

2022

GLOBAL SUMMIT



DYNAMIC • SPECTRUM • ALLIANCE

Day 1

Sep 12-14, 2022 | Paris, France

AFC Status and Momentum

- Jennifer McCarthy, VP of Legacy Advocacy
Federated Wireless
- Tiago Rodrigues, CEO
Wireless Broadband Alliance (WBA)
- Chris Szymanski, Director of Product Marketing
Mobile Connectivity Division, Broadcom
- **Moderator** : Michael Calabrese
Director, Wireless Future Project, New America



Connecting you to the future **AFC + Wi-Fi6E**

Sept 2022



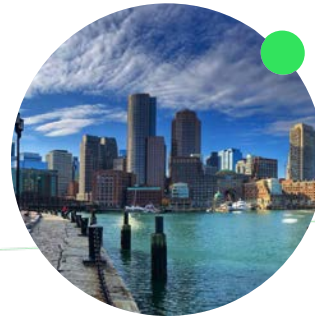
Federated Wireless transforming wireless



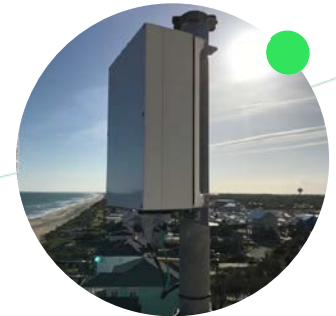
Founded in 2012



**Leader in shared
spectrum**



**Wireless expertise at
cloud-scale**



**Fully funded
and supported**

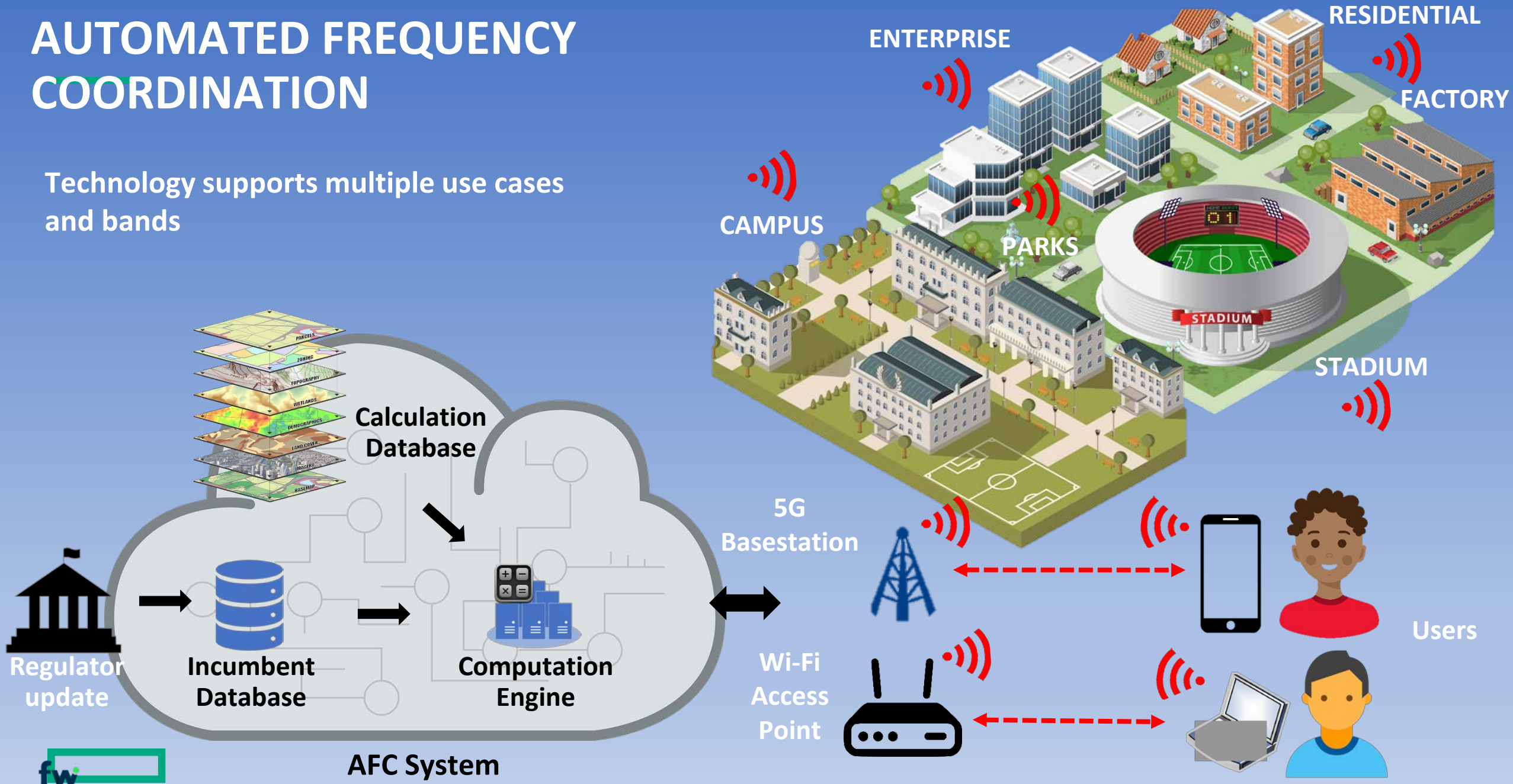


Schroders



AUTOMATED FREQUENCY COORDINATION

Technology supports multiple use cases and bands



Differentiated AFC Product

Making more 6 GHz spectrum available



Proprietary Cloud Architecture

Unique cloud architecture that utilizes offline computations for maximum responsiveness at scale



Precise RF Environment Models

Massive GeoData database combined with machine learning for refined propagation modeling



Precise Incumbent User Models

Proprietary database of Incumbent microwave antenna Radiation Pattern Envelopes (RPEs) to optimize spectrum availability



Dashboards & Analytics

Solutions to provide unique insights into spectrum utilization, improve manageability, and troubleshoot issues

