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SAMENA ELITE

TECHNOLOGIES THAT ACCELERATE DIGITAL ECONOMY

Jul-Sep, Volume 1, 2024



FWA Forum:
5G FWA Devices are
Now Mainstream



Huawei:
FWA: A Revenue
Game-Changer



FWA

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This Quarter

FWA Service and Device Landscape

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Your ultimate destination
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Bocar A. BA
Chief Executive Officer
& Board Member
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Council

FWA Service and Device Landscape


Across all geographies, including the SA-ME-NA and Central Asia regions, and based on the observations of the FWA Elite Club members, scheduled to meet again by end-October 2024 in Istanbul, Turkey, 5G FWA will continue to grow. This is so not only because of the much higher speeds afforded by 5G FWA, but due to improvements in customer premises equipment (CPE) design, among other factors, which we account for in this edition of SAMENA ELITE.

FWA adoption rate is over 50%, which means, since the commercial use of 5G in 2019, more than half of the world's 5G operators have put 5G FWA into commercial use. This is a developing success story within the ICT industry. For 5G, already about two billion 5G connections are in existence, presenting a solid case for FWA deployment. Leveraging this fixed high-speed broadband technology to meet requirements for both

connectivity and digital-economic growth, as well as digital inclusion, should be a top priority.

It can be estimated that the number of FWA users could reach 400 million by the end of 2029, among which the number of 5G FWA users would exceed 300 million.

The Middle East region is leading on the 5G and 5G FWA fronts, with operators leveraging their accumulated experience in household telecom technologies, such as 4G WTTx, to make FWA as one of the key innovations to support 5G expansion. All GCC operators have put 5G FWA into commercial use and subscriptions have risen to 3 million users. Operators are actively exploring high-bandwidth services, e.g., FWA 2B private lines, intelligent home broadband solutions, and 5G CCTV applications, attracting a large number of home and enterprise users. Moreover,



The technology is already demonstrating how operators can fast-track investment recovery, while making remarkable contributions to international connectivity goals.

As the SAMENA Council-supported Elite FWA Club prepares to meet once again this year, we look forward to continuing momentum and dialogue with current and prospective members from within and beyond the SAMENA Council's multi-regional community. The Club is striving toward enhancing the FWA service experience and driving business growth. The Club, to which SAMENA ELITE serves as a flagship knowledge-sharing and promotional platform, is also supported by the Council's FWA-centric sub-working groups on experience management, add-on service innovation, and business development. Moreover, the Club is organizing its quarterly members forums to focus

on particular areas of interest to FWA stakeholders, and to delve into key areas to achieve FWA business success, advocate for FWA ecosystem sustainability and growth, and to advance FWA deployments across a wide spectrum of services.

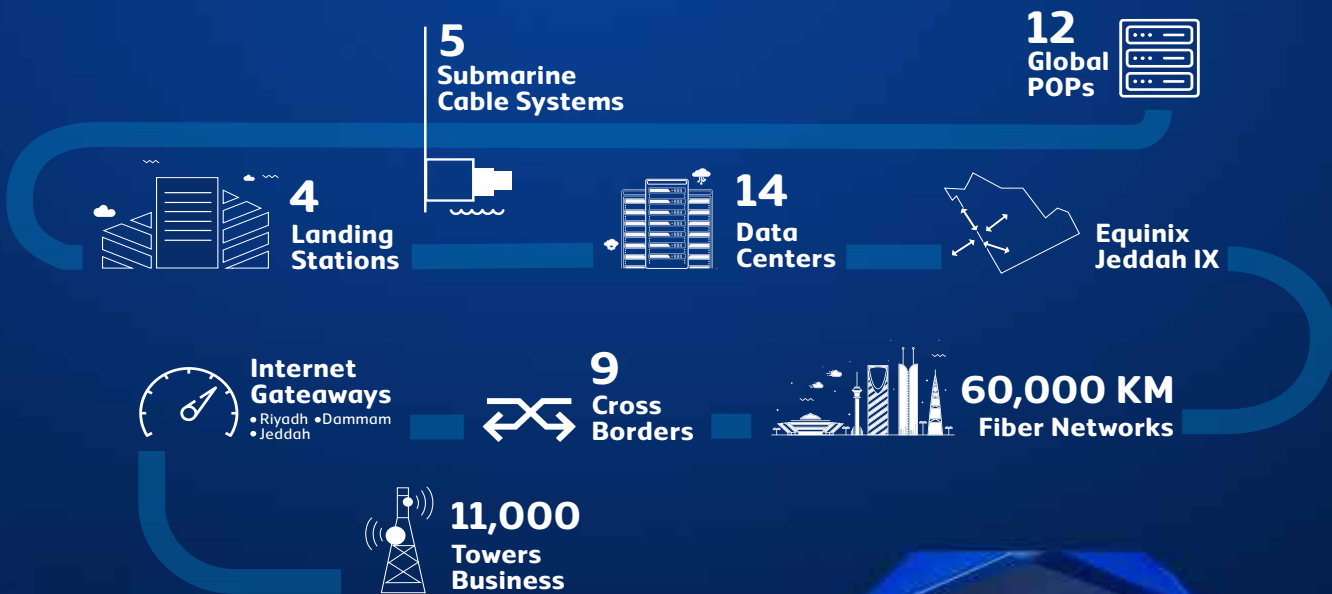
Among the key areas that we need to look into is the personalization aspect afforded by FWA device design. Terminals allow users to customize their experience by selecting preferred speeds, data packages, and call minutes, for example. This level of flexibility ensures that customers can optimize their internet service according to their specific requirements, enhancing overall user satisfaction. More innovation on the CPE front, in combination with the overall trends taking place within the digital services landscape, are expected to catalyze exponential growth in FWA adoption. 🌐

Mobily is The Best Middle Eastern Carrier



In recognition of the outstanding achievements, Mobily stood out among top-tier global wholesale telecoms and connectivity companies and was awarded **Best Carrier in the Middle East at The Global Carrier Awards 2023**.

We are proudly serving our national and international customers through an agile digital infrastructure with a fully integrated value chain.





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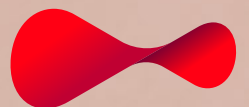
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Julien Grivolos
Chair
GSA 4G-5G FWA Forum

5G FWA Devices are Now Mainstream



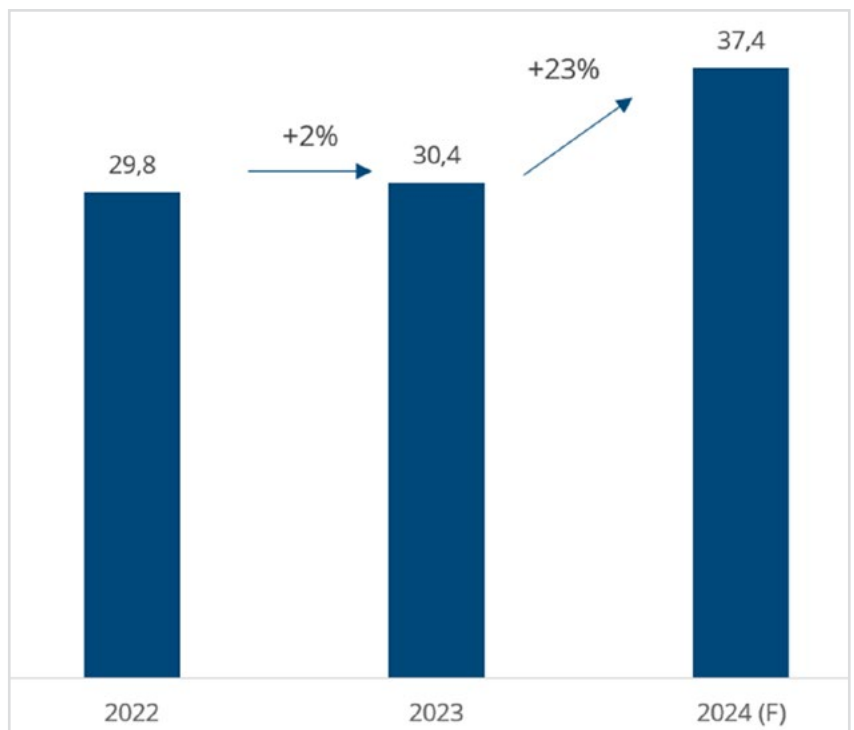
John Yazlle
Vice-Chair
4G-5G FWA Forum

The purpose of the GSA 4G-5G FWA Forum is to educate the industry about the FWA market. The annual GSA FWA CPE market survey aims to address this issue, with firsthand data collected

