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TECHNOLOGIES THAT ACCELERATE DIGITAL ECONOMY

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FWA in 2025: A Strategic Driver of Digital Transformation

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SAMENA ELITE

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FWA in 2025: A Strategic Driver of Digital Transformation

In 2025, Fixed Wireless Access (FWA) has moved from being an emerging technology to a vital component of national broadband strategies across the South Asia–Middle East–North Africa region and neighboring areas. Its expanding role in connecting people, businesses, and public services makes it an essential tool for governments seeking to bridge digital divides, enable economic participation, and roll out modern infrastructure in a fast and cost-effective manner.

The Middle East, in particular, has emerged as a global leader in deploying FWA. Countries such as Saudi Arabia, the United Arab Emirates, Bahrain, and Oman are not only expanding access but are doing so in a way that brings more people into the digital economy. These efforts are closing connectivity gaps in rural areas while also meeting the growing demand for high-speed access in cities, proving that FWA can be both inclusive and high-performing.

Two important developments have accelerated this momentum. The market now offers more than 400 commercial 5G CPE models, including lower-cost RedCap devices priced under $50, which significantly reduce affordability barriers. Meanwhile, advances like Three Component Carrier Aggregation have allowed multiple spectrum bands to be combined, boosting speed and reliability. These innovations show that FWA is no longer a stopgap — it's a long-term, scalable solution that complements traditional fiber networks. Especially in areas where fiber rollout is slow or expensive, FWA is enabling quick and efficient broadband access that helps governments meet universal service targets and digital inclusion goals.

FWA is also being woven into broader digital development plans. It's enabling small and medium-sized enterprises to connect to private 5G networks, supporting smart public services, and powering remote education and healthcare. These examples highlight how FWA is helping governments advance progress toward their sustainable development goals.

This year, the Elite FWA Club, led by the SAMENA Telecommunications Council, has made strides in building stronger collaboration between governments, regulators, and technology providers. With more national regulatory

authorities and regional bodies participating, the Club is helping ensure that the technical growth of FWA is matched with thoughtful policy. Its work spans service quality, innovation, and regulatory design — all aimed at creating environments where investment can thrive and public interest is protected.

Several key policy initiatives are shaping 2025. The SAMENA FWA Innovation Framework has been introduced to streamline regulatory procedures, encourage spectrum harmonization, and support faster deployment. Hybrid models combining fiber and FWA are gaining traction, offering flexible solutions for both urban and rural connectivity. And artificial intelligence is being applied to optimize network performance, improving both management and user experience.
FWA's practical impact is becoming especially clear in underserved communities, where it is already delivering affordable, high-speed internet to schools, healthcare centers, and local businesses. Simplified deployment processes are making this possible on a large scale — bringing critical services online more quickly than ever before.

To build on this progress, policymakers can take a series of coordinated actions. They can ensure flexible and affordable access to key spectrum bands, and introduce dynamic sharing policies that support rapid rollout. Simplifying infrastructure approval processes and harmonizing regulations across agencies will reduce delays. Local innovation can be supported by encouraging domestic assembly and certification of 5G equipment. Public-private partnerships can accelerate the connection of schools, clinics, and underserved areas. Urban planning policies should anticipate FWA needs by making new developments and infrastructure FWA-ready. Monitoring and benchmarking frameworks will help track service quality and adoption, while public awareness campaigns and outreach to small businesses can boost uptake. Ultimately, FWA is more than just a connectivity solution — it's a foundation for digital inclusion, economic resilience, and sustainable infrastructure. In a region where transformation is already underway, the choices policymakers make today will shape how deeply and widely FWA contributes to tomorrow's digital society.

At SAMENA ELITE, we stand ready to support this journey with evidence-based research, stakeholder engagement, and platforms that drive practical outcomes. The time to act is now — FWA is ready to deliver on its promise.

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Junaid Ahmed
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5G Standalone (SA) Networks as a Bedrock for Intelligent FWA Services

Fixed Wireless Access (FWA) has swiftly transitioned from a niche solution to a strategic enabler for telecom operators worldwide. As the demand for high-speed broadband continues to rise, FWA has emerged as a viable alternative to fiber, particularly in regions where deploying traditional infrastructure is slow or cost-prohibitive. This is especially true in the SAMENA region, where FWA is playing a vital role in bridging connectivity gaps and accelerating the shift from traditional telecom operations to TechCo models.

While many 5G applications have yet to deliver widespread impact, FWA stands out as a practical, monetizable success. Today, a new phase of FWA evolution is underway one that is powered by 5G Standalone (SA) networks and Artificial Intelligence (AI). Together, they are transforming FWA into an intelligent platform that supports personalized services, optimizes operations, and drives sustainable revenue growth. This article explores how 5G SA and AI form the foundation for the next generation of FWA services, unlocking new value across networks, operations, and customer experiences.

> **FWA has become a foundational service that enables digital inclusion, drives new revenue, and accelerates the TechCo transition. By embracing intelligent, AI-driven FWA, operators across the SAMENA region and beyond can deliver high-quality broadband experiences while positioning themselves as agile, future-ready digital providers.**

5G SA: Unlocking the True Potential of FWA

Unlike Non-Standalone (NSA) deployments, 5G SA networks provide a dedicated core that enables advanced features like network slicing, ultra-low latency, and real-time orchestration. These capabilities allow operators to offer fiber-like service quality over wireless networks. With SA, FWA services can be tiered based on use cases such as high-speed connectivity for households, low-latency links for gamers, or reliable business access for SMEs.

The SA architecture also makes it easier to integrate AI at every level of the network. This enables operators to move from reactive troubleshooting to predictive and automated service management. In essence, 5G SA lays the digital groundwork for a highly adaptive and intelligent broadband platform. Moreover, its cloud-native characteristics allow seamless orchestration of resources, ensuring both agility and scalability.

AI: Adding Intelligence to Every Layer

Artificial Intelligence elevates FWA by enabling smarter deployment, optimization, and customer engagement. In deployment, AI tools analyze geographic, demographic, and network data to identify the best locations for new FWA sites. Digital twin simulations can then model coverage and performance before any physical infrastructure is deployed, reducing time-to-market

and minimizing errors. These tools can evaluate hundreds of scenarios in minutes, making deployment decisions far more accurate.

On the operational front, AI monitors traffic patterns and adjusts network resources in real time. For instance, algorithms can detect congestion trends and reallocate bandwidth dynamically, or anticipate hardware issues before they impact users. This continuous optimization leads to better service quality and lower operational costs, with AI-driven analytics enabling real-time network tuning. In rural and remote deployments, this can be a game-changer by ensuring service consistency even in areas with fluctuating demand.

At the customer level, AI enables hyper-personalized experiences. Broadband plans can be tailored based on user behavior, while smart home routers equipped with AI can optimize signal strength and manage IoT devices. Some even act as home automation hubs, offering security and smart energy management services all bundled with the FWA connection. These AI-powered features transform FWA from a simple access technology into a value-rich service platform. As consumers become more accustomed to digital lifestyles, such embedded intelligence enhances retention and differentiation.

Enhancing Customer Experience Through AI

Delivering great connectivity is no longer enough. Consumers expect tailored digital experiences that adapt to their needs. AI makes this possible by:

Offering dynamic bandwidth allocation for high-demand applications like streaming, video conferencing, or cloud gaming.