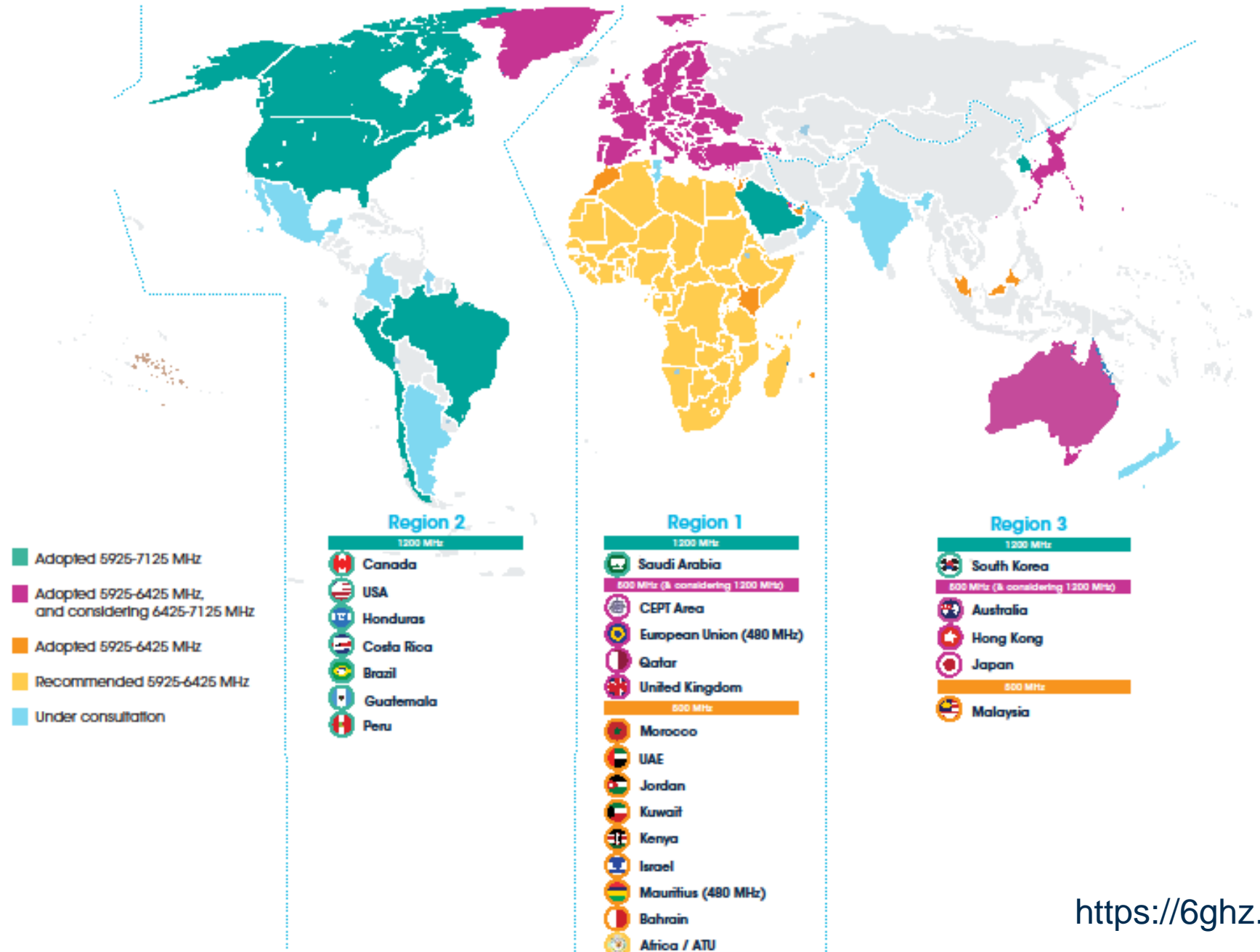
Federated Wireless + HPE Aruba Wi-Fi 6E

- Partnering since 2018 on 6 GHz
- Joint demo in 2019 as early proof point for AFC viability at enterprise Wi-Fi prices
- Focused on applying Wi-Fi 6E to Industry 4.0
 - railyards
 - shipping terminals,
 - university campuses
 - oil fields
 - stadiums
 - airports



GLOBAL PROGRESS TOWARDS LICENCE-EXEMPT ACCESS TO THE 6 GHZ BAND

- Significant momentum towards global adoption of 6 GHz for RLANs
- Some countries initially approving LPI while studying use of AFC for standard power and outdoor operations
 - ECC SE45
- United States, Canada, Brazil, Saudi Arabia, and Korea are actively engaged in SP + AFC implementation





Jennifer McCarthy
