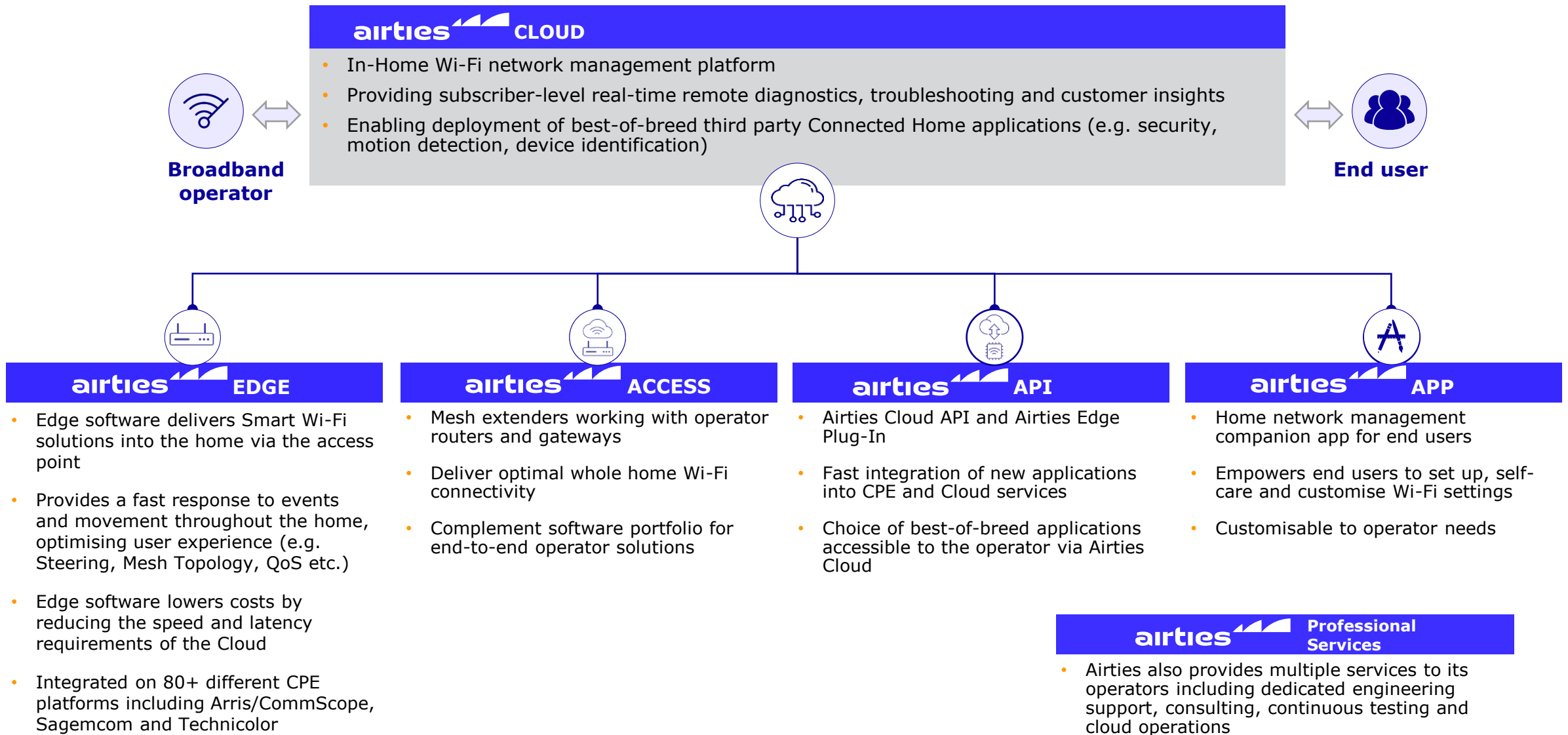
**Data insights**

**Financial Returns**

**Integration of new  
technologies**



# Airties End-to-End Solution: Overview



# Wi-Fi 6 – Why it matters

## Latest generation of Wi-Fi connectivity

### Market Drivers

#### Support for latest consumer devices

- Samsung devices since Galaxy S10 (March 2019)
- Apple devices since iPhone 11 (Sept 2019) and iPad Pro (March 2020)
- 56% of all new devices will be Wi-Fi 6 by next year (2022)\*

#### Latest generation of residential gateways

- Amongst others, Telstra, Bouygues, KDDI, Comcast, KPN, SFR, Verizon, KT, Swisscom, Telecom Italia, Tele2 rolled out Wi-Fi 6 gateways in 2020

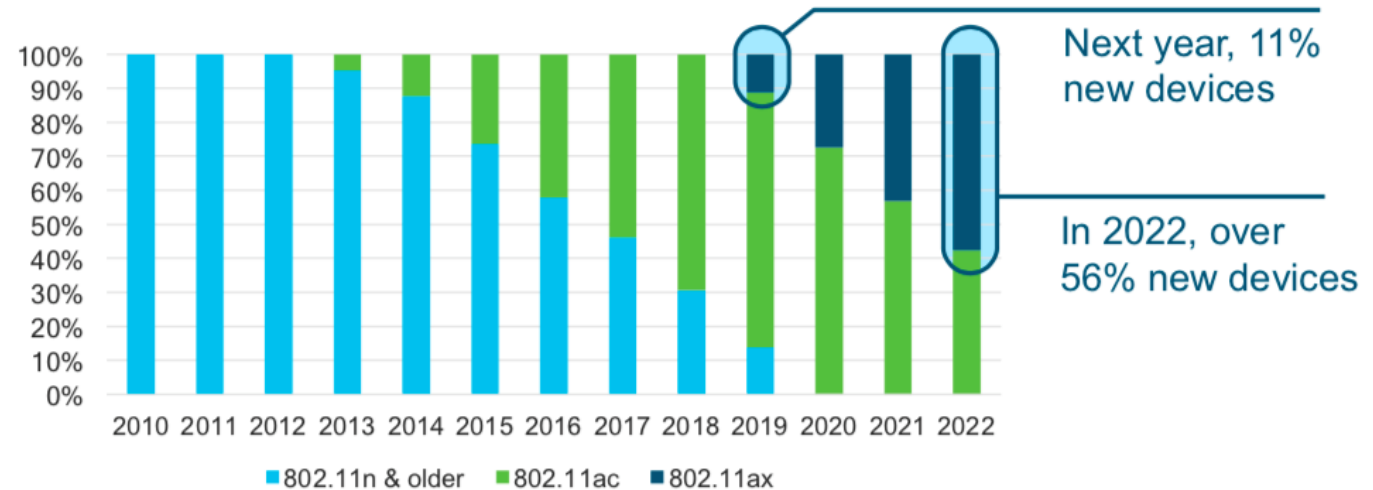
#### Better throughput & top speeds

- Latency-sensitive applications such as VR/AR
- Video streaming (especially 4K)

#### Prioritization of device or application

- Video conferencing (home office) or online gaming

## 802.11ax Growing Exponentially with End-Devices



# Connected homes represent a mix of legacy and new devices

Managing this reality is one of the greatest challenges



Average **12.4 Wi-Fi connected devices** per home

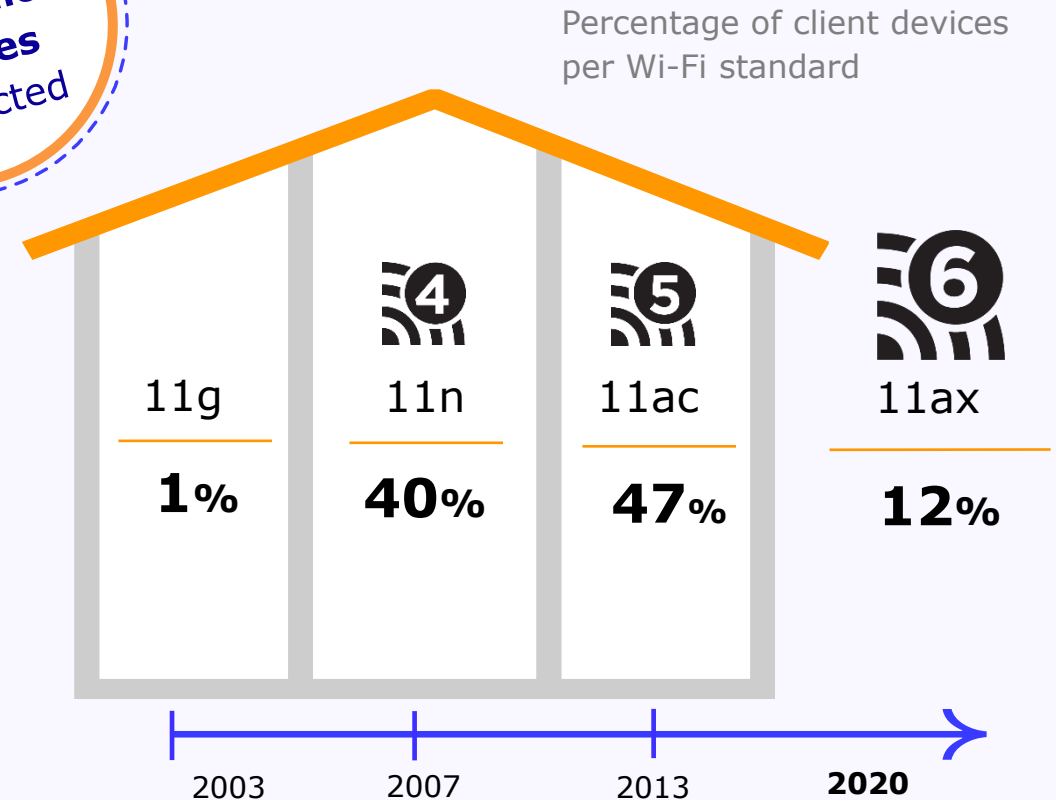


Connection time per day is **10 hours per device**



**34% of wireless devices** are not dual-band (can only use 2.4GHz)

More than **250 million devices** connected





# Thank You!



# Optimizing Wi-Fi 6 for EVERY Household

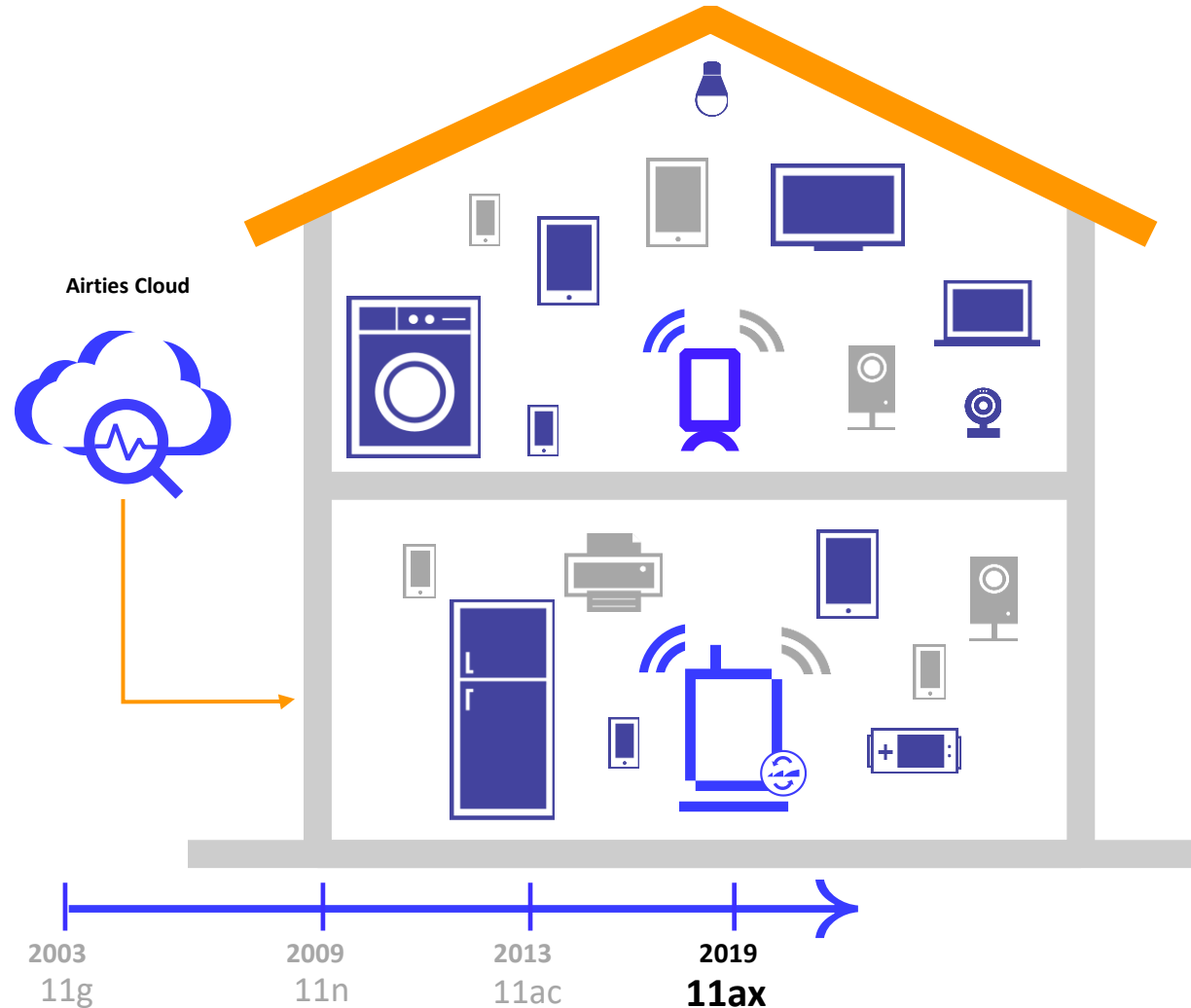
## How Airties ensures the best possible Wi-Fi experience