from a total of 30 vendors of CPE among our members. We estimate that this is a significant representation of the market for 3GPP-based 4G and 5G FWA devices.

Global Shipments

In 2023, total 4G/5G FWA CPE shipments were 30.4 million from a total of 30 companies, an increase of 2% from the 2022 figure of 29.8 million CPE shipments. Total FWA CPE shipments are expected to increase by a further 23% to 37.4 million in 2024.

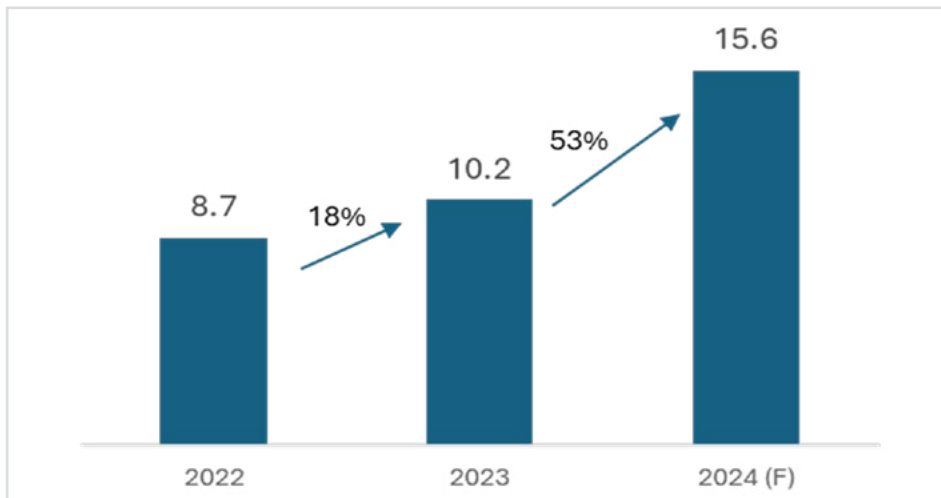


*Evolution of FWA device shipments, millions
Sample: 2024 survey, 30 respondents*

Indoor CPE makes up the most of FWA CPE shipments, but its share decreased by 2% points YoY to represent 60% of the total FWA CPE shipments this year. This is forecasted to drop marginally to 59% in 2024. Battery-operated pocket routers made up 25% of total FWA CPE shipments in 2023 and this isn't expected to fluctuate in the coming year. Outdoor FWA CPE constitutes the remaining 15% of CPE shipments, having grown from 11% in 2022. Within the outdoor CPE segment there is an expected growth of flexible indoor/outdoor self-installation devices from 1.6m in 2023 to 1.9m. These flexible install devices represented 36% of the outdoor CPE segment in 2023 and is expected to remain at similar level during 2024.

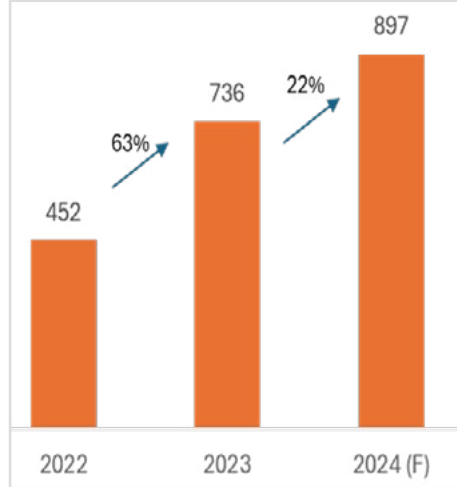
5G FWA Device Shipments

5G FWA device shipments grew by 18% from 8.7 million in 2022 to 10.2 million in 2023, representing 34% of total FWA CPE shipments. In 2024, 5G FWA device shipments are forecasted to be 15.6 million, comprising 42% of shipments.



Evolution of 5G FWA-enabled device shipments, millions
 Sample: 2022 FWA Survey, 26 respondents, 2023 FWA Survey, 25 respondents, 2024 survey, 30 respondents

The survey this year asked respondents to share what proportion of their 5G shipments were standalone activated/enabled. In 2023, 7.2 million shipments were 5G standalone activated/enabled



Evolution of 5G FWA Millimetre-wave capable shipments (thousands)
 Sample: 2022 FWA Survey, 26 respondents, 2023 FWA survey, 25

and this is anticipated to increase by 44% to 10.4 million in 2024. 3.0 million shipments were 5G non-standalone activated/enabled and this is also set to grow to 5.2 million in 2024, an increase of 73%.

5G millimetre-wave capable FWA devices have experienced significant growth from 452 thousand units in

2022 to 736 thousand units in 2023. By 2024, 5G FWA millimetre-wave capable shipments are expected to grow by 22% to just under 900 thousand units.

Regional Trends

When looking at the regional breakdown, Middle East and Africa accounted for the largest share of shipments at 23% of volumes. That is followed by North America (17%), Europe (16%), China (15%) and Rest of Asia-Pacific (15%).

Various regions driving 5G FWA shipment growth in 2023. North America accounts for the largest share of 5G FWA shipments at 31%. However, the percentage of FWA shipments that are 5G for North America is 65%, which is lower than India that has the highest share of 5G FWA shipments at 86%.

In 2023, 7.2 million shipments were 5G standalone activated/enabled and this is anticipated to increase by 44% to 10.4 million in 2024. 3.0 million shipments were 5G non-standalone activated/enabled and this is also set to grow to 5.2 million in 2024, an increase of 73%.

Device Form Factors and Capability Trends

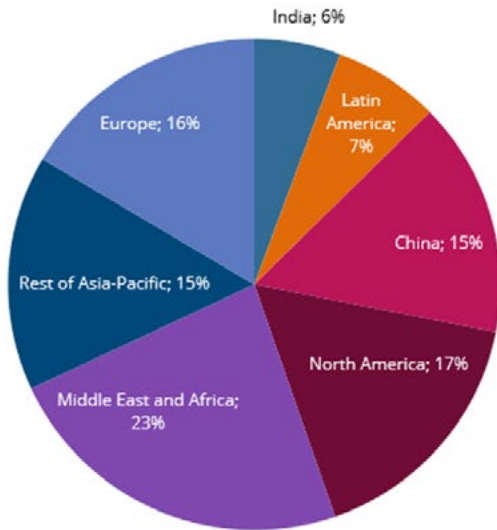
Looking at future device trends, there is clear consensus that the majority of the survey respondents think Window Mounted CPE, Flexible Indoor and Outdoor CPE and Self-Installation Apps are growing. In contrast, respondents are increasingly pessimistic towards Hybrid fibre/DSL CPE with 47% of respondents expecting it to be flat and 13% state that it is declining.