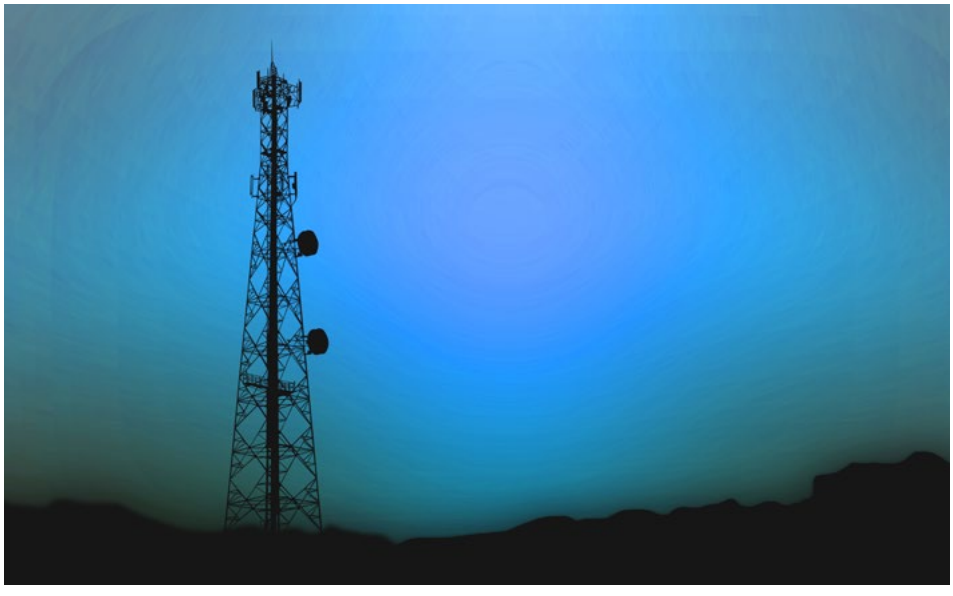
Predicting churn risks and enabling proactive customer retention strategies using behavioral analytics.

Automating technical support via intelligent diagnostics and self-healing capabilities that reduce downtime.

By leveraging AI, operators can turn FWA into a platform for differentiated services that go beyond basic internet access. This empowers telecom providers to elevate customer engagement, reduce churn, and open new upsell opportunities.

Driving the TechCo Transformation

FWA is more than just a connectivity solution it is a strategic catalyst for transformation. By enabling rapid broadband deployment and integration of digital services, FWA supports operators in their journey to become TechCos. This shift involves adopting software-centric operating models, leveraging cloud-native infrastructure, and focusing on innovation-led growth.



FWA is more than just a connectivity solution it is a strategic catalyst for transformation. By enabling rapid broadband deployment and integration of digital services, FWA supports operators in their journey to become TechCos. This shift involves adopting software-centric operating models, leveraging cloud-native infrastructure, and focusing on innovation-led growth.

5G SA and AI make this transformation achievable. SA networks provide the flexibility and performance needed for new services, while AI automates and personalizes every aspect of the business. Together, they help telecom companies move up the value chain from bandwidth providers to digital service enablers that can rapidly adapt to market needs.

In the SAMENA region, where varied geographies and population densities pose challenges to fiber deployment, intelligent FWA is proving essential. Operators are using FWA to reach underserved areas, support national broadband initiatives, and introduce bundled offerings that combine internet, content, cloud, and smart home services into unified solutions.

FWA also enables operators to introduce new service tiers, such as high-availability plans for enterprises or latency-sensitive offerings for gaming and AR/VR applications.

These offerings are further enhanced by AI's ability to predict network demands, adjust QoS in real time, and automate fault detection. This ensures that FWA services meet customer expectations while maintaining operational efficiency. With low-cost customer premises equipment (CPE) and the scalability of 5G networks, the barrier to entry for new markets has never been lower.

As networks evolve toward 5G Advanced and eventually 6G, FWA will continue to benefit from improved spectrum efficiency, increased capacity, and more autonomous network management. Operators will be able to deliver multi-gigabit speeds over wireless with the same reliability as fiber.

AI-Driven Operations and Service Agility

Operational efficiency is critical in scaling FWA profitably. AI streamlines traditionally manual and time-consuming tasks like site planning, interference management, and network optimization. AI engines analyze real-time network data and environmental variables to adjust radio parameters, balancing load across sectors and frequencies.

By integrating predictive maintenance and anomaly detection, AI reduces unplanned outages and improves mean-time-to-repair. These systems allow network operators to transition from scheduled maintenance to a more intelligent, condition-based approach that minimizes disruptions. The shift toward AI-driven operations also improves workforce productivity by enabling automated workflows and reducing human error.

AI also enhances service agility by enabling dynamic orchestration. Network slicing, powered by AI, allows for differentiated SLAs across user types and geographies. For example, enterprises requiring high reliability can be served on a dedicated slice, while residential users access a shared pool optimized for bandwidth and cost-efficiency. This service agility ensures FWA can support both mass-market and premium use cases effectively.

Monetization and Ecosystem Expansion

With a robust 5G SA foundation and AI intelligence, FWA opens new monetization pathways. Operators can launch value-added services such as:

- Smart home solutions bundled with AI-powered routers.
- Remote work packages offering optimized video conferencing and VPN performance.
- Enterprise-grade connectivity with security and traffic prioritization.

These offerings not only diversify revenue but also strengthen customer relationships by embedding operators deeper into the digital lives of consumers and businesses. Ecosystem partnerships whether with OTT platforms, cloud providers, or device manufacturers can further expand service portfolios and create integrated digital experiences that go far beyond traditional broadband.
In addition, intelligent FWA offers a platform for vertical-specific solutions. For example, in education, bundled e-learning tools can be offered with reliable connectivity. In agriculture, real-time sensor data can be transmitted via FWA to enhance productivity. In healthcare, remote clinics can gain access to diagnostic tools through stable, high-speed links.

The Road Ahead

As networks evolve toward 5G Advanced and eventually 6G, FWA will continue to benefit from improved spectrum efficiency, increased capacity, and more autonomous network management. Operators will be able to deliver multi-gigabit speeds over wireless with the same reliability as fiber.

To fully realize this vision, key challenges such as spectrum availability, network interference, and installation complexity must be addressed. Fortunately, the ecosystem is already innovating in these areas, with new standards, policies, and technologies being introduced to support scalable FWA deployments.

In parallel, energy-efficient designs, AI-optimized network resources, and smart power management will further help operators meet sustainability targets. These developments will ensure that intelligent FWA solutions not only scale effectively but also align with global digital sustainability goals.

Conclusion

5G SA and AI are together redefining the role of Fixed Wireless Access in modern telecom networks. No longer a stopgap solution, FWA has become a foundational service that enables digital inclusion, drives new revenue, and accelerates the TechCo transition. By embracing intelligent, AI-driven FWA, operators across the SAMENA region and beyond can deliver high-quality broadband experiences while positioning themselves as agile, future-ready digital providers.

The convergence of SA and AI does not just enhance connectivity it empowers telecom companies to lead in the digital economy. In doing so, it establishes FWA not only as a broadband access technology, but as the bedrock of intelligent, inclusive, and innovative telecommunications. The future of telecom will be defined by intelligent platforms and FWA is one of its most transformative pillars.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Mr. Abdulaziz Al-Deweesh
General Manager – Marketing
stc Kuwait

Transforming Connectivity: stc Kuwait's baity 5G Home Broadband Revolution

In the fast-evolving world of telecommunications, stc Kuwait has set a new benchmark for customer-centric services with phenomenal success of our 5G outdoor unit based fixed wireless access service "baity 5G" Home Broadband. Over the last year, baity 5G has emerged as a game-changer, providing households across Kuwait with unmatched internet speeds, reliability, and seamless connectivity. This revolutionary service has not only redefined the way our customers experience the internet but has also earned stc Kuwait global recognition for its rapid customer growth and innovation.

A game-changer in home connectivity

stc Kuwait launched baity 5G, its 5G Home Broadband service, harnessing the power of 5G technology in order to deliver an unparalleled internet experience to users in Kuwait.
With speeds that enable ultra-HD streaming, seamless online gaming, and lightning-fast downloads, baity 5G has become a household favorite in Kuwait, powering everything from smart home devices to work-from-home setups.

During the past year, stc Kuwait has seen explosive growth in its customer base for baity 5G, establishing it as one of the leading services in the market. The company's focus on providing a simple, hassle-free, and reliable internet solution has resonated with consumers who demand nothing less than excellence.