### Analyze

- Device capabilities
- Quality of Experience (Wi-Fi Experience Index)
- Edge data for real-time network conditions

### Connect

- Dynamic reassessment
- Smooth handover for moving devices
- Prioritization or latency reduction for key applications



### Adjust

- Steering profile per home
- Smart scheduler for capacity optimization
- Homeowner control via app

### Learn

- Usage pattern history
- Cloud determination of optimal channel planning
- Adapting algorithms to the use of new 5 GHz frequency



# Realizing the Power of Wi-Fi 6

**BILL MCFARLAND**

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CTO

Plume Design



# Realizing the power of WiFi 6



# Realizing the power of WiFi 6



PRESENTED BY:

**Bill McFarland**

Chief Technical Officer, Plume

Leads data science, optimization, standards, intellectual property, and regulatory matters for Plume and was elected fellow of the IEEE in 2014.



# The potential of WiFi 6

Speed: 160MHz BW, 1024QAM

Efficiency: OFDMA

QoE: Network slicing

Power saving: TWT

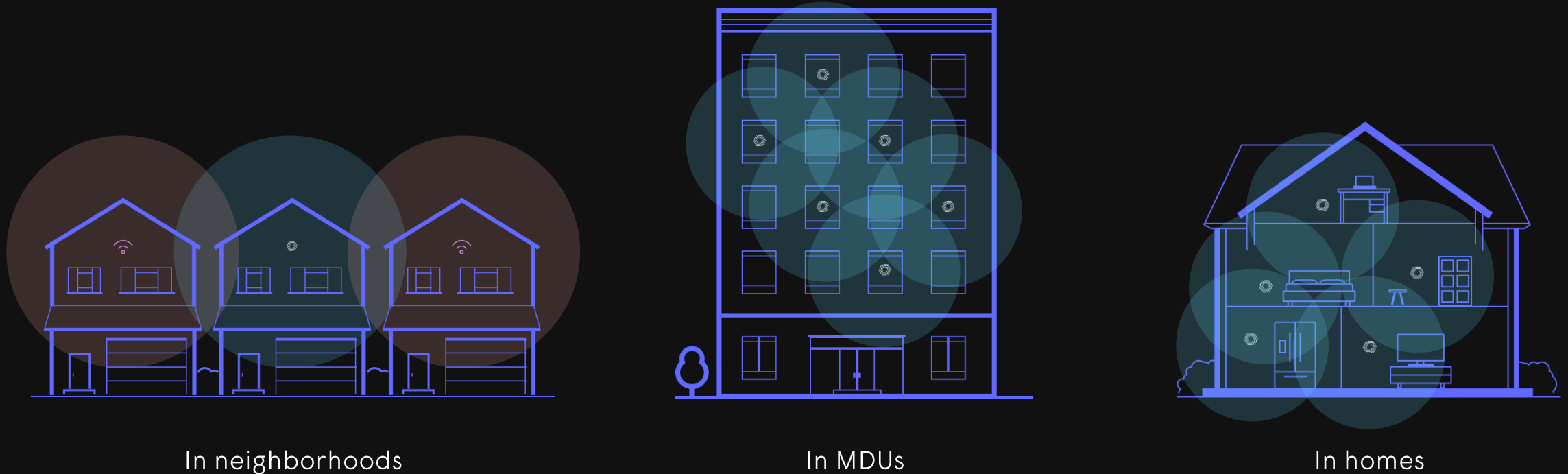
Capacity: 6 GHz (WiFi 6E)



It all works, *in a vacuum*



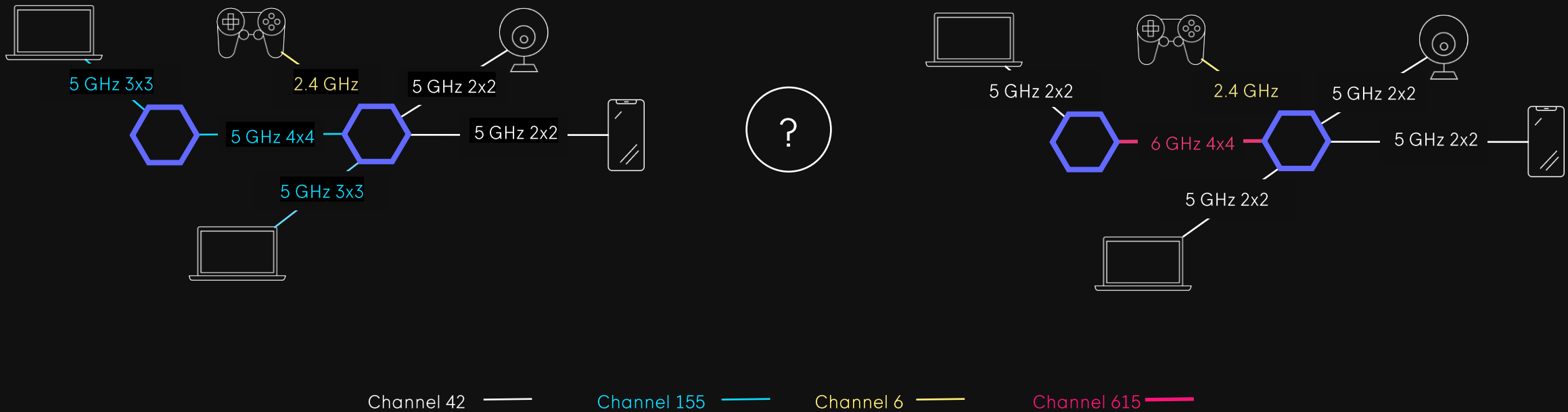
# But, WiFi does not operate in a vacuum



WiFi 6 requires more management, not less



# Band management



Band planning for tri-band 4x4, 2x2, 2x2 AP

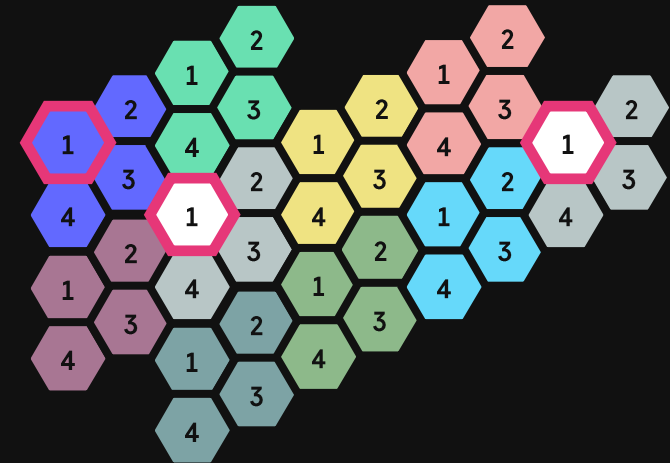


# Channel management

160 MHz Channels



BSS Color



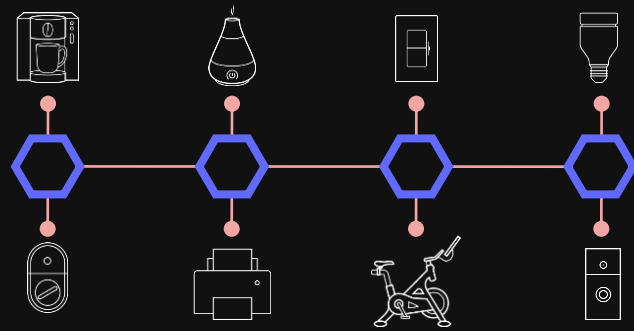
- When to use 160 MHz BW?
- Which homes need it?
- What happens to the neighboring homes?

- What channel, what color?
- What sensitivity threshold?
- Which devices gain, which suffer?

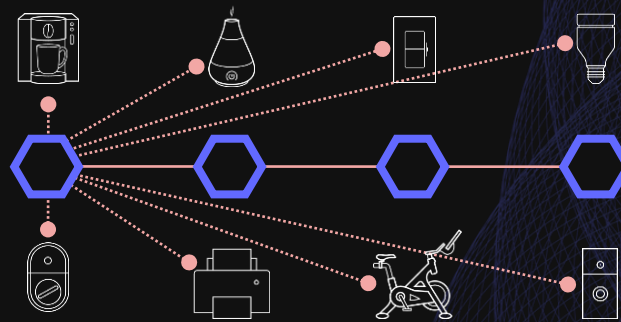
Need rigorous optimization across multiple homes