Survey respondents were also asked about module and chipset strategies. 47% said that their current module is from more than one third party, an increase from 41% last year. Looking forward to the full 2024 year, both

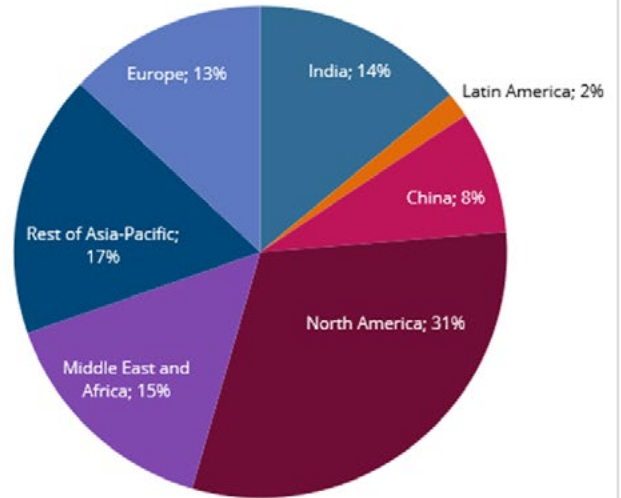
Regional split of 2023 Shipments

Sample: 2024 FWA survey, 29 respondents

Total Shipments



5G Shipments



modules that are sourced from more than one third party and developed in-house are expected to remain flat. Survey answers show that chipset strategies remain stable. Last year 78% of respondents stated that it was sourced from more than one chipset vendor and the remaining 22% claimed that it was sourced from one chipset vendor. In this year's survey, 80% are sourcing their chipsets from more than one vendor and this is set to increase to 83% in 2024. Conversely, 20% of respondents are sourcing their chipset from one vendor in 2023 and this is expected to drop to 17% in 2024.

Similarly, the survey respondents were asked about their plans for 5G RedCap-capable FWA devices and 63% of respondents declared that they had plans to introduce 5G RedCap-capable FWA products in the coming year. 5G FWA RedCap is expected to grow in interest as it offers a more affordable option compared to full 5G FWA, with speeds that are still improved compared with 4G FWA.

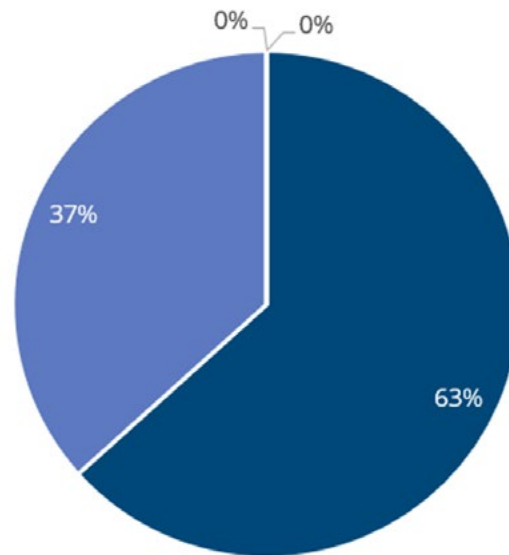
Furthermore, respondents were asked about 3GPP U-6GHz (Upper 6GHz) capable FWA devices and when they

had plans to introduce such devices into their portfolio. 41% of respondents stated that they had no plans to introduce a FWA device capable of 3GPP U-6GHz. However, of the remaining proportion of respondents, 28% said they plan to introduce this device in 2026, followed by 2027 or later (17%) and 2025 (14%).

Previous surveys have highlighted the fact that respondents expect price parity of 5G CPE to 4G CPE in 2025. However, this current survey highlighted that the most common expectation when it might reach price parity has shifted further back to 2026. 🌐

Do you plan to introduce Redcap-capable FWA products in 2024?

Sample: 2024 FWA survey, 30 respondents



■ Yes ■ No ■ Don't know ■ N/A

More about the GSA 4G-5G FWA Forum

The GSA 4G-5G FWA Forum recognizes the important role 3GPP-based 4G-5G FWA technologies play in offering a fast, economically attractive and future-proof alternative to deploying broadband services, particularly for rural and less densely populated areas. Since its creation in late 2020, the GSA 4G-5G FWA Forum has grown to 57 companies (as of February 2024) that are promoting the benefits of 4G-5G FWA for high-speed wireless broadband as well as their own position in this growing ecosystem. 4G-5G FWA device suppliers currently form the bulk of the membership but there are also network infrastructure, module, chipset and service companies involved in the Forum who support our activities.

Overview of key activities in 2024

One of the main 2024 deliverables is our annual FWA CPE Survey report (<https://gsacom.com/paper/4g-5g-fwa-survey-2024>) to help the industry better estimate the real market size and identify the major trends of the 4G-5G FWA device market. The 2024 survey report was released in August 2024 and a dedicated webinar available on-demand can be viewed from the GSA website (<https://gsacom.com/webinar/fwa-forum-cpe-vendor-survey-2024/>).

In addition, online public events

featuring a wealth of speakers from mobile operators, regulatory bodies and the equipment supply industry all discussing and debating a wide range of key FWA industry topics. These events are organized twice a year in order to promote 4G-5G FWA adoption for the benefit of citizens and businesses worldwide. The 6th public event included speakers from Rain (South Africa), Telkomsel (Indonesia) and the vendor ecosystem. Replay is available on-demand (<https://gsacom.com/webinar/gsa-4g-5g-fwa-forum-plenary-6/>). We also participate in industry events and organize FWA workshops such as during NetworkX 2023 in Paris (<https://gsacom.com/paper/gsa-4g-5g-fwa-forum-workshop/>).

In 2023, the Forum launched its online GSA 4G-5G FWA Device Ecosystem Directory (<https://gsacom.com/fwa-tool/>), a unique on-line tool to access mainstream and emerging FWA vendors and their products. Today it lists ~200 FWA products from more than 25 vendors globally. The intent is to keep the directory updated with new companies or offerings to enable all those involved in the development (or assessment) of the 4G-5G FWA ecosystem or procurement of the resulting devices to identify potential partners.

The GSA 4G-5G FWA Forum also contributes to public consultations

about National Broadband policies globally. Our latest contribution related to EC's consultation on its White Paper: "How to master Europe's digital infrastructure needs?" and can be downloaded on our webpage (<https://gsacom.com/paper/gsa-fwa-forum-contribution-to-eu-digital-infrastructure-consultation/>). Finally, thanks to the work of the GSA Research team, we are also publishing, twice a year, the 4G-5G FWA Market reports (<https://gsacom.com/paper/fwa-market-june-2024/>) which provide detailed analysis and statistics about FWA services based on LTE or 5G technologies worldwide. Going forward, the GSA 4G-5G FWA Forum will continue to update all these deliverables and will look forward to participating to industry events to further promote the development and adoption of 4G-5G FWA services.

Annual benefits 2024-25

Participation in the GSA 4G-5G FWA Forum is open to all companies involved in the 4G-5G FWA supplier Ecosystem. All GSA 4G-5G FWA Forum companies who are Partners or Members of the forum can participate in FWA Forum activities and programs.

More details can be found on our website - <https://gsacom.com/initiative/fwa-forum/>

Companies interested to join the GSA 4G-5G FWA Forum can contact us at admin@gsacom.com



GSA 4G-5G FWA Forum – 57 members as of September 2024

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Alex Xu
President of Carrier Business
Huawei Middle East & Central Asia

FWA: A Revenue Game-Changer

Since the beginning of 5G commercialization in 2019, more than 50% of the world's 5G operators have put FWA as one of the main services. FWA subscribers are growing strongly. By the end of 2023, the number of global 5G FWA subscribers exceeded 20 million. It is estimated that this number will reach 300 million by the end of 2029. FWA service has contributed 10% of the total revenue for some pioneer operators.