Commitment to continuous improvement

At stc Kuwait, we have a commitment to continuous service improvement by proactively identifying areas where customer touchpoints and service delivery could be enhanced. Our company has made significant strides in improving the installation process, reducing lead-to-cash times, and enhancing customer experience. These efforts aim to provide a hassle-free experience for customers from the moment they inquire about the service to the point of installation and beyond.

> **baity 5G is not just about providing fast internet – it's about transforming how customers experience the digital world. By empowering individuals, families, and businesses with cutting-edge connectivity, stc Kuwait is playing a central role in shaping the future of digital lifestyles in Kuwait**

As an example, stc Kuwait has streamlined the installation process of baity 5G, reducing the time between when customers sign up for the service and when they're connected. This has drastically improved customer satisfaction by ensuring that installations are faster, more efficient, and less disruptive. Additionally, the company has focused on improving its communication with customers, providing more timely updates about the installation status

and any potential service changes, ensuring customers get the best experience they deserve.

Recognition for outstanding customer growth and enhanced experience

The success of baity 5G has not gone unnoticed. In recognition of our impressive customer growth and the service's impact on the digital transformation of Kuwait, stc Kuwait was honored with the Customer Growth Award from Huawei during the OTF 2024 event in Istanbul in October 2024. This prestigious award underscores our commitment to delivering world-class connectivity solutions and highlights baity 5G as one of the most successful B2C services in the region. In addition, stc Kuwait also received "FWA Overall Experience Award" from leading industry body SAMENA in recognition for our efforts to enhance customer experience with baity 5G.

The rapid adoption of baity 5G is a testament to the growing demand for reliable, high-speed broadband solutions that can support the increasing number of connected devices in homes today. Whether for remote work, learning, or entertainment, stc Kuwait's is becoming the backbone of digital lifestyles across Kuwait.

Enhanced services with 5.5G technology

While baity 5G has already set the standard for home broadband services, stc Kuwait is committed to continuously enhancing its offerings. Recently, the company made a significant investment in new spectrum, paving the way for 5.5G technology in the near future. This upgrade will enable even faster speeds, improved coverage, and lower latency, ensuring that baity 5G continues to exceed customer expectations and remain at the cutting edge of connectivity.
With 5.5G, customers will experience an even more robust internet experience, perfect for emerging technologies like virtual and augmented reality, ultra-high-definition streaming, and smarter home automation systems. The new spectrum investment will further solidify stc Kuwait's leadership in the telecom sector, preparing the company to provide next-generation services to a growing digital-first society.

Why baity 5G is the smart choice for your home

baity 5G is more than just fast internet – it's a gateway to a fully connected digital lifestyle. With stc Kuwait's commitment to providing seamless, high-speed internet, baity 5G ensures that customers can:

Stream content in 4K and 8K quality without buffering Enjoy a lag-free gaming experience, even with multiplayer games with Foz add-on

Connect multiple smart devices in the home with ease

Work from home, attend virtual meetings, and collaborate online without disruptions

The flexibility of baity 5G makes it ideal for families, remote workers, students, and gamers alike. It delivers the consistency and speed that today's connected lifestyles demand.

The future of connectivity

As stc Kuwait continues to innovate, the future of baity 5G looks even brighter. Beyond the imminent rollout of 5.5G, the company is also exploring next-generation services, such as edge computing and network slicing, to deliver even greater personalization and tailored experiences to its customers.
With 5.5G technology on the horizon, users can expect even more impressive speeds, reduced latency, and more reliable service as we expand our network and optimize the infrastructure. This will enhance the baity 5G experience, allowing us to keep ahead of the ever-increasing demand for fast and dependable internet.

A commitment to excellence and customer satisfaction

The success of baity 5G is a direct result of our deep understanding of customer needs as well as our commitment to providing the highest quality of service to the people of Kuwait. baity 5G is not just about providing fast internet – it's about transforming how customers experience the digital world. By empowering individuals, families, and businesses with cutting-edge connectivity, stc Kuwait is playing a central role in shaping the future of digital lifestyles in Kuwait.

Conclusion

As stc Kuwait continues to lead the way in telecommunications, baity 5G stands as a shining example of how the company has transformed home connectivity. With the recent Customer Growth Award awarded by Huawei, the ongoing investment in 5.5G, and a relentless commitment to innovation, stc Kuwait is ensuring that its customers enjoy the best of what the future of connectivity has to offer.

With baity 5G, stc Kuwait is not just providing internet – it's empowering its customers to live smarter, faster, and more connected. The journey of innovation continues, and the future is brighter than ever with stc Kuwait.

Taylor Yang
Vice President, 5G & LTE TDD Product Line, Huawei

FWA Unveils a New Era of Home Connectivity: Fusion with AI Drives Intelligent Home Experiences

Globally, Fixed Wireless Access (FWA) is emerging as a critical solution for connecting homes and businesses. More than 500 telecom operators across 176 countries and regions have deployed FWA services, and over 50% of these deployments are supported by Huawei. Huawei's technology proves to be central to this growth.

FWA Is Powering Digital Inclusion & Economic Growth Worldwide

While bridging the digital divide, FWA is creating significant benefits for both telecom operators and end users. The Middle East, in particular, is rising as a global leader in FWA deployments powered by 5G-Advanced (5G-A). The use cases that have been pioneered by this region are now inspiring the operators elsewhere.

The Middle East: Leading 5G-A FWA Deployment and Service Innovation

In 2024, operators from the Gulf Cooperation Council (GCC) member countries have prioritized 5G-A FWA as a key driver of home broadband. In countries like United Arab Emirates (UAE) and Saudi Arabia, operators are adopting a dual-strategy approach—developing FWA alongside fiber—to further increase market penetration. To enable the operators, regulators have allocated ample spectrum. With large bandwidths, the guaranteed FWA speed can reach 300 Mbps, which is comparable to fiber broadband. With 5G-A FWA, operators can opt for the innovative business model of experience monetization. They can design differentiated offerings based on service demands. For example, FWA's high speed and low latency make it an ideal match for gaming. Du UAE has already blazed a trail in gaming packages. Such packages provide end users with good experience and diversify the revenue streams of telecom operators.

Europe: 'One Village One Station' FWA is Narrowing the Digital Divide

The "One Village One Station" FWA model is how European operators bring network access to rural and remote areas faster than other conventional solutions. In Finland, for example, FWA delivers home broadband speeds up to 1 Gbps. According to GSA, CPE shipments in Europe are projected to exceed 10 million by end of 2025. This will not only accelerate FWA adoption, but also boost the overall digital economy.

> **2025 is witnessing a deep integration of FWA and AI in home connectivity. AI is providing FWA with unprecedented opportunities for innovation regarding network optimization and resource allocation accuracy, helping improve network efficiency and user experience.**

Asia, Africa, and Latin America: Widespread Application of Low-Cost FWA

In developing countries, FWA provides low-cost home connections that feature quick deployment. In the Philippines, for example, FWA has been prioritized as the optimal solution to national 5G home

broadband. In addition, growing Huawei RedCap adoption and reducing minimum price of 5G entry-level CPEs to as low as US$50, FWA networks will be simpler and more cost viable to make FWA services even more popular.

With 5G-A FWA, operators can opt for the innovative business model of experience monetization. They can design differentiated offerings based on service demands. For example, FWA's high speed and low latency make it an ideal match for gaming.

China: FWA Empowering Smart Agriculture
With holistic spectrum planning, FWA has become a good supplement to optical coverage in rural areas. In Heilongjiang province, FWA is bringing additional convenience to farmers in information access, precise management, and e-commerce activities, promoting the sustainable growth of rural economy.

FWA with AI: Furthering Home Connectivity Innovation
AI is enabling FWA to reach new heights in terms of business value and support digital transformation of the global economy.

2025 is witnessing a deep integration of FWA and AI in home connectivity. AI is providing FWA with unprecedented opportunities for innovation regarding network optimization and resource allocation accuracy, helping improve network efficiency and user experience. For example, to improve user experience, AI helps CPEs identify the usage patterns of home users while allocating network resources and providing optimization suggestions.