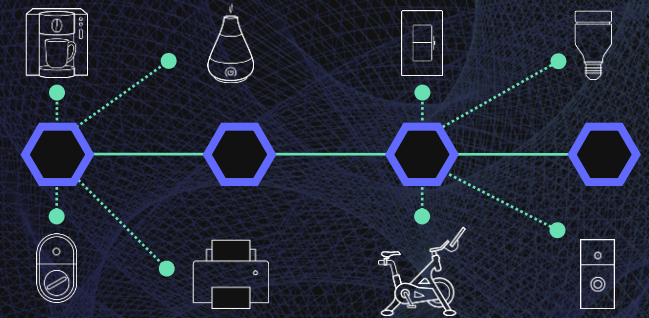
# Steering management



Too distributed



Too centralized

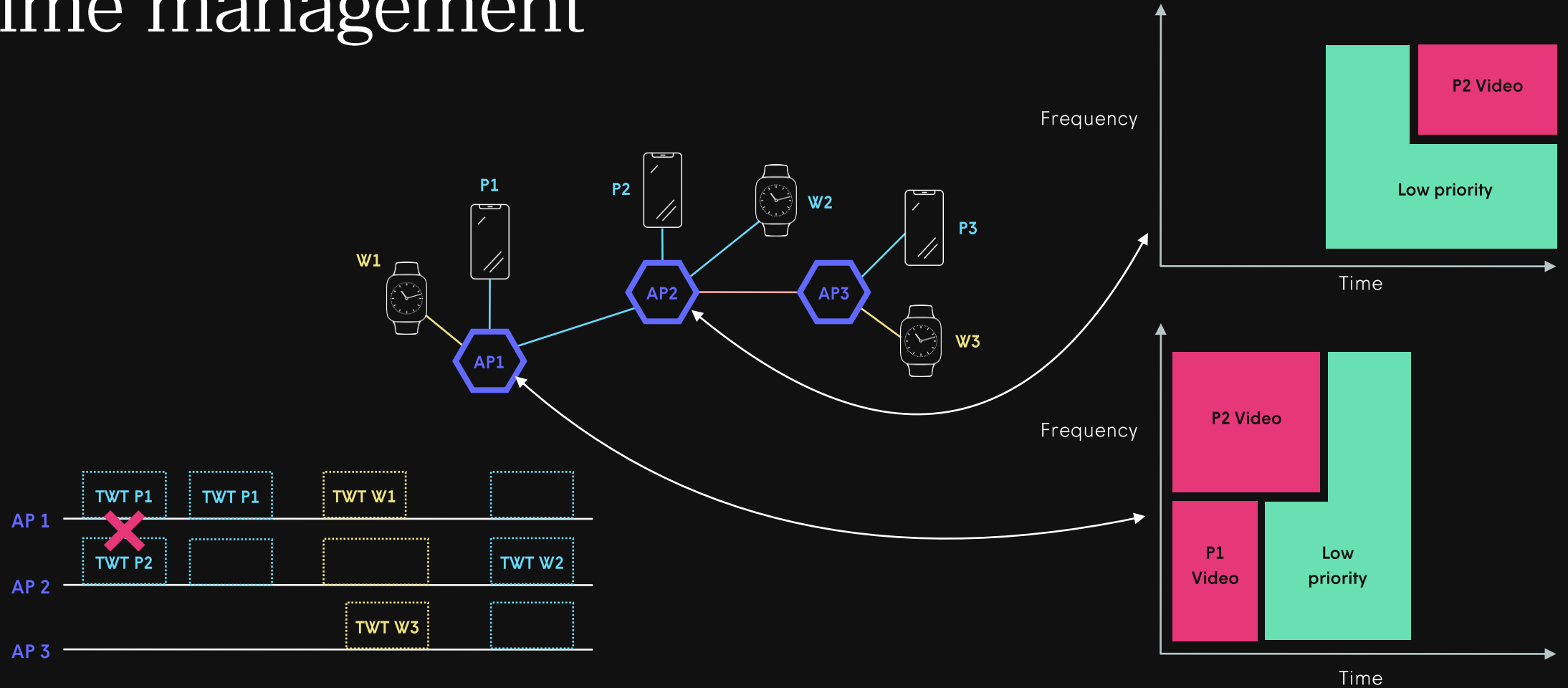


Just right

OFDMA-aware steering



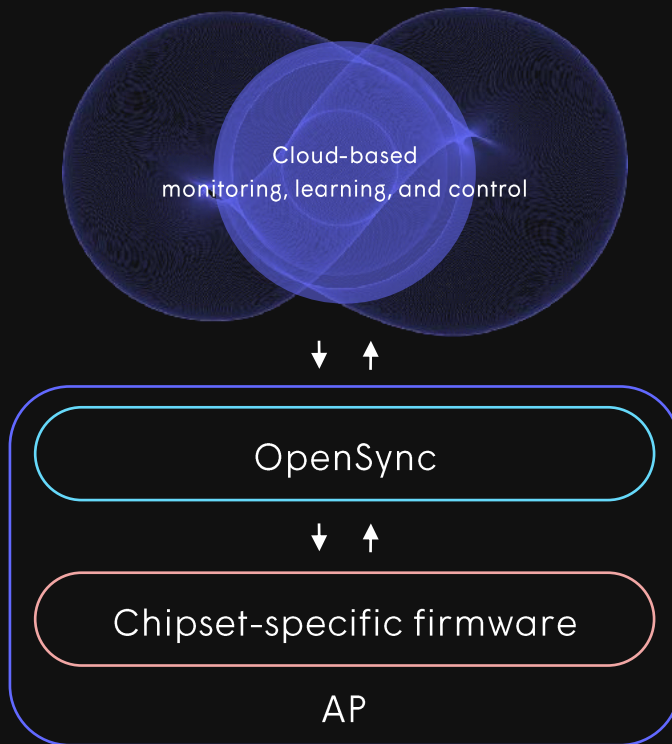
# Time management



Centralized scheduling for TWT and network slicing



# Access to managed WiFi 6: OpenSync



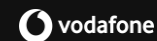
Chipset Mfr.



Device Mfr.



CSPs



Open sourced ([opensync.io](https://opensync.io)), now with support for WiFi 6!





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## Panel Discussion

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**Steve Andrews**

Wireless Broadband  
Alliance / Luminet Networks



**Metin Taskin**

Airties



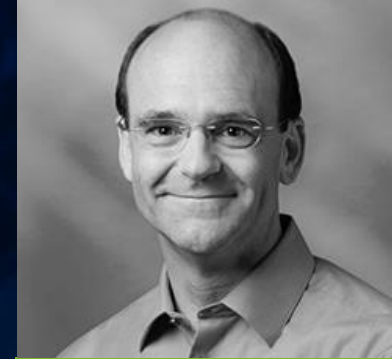
**Christian Nascimento**

Comcast



**Andrew Skafel**

Edgewater Wireless



**Bill McFarland**

Plume Design



**Kevin Robinson**

Wi-Fi Alliance



# What Do Consumers Need to Meet Their Future Connectivity Needs In-Home

**RIDA ZOUAOU**

---

Head of New Business Strategy

Orange





# Caring for users with evolving Smart Home

Wireless Global Congress Americas  
8<sup>th</sup> July, 2021

Rida Zouaoui



We are in 2021 ...



... obviously we don't use  
Wi-Fi as in 1999!

- First pairing is still a challenge
- Need to improve ways to connect Wi-Fi devices to a network easily
- Automatically switch to best Wi-Fi networks or APs when they become available (home, work ...)



# Evolving Wi-Fi while maintaining users' satisfaction



Smart homes connecting more and more devices, including IoT. Carefully transition between Wi-Fi generations.

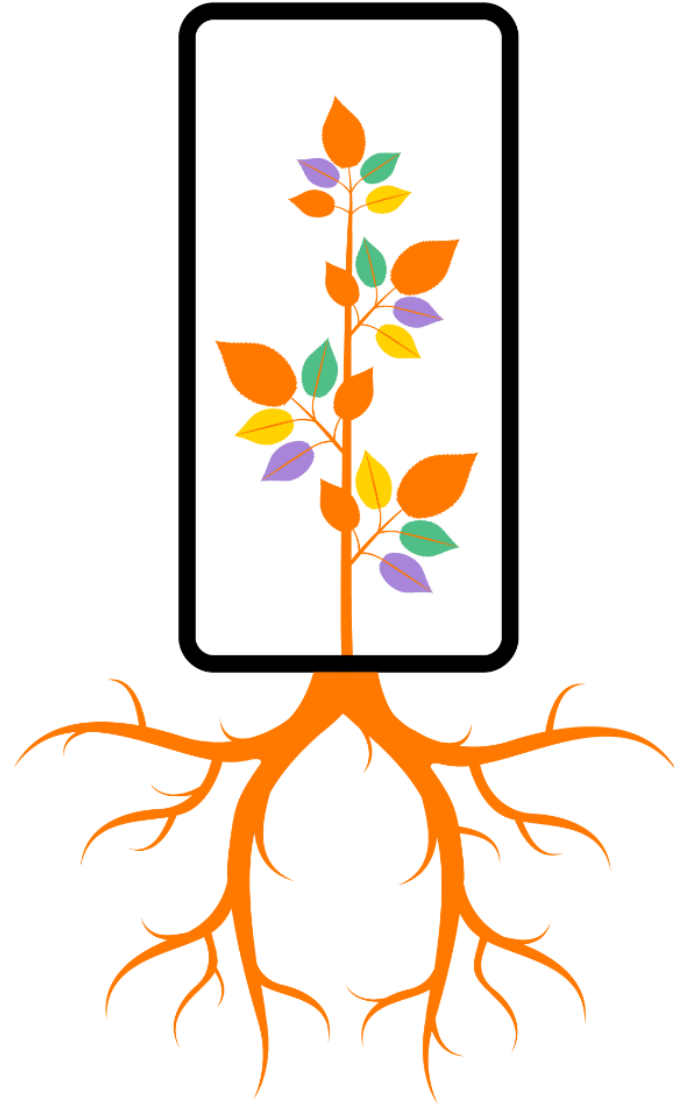


Customers' expectations are increasing with the number of services they have access to.



Data and KPIs are crucial to help providing the right answer in customer care

# Customers are concerned about their energy consumption



# Thanks





# Enabling Wi-Fi IoT Connectivity Control for the Smart Home

**JOHAN TERVE**

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VP Marketing

Aptilo Networks



# Step Up Your Wi-Fi and IoT.



ENABLING WI-FI IOT CONNECTIVITY  
CONTROL FOR THE SMART HOME

JOHAN TERVE, VP MARKETING

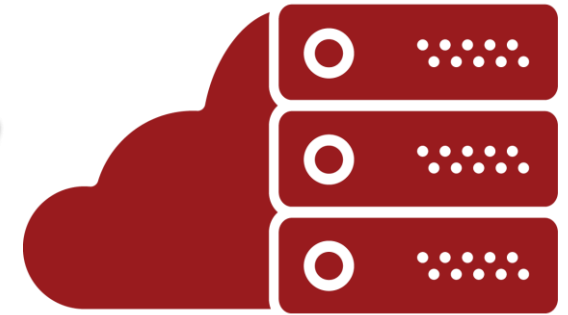


# APTILO NETWORKS [EST. 2001]



WORLDS #1

PROVIDER OF WI-FI SERVICE MANAGEMENT  
FOR LARGE SCALE WI-FI DEPLOYMENTS



OR ON PREM

And Groundbreaking  
Cellular & Wi-Fi IoT  
Connectivity Services



+200 MILLION

PEOPLE POWERED WITH WI-FI



+100

CARRIER WI-FI CUSTOMERS



+75

COUNTRIES

# ADDING VALUE TO THE WI-FI SMARTHOME

WHAT CAN WE AS AN INDUSTRY AND OPERATORS DO?



ZERO-TOUCH  
CONNECTIVITY

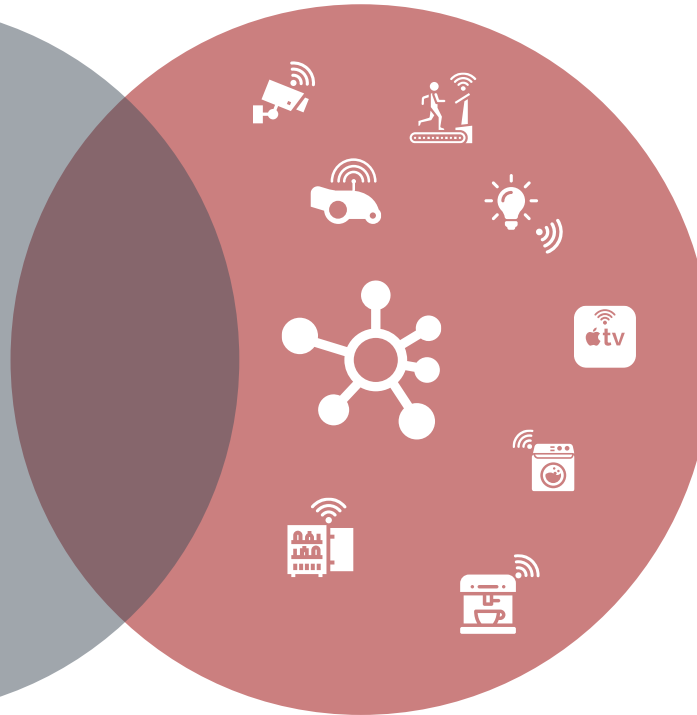
*Most users aren't  
tech-savvy*

Ease of use



End Users

Security



Device Vendors



SECURE  
CONNECTIVITY

*IoT Devices need  
Enhanced security  
(VPN, Firewall  
Filtering, anomaly  
detection etc.)*