Looking at the global trends, we see three of the latest industry changes:

- In terms of spectrum, more and more operators can obtain a second or a third large-bandwidth TDD spectrums, providing ultra-large bandwidth capabilities for the wireless networks. Currently, some leading operators, such as du UAE, e& UAE, stc Saudi Arabia, and CMCC, have deployed three TDD carrier aggregation (CA) in a large-scale.
- In terms of terminals, 5.5G CPEs supporting 3 Carrier Component-Channel Aggregation (3CC CA)

have been marketed, and high-end CPEs which support it have been mass produced including Brovi, MeiG, T&W. The launch of RedCap CPE makes the price of 5G CPE less than US\$60. According to the GSA report, the terminal ecosystem is booming. 311 CPE models have been released and more than 212 CPE models have been put into commercial use.

- In terms of user requirements, pure connection requirements are shifting to richer applications, such as AIGC, online education, cloud gaming/cloud storage, and home IoT.

Considering the Middle East region, 5G was put into commercial use in 2019, which was among the world's first 5G wave. Operators in the region actively deploy 5G national networks and provision services. Due to their accumulated experience in 4G WTTx, FWA is one of the key services at the beginning of 5G while all GCC operators have put 5G FWA into commercial use. So far, more than 3 million FWA users

Huawei's innovative FWA Service Turbo solution works with CPEs to ensure user experience, such as reducing the latency of cloud gaming services and stabilizing the network speed of video services. This solution surpasses the existing home broadband experience boundary, supports operators to develop scenario-based packages, enriches service contents, and increases business revenue.

have been developed, and this contributes to a result that 5G traffic accounts for more than 50% of the total network traffic. Operators are actively exploring applications such as guaranteed high-speed services

and FWA B2B private lines, attracting a large number of household and enterprise users. FWA has brought huge business returns to the regional operators.

In the Home Market, More Operators are Exploring Scenario-based Packages

Technological progress drives market development. Huawei's innovative FWA Service Turbo solution works with CPEs to ensure user experience, such as reducing the latency of cloud gaming services and stabilizing the network speed of video services. This solution surpasses the existing home broadband experience boundary, supports operators to develop scenario-based packages, enriches service contents, and increases business revenue.

For example, the home wireless service of a UAE operator provides not only basic packages, but also entertainment packages, and gaming packages. The entertainment packages focus on providing free subscription of video streaming and online shopping applications, and the gaming packages provide free subscription of Xbox games. By guaranteeing service experience in different scenarios, differentiated package services are enabled, improving user experience and bringing greater business value to operators.

For another example, a Finnish operator provides FWA packages by adding benefits in different scenarios to improve user experience and ARPU. The FWA packages include differentiated Internet access rates, Mesh-Wi-Fi coverage in the whole house, and multiple OTT content bundles. These services help the operator increase the ARPU by 25%.

FWA Brings Broader Market Prospects to Operators

With the evolution from 5G to 5G-Advanced, FWA are bringing

wider market prospects to operators. We see three aspects:

- Better experience: FWA can provide a higher-speed bandwidth of 500Mbps to 1Gbps and provide guaranteed user experience through end-to-end experience management solution, which is comparable to that of optical fibers.
- Higher cost-effectiveness: 5G Redcap CPE will attract more consumers and accelerate the migration from 4G WTTx to 5G FWA.
- More connections: In addition to connecting home, FWA also can work for connected vehicles, connected things, and connected industries, providing a larger market space.

With more 5G spectrum and upgraded experience management solutions, FWA B2B private lines are further developed, including larger private line bandwidth (from 20 Mbps to 200 Mbps), more provisioning capacity, higher reliability, and lower latency, which enable operators to monetize SLA (Service Level Agreement).

Based on the preceding three aspects and market development, FWA use cases, which are widely used and expanded by operators, are B2B private line and its derivative scenario.

In fact, when 5G was put into commercial use in 2019, some GCC operators were the first to pursue use cases innovation. Kuwait and UAE operators started private line services for small- and medium-sized enterprises through 5G network plus a 5G CPE. The fast provisioning

and deployment solutions quickly gained market popularity. With more 5G spectrum and upgraded experience management solutions, FWA B2B private lines are further developed, including larger private line bandwidth (from 20 Mbps to 200 Mbps), more provisioning capacity, higher reliability, and lower latency, which enable operators to monetize SLA (Service Level Agreement).

The Middle East is especially at the forefront of the exploration and commercial use of 5G private line derivative scenarios, such as 5G CCTV. Smart oil wells in the hinterland of the desert are the first commercial case. A Kuwait operator used 5G networks, 5G CPEs, and common cameras to quickly deploy and roll out the desert oil well security solution, solving the challenge of high optical fiber deployment costs in the desert. This solution has been widely recognized in the Middle East. As 5G-enabled cameras further reduce costs, the solution will be further simplified and commercially available.

Up to now, 90,000 5G FWA B2B private lines have been developed in the Middle East. We see that operators are seeking to add more ICT services and open new space, such as fixed and mobile private line backup to maximize reliability for industry scenario. The ARPU can be increased by 3 to 5 times on the basis of home broadband.

Conclusion

After five years of development, FWA has proved its strong ability to increase revenue for operators. To continuously obtain new opportunities in FWA development, operators are advised to accelerate the acquisition of new TDD spectrums or re-cultivate existing spectrums, build digital platforms and end-to-end experience management capabilities, and continuously incubate and innovate FWA add-on services. 🌐

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Amna Asad
Assistant Manager Corporate
Marketing
CMPak

Zong 4G's Pioneering GCSS Corporate Solutions: Reshaping the Digital Landscape of Pakistan

Since its launch in 2008, Zong 4G, a subsidiary of China Mobile, has established itself as one of Pakistan's leading telecommunications service providers. Known for being the first network to offer 4G LTE services in the country, Zong 4G has consistently set benchmarks in the industry, driving digital innovation and expanding high-speed mobile internet access across Pakistan. Zong 4G is recognized for its robust network infrastructure, customer-centric approach, and cutting-edge solutions that empower individuals and businesses. Over the years, Zong has received numerous awards for its superior service quality, innovation, and contribution to Pakistan's digital landscape.

Zong's Trailblazing Corporate Solutions

In today's fast-paced digital landscape, businesses depend on stable, high-performance internet connectivity to ensure seamless operations and uninterrupted services. Recognizing the diverse and evolving needs of enterprises,

Zong 4G has positioned itself as a key enabler of digital transformation for businesses of all sizes. With a steadfast commitment to nurturing Pakistan's digital ecosystem, Zong 4G consistently delivers innovative, state-of-the-art solutions that empower corporations to thrive in an increasingly connected world. From offering high-speed, reliable internet to providing secure, scalable enterprise solutions, Zong is at the forefront of driving digital growth. Its advanced services are designed to meet the demands of modern businesses, ensuring they stay competitive and future-ready in the ever-changing digital landscape.

Zong's solutions are tailored to enhance operational efficiency, ensure business continuity, and drive digital transformation. The company's offerings, including Dedicated Internet Access (DIA), TurboNet, and Dedicated Private Leased Circuit (DPLC), cater to organizations of all sizes, providing robust internet services that support critical business operations.