To enhance O&M management, AI provides intelligent monitoring and fault prediction approaches to reducing O&M costs while making networks more reliable.
Huawei provides a wide lineup of typical solutions in this trend. Easy FWAi is experience-centric and uses smart terminals and network services to ensure quick E2E FWA service provisioning. Its core features highlight intelligent user prediction, service identification, and fault handling, which facilitate intelligent service provisioning, experience management, and O&M management.

Conclusion
FWA has evolved into a critical technology for connecting homes around the world. It provides users with more intelligent and personalized services, creating greater value for operators and the global economy. With the growing integration of AI and 5G-A, FWA will continue to enable a better digital, intelligent life for everyone.

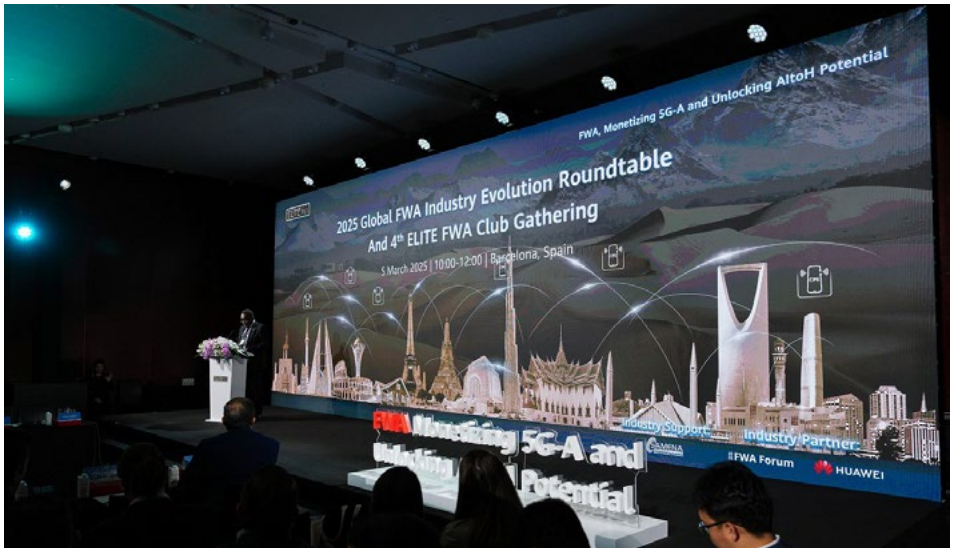
ELITE FWA CLUB ADVOCACY

SAMENA Council Calls for Accelerated Collaboration Amidst Rising Synergies Between 5G-Advanced & AI, to Realize Full Potential of Fixed Wireless Access (FWA)

At the 4th ELITE Fixed Wireless Access (FWA) Club meeting, held during Mobile World Congress (MWC) 2025 in Barcelona, Bocar BA, CEO of SAMENA Council, emphasized the need for accelerated collaboration across technologies, stakeholders, and industries to fully unlock the potential of Fixed Wireless Access (FWA) and intelligent connectivity. BA's message focused on emphasizing how Operators need to progress forward in the 5G-Advanced era using, among other tools and technologies available to them, Fixed Wireless Access (FWA) and AI. As Honorary President of the ELITE FWA Club, BA stressed the synergies between FWA, AI, and 5G-A as vital to creating faster, more reliable, and accessible global connectivity. He highlighted how these technologies are not only reshaping network performance but also driving a more affordable and inclusive digital landscape. "FWA, supported by the rapid advancements of AI and 5G-A, is positioned to bridge the digital divide and make high-quality internet accessible to everyone," said Bocar BA. "The affordability of FWA is no longer just a luxury for the few; it is becoming an essential tool for people in rural communities, emerging markets, and small businesses across the globe." Bocar BA further reiterated the importance of collaboration in driving FWA adoption across regions, including in the SA-ME-NA region and Central Asia, noting that the significant growth of the FWA industry is the direct result of cooperation, collaboration, and focus on global connectivity goals. He cited examples from the Middle East, Europe, and emerging markets, where FWA is

"FWA, supported by the rapid advancements of AI and 5G-A, is positioned to bridge the digital divide and make high-quality internet accessible to everyone,"

playing a pivotal role in transforming connectivity and providing new business opportunities. "The future of FWA is not just about innovation," said Bocar BA. "It is about aligning efforts, accelerating cooperation, and ensuring sustainable investments in infrastructure. We must work together to build a more connected world. Innovation by itself is not sufficient. Stakeholders need to work together and align priorities, to ensure holistic



approaches are carried out toward industry sustainability, as well as sustainable investments in technology deployment and infrastructure development, including through FWA." Bocar BA also called on participants to engage with SAMENA Council and the ELITE FWA Club to contribute insights, join working groups, and participate in the SAMENA ELITE e-magazine. He reiterated that by working together, the Industry can accelerate the deployment and adoption of FWA technologies, creating a more inclusive, intelligent, and sustainable future for connectivity. SAMENA Council, a key supporter of the ELITE FWA Club, continues to facilitate collaboration and innovation across the Fixed Wireless Access ecosystem. Through platforms, such as the ELITE FWA Club's portal, SAMENA Council helps connect stakeholders, encourage knowledge-sharing, and drive collective efforts to tackle key challenges in the FWA space, including expanding coverage, improving affordability, and enhancing service delivery. SAMENA Council also views 5G-Advanced to be a game-changer. When paired with AI, it amplifies the benefits of FWA, enabling faster speeds, enhanced coverage, and more efficient operations. This synergy could accelerate global connectivity forward, making high-speed internet more accessible and affordable to all, from rural areas to emerging markets, from MSMEs to large enterprises. The new synergy between AI and 5G-A offers unprecedented new possibilities. While FWA's growth prospects and trajectory have been correctly approximated very well, meaningful collaboration—across industries, geographies, technologies, and stakeholders – continues to be a key imperative. Through the ELITE FWA Club initiative, and with the enhanced presence and proactive engagement of Club members and industry stakeholders, building deeper understanding of FWA applications and AI-based FWA delivery, and materializing new collaborations within the FWA ecosystem, are critical.

"The future of FWA is not just about innovation," said Bocar BA. "It is about aligning efforts, accelerating cooperation, and ensuring sustainable investments in infrastructure. We must work together to build a more connected world. Innovation by itself is not sufficient. Stakeholders need to work together and align priorities, to ensure holistic approaches are carried out toward industry sustainability, as well as sustainable investments in technology deployment and infrastructure development, including through FWA."

OBSERVATIONS BY SAMENA COUNCIL

Cross-Regional Perspectives on FWA Growth & Challenges

Fixed Wireless Access (FWA) is gaining steady ground in the broadband market, driven by ongoing improvements in technology and growing global demand. Major telecom operators are treating it as a serious part of their long-term strategies, each approaching it in different ways. T-Mobile, for example, has taken a clear lead in the U.S., now serving nearly 60% of the country's FWA subscribers. The company added over 428,000 new customers in the last quarter of 2024 alone and has raised its long-term goal to 12 million subscribers by 2028. That's a jump from its earlier target of 7.5 million by 2025. Despite its rapid growth, T-Mobile has hit a bottleneck—over a million people are on a waiting list, unable to sign up due to network capacity limits. At the same time, its FWA download speeds have improved by more than 50% in just one year, placing it ahead of competition.

AT&T, one of key members of SAMENA Council, is taking a more measured approach. It's offering FWA through services like Internet Air for Business, showing interest in the enterprise side of the market. Still, the company sees FWA mostly as a temporary fix, especially for customers waiting on fiber. In places where laying fiber is difficult or expensive, AT&T uses FWA to fill the gap, particularly for users still on its old DSL lines. The plan is to phase out its copper network by the end of 2029 and move those users either to fiber or to FWA, depending on what's available in each area. While FWA is clearly a tool in AT&T's kit, the company remains focused on expanding its fiber footprint, aiming to reach over 50 million locations by the end of the decade.

T-Mobile, for example, has taken a clear lead in the U.S., now serving nearly 60% of the country's FWA subscribers. The company added over 428,000 new customers in the last quarter of 2024 alone and has raised its long-term goal to 12 million subscribers by 2028.