# SOLVING WI-FI IOT ONBOARDING CHALLENGES



Devices on IoT platform



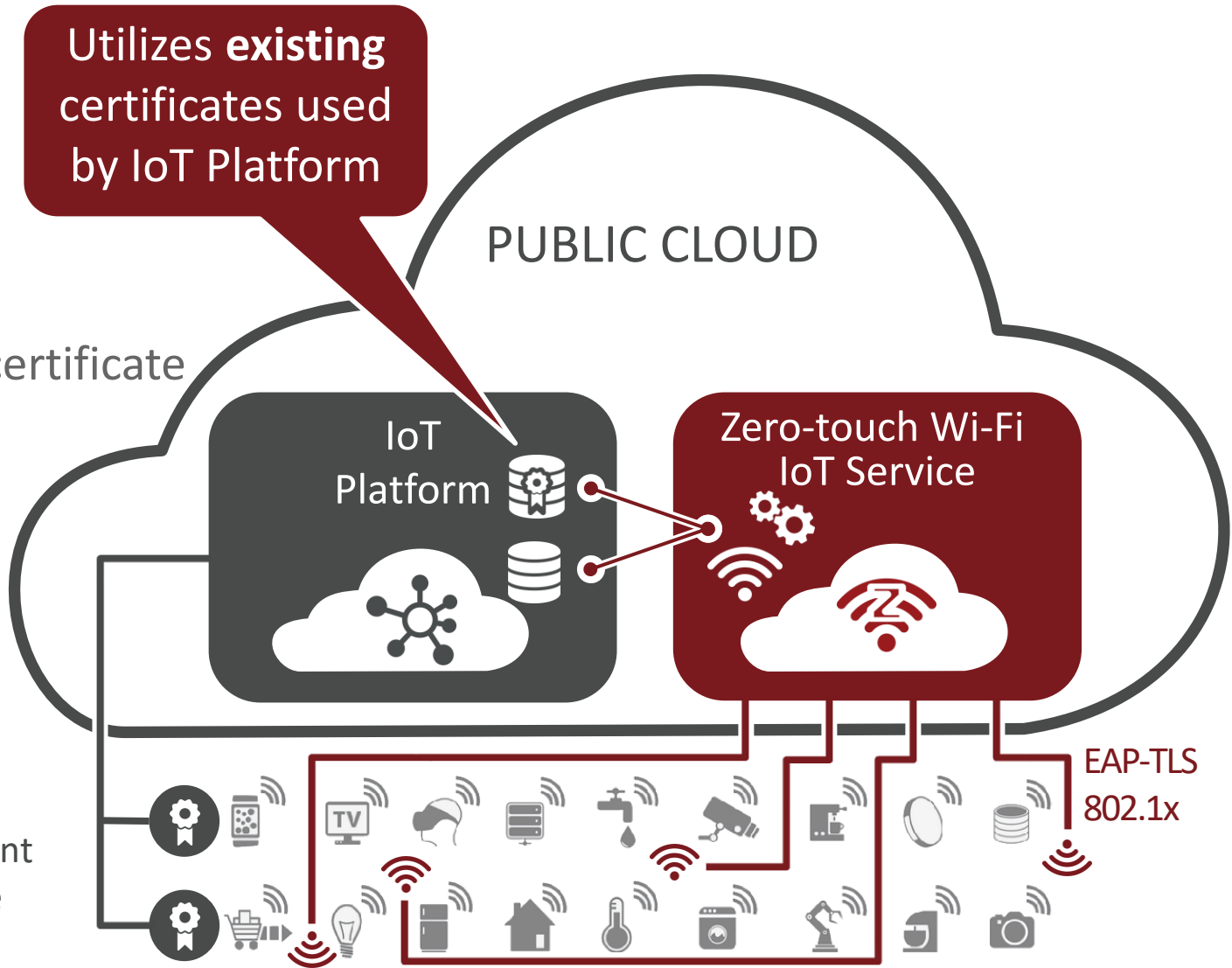
Secure identity with device certificate



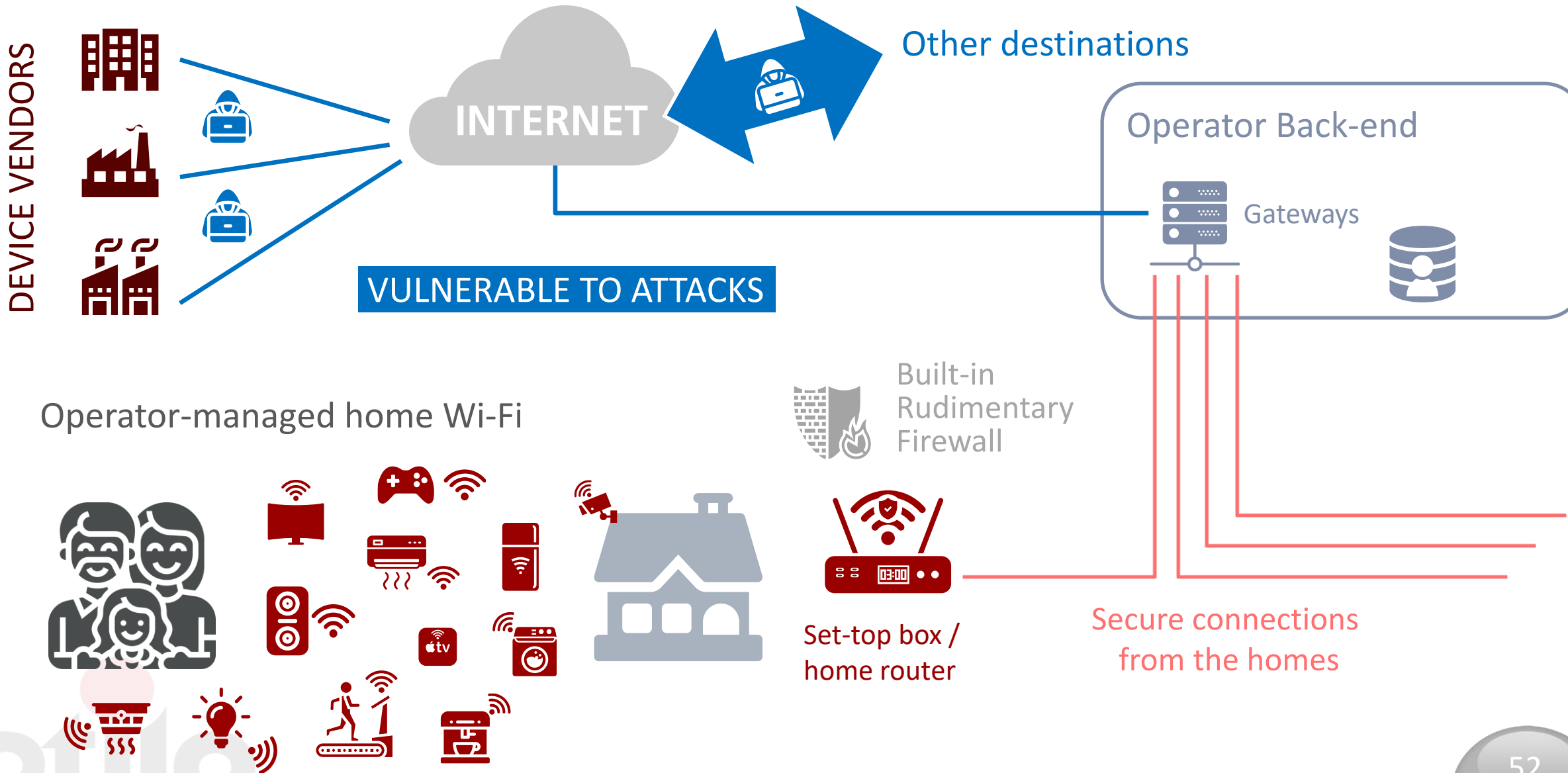
Manual Wi-Fi onboarding



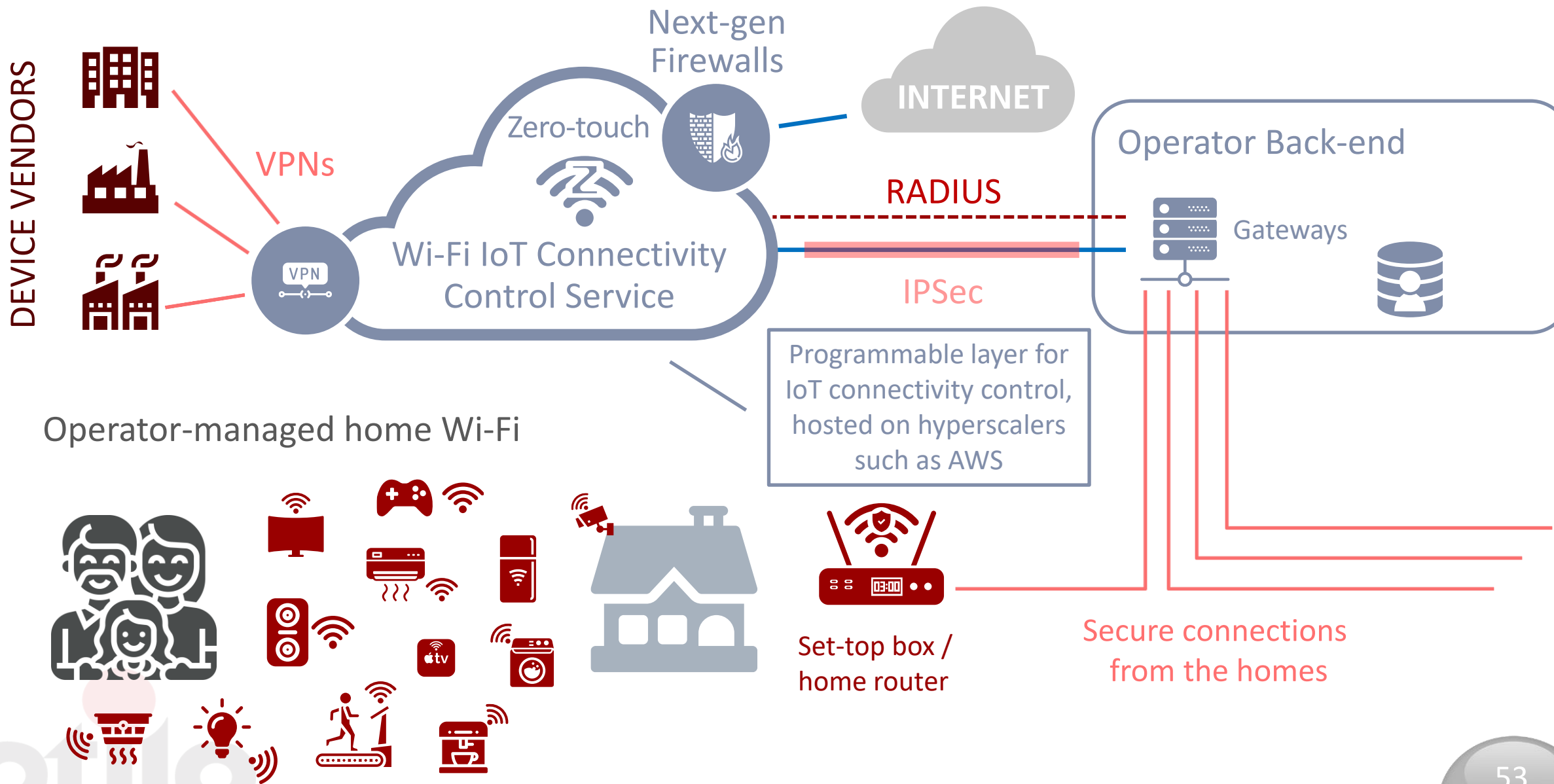
Secure & Seamless Wi-Fi



# IS THE CONNECTED HOME **SECURE ENOUGH?**

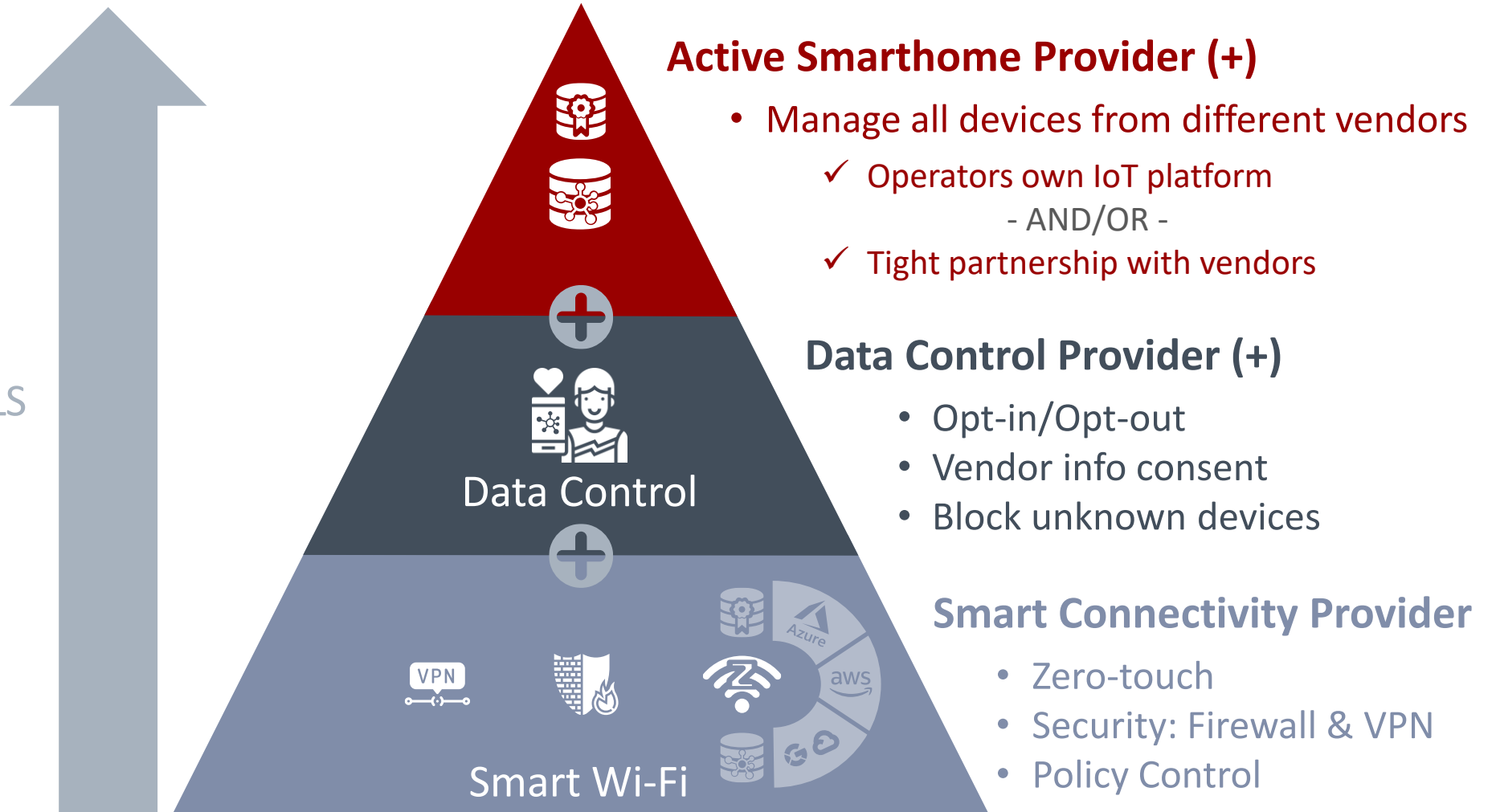


# SEAMLESS & SECURE CONNECTIVITY



# OPERATORS CAN TAKE DIFFERENT ROLES

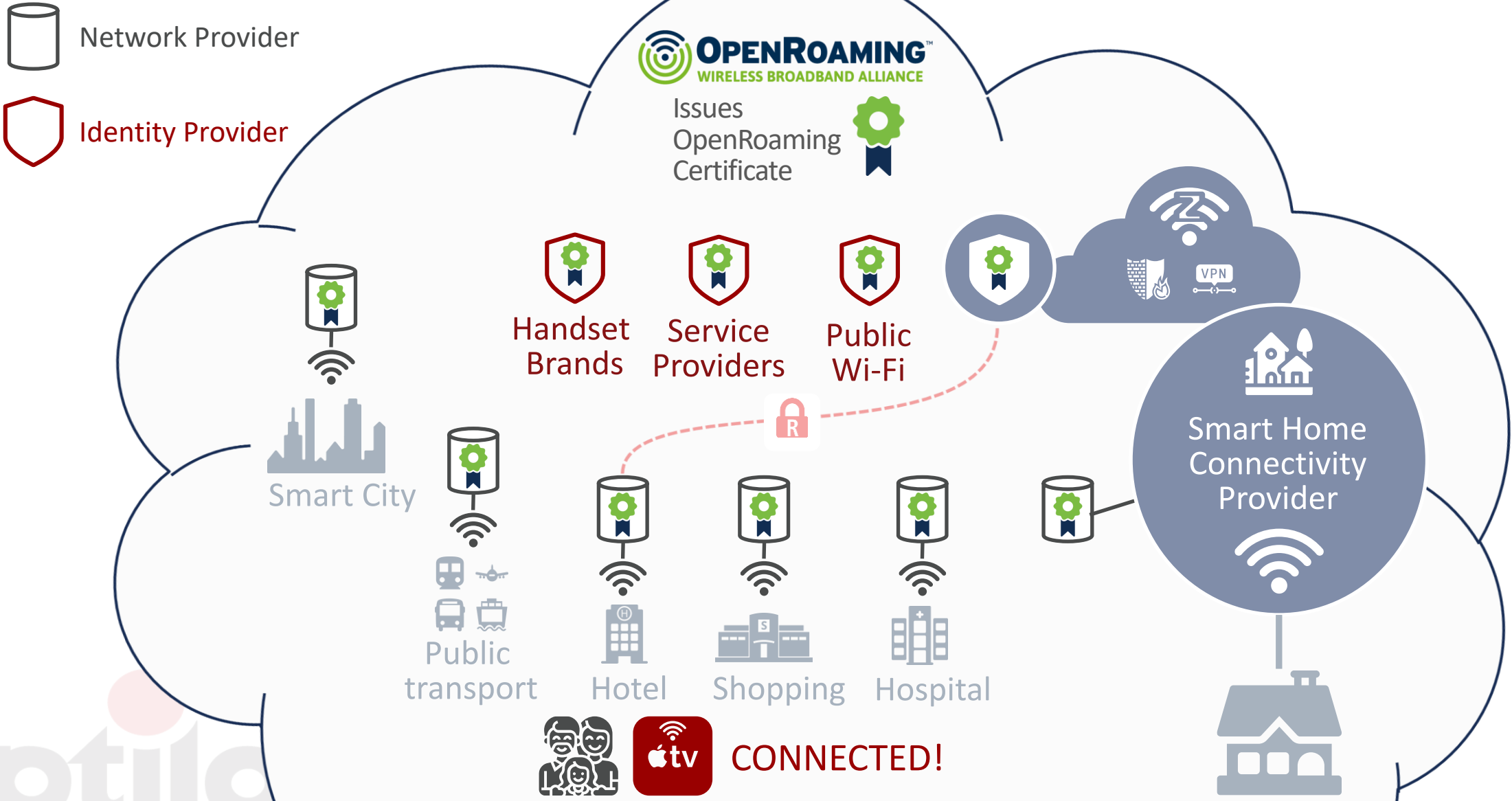
DIFFERENT LEVELS  
OF VALUE ADD