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6 GHz AFC



Christopher Szymanski

September 9, 2022



Standard Power With AFC 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**



Open AFC can enable standard power globally

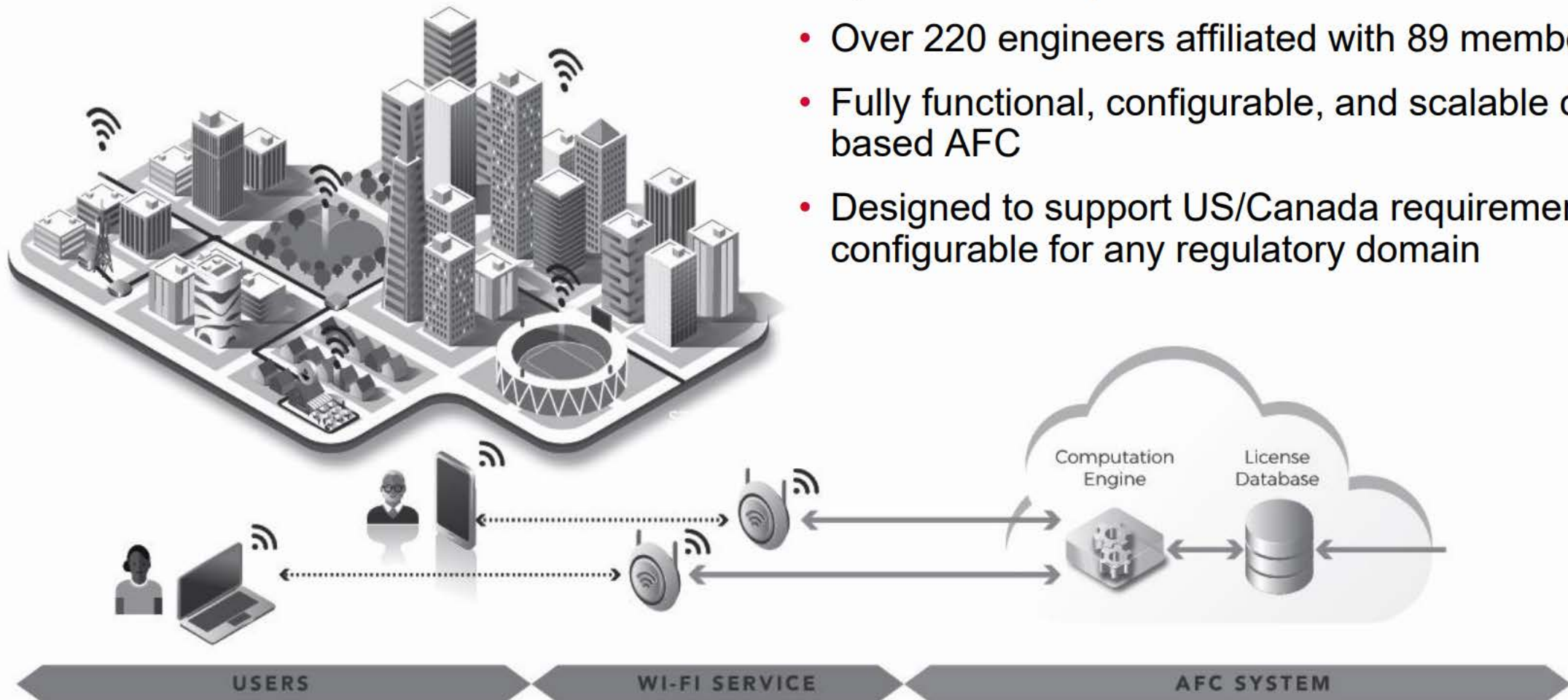
- The United States and Canada expected to enable SP Wi-Fi under control of an automated frequency coordination (AFC) system
- Other countries are expected to rapidly follow
- Industry needed to be ready to scale AFC quickly to meet the regulatory and market requirements
- Success of SP device class dependent on reliable access to AFC system that meets market and regulatory requirements across the globe
- Enter the Telecom Infra Project Open AFC