Recognizing the diverse and evolving needs of enterprises, Zong 4G has positioned itself as a key enabler of digital transformation for businesses of all sizes. With a steadfast commitment to nurturing Pakistan's digital ecosystem, Zong 4G consistently delivers innovative, state-of-the-art solutions that empower corporations to thrive in an increasingly connected world.

Dedicated Internet Access (DIA)

Zong's Dedicated Internet Access (DIA) is a premium internet service designed specifically for businesses that demand consistent and high-performance connectivity. Unlike shared internet services, where

bandwidth is distributed among multiple users, Zong's DIA offers dedicated bandwidth exclusively for each business.

Businesses benefit from consistent internet speeds that are unaffected by other users' traffic, ensuring optimal performance even during peak usage times. This makes it a perfect solution for operations that require large data transfers, real-time applications, and constant connectivity. Furthermore, Zong's scalability allows businesses to easily adjust their bandwidth requirements as their needs evolve.

Along with 24/7 customer support, Zong ensures any technical issues are quickly resolved. Security is a key focus, with advanced features like firewalls and intrusion detection systems protecting businesses from cyber threats. Zong's customizable solutions allow companies to tailor the service to meet their specific needs, whether for high-speed data transfers or specialized applications. Built-in redundancy and failover options also ensure uninterrupted connectivity, minimizing downtime and ensuring business continuity.

Zong's Dedicated Internet Access (DIA) offers more than just technical advantages. The reliability of Zong's DIA supports business continuity, vital for companies dependent on cloud services or online interactions. With a stable, fast connection, businesses can enhance productivity by avoiding delays common with shared bandwidth. As companies grow, Zong's DIA easily scales to meet expanding demands without disruption. The high-speed, dependable internet also gives businesses a competitive edge, improving communication, customer service, and operational efficiency.

TurboNet

Zong's TurboNet is designed to deliver fast and reliable internet to individuals and small businesses,

ideal for activities like streaming, gaming, and large file transfers. With high-speed connectivity, users can enjoy smooth online experiences, while Zong's extensive network infrastructure ensures broad coverage across both urban and rural areas. This helps bridge the digital divide and ensures reliable access for remote users.

Zong's TurboNet is designed to deliver fast and reliable internet to individuals and small businesses, ideal for activities like streaming, gaming, and large file transfers. With high-speed connectivity, users can enjoy smooth online experiences, while Zong's extensive network infrastructure ensures broad coverage across both urban and rural areas.

TurboNet offers flexible data plans, allowing users to choose packages that match their usage needs and budget. The service is compatible with various devices, including smartphones, tablets, and home routers, providing flexibility in internet access. With affordable pricing and easy activation, TurboNet makes high-speed internet accessible to a wide audience, while Zong's customer support ensures prompt assistance when needed.

Key strengths of TurboNet include its high performance for bandwidth-heavy tasks, wide accessibility, and cost-effectiveness. The service's user-friendly interface and reliable connectivity make it a convenient, dependable option for both personal and small business use. TurboNet stands out as a cost-efficient, high-speed internet solution catering to diverse user needs.

Dedicated Private Leased Circuit (DPLC)

Zong's Dedicated Private Leased Circuit (DPLC) is a specialized connectivity solution designed to provide businesses with secure, reliable, and high-performance private network connections for both domestic and international needs. It ensures consistent internet speed through dedicated bandwidth, significantly reducing the risks of congestion and slowdowns. The DPLC offers a private network link between locations, enhancing security by minimizing the chances of data breaches and unauthorized access.

Key features of Zong's DPLC include high-speed connectivity, customizable bandwidth, and guaranteed uptime and performance. The service also incorporates redundancy options to ensure uninterrupted connectivity during network failures. Scalability allows businesses to adjust their network capacity as their needs evolve, and with 24/7 customer support, any technical issues are promptly addressed. The DPLC's strengths lie in its enhanced security, reliability, and high performance, making it ideal for critical operations. Additionally, Zong's international gateways in Islamabad and Karachi, connected via terrestrial and submarine cables, respectively, provide robust connections to global destinations. These gateways ensure high levels of protection and low latencies, making Zong a preferred choice for businesses requiring comprehensive connectivity solutions.

IP Transit

Zong's IP Transit services provide high-performance, reliable, and secure internet connectivity for businesses of all sizes, with speeds up to 100Gbps. Zong's extensive global network and strategic peering relationships ensure direct access to major internet hubs for seamless communication.

Key benefits include redundant network paths for maximum uptime and advanced security features to protect against DDoS attacks. Designed to be scalable, Zong services offer adjustable bandwidth to meet ever-evolving business needs.

Zong IP Transit is ideal for organizations needing high-speed access, remote workers, or reliable connectivity. The solutions are meant to enhance internet performance and support business growth with flexible bandwidth options.

Dark Fiber Core

Zong provides dark fiber core is tailored for enterprises and carrier customers, enabling seamless inter-city and intra-city connections between branches, data centers, and sites with no bandwidth limitations. Zong's dark fiber solutions comply with ITU-T and international standards, featuring fully maintained,

Zong provides dark fiber core is tailored for enterprises and carrier customers, enabling seamless inter-city and intra-city connections between branches, data centers, and sites with no bandwidth limitations. Zong's dark fiber solutions comply with ITU-T and international standards, featuring fully maintained, buried fiber optic cables for enhanced durability. With dedicated point-to-point connectivity, customers gain complete control to build their own WAN networks.

buried fiber optic cables for enhanced durability. With dedicated point-to-point connectivity, customers gain complete control to build their own WAN networks. We offer robust uptime SLAs—98% for SPUR and 99.5% for Ring—ensuring high availability. Additionally, pricing models are flexible, with high-quality materials, including USA-made fiber and armored cables, thus ensuring optimal performance and reliability.

SD WAN

Zong's SD-WAN solution dynamically utilizes multiple connections, including MPLS, broadband, and LTE, to identify the optimal delivery path for traffic across the network. This technology effectively shapes bandwidth to eliminate jitter and dropped packets, ensuring an optimal user experience no matter the location. With nationwide convergence and 4G and Wi-Fi capabilities, our SD-WAN offers a reliable and flexible connectivity solution.

Key features of Zong's SD-WAN include failover to fixed MPLS, URL-based filtering, and deep packet inspection, which enhance network security and resource optimization. The service virtualizes the network and provides a secure overlay, simplifying service delivery while ensuring interoperability. With cost-effective hardware and automated features, Zong's SD-WAN supports automation and orchestration, resulting in reduced day-to-day operational expenses.

The benefits of Zong's SD-WAN are substantial, offering zero-touch provisioning, a pay-as-you-grow model, and centralized management. It is cloud-ready, allowing for quick security implementations and scalable operations. Whether self-managed or provider-managed, our SD-WAN ensures high security,

compliance, and improved decision-making, making it a highly effective solution for businesses seeking enhanced application performance and connectivity.

Multi-Protocol Label Switching (MPLS)

Zong's Multi-Protocol Label Switching (MPLS) offers secure, packet-based connectivity service designed to enhance network traffic and provide robust branch connectivity. With private VPNs, Zong MPLS enables secure point-to-point and point-to-multipoint communication, making it ideal for businesses that require seamless data exchange, video surveillance, resource sharing, and remote management. This solution supports diverse communication needs, ensuring smooth video conferencing and inter-branch communication across the country.

Key benefits of Zong MPLS include secure data connectivity, cost-effective networking, and scalability to meet evolving business demands. With guaranteed performance and flexible service options, Zong MPLS is tailored to fulfill the specific requirements of enterprises, ensuring a reliable and efficient network experience that supports growth and operational efficiency.