# MAKING SEAMLESS IOT NOMADIC

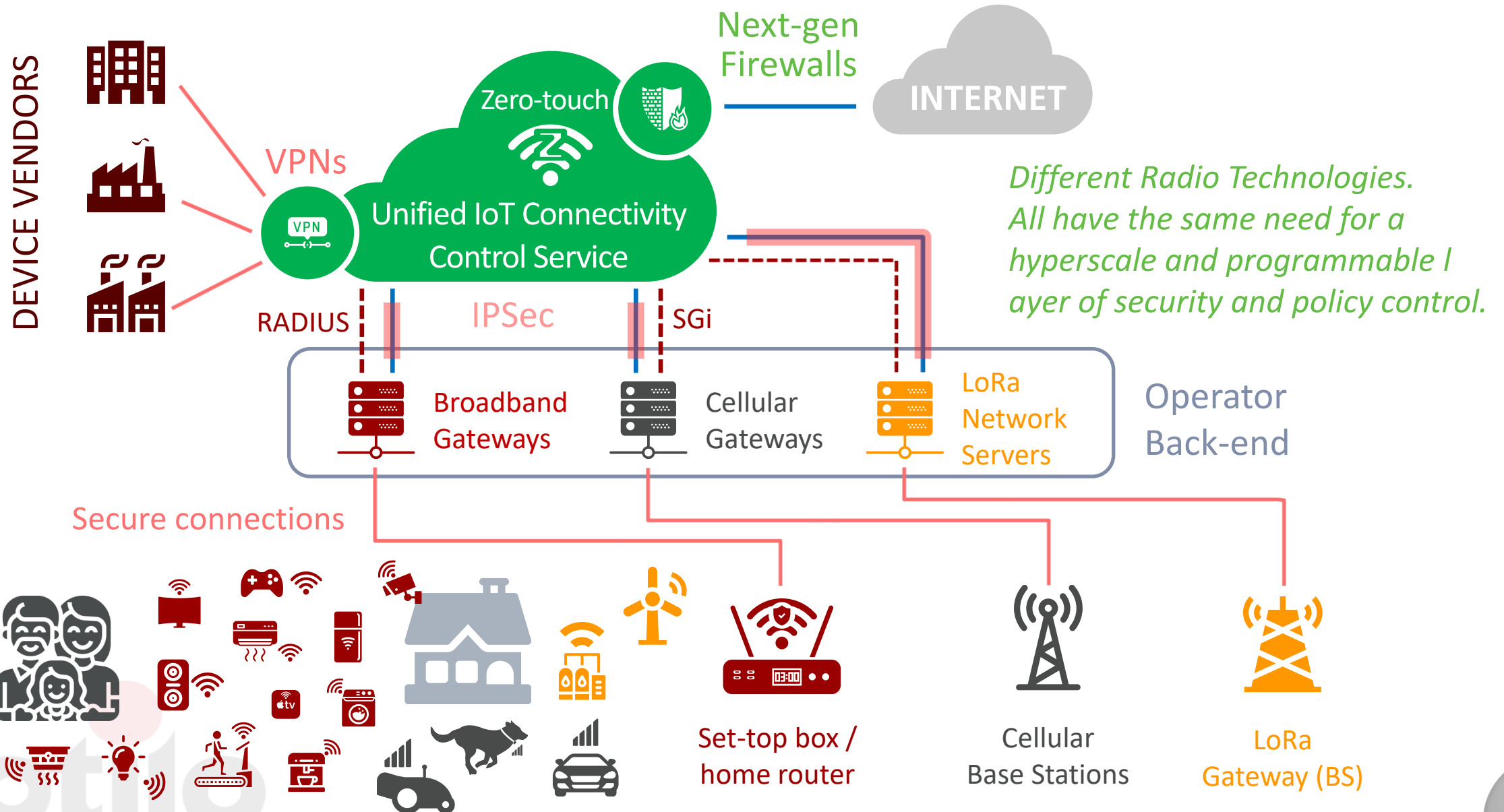


# MAKING SEAMLESS IOT NOMADIC





# UNIFIED IOT CONNECTIVITY SERVICES



# Step Up Your Wi-Fi and IoT.

*Thank-you!*

<https://www.aptilo.com>





# Wi-Fi Sensing Insights from its 1<sup>st</sup> Year in Market

**CHRIS BEG**

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Analog Designer

Cognitive Systems

**COGNITIVE** ∞

# WiFi Sensing

Insights from its 1<sup>st</sup> year in market

---

Chris Beg

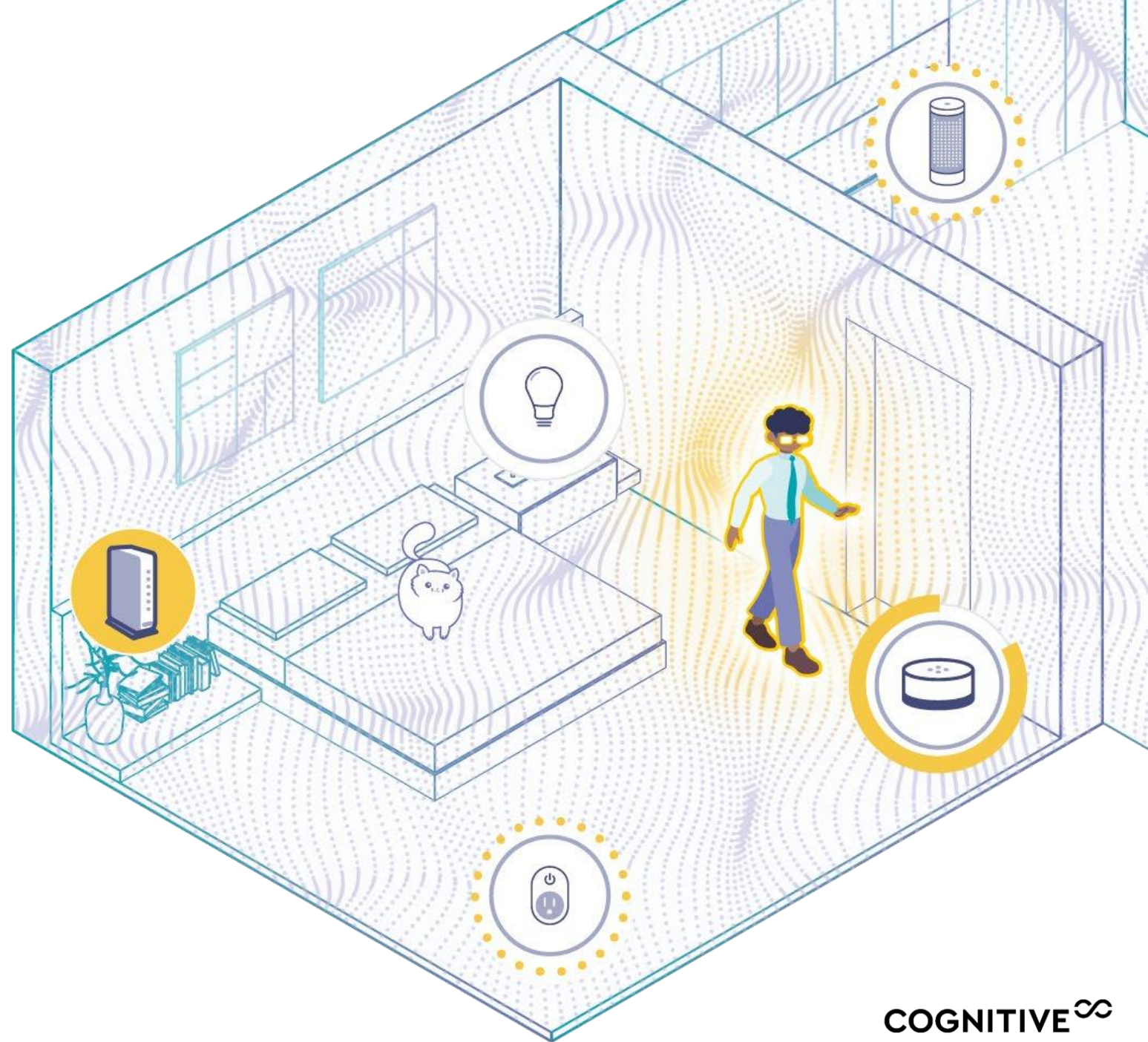
# What is WiFi Sensing?