Open AFC

Open AFC: catalyst for standard power 6 GHz Wi-Fi

- Spearheaded by Broadcom, Cisco and Meta
- Over 220 engineers affiliated with 89 member entities
- Fully functional, configurable, and scalable cloud-based AFC
- Designed to support US/Canada requirements, configurable for any regulatory domain





AFC is a cloud database system which allows a standard power access point to operate in frequencies that are not used in those locations



The access point must know its geolocation and transmit the coordinates to the AFC



The AFC has access to regulatory database containing 6 GHz incumbent licensing information and various building and terrain databases



The AFC conducts interference calculations based AP location, incumbent licensing information, and building/terrain databases



AP is informed by the AFC of available channels and power levels (up to 63x higher power) it is allowed to operate at, which greatly extends the range



Protects hundreds or even thousands of fixed link receivers to determine spectrum availability



Outdoor access points will be able to operate in up to 850 MHz of spectrum in venues, where the spectrum is needed most



Bringing gigabit speeds



Setting the stage for new device classes

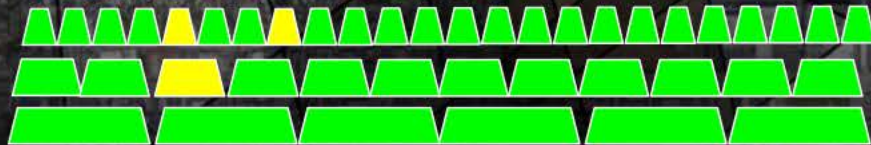


Enabling digitally immersive applications that can change the way we participate in sporting events, concerts, and other events

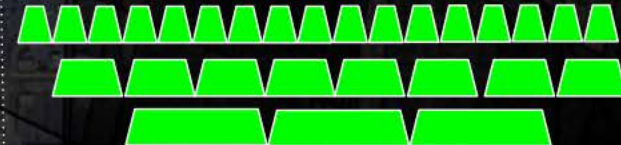
Wi-Fi 7 With AFC Brings Gigabit Stadiums to Life

41 x 20 MHz
20 x 40 MHz
9 x 80 MHz

UNII-5



UNII-7





AFC enabled Wi-Fi 7 devices can operate to their fullest potential, increasing power by up to 63x



Media applications throughout the premises



Rapid outdoor automobile updates



Enabling outdoor equipment, such as home security

Wi-Fi 7 With AFC Turbocharges Residential Wi-Fi



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