Zong 4G's corporate solutions provide businesses with reliable, secure, and high-performance internet services. Each product is designed to cater to different business needs, offering flexibility, scalability, and dedicated support to ensure seamless operations in an increasingly digital world. Whether it's consistent internet access, high-speed connectivity, or secure private networks, Zong's enterprise solutions empower businesses to thrive and stay competitive. 🌐

OBSERVATIONS BY SAMENA COUNCIL

Ooredoo Kuwait Expanding the FWA Landscape through EHF Bands

With 5G now firmly established across the GCC region, operators are moving beyond deployment to explore diverse use cases and opportunities for network monetization. As focus shifts toward advancing 5G Core networks, the region is on the brink of realizing 5G Standalone (SA) technology—already achieved in much of the Asia Pacific—and looks forward to the arrival of 5G-Advanced by 2025.

Amidst this evolution, Ooredoo Kuwait stands at the forefront of Kuwait's growing mobile broadband market. Earlier this year, Ooredoo successfully completed testing of 5G-Advanced mmWave technology in collaboration with the Communication & Information Technology Regulatory Authority (CITRA), reinforcing its leadership in the sector.

Accelerating 5G Fixed Wireless Access in Kuwait

5G Fixed Wireless Access (FWA) is rapidly gaining momentum in Kuwait as infrastructure improves and customer premises equipment (CPE) advances. As Kuwait's largest telecommunications provider,

Ooredoo has taken significant strides to enhance connectivity for both residential and business users, particularly in areas where traditional fiber networks are challenging to implement.

Leveraging cutting-edge 5G technology, Ooredoo has bolstered its position as a leader in Kuwait's digital transformation, aligning with the country's Vision 2035 goals of economic diversification.

In a key move to further its FWA ambitions, Ooredoo partnered with Nokia to deploy a 5G FWA solution, enhancing broadband connectivity across Kuwait. Central to this effort is Nokia's FastMile 5G Gateway, a self-installable device optimized with Wi-Fi 6 and mesh technology. This innovation delivers high-speed internet to homes and businesses, ensuring wide coverage, enhanced performance, and lower operational costs. These advancements are critical in Ooredoo's mission to extend seamless internet access, even in the most remote areas of Kuwait. Essa Haider, Director of Network Planning and Design at Ooredoo

Kuwait, emphasized, "Fixed broadband is essential for Kuwait's economic growth and diversification. 5G Fixed Wireless Access is a key component of our strategy."

Leveraging cutting-edge 5G technology, Ooredoo has bolstered its position as a leader in Kuwait's digital transformation, aligning with the country's Vision 2035 goals of economic diversification.

Milestone Trials and Future Tests

Earlier this year, as competitors introduced 5G RedCap, Ooredoo successfully completed trials of 5G mmWave (ITU's Extremely High Frequency range) focusing on FWA applications. These trials, conducted with CITRA, demonstrated unprecedented speeds and low-latency performance, paving the way for improved internet experiences in data-heavy activities like online gaming, video conferencing, and immersive applications.

“These trials seamlessly complement the robust infrastructure of our advanced 5.5G network, enabling record-speed data transfer in a live working environment,” Ooredoo Kuwait stated. “This technological leap promises reliable and high-speed connectivity, setting the stage for delivering new services and elevating customer experiences to new heights.”

Following these successful trials, Ooredoo Kuwait has announced plans to conduct further tests in high-demand areas such as ports and stadiums. The company is particularly focused on delivering immersive experiences using augmented reality and providing ultra-high-definition live broadcasting. This dedication highlights Ooredoo’s commitment to delivering innovative solutions to industries that rely on seamless connectivity and real-time data exchange.

Beyond Conventional Use Cases: Exploring New Frontiers

Ooredoo is actively exploring the transformative potential of its 5G FWA technology in unconventional applications. A key focus is on port automation, where real-time communication between autonomous vehicles, drones, and control systems could optimize efficiency and security in maritime operations. This aligns with Kuwait’s Vision 2035 strategy, which aims to position the country as a global hub for trade and investment. Ooredoo’s ‘Upgrade Your World’ campaign further demonstrates its commitment to redefining customer experiences by utilizing the latest in wireless technology to enhance internet access and digital services across various sectors.

Driving Kuwait’s Digital Evolution

By focusing on high-quality, reliable connectivity, Ooredoo is playing a pivotal role in Kuwait’s digital evolution. The company’s efforts are boosting the local economy

while fostering innovation across key industries, including healthcare, education, and logistics.

SAMENA Council Insights

The SAMENA Council notes that while the global mmWave market is growing gradually, with estimates forecasting a market cap of nearly \$8 billion in the next five years, much remains to be explored within the SA-ME-NA region regarding mmWave properties, applications, and use cases. Presently, only three regions—Asia Pacific, North America, and Europe—are actively focusing on mmWave deployments. Key applications, in addition to those aimed at consumers, are likely to emerge in aerospace and defense industries.

Moreover, mmWave offers a high-capacity wireless backhaul solution,

enabling faster data transfer between base stations and the core network. This is crucial for supporting the vast data traffic generated by home broadband solutions, virtual reality (VR), and the Internet of Things (IoT).

The SAMENA Council further observes that innovation will be necessary to balance mmWave’s range, transmission power, and carbon footprint. From an FWA perspective, mmWave’s enhanced bandwidth and capacity, compared to lower frequency bands, promise a superior digital experience, especially in densely populated areas where bandwidth is shared. FWA utilizing mmWave holds the potential for greater responsiveness, a truly seamless digital experience, and scalability to accommodate future FWA applications in Kuwait. 🌐

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5G to Account for Significant Percentage of All FWA CPE Shipments

New research from the Global Mobile Suppliers Association has found that 5G will account for 42% of all fixed wireless access customer premise equipment shipped this year.

That proportion is up from 34% last year, suggesting 5G is set to become the majority FWA CPE technology next year, especially as the GSA also found that 4G FWA CPE shipments fell 5% between 2022 and 2023. These numbers should be taken with a small pinch of salt, however, since in the equivalent report last year the GSA forecast 5G would account for 40% of the FWA CPE market last year, a number it has since significantly revised downward.

"This year's Fixed Wireless Access CPE market survey proves beyond doubt that 5G FWA has hit the mainstream," said John Yazlle, Vice-Chairman of the GSA 4G/5G FWA Forum. "Not only has the growth in vendor shipments swung firmly behind 5G-enabled CPE devices, but operators are turning to FWA as the key driver for monetising their 5G network investments.

"We see operators and vendors continue to work hand-in-hand on new innovations such as 5G standalone, Redcap, millimetre-wave and flexible self-install outdoor CPEs that will support the growth acceleration of 5G fixed wireless access services globally."

The overall market continues to grow



steadily, without ever quite exploding. Based on this survey, the GSA now reckons shipments of FWA CPE are expected to grow 23% to reach 37.5 million units this year. Furthermore, the geographic distribution is widening, with all global regions now well represented and India being especially 5G-centric. Millimetre wave remains very much a minority spectrum technology, accounting for under 10% of all 5G FWA CPE shipments.

"The purpose of the GSA 4G/5G FWA Forum is to bring together the FWA ecosystem and educate the industry about the FWA market as currently there is a lack of market definition and consensus on the volume of FWA

device shipments and installed base," said Julien Grivolos, Chairman of the GSA 4G/5G FWA Forum. "This unique survey plays an important role in providing facts and insights into the true state of the fixed wireless access market and how it is evolving and growing globally."