Policy and regulation are playing a major role in shaping how FWA is rolling out. In early 2025, the FCC proposed new rules to reauction parts of the AWS-3 spectrum, with the goal of funding a national security effort to remove untrusted telecom equipment from U.S. networks. This move underscores the ongoing importance of spectrum allocation for expanding services like FWA. At the same time, there's growing pressure to shift government broadband funding priorities. The BEAD program, which has so far leaned heavily toward fiber, is under review. Lawmakers have introduced the SPEED for BEAD Act, which would remove that preference and give more room for alternatives like FWA and satellite broadband. This could make a real difference in how and where operators invest, especially in areas where fiber isn't practical.

As an observation, in some markets, FWA is facing regulatory challenges. In New York, a new law requiring

communication service providers to offer low-cost internet to low-income residents prompted AT&T to pull its FWA product out of the state. The company said the rates mandated by the law made further investment there unworkable. This shows how quickly state-level rules can impact the availability of service. Internationally, governments are increasingly seeing FWA as a tool for digital inclusion. Many are offering subsidies or setting up favorable policy frameworks to support its expansion. For instance, Qatar's regulatory body is updating its telecom rules to encourage competition, with FWA expected to benefit from those changes.

In terms of competition, FWA is making a noticeable dent in the dominance of cable. Consumers are responding well to the ease of installation, lower costs, and improved service quality. Some studies even suggest that customer satisfaction with FWA is now higher than with cable. Cable companies, in response, have been lobbying against additional spectrum allocation to mobile carriers, arguing it threatens their position in the market. Wireless industry groups like CTIA and 5G Americas have formed new coalitions to counter this, launching campaigns like "End the Cableopoly" to promote the benefits of 5G home broadband and push for more spectrum access.

FWA is also becoming a solid alternative to older broadband technologies, including DSL and, in some cases, even fiber—especially in rural or hard-to-reach places. Its lower deployment costs and faster setup make it appealing for expanding high-speed internet in areas where laying cable or fiber isn't feasible. AT&T's use of FWA to replace aging DSL connections shows how flexible the technology can be during periods of infrastructure transition.

Globally, FWA is on an upward trajectory. There were around 160 million FWA connections at the end of 2024, and that number is expected to climb to 350 million by 2030. By then, nearly 80% of those connections are expected to run on 5G networks. Asia-Pacific is set to lead the charge, especially countries like India, where millions of users have already signed up for 5G FWA in just over a year. In the U.S., FWA is proving popular with people in their mid-30s to early 50s—a group that values quick setup and better service than older broadband options.

Among providers, T-Mobile continues to grow rapidly, reporting over 6.4 million FWA subscribers by the end of 2024. Verizon has more than 4.8 million. In India, Reliance Jio had over 4.8 million FWA customers by January 2025, while Bharti Airtel had just under 900,000. These figures reflect both the demand for better connectivity and the aggressive strategies companies are using to grab market share.

FWA adoption varies by region. In North America, the market is shaped by fierce competition and a push to outpace cable providers. Europe is seeing growth too, especially in rural areas where fiber isn't easy to deploy. Operators there are offering plans that mirror traditional broadband, helping customers make the switch. In Asia-Pacific, rapid rollout is driven by need and geography—many countries there face the challenge of bringing broadband to islands, mountains, or other remote areas where cables can't easily go. In the Middle East and Africa, FWA is becoming a key tool to connect underserved communities. Some operators in these regions are exploring newer technologies like 5G RedCap to make FWA even more affordable.

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Looking ahead, FWA is well-positioned to play a bigger role in global broadband. As 5G networks continue to expand and evolve into 5G-Advanced, and as tools like AI help manage networks more efficiently, the performance of FWA is only expected to get better. The gap between wireless and wired broadband is narrowing, especially in terms of speed and reliability. While there are still challenges—like managing bandwidth, securing enough spectrum, and ensuring consistent service—operators are pushing ahead with innovation. With continued investment and supportive policies, FWA is likely to become a central part of how the world stays connected.

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Brightspeed Joins Forces with Verizon for Fixed-Wireless Push

A new partnership between Brightspeed and Verizon will allow Brightspeed to deliver fixed wireless services over Verizon's network for customers with aging copper cables. Brightspeed, a telecom provider based in North Carolina, announced the partnership with Verizon. The news comes as Brightspeed continues to deploy fiber in the South, Midwest, and Mid-Atlantic regions, backed by sizable investments, Brightspeed's release stated. "Working with Verizon, this new fixed wireless voice and data solution offers customers a more immediate, reliable, high-speed connectivity option," the announcement about the partnership explained.

According to Brightspeed, the partnership will allow services to be deployed "to homes and businesses that Brightspeed's planned fiber broadband network build may not reach."

Brightspeed CEO Tom Maguire had comments included with his firm's announcement and said Brightspeed's goal is to provide every home within their footprint with a more reliable option than copper for services. "Everyone deserves the latest and best communications technology available," Maguire said. "Archaic copper networks are costly to maintain, susceptible to weather-related issues and can neither support modern technology nor telecommunications innovation and the needs of the future."

Additionally, he said the partnership would help Brightspeed customers who are not currently served by fiber. "Working with Verizon, this new fixed wireless voice and data solution offers customers a more immediate, reliable, high-speed connectivity option and can be deployed to homes and businesses that Brightspeed's planned fiber broadband network build may not reach."

Vodafone Offers 300Mbps Speeds with New FWA Home 5G Service

Vodafone Greece has introduced the Vodafone Wireless Home 5G service, which, leveraging Vodafone's constantly evolving mobile network, offers a reliable wireless connection with internet speeds of up to 300Mbps at home. This service is available in areas that are either not covered by a high-speed fixed connection network or have limited coverage.

The innovative service uses Fixed Wireless Access (FWA) technology, complementing the existing Vodafone Wireless Home 4G service. With the introduction of the Vodafone Wireless Home 5G service, the geographical coverage of the service is expected to expand, helping bridge the digital divide and connect remote areas of Greece.

Combined, the Vodafone Wireless Home 4G/5G service is now available in approximately 564 areas, covering 282,551 active lines. The service plans, which include free advanced technology equipment, offer unlimited internet speeds up to 300Mbps, unlimited national landline and mobile calls, with prices starting from €20.95 per month for residential subscribers.

Netcracker Supports Odido's Fixed-Wireless Access Service Launch in the Netherlands

Netcracker Technology announced that Odido, formerly known as T-Mobile Netherlands, has launched nationwide Fixed-Wireless Access (FWA) service after simplifying and unifying its IT stacks onto the Netcracker Digital Commerce & Monetization platform as part of an ongoing BSS consolidation and transformation program to streamline its operations and support advanced services.
Odido was created in September 2023 as a result of the merger of several companies and brands and is now the largest mobile operator in the Netherlands. To celebrate the first anniversary of its rebranding, the operator sought to bring innovative new products and services to the market.

With the launch of its Klik & Klaar service, Odido became the first operator in the Netherlands to offer FWA for B2C customers. The service is powered by Netcracker's industry-leading BSS suite of products and professional services, including Product Catalog, Customer Order Management, Customer Information Management and CPQ, as part of a standardized IT deployment.
Since launching Klik & Klaar, Odido has gained numerous benefits, including a streamlined order process, digital service for customers and agents, higher internet speeds that match fiber access and an increase in its customer base.

"Our long-term partnership with Netcracker, which began before the formation of Odido, has given us the confidence to work together on this critical step in our IT transformation program," said Robert Purdy, CIO at Odido. "We are excited that we can deliver high-speed access to our customers and look forward to additional innovative services as a result of this alliance."

"Bringing FWA to our customers is an important milestone since our rebranding to the market," said Bas Touw, Head of IT Mass Market at Odido. "I am confident that our collaboration with Netcracker will lead to further such innovations as we continue to disrupt the Dutch telecom landscape."