Fusion of Wi-Fi & RADAR

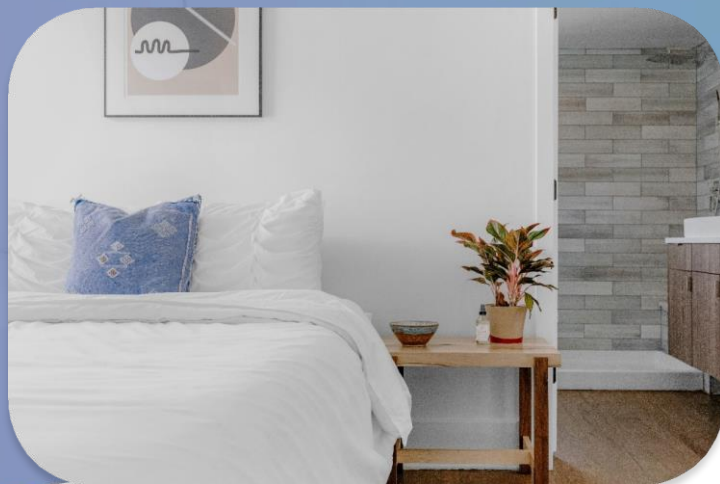
Senses motion using existing WiFi signals & infrastructure

Attributes location to the nearest connected device

- ✓ Affordable
- ✓ Private
- ✓ Easy to scale & upgrade
- ✓ No additional hardware



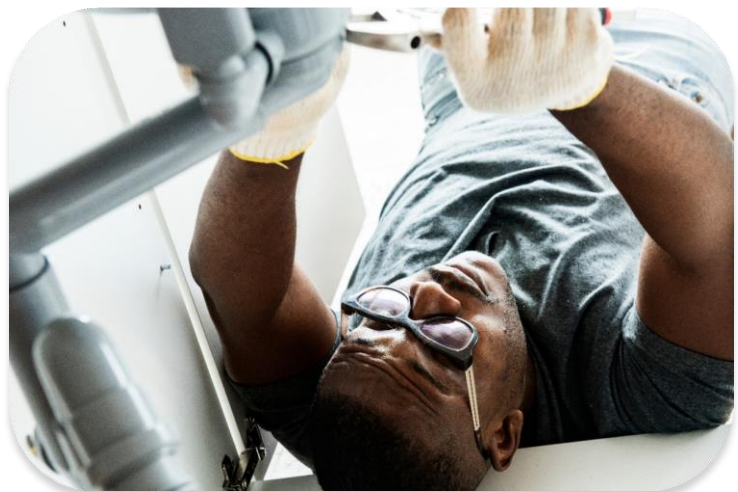
# How is WiFi Motion used today?



Security enhancement for indoor privacy



Are the kids home?



Did my landlord come to fix the sink?



Did my rental guests arrive?



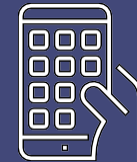
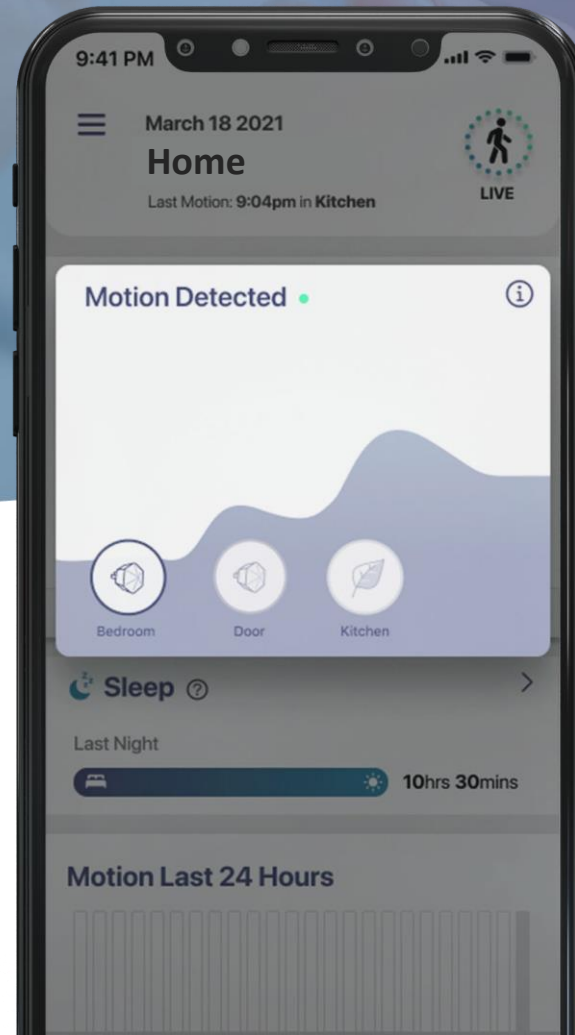
Did he really sleep all night?!

# Market Insights

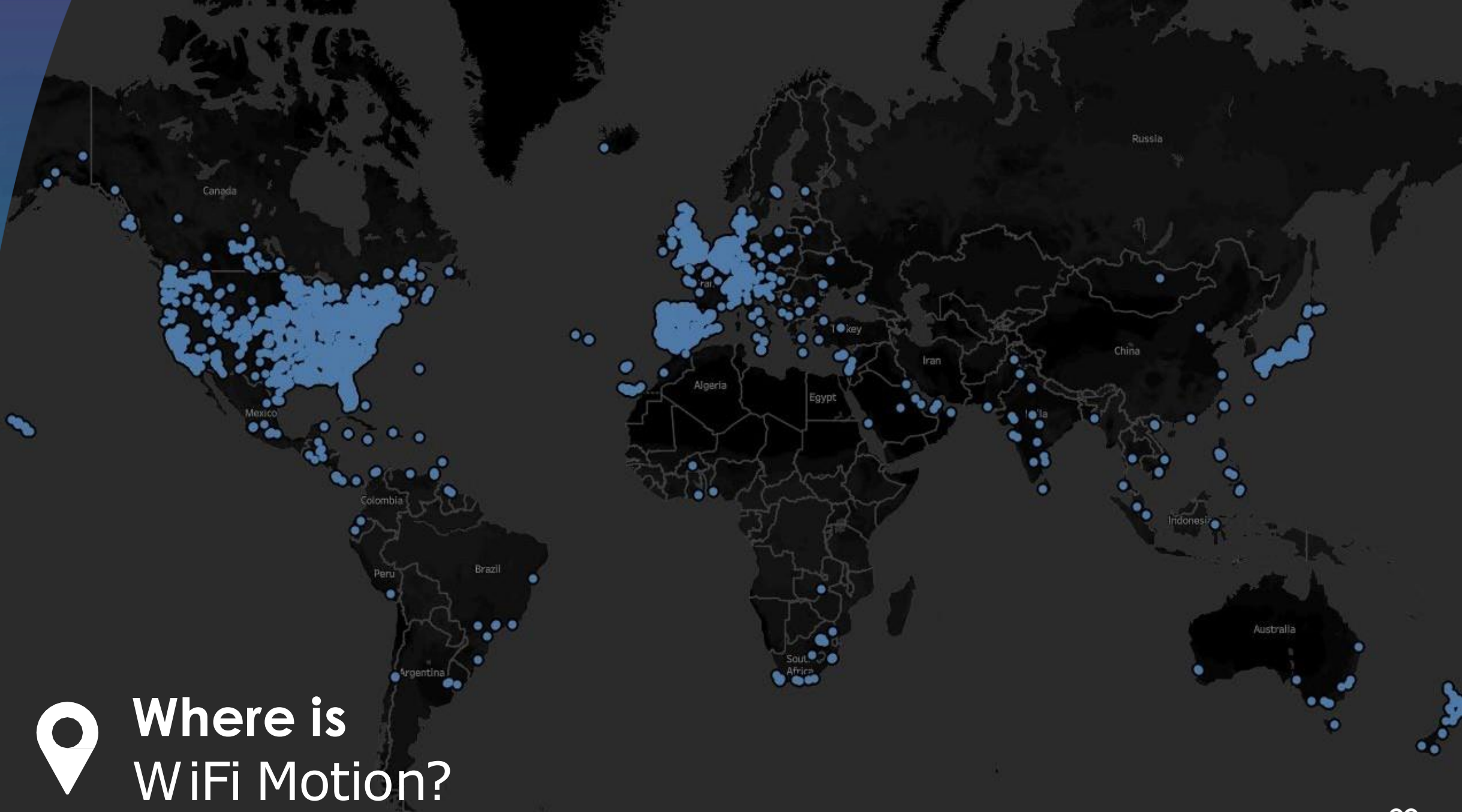
## Engagement is invaluable



Daily use of WiFi Motion™ is  
**2-8 X** higher  
than comparable wireless  
industry apps