It's hard to anticipate the market size ceiling for FWA. On one hand it's a great alternative broadband technology for anywhere that lacks fixed-line infrastructure. On the other, wireless speeds and capacity will never come close to that offered by fibre, so it's hard to see any demand for FWA anywhere that fibre is an option. 📶

FWA Usage Rockets in Australia

The number of Australians using fixed wireless for home broadband has almost doubled in the past two years, according to new data from the country's competition regulator.

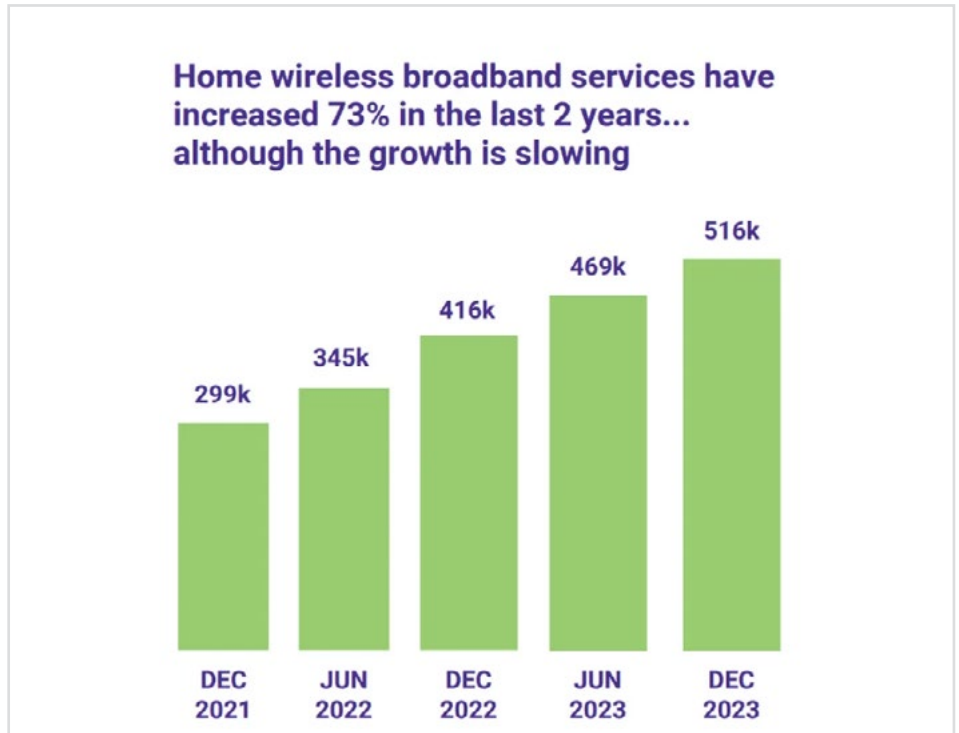
There were more than half a million wireless home broadband users in Australia at the end of last year, the Australian Competition and Consumer Commission stated in its latest annual Internet activity report, published on Thursday.

That might sound like a fairly small number, but it's a reasonable – and growing – proportion of the country's 8.5 million retail broadband Internet connections at the same date.

Specifically, there were 510,000 FWA connections provided by mobile network operators at end-2023, an increase of 47,000 over six months and an increase of 73% since the regulator started collecting data on the technology in December 2021; at that point there were 299,000 home wireless broadband services.

Clearly keen to avoid too much FWA hype, the ACCC notes that while growth has been rapid, it is now slowing, but it is worth pointing out that six monthly net adds have hovered at around the 50K mark for the entirety of the reporting period, aside from the second half of 2022 when they came in at 71,000 (see chart below).

Interestingly, data usage over those FWA services is also growing rapidly. FWA clocked up an average of 456 gigabytes per service, per month in this latest report, which represents an increase of 61% over a year. In December 2022 FWA services consumed less than two thirds of the amount of data used by high-speed broadband services provided via the NBN; now the gap has closed significantly, with NBN services averaging only around 9% more usage.



As the ACCC puts it, "the average download per home wireless broadband service has recently become similar to the average for NBN and non-NBN fibre services."


The regulator's report shows a thriving FWA market in Australia. However, data from elsewhere paints a slightly different picture, highlighting some of the disadvantages of fixed wireless.

In June analytics company Opensignal published its latest findings on broadband experience in Australia and essentially concluded that FWA users get a much poorer service than those on fibre.

"Our users in Australia have, on average, a far superior broadband experience when using fibre compared to Fixed Wireless Access (FWA)," Opensignal said. It backed up that statement by sharing that 82% of tests on fibre broadband pass its quality thresholds, compared with just 68% for FWA.

Furthermore, fibre users generally have a 'very good' experience with on-demand video streaming services, while FWA users are on average looking at 'good.' And while fibre users have a stable experience throughout the day, FWA users experience significant congestion-related declines, especially in the afternoon.

In rural areas, fibre users experience much the same service as they do in urban areas, but that is not the case for FWA. In terms of consistent quality, the experience gap between fibre and FWA comes in at 25 percentage points, compared with 12 points in non-rural areas and on video experience the difference is similar; 12 points compared with six.

Essentially, there are various reasons why an Australian household might choose a FWA service over fibre or another fixed broadband technology, and the ACCC's data shows that many are indeed doing that. But there's a good chance the service will not be as good as a fibre connection. 

CPE Innovations and a Growing Addressable Market Drive 5G FWA CPE Shipments to 37 Million by 2029

The 5G network roll-out for Mobile Network Operators (MNOs) continues to progress, and Fixed Wireless Access (FWA) has been a masterstroke for network monetization. This has made growing their total FWA connections for consumer and enterprise markets a key strategy for Mobile Network Operators (MNOs). According to global technology intelligence firm ABI Research, 5G FWA Customer Premises Equipment (CPE) shipments will increase from 10.7 million in 2023 to 36.8 million in 2029 at a Compound Annual Growth Rate of 22.9%.

"The U.S. market has been a great success story for 5G FWA. All three major MNOs are on track to hit their targets for total FWA connections, achieved by serving customers with a multi-vendor portfolio of CPEs for their varying requirements," explains Larbi Belkhit, Industry Analyst at ABI Research. "Traction for this technology is picking up globally, with India's Reliance Jio aiming to serve 100 million residential and enterprise connections through 5G FWA. In fact, most major service providers worldwide are triumphantly growing their FWA connections."

Innovations within the 5G CPEs are being unveiled, not just proof of concept but also commercial solutions. At Mobile World Congress (MWC) 2024 in Barcelona, stc Kuwait, in partnership with Huawei, unveiled the commercial deployment of 5G RedCap FWA, module vendors MeiG and Fibocom separately showcased their latest

RedCap modules, and Tozed Kangwei presented a RedCap CPE. At the same show, ZTE unveiled the industry's first AI-enabled 5G CPE for better bandwidth utilization and Nokia unveiled its latest innovations with 5G mmWave indoor and outdoor CPEs.

Furthermore, enterprise FWA announcements have also gained traction in 2024, especially in the U.S. market as MNOs diversify their offerings, with Askey and Cisco added to AT&T's Business Service, and Cradlepoint added to T-Mobile's Connected Workplace service.

"The enterprise market, especially Small to Medium-Sized Businesses (SMBs), is a fast-growing opportunity for FWA, especially in the US. The faster deployment and scalability it offers makes it particularly attractive for SMBs, but they have more nuanced requirements than simply

just performance and price, so CPE vendors diversifying offerings to serve this market is key to success," Belkhit concludes.

These findings are from ABI Research's 5G FWA CPE: Market Dynamics, Innovations, and Long-Term Trends report. This report is part of the company's 5G, 6G & Open RAN research service, which includes research, data, and ABI Insights.