"As the leading mobile operator in the Netherlands, Odido is blazing a trail to 5G monetization, including the investment in FWA," said Benedetto Spaziani, GM at Netcracker. "We are extremely proud to be the trusted IT provider to Odido and are looking ahead to additional leading-edge projects."

Hi3G Denmark's FWA Rollout Takes Flight with Vantiva Falcon 5G

Vantiva has announced its partnership with Hi3G Denmark to launch Falcon 5G, a premium indoor wireless access (FWA) solution designed to deliver world-class 5G connectivity. This collaboration supports Hi3G Denmark's rollout of powerful 5G broadband services to deliver faster speeds and enhanced reliability to its customers.

Equipped with Vantiva's Indoor5 antenna, Falcon 5G delivers more robust and stable coverage while helping operators maximize network capacity and reduce spectrum consumption. Designed with sustainability in mind, the product incorporates recycled materials and halogen-free circuit boards.

Thanks to Qualcomm's advanced microprocessor, the Falcon 5G offers higher throughput and faster speeds than conventional FWA gateways. Its compact design and natural ventilation also contribute to greater energy efficiency, making it a sustainable choice for both operators like Hi3G Denmark and their customers.

Our partnership with Hi3G Denmark is based on a shared ambition: to improve everyday connectivity. Falcon 5G is designed to push the boundaries of indoor 5G reception, ensuring superior Wi-Fi coverage in the home, while enabling operators to work more efficiently and sustainably.

Greece's OTE Deploys Fixed Wireless to Stem Rural Churn to Starlink et al

Greece's OTE Group is turning to 5G fixed wireless access (FWA) as a reinforcement for its broadband business in less populated areas, following a recent step-back on fixed revenue and rise in churn to new challengers, such as Elon Musk's Starlink.

The Cosmote 5G WiFi offering — debuted in late-January, using the 5G standalone (SA) core OTE introduced in June last year — will "improve connectivity in fibre-under-served areas, minimising customer losses to alternative infrastructures like satellite or FMS [fixed-mobile substitution]", said Chief Executive Kostas Nebis on the operator's annual results call.

Nebis conceded that OTE has been losing "some customers" that are restricted by a substandard copper connection and/or no fibre availability, "especially in the summer months" — and confirmed Starlink was one of the alternative providers that were cashing in.

He estimated that the US satco had secured only about 30,000 users in Greece since launching in the country during early-2023, but was "for sure… eating up part of the potential broadband base", particularly in property developments targeted at holidaymakers and second homeowners.
Nonetheless, Nebis said OTE had "high expectations" for the new FWA service as a retention and acquisition tool, saying it will act as a "bridge" to higher-speed connections and help it "manage better these customers until fibre is rolled out in their territory".
As it develops, it may also enable OTE to more deeply tap into the Greek government's Gigabit Voucher scheme, which went live in late-2024 and is distributing 'connectivity vouchers' of up to €200 to users signing up to 24-month contracts on faster broadband services, whether wired or wireless.

Cosmote 5G WiFi's 5G SA foundation will enable it to offer "stable performance for a large number of users, and low latency", said OTE. Its results documentation confirmed the service is based on network slicing, but did not go into more detail on its architecture or resource allocation (including whether it borrows any ideas from sister business T-Mobile US'.

The FWA service is one way OTE's management is seeking to regain growth in its retail fixed business in the current year, to 31 December 2025 (FY25), following drops in revenue in FY23 (-2%) and FY24 (-0.4%).
FY24 also saw the operator report a 0.1%-fall in its Greek broadband subscriber number, to 2.35 million. The year's sales decrease was part-fed by lapping of a late-2023 discount scheme related to e-billing, but OTE also cited "challenging trends in legacy services" as a factor.

As well as the FWA deployment, the operator hopes to drive the return to growth through wider fibre-to-the-home (FTTH) buildout and uptake, and adoption of both the Gigabit Voucher scheme and parallel Smart Readiness programme, which offers subsidies for in-building connections. OTE also debuted a higher-end 3Gbps fibre offering in January, to boost higher-end user spend, hopes to gain extra impetus in the wholesale space on the back of recent access deals with rivals Vodafone and Nova.

Nokia Enhances Wi-Fi 7-Enabled FWA Gateway Portfolio

Over the past few years, studies into the communications market have shown fixed wireless access (FWA) to be one of the fastest-growing and key use cases for 5G networks. Looking to take advantage of the technologically evolving 5G market, Nokia has launched the FastMile Gateway 4, a 5G indoor gateway with Wi-Fi 7 that enables operators to deliver 5G speeds throughout the home.

The communications technology provider says FWA has proven to be a "spectacular hit" in driving broadband access in the last mile around the world. However, it notes that there are numerous end users for the technology, many with potentially unique requirements. That means using fixed wireless access to connect end customers to the internet requires more than just one type of device. Research from the GSA 4G/5G Fixed Wireless Access Forum last year predicted that shipments of 5G FWA customer-premises equipment (CPE) would grow by 23% to reach 37.5 million units in 2024, to account for 42% of all FWA CPE shipments. After 5G-enabled FWA shipments reached 10.2 million in 2023, the growth of 5G FWA CPE shipments was expected to accelerate further, rising by eight percentage points compared with 34% in 2023.

The latest launch means Nokia's 5G gateway portfolio now includes four Wi-Fi 7 models scaled to suit the demands of different types of businesses and end users. Nokia also believes its expanded portfolio helps advance 5G FWA services, ensuring operators can easily connect consumers' homes at the speed of 5G

with the latest Wi-Fi 7 technology now being rolled out in domestic premises. The Nokia FastMile 5G gateway features high-gain antennas (up to 8dBi) and dual-band Wi-Fi 7 in a compact design that can be self-installed by the consumer in the home. With four-carrier aggregation and up to 300MHz of bandwidth, the 5G gateway is designed to conserve radio capacity, improve coverage and maximise throughput. Nokia also added that studies of existing customer deployments have shown that the right mix of indoor and outdoor devices, along with optimal placement of these devices, can recover up to 60% of wasted radio capacity.

The 5G Gateway 4 also supports 8RX and 3TX capabilities for improved spectrum efficiency, coverage and greater speeds, along with Wi-Fi 7's multi-link operation (MLO), delivering up to 4Gbps of Wi-Fi capacity in the home. This technology boosts connection speeds by enabling devices to send and receive data simultaneously across multiple frequency bands and channels. The Gateway 4 is also powered by Nokia's Corteca software, which supports value-added applications embedded in the device, cloud-based Wi-Fi optimisation and Wi-Fi device management based on open industry standards and EasyMesh. To help operators simplify and streamline installation, customers can access a simple, user-friendly mobile app that helps identify the optimal location to install the FWA gateway. Commenting on the launch, Dirk Verhaegen, general manager of broadband devices at Nokia, said: "Our extensive FWA portfolio gives operators access to a wide range of Wi-Fi 7 devices tailored to meet their unique and diverse needs. Our portfolio is even stronger with the addition of the new FastMile Gateway 4, giving operators another power option to deliver fast, reliable FWA broadband to customers – no matter where they live."

Samsung and UScellular Enhance 5G Fixed Wireless Service in the Mid-Atlantic Region

Samsung Electronics announced that UScellular has enhanced its 5G network capabilities in the Mid-Atlantic region with Samsung's 5G solutions. The companies have worked together to deploy a new network architecture using Samsung's 5G mmWave and virtualized Radio Access Network (vRAN) solution to support UScellular's growing fixed wireless access and mobile traffic. In November, the operator launched this new service in several markets in the region, already delivering elevated connectivity to its customers.

For the Mid-Atlantic markets, UScellular utilized Samsung's 5G Compact Macro — a 3GPP-based distributed architecture solution — to enable mmWave connectivity, offering its customers fast, reliable mobile and broadband services. Compact Macro consolidates the baseband, radio and antenna into a single, lightweight form factor for swift and easy installation. Samsung's mmWave technology allows the operator to access the expansive bandwidth in the 28GHz and 39GHz bands, which support ultra-high speeds and low latency. By leveraging Samsung's advanced solutions, UScellular could rapidly enhance the 5G performance through multi-gigabit speeds.