Retention rate is  
**2.7 X** higher  
for apps with  
WiFi Motion™



# Where is WiFi Motion?



# Market Insights IoT Motion Sensors

## Most Common



Voice assistants



Gaming consoles



Printers



Set top boxes



TVs

## Gaining Popularity



Appliances



Fitness bikes



Picture frames

## Top Brands

amazon

Google

ROKU

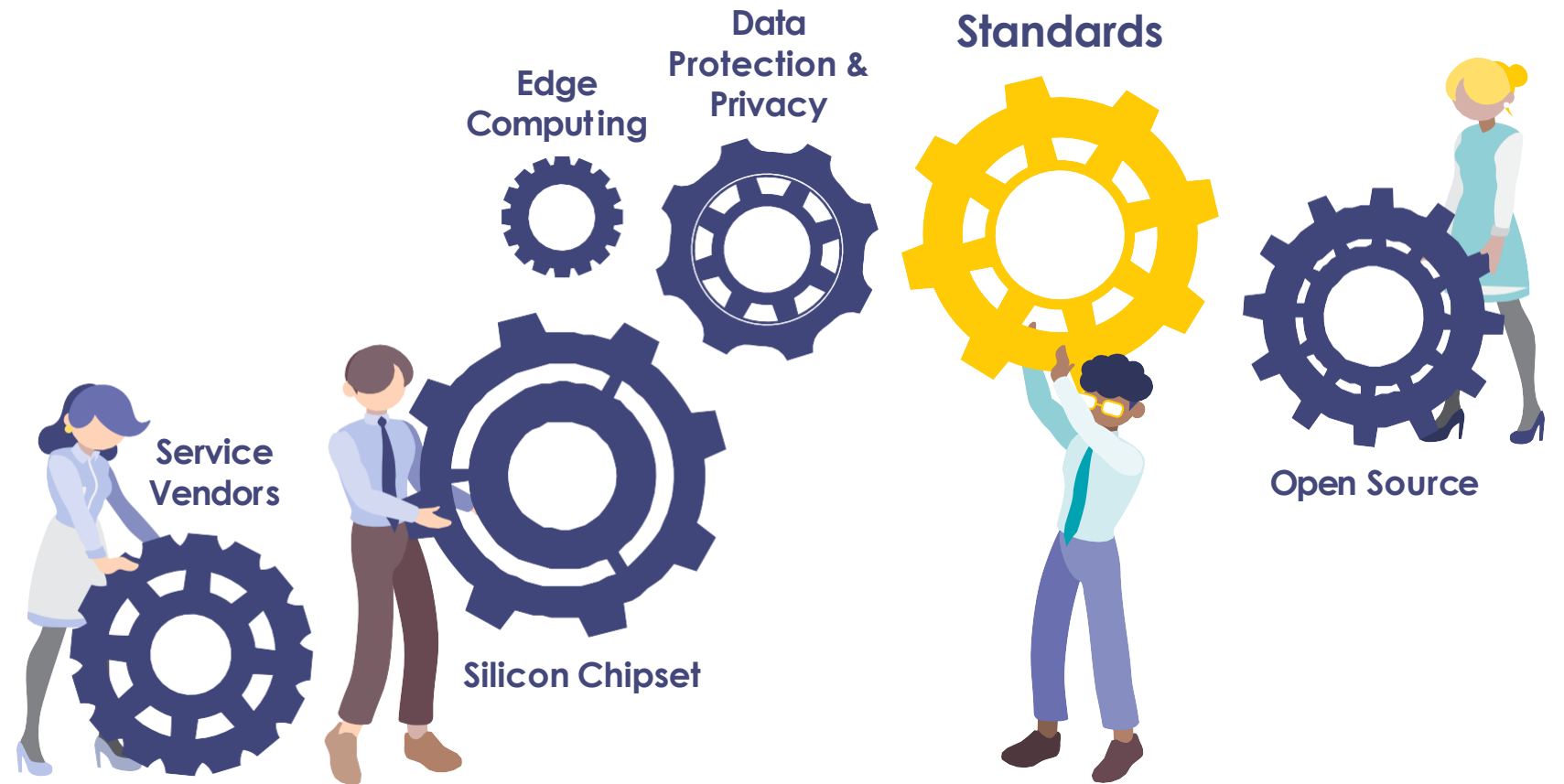
Microsoft

COGNITIVE<sup>∞</sup>

# Standards

Standards will make it easier to integrate WiFi Sensing universally.

802.11bf will define a standardized mechanism for powering sensing services.



# Collaboration

---

Soon WiFi Sensing will be synonymous with WiFi.

Industry standards and a collaborative foundation will benefit other innovators, service providers and users.



# How is WiFi Motion Growing?

Usage data will drive future applications and collaborations.

Home Market

User-Driven Application

- Home security
- Family insights
- Eldercare
- Energy management
- Smart home

Many smart home and monitoring products work better with motion insights.

Partnership Integration

Enterprise Solutions

- Small business
- Hospitality
- Multi-dwelling

# Help shape the future of WiFi Sensing

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WiFi Sensing is making WiFi better.  
Together we can help it get better faster.

Join the conversation. Ask questions. Tell a friend.



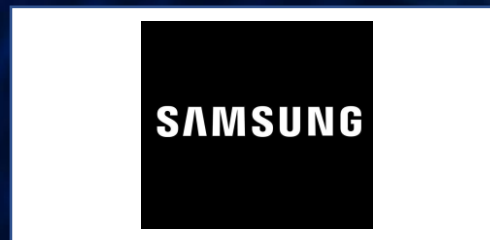
# Home Connectivity: The Evolution From Heterogeneous Networks to User-centric Smart Homes

**Wael Guibene Ph.D. - SMIEEE**

---

Senior Staff Engineer, Wireless and IoT Standards

Samsung Research America



# Session: Carrier Grade Wi-Fi Delivering the Future for the Smart Connected Home

## Home Connectivity: The Evolution From Heterogeneous Networks to User-centric Smart Homes

| 7/8/2021

| SRA / Wael Guibene



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25 MAY - 8 JULY, 2021

# Navigating The Connected Home Landscape





# Smart Home Verticals & Growth



## Connectivity and Control

- Routers/Access Points
- CPE
- Extenders
- Mesh Systems
- Device Controllers

## Home Entertainment

- Smart TV
- Smart Speaker
- Smart Set Top Box
- Gaming Consoles
- Streaming Devices
- Audio Video Receiver
- XR Headset

## Energy Management

- Smart Thermostat
- Smart Meters
- Smart Bulbs
- Smart Switches
- Smart Plugs
- Smart Lamps
- Smart Boilers

## Safety and Security

- Smart Blinds/Shutters
- Alarm Systems
- Motion Sensors
- Smoke Detectors
- Gas Leak Detectors
- Security Camera
- Smart Locks
- Smart Video Doorbell
- Thermal Detectors
- Smart Baby Monitor

## Comfort and Ease (Appliances)

- Smart AC
- Smart Fridge
- Smart Kettle
- Smart Coffee Maker
- Smart Washing Machine
- Smart Dryers
- Smart Robot/Cleaner
- Smart Oven
- Precision Cooker
- Smart Dish Washer
- Smart Water Purifier
- Smart Water Heater
- Smart Air Purifier

## Lifestyle and Health

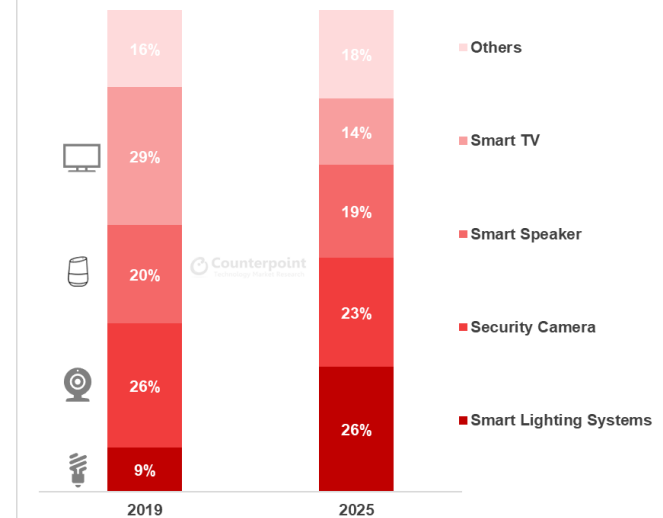
- Smart Toothbrush
- Smart Yoga Mat
- Smart Alarm Clock
- Smart Bed
- Smart Thermometer

### GLOBAL SMART HOME MARKET BY TECHNOLOGIES,

- Cellular Network Technologies
- Protocols and Standards
- Wireless Communication Technologies



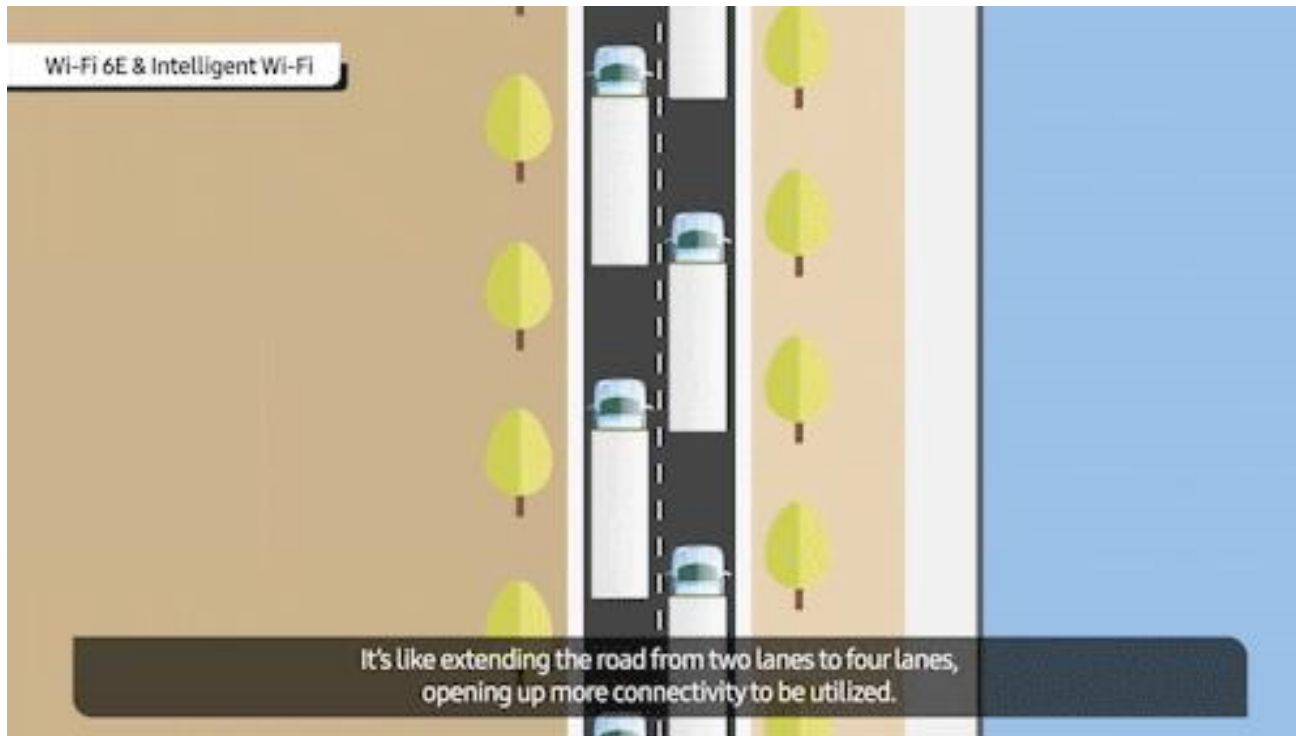
Global Smart Home Devices Shipments Share By Category (%)



# Smart Home Wireless Technologies



- The observation today is that in the 2.4GHz spectrum is over 65% congested and the 5GHz spectrum is already at ~50% congestion
- 2.4GHz is also shared with home networking like: BT/BLE, ZigBee, Thread and other proprietary smart home technologies



## Wi-Fi 6E era begins: Samsung releases world's first 6 GHz Wi-Fi smartphone

January 15, 2021 | Breaking News | by Claus Hetting, WI-FI NOW CEO & Chairman



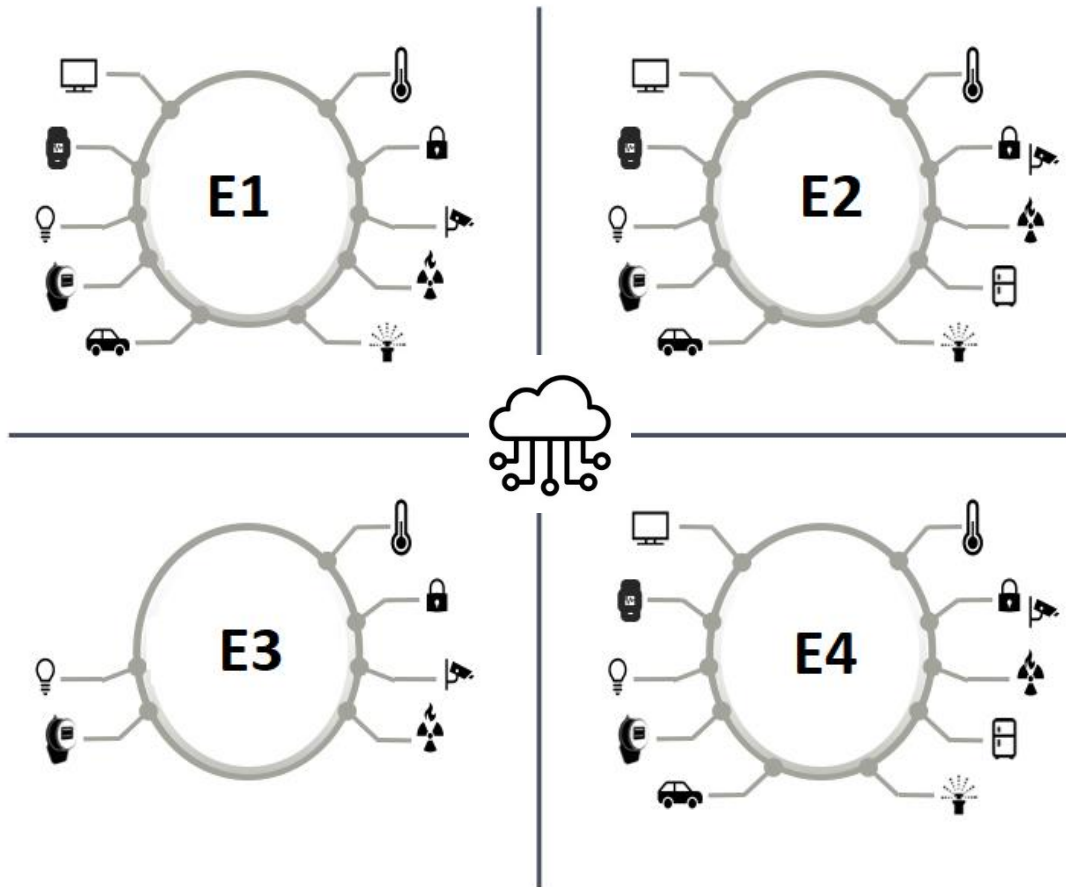
## Samsung Neo QLED 8K TVs Earn Wi-Fi 6E Certification From Wi-Fi Alliance