About ABI Research

ABI Research is a global technology intelligence firm uniquely positioned at the intersection of technology solution providers and end-market companies. We serve as the bridge that seamlessly connects these two segments by providing exclusive research and expert guidance to drive successful technology implementations and deliver strategies proven to attract and retain customers. 



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Brisanet Launches 5G FWA Services in Northeast Brazil

Brazilian telecommunications provider Brisanet has launched its 5G fixed-wireless access (FWA) service in 76 cities across the Northeast region of Brazil. The country's second-largest ISP officially launched its FWA service during the 5G service launch ceremony in Ceara's capital, Fortaleza, with Huawei as its main network supplier, according to a Bnamericas report.

Brisanet's 5G network is already installed and currently covers around 80 percent of Ceara's territory, with a goal of reaching 95 percent coverage by the end of 2024.

The company obtained regional licenses for 5G in the 2021 auction, making it a new entrant in the mobile market with the goal of challenging the leadership of national mobile carriers in the country's northeast



region. According to the report, Brisanet plans to invest USD 176 million in its 5G operations in Ceara.

On its website, Brisanet claims its FWA 5G service is the best residential Internet in the Northeast. The telco has also launched a limited-time offer valid until August 31, where customers can enjoy 5G FWA Internet service bundled with 500GB of data and a Wi-Fi 6 device for BRL 129.99 per month for 12 months.

The telco states that its FWA equipment is easy to use without the need for cables or wall modifications. The FWA device comes preconfigured and ready to use.

According to Brisanet's latest operational data, the company had over 128,000 mobile customers as of the end of June. The mobile network is present in 115 municipalities in the state. 🌐

Tata Elxsi Delivers World's First RDK-B Integration on Qualcomm 5G Fixed Wireless Access Platform

Tata Elxsi, a global leader in design and technology services, announced the successful integration of the RDK-B software stack with the Qualcomm® 5G FWA Gen 3 Platform. This first of its kind integration opens a new pathway for operators to deliver fast, reliable, and scalable high-speed FWA solutions. Integration of the RDK-B middleware includes key features such as Wi-Fi 6 connectivity, packet statistics, and advanced security options, ensuring the platform is versatile and can be deployed in both indoor and outdoor environments. Operators can now deliver value-added services like Quality of Service (QoS), band steering, parental control, and VPN, enhancing the overall broadband experience.

Gautam Sheoran - VP and GM, Wireless Broadband and Communi-

cations at Qualcomm Technologies, Inc. stated: "We are proud to collaborate closely with Tata Elxsi, who has leveraged their considerable expertise to port the RDK-B stack to our 5G FWA Gen 3 Platform, featuring the Snapdragon® X75 Modem-RF System. This critical step empowers operators to accelerate time-to-market, deliver high performance FWA solutions, and reduce development efforts as they deploy powerful new FWA CPE solutions. We look forward, through continued collaboration with Tata Elxsi, to expanding our engagement with the broader RDK community, giving operators more choices and flexibility in deploying state-of-the-art solutions."

Priya S Kumar – Head, Media and Communications at Tata Elxsi, stated: "This integration broadens the RDK ecosystem and silicon diversity, which

has traditionally centered on wired technologies like DOCSIS and Fiber-to-the-Home (FTTH). By incorporating RDK-B into the cellular-managed WAN space, Tata Elxsi is excited to collaborate in positioning the Snapdragon X75 platform as a future-ready solution for high-performance broadband applications. Tata Elxsi's continuous commitment to the RDK ecosystem enables SoC's, OEMs and operators to rapidly innovate and scale, addressing the demands of next-generation broadband technologies."

Looking ahead, Tata Elxsi will upgrade the platform to include next-generation features such as Wi-Fi 7. This upgrade will further enhance FWA devices, offering operators more flexible, scalable, and cost-effective solutions setting the stage for the next generation of wireless innovation. 🌐

Nokia Expands its FWA Portfolio with New 5G Devices for North American Market

Nokia announced that it is adding a new 5G Fixed Wireless Access outdoor receiver and indoor gateway with Wi-Fi 7 to its growing portfolio of FWA broadband access products. Designed to meet the unique demands of the North American region, the new solutions support a broad range of 4G and 5G bands, including Citizens Broadband Radio Service (CBRS). The solution provides a real opportunity to close connectivity gaps that still exist in many parts of North America.

Nokia's expanded portfolio helps advance 5G FWA services in North America, ensuring operators can easily connect consumers across rural, suburban, and urban environments. The new Nokia FastMile 5G receiver features high-gain antennas (up to 10 dBi) in a compact design that can be self-installed by the consumer on the outside of a window, wall, balcony, or pole. With 4 carrier aggregation and up to 300MHz of bandwidth, the 5G receiver maximizes throughput in locations where signals may be weak.

Nokia's new FastMile indoor 5G

Gateway 12 drastically improves capacity and coverage by up to 35 percent using high gain antennas (up to 8 dBi) and 8 receiver antennas. The gateway comes with up to 200MHz of spectrum support to enable high-speed broadband access over the 5G network. It also utilizes tri-band Wi-Fi 7 to extend 5G speeds throughout the home. The FastMile 5G Gateway 12 is powered by Nokia's Corteca software, which supports value-added applications embedded in the device, cloud-based Wi-Fi optimization, 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 Nokia FWA receiver and gateway.

Dirk Verhaegen, VP of Broadband Devices at Nokia, said: "Using Fixed Wireless Access to connect end customers to fast internet access requires more than just one type of device. Nokia's FastMile solutions provide operators with options,

bringing fast, reliable broadband to people no matter where they live—whether it's in bustling cities, quiet suburbs, or even remote rural areas."

Jaimie Lenderman, Research Manager and Principal Analyst at Omdia, said: "The number of Fixed Wireless Access (FWA) subscribers in North America is projected to increase from 11.6 million in 2023 to 25 million by 2028. This growth is driven by the considerable advantages FWA offers in terms of cost-efficiency and rapid deployment, especially where wireline solutions are less feasible. However, challenges such as signal interference, limited range, and reliance on line-of-sight conditions still impact the widespread adoption of FWA by operators. Innovations like Nokia's FastMile gateway solution are mitigating these issues, enabling operators to deliver high-speed FWA broadband services to users regardless of their location."

The new Nokia 5G FWA receiver and gateway will be available in Q3 2024. Both join Nokia's comprehensive portfolio of customer premise equipment which includes 4G and 5G receivers and gateways for outdoor and indoor use.



Nokia 5G FWA receiver details

High Gain Antenna up to 10dBi
Bandwidth aggregation up to 300MHz
2.5GE LAN port, TR-069 & TR-369 support

Nokia 5G FWA gateway with Wi-Fi 7 details

High Gain Antenna up to 8dBi
Bandwidth aggregation up to 200MHz
8 Rx antennas

Resources and additional information

Webpage: [5G Gateway 12](#)
Webpage: [5G Receiver 5G16-B](#)

Zain KSA and Huawei Revolutionize Connectivity in Saudi Arabia with Advanced FWA Solutions

Saudi Vision 2030 is an ambitious plan aimed at empowering small and mid-sized enterprises while enhancing the quality of life for Saudi citizens. A key pillar of this vision is the provision of high-quality broadband access across the Kingdom.

Traditionally, optical fiber deployment in Saudi Arabia faced challenges due to the extreme heat, often exceeding 50°C in the summer. To overcome this, Zain KSA adopted 5G Fixed Wireless Access (FWA) for home users and small businesses. FWA requires only a Customer Premise Equipment (CPE) device to convert 5G signals into high-performance Wi-Fi.

Since its introduction, FWA has seen remarkable success among Zain's