"We're excited to work with Samsung as we continue to enhance our next-generation network," said Mike Dienhart, Vice President of Engineering and Network Operations, UScellular. "Tapping into the ultra-high bandwidth of the mmWave spectrum allows us to unleash new capabilities and deliver cutting-edge customer experiences. Samsung's proven expertise in innovative 5G and vRAN makes them an ideal partner."

Samsung is also offering its notable and widely used vRAN solution with Central Unit functionality to support UScellular's virtualized network.

Samsung's vRAN provides the operator with additional bandwidth and advanced intelligence capabilities including energy saving features, while enabling the company to quickly scale capacity and efficiently deploy advanced services. This network advancement highlights UScellular's commitment to leading 5G innovation.

"We're extremely pleased that UScellular selected Samsung's industry-leading mmWave and vRAN solutions as key enablers for their 5G network enhancement in this area," said Wilf Norrlinger, Vice President, US Sales, Networks Business, Samsung Electronics America. "This collaboration showcases how our innovations in areas such as vRAN and mmWave are unlocking new capabilities. It's exciting to collaborate with forward-thinking providers like UScellular and push the next-generation wireless to new frontiers."

The companies have a strong working relationship and have been working together on new network configurations to support UScellular's growing fixed wireless customer base.

Samsung has pioneered the successful delivery of 5G end-to-end solutions, including chipsets, radios and cores. Through ongoing research and development, Samsung drives the industry to advance 5G networks with its market-leading product portfolio, including vRAN 3.0, Open RAN, core to private network solutions and AI-powered automation tools. The company currently provides innovative network solutions to mobile operators that deliver boundless connectivity to hundreds of millions of users worldwide.

Tarana to Bring ngFWA Broadband to Underserved Communities in Africa in Collaboration with Microsoft

Tarana, the creator of next-generation fixed wireless access (ngFWA) broadband technology, announced a collaboration with Microsoft to expand internet access in rural and underserved communities across Africa. Together, the companies will help service providers in rural and underserved Africa deploy government-approved telecom equipment at competitive pricing, along with training and technical support.

Access to secure, affordable telecom equipment remains a major barrier to internet connectivity in Africa. Despite progress, high infrastructure costs and limited rural coverage have allowed the digital divide to persist. In some regions, fewer than 30% of people have reliable internet access. Through the Airband program, Microsoft is working to expand affordable connectivity to communities in Africa by collaborating with local service providers, governments, and non-profit organizations.

Engineered to achieve a similar mission, Tarana's ngFWA broadband platform combines fiber-class performance with the agility of wireless technology to connect communities at a fraction of the cost or time required to deploy wired solutions. Overcoming two primary limitations of traditional fixed wireless access (FWA) technology, ngFWA delivers high-speed broadband service in both non-line-of-sight (NLoS) conditions and heavy radio interference, making it an ideal solution for hard-to-reach and underserved markets. More than 250 operators worldwide are deploying ngFWA to deliver better broadband more efficiently.

Tarana's collaboration with Microsoft will help lower the cost of ngFWA equipment for internet service providers in Africa and assist with deployment logistics, enabling them to deliver life-changing internet access far faster and more cost-effectively.

Basil Alwan, CEO of Tarana, added, "We admire the Airband Initiative's mission and appreciate this opportunity to collaborate. We look forward to making significant progress on the digital divide together."

"Access to affordable, secure broadband infrastructure is essential for unlocking economic opportunity through digital access across Africa," said Vickie Robinson, General Manager, Energy, Connectivity, and Sustainability at Microsoft. "By working with Tarana, we're helping local operators overcome cost and deployment barriers so they can bring high-speed connectivity to the communities that need it most."

Optus Launches 5G Fixed Wireless Access for Wholesale Partners

Optus has launched 5G Standalone Fixed Wireless Access (FWA) for its wholesale partners, enabling mobile virtual network operators (MVNO) to offer 5G on dedicated hardware.

Optus MVNOs can now offer what the telco is calling a "true" 5G Standalone FWA experience on a dedicated 5G core and not reliant on 4G infrastructure, according to a blog post by its vice president of wholesale and satellite, John Castro.

Available as plug-and-play, partners can offer differentiated service tiers to launch premium offerings such as fixed-wireless home broadband and low-latency gaming packs without needing to build separate infrastructure.

Optus' 5G+ footprint can also be accessed. "Optus has always believed in the power of competition to drive innovation. Opening up our mobile and fixed networks to third-party providers in the early 1990s, that same spirit continues to guide our wholesale strategy," Castro wrote. "Our wholesale partners are quick to receive a consistent network experience provided across our wider business. That's been true for mobile and fixed and now it's now true for 5G Standalone FWA." Optus is looking to release 5G Standalone Mobile services for MVNOs later this year, which the VP added will bring the same core capabilities to mobility use cases.

The telco's 5G Standalone FWA wholesale launch comes a week after it expanded its 10-year mobile agreement with Yomojo into a whole-of-business partnership for an additional three years.

Ongoing Deployment in Guam Extends FWA Access to Thousands

Tarana's next-generation fixed wireless access (ngFWA) broadband technology now reaches thousands of homes across Guam thanks to an ongoing deployment by GTA, Guam's longest-serving telecom provider.

So far, over 30,000 locations in the territory have already been passed in only three months of deployment, according to Tarana.

With the deployment, GTA is able to offer 500 megabits per second to residents who previously had access to speeds no greater than 25 megabits per second through copper networks, Tarana's recent release stated. Andrew Gayle, GTA's COO, reported high marks from the hundreds of subscribers who have signed onto GTA's Air Fiber services since the deployment began.

"The feedback from customers on our Air Fiber service has been great," Gayle said. "It's been the perfect solution for areas that don't have GTA Fiber yet, offering fast speeds and a reliable connection."

Additionally, GTA recently donated ngFWA access to the Guam Animals in Need (GAIN) shelter, Tarana's release stated.

The donation was also described as a game-changer for GAIN. "It helps us stay connected, work faster, and support more people when they need us most," the organization's executive director said.

Basil Alwan, Tarana's CEO, also praised GTA's efforts in the territory, located in the Western Pacific Ocean.

"GTA's work to close the digital divide in Guam is critical to their community and we are very proud to support their efforts," Alwan said. "We look forward to seeing more progress on the island."

With the deployment, GTA has joined over 250 operators to have deployed ngFWA technology from Tarana, the company's release stated.

Inseego and T-Mobile Push 5G FWA Deeper into the Enterprise

Inseego, the original MiFi innovator, made a bold move into enterprise fixed wireless access (FWA) when it launched the FX4100 at the end of May. The device, an indoor 5G gateway, was designed exclusively for T-Mobile for Business and, according to the companies, underscores a major shift: Wireless is no longer a backup — it's becoming the primary enterprise connectivity method.

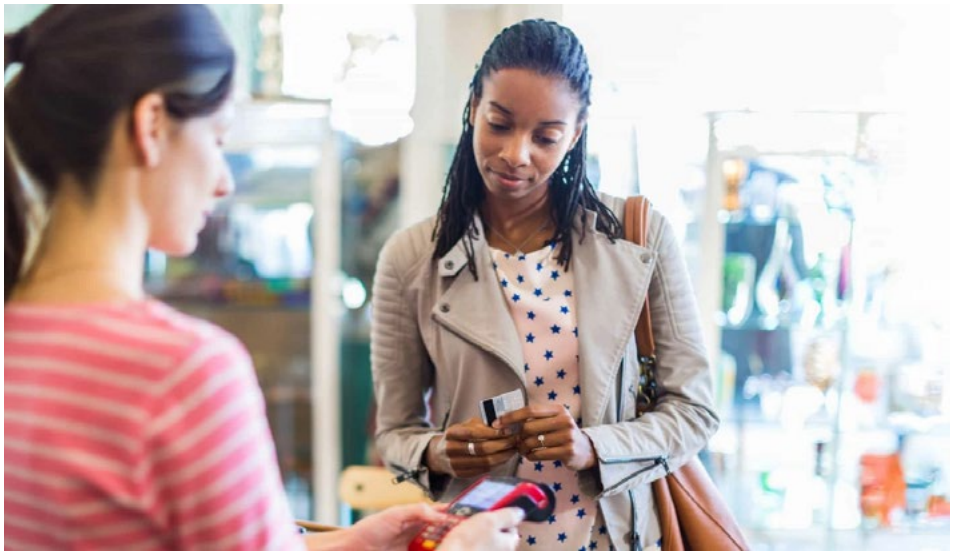
"This is a very big deal, not only for T-Mobile, but for Inseego," Ryan Sullivan, SVP of Carrier Product Management at Inseego, told RCR Wireless News. "This product signifies our commitment to the fixed wireless space and moving into the enterprise stack with our products."