Korea on March 30, 2021

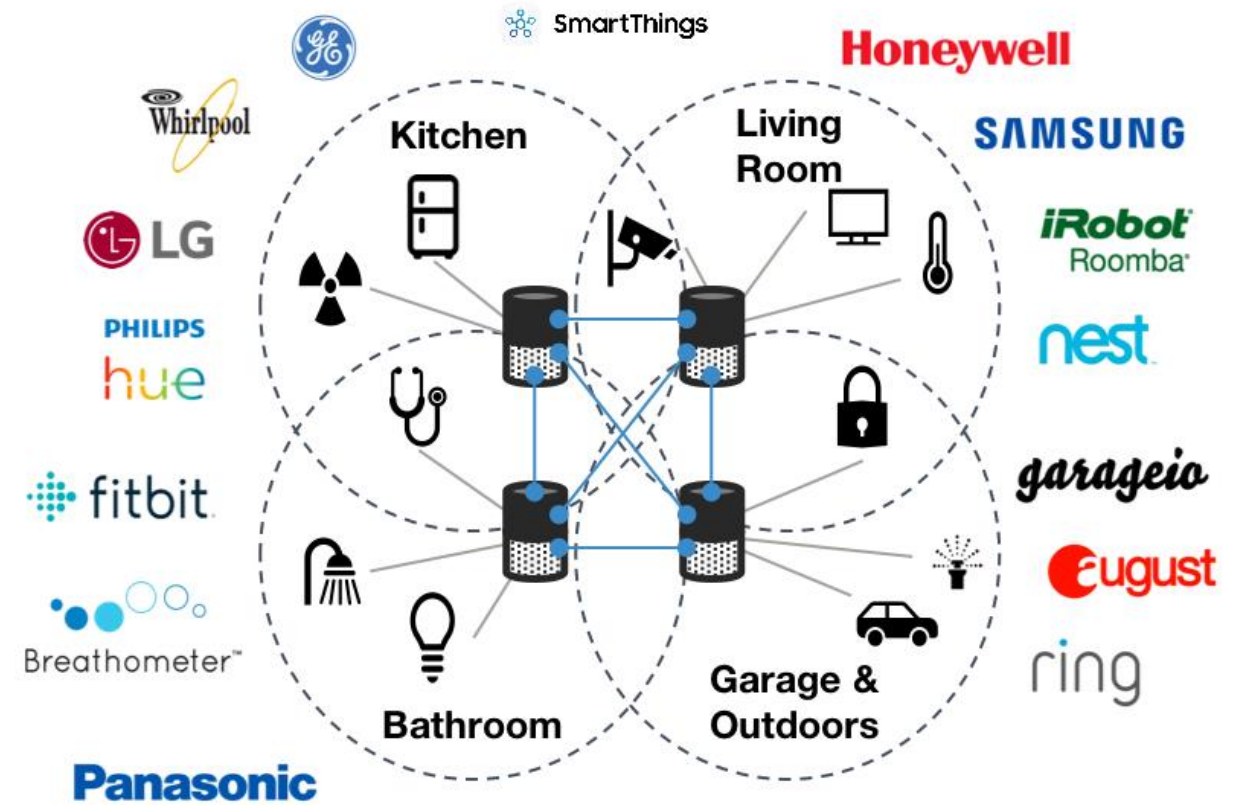
Audio Share

*2021 Neo QLED TVs are the world's first TVs to obtain Wi-Fi 6E Certification from Wi-Fi Alliance (WFA), providing stable and reliable wireless connectivity*

## Walled Garden



## Cloud-Connected Mesh of Ecosystems



## Hardware



### Compliance with Network Protocols

Separate protocols for Z-wave, Zigbee, and Wi-Fi prevent devices from working together.



### Multiple Connectivity Models

The dispersion of devices across Z-Wave, Zigbee, and Wi-Fi creates a mess of multiple control points for consumers where a multiprotocol strategy would rescue user experience.



### Transitioning from Centralized to Edge Computing

Centralized computing slows functionality and makes devices captive to the dictator home hub and its server.

## Ecosystem



### Device Interoperability

Ecosystem collaboration is necessary to allow devices to communicate, share data, and control disparate devices and systems to improve user experience.



### User Experience

Erratic smart home functionality results from a mess of siloed devices and outages due to over-reliance on centralized compute power. Third party “platform of platforms” and service providers step in as a temporary solution, pocketing smart home value and raising prices for consumers.

## Software



### Data Integration

Devices must not only communicate with each other but must also have shared data and semantic interoperability to facilitate. This will allow for better analytics to improve user experience and provide data monetization opportunities.



### API Challenges

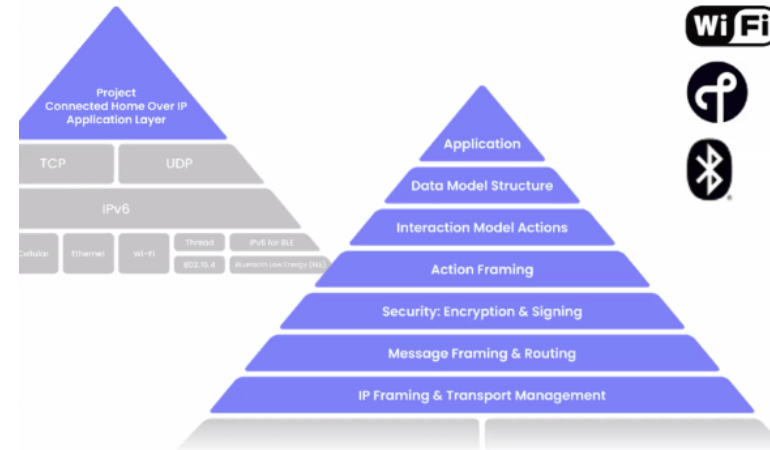
Suppliers must align on APIs to streamline user experience and reduce barriers to adopting new devices.



### Security

As providers continue to leverage consumer data, privacy and security remain a massive barrier for consumer adoption.

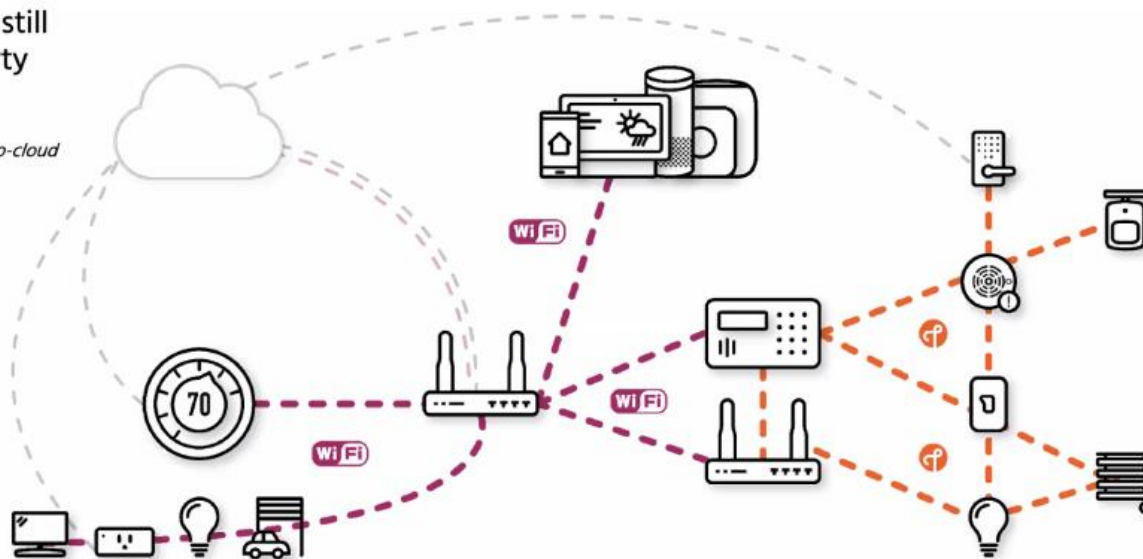
Good news! The industry is taking a step in the right direction with CSA – Matter (formally Connected Home over IP)



- Common application layer + data model**  
Interoperability, simplified setup & control
- IP-based**  
Convergence layer across all compatible networks
- Secure**  
AES-128-CCM encryption with 128-bit AES-CBC
- Open-source development approach**  
Based on market-proven technologies
- Common protocol across device and mobile**  
Extendible to cloud
- Common data model**  
Core operational functions, multiple device types
- Low overhead**  
MCU-class compute, <128KB RAM, <1MB Flash

All IP devices can still connect to 1st party cloud devices\*

\* CHIP not used for device-to-cloud communication



Industry is moving towards interoperability of technologies as well as inter-connection of ecosystems: giving the End-user liberty to bring home as many ecosystems as they want and experience the best-of-breed of smart home devices and services!

**Thank You!**





## Panel Discussion

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**Steve Andrews**

Wireless Broadband  
Alliance / Luminet Networks



**Johan Terve**

Aptilo Networks



**Chris Beg**

Cognitive Systems



**Rida Zouaoui**

Orange



**Wael Guibene**

Samsung Research  
America





# Closing Remarks

**TIAGO RODRIGUES**

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CEO

Wireless Broadband Alliance



# Wi-Fi Powering Innovation Series

Thursday June 3<sup>rd</sup>

## Wi-Fi Innovations Connecting your World

- Social Impact of Wi-Fi – from powering the world economy to how Wi-Fi is helping the green agenda and bridging the digital divide.
- Future of Wi-Fi – the decade ahead – overall market trends.
- Delivering the next generation wireless experience for carriers, enterprises, consumers and things.
- Regulatory updates for Wi-Fi 7, Wi-Fi 6E and OpenRoaming

Thursday June 10<sup>th</sup>

## Connecting the Wi-Fi -enabled Enterprise

- How can Wi-Fi address the emerging needs of enterprise to innovate and thrive post COVID 19.
- Industry 4.0 & IoT: Emerging opportunities for Wi-Fi in the 5G era.
- Driving the connectivity revolution in retail and hospitality post COVID 19.
- Trains, planes and automobiles – connectivity into 2030.
- Marketing applications for Wi-Fi
- Private 5G and Wi-Fi

Thursday June 17<sup>th</sup>

## Wireless Innovation, Operation and Customer experience – Where next for operators?

- The future of wireless networks.
- Delivering a gold standard public Wi-Fi experience – Seamless, secure, permission-based privacy.
- Testing performance and optimization monitoring.
- Wi-Fi 6E on the road to convergence & OpenRoaming
- Emerging technologies – Wi-Fi 7, FWA, 802.11be and beyond

Thursday June 24<sup>th</sup>

## Wi-Fi Innovations For Hospitality

- Hospitality 2021 – What does the industry need from Wi-Fi operators and service providers.
- Delivering the next generation Wi-Fi experience in hotels and venues.
- Driving value through marketing applications and analytics for the next decade.

Wednesday June 30<sup>th</sup>

## Connected Communities Wi-Fi gets Smarter in the 5G Era

- Market trends and drivers for smart cities and connected communities.
- Protecting our citizens' privacy, security and identity.
- Addressing the digital divide through public Wi-Fi.
- The benefits of convergence of 5G and Wi-Fi 6E.
- Monetizing Wi-Fi and the opportunity case for cities and local business.

Thursday July 8<sup>th</sup>

## Carrier Grade Wi-Fi delivering the future for the smart connected home

- Market trends and drivers for residential Wi-Fi.
- Key enablers for the Smart Home Era post COVID 19.
- Delivering on the smart connected home experience – Next 5 years of innovation
- Next generation Wi-Fi Capabilities for in-Home (streaming, gaming, AR/VR and more....)



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Enterprise, Cities and Things.

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