The FX4100 is the result of a year-long, co-development process between Inseego and T-Mobile. The result is Inseego's first device to support 5G SA, 5G Advanced, features like uplink carrier aggregation and full compatibility with network slicing, enabling future application-specific slices across verticals.

"As T-Mobile moves up the stack and aspires to become a full managed solutions provider… they needed something that's a little bit more business grade," said Sullivan. "This is a device that really turbocharges T-Mobile's ability to go and sell in the business segment — not with a failover device, but [as] a primary fixed wireless [solution]."

In an email correspondence with RCR, T-Mobile US echoed that ambition: "The FX4100 enables T-Mobile's business customers to confidently adopt FWA as their primary connectivity option," said Chris Melus, VP of Product Management at T-Mobile for Business. "This launch marks a significant milestone in the progression toward the 5G Advanced era." A key focus of the FX4100 is ease of use — especially for SMBs without in-house IT staff. The device includes an intuitive on-screen display, supports mesh Wi-Fi for broader indoor coverage and can be professionally managed through Inseego's cloud platform. "These are dentists, restaurant owners, auto mechanics," Steve Harmon, Inseego's Chief Commercial Officer, said. "Their job isn't setting up wireless networks, so we designed this to be as easy and intuitive as possible."

Melus highlighted how the device suits businesses with limited installation flexibility. "Think retail locations, doctor's offices, restaurants… even 'stores within stores' like kiosks," he said. "These stores can't drill into the wall to set up a fixed connection and aren't allowed to use the existing infrastructure… so an FWA connection enables them to get up and running quickly and easily without impacting infrastructure. "



Enterprise adoption of cloud services, remote collaboration, and video conferencing is putting more pressure on uplink speeds — traditionally a weak spot in wireless. The FX4100 tackles this with uplink carrier aggregation and 5G SA features. "We've already reached that crossover point where wireless is now outperforming traditional Wi-Fi through fiber licenses," said Sullivan. "Now it's about configurability and flexibility."

T-Mobile recently hit record uplink speeds of 345 Mbps using 5G SA and UL Tx switching. "Enhanced uplink performance ensures smoother video calls, faster file uploads and more responsive cloud applications," Melus said. In September, T-Mobile introduced T-Priority, a network slice for first responders and in 2023, announced the first commercial network slice in the U.S. with a dedicated security slice and T-Mobile SASE.

"Looking forward, T-Mobile remains committed to expanding the potential of network slicing to drive meaningful business outcomes and enhance customer experiences," said Melus. "Leveraging the only 5G Advanced network in the United States, we are uniquely equipped to scale and innovate with network slicing technology and partners like Inseego, to ensure its transformative benefits reach businesses and consumers nationwide."

And for Inseego? More enterprise-focused products are in the pipeline, building on the FX4100's role as a market entry point. "This is really a beachhead for us," Sullivan said. "We want to be the leader in enterprise FWA, and first-mover advantage matters."

T-Mobile US Debuts Indoor FWA Router from Inseego

T-Mobile US and equipment vendor Inseego joined forces on a fixed wireless access (FWA) router designed to support standalone (SA) 5G network slicing and 5G-Advanced, providing business customers with faster speeds and improved Wi-Fi coverage.

The Inseego Wavemaker 5G cellular router FX4100 and Inseego Wavemaker mesh Wi-Fi X700 are designed exclusively for T-Mobile for Business customers. Ryan Sullivan, SVP of carrier product management for Inseego, told Mobile World Live (MWL) his company spent the last year developing the third-generation indoor FWA router for T-Mobile.

Steve Harmon, CCO at Inseego, added T-Mobile for Business has exclusive rights to the router through the end of the current year.

T-Mobile announced its 5G-Advanced network was deployed nationwide during its Q1 earnings call last month. The FX4100 router is Inseego's first 5G-Advanced device.

The operator is offering network slices on its T-Priority service for first responders, but it did not say if it is using Inseego's router.

Inseego claims the router provides improved 5G speeds on the downlink using three-carrier aggregation and two-carrier aggregation for the uplink.

Sullivan stated the uplink features not only improve performance but also increase capacity at the cell site level. In addition, they extend the reach of a cell site "because you're able to aggregate a low channel or a low-band uplink carrier with a mid-band or a high-band uplink carrier", he said, to provide better performance across a broader area of coverage.

The vendor stated the carrier aggregation makes video calls run smoother. It also eliminates the need for bonding two routers together, which makes it more affordable for customers and more efficient on a network.

"It also comes with Wi-Fi mesh nodes," Harmon said. "You have the router itself, and then you can attach up to three mesh nodes to that device to take that Wi-Fi 7 capability and expand it across a large footprint."

Customers can control the mesh nodes using the vendor's Inseego Connect mobile device management platform and the Inseego Mobile App to govern devices remotely.

Harmon explained the router also has an on-screen display window that allows customers to run speed tests, see alerts or gather information on how to install the device correctly.

"If they did end up on a phone call with a customer care team at T-Mobile, that representative is able to toggle this screen and capture some information to help them deploy it correctly," he said.

The router also comes equipped with 5G uplink MIMO technology to support both Time Division Duplex (TDD) and Frequency Division Duplex (FDD) bands, which Inseego stated improves data transmission and spectrum efficiency.

The Inseego Wavemaker FX4100 is powered by Qualcomm Dragonwing FWA Gen 3 Platform. In addition to SA 5G, it supports NSA modes as well as 4G LTE Cat 20 for connectivity across a range of bands.

Fixed Wireless Access Gains Momentum in Rural India

Rural consumers in India are taking to fixed wireless access (FWA) broadband service in a big way, altering the perception that it is a premium service that mostly urban households, especially in big cities and metros, can afford. According to the latest data from the Telecom Regulatory Authority of India, Reliance Jio, the largest player in FWA, at the end of March this year had as much as 44 per cent (2.5 million) of its subscribers in rural areas. It has 5.57 million in all.

Jio has 82 per cent of FWA subscribers, with the rest being with Airtel, which launched the service gradually in September 2023.

While FWA subscribers are spread across the country, Andhra Pradesh is at the top, accounting for 8.7 per cent of FWA rural subscribers for Jio, followed by Maharashtra, Uttar Pradesh (east) and Tamil Nadu.

Growth in FWA in India till March was faster than what the GSMA Intelligence, the research wing of a global body of telecom players, had estimated. The estimate was 6 million by the end of 2025. Jio and Airtel together crossed 6.79 million in the third month of the year. Airtel, which started after Jio, is concentrating on urban locations.

If the GSMA projections hold good globally, there will be 32.4 million FWA homes all over the world.

Based on the first three months' subscriber base, India has a fifth of the global FWA market.
The only other country ahead of India in FWA is the United States, which has 14.7 million FWA connections. However, based on industry projections, by 2030, India is expected to have 75 million-100 million homes connected by either FWA or fibre to the home. And many expect it to cross the US in the next few years.

But the market will have a third challenger from satellite broadband service, in which companies like Starlink, One Web, and Kuiper from Amazon are in various stages of setting up shop in the country. The large rural affluent population not connected or with poor or unstable terrestrial connectivity could be a market which would also like to try out satcom service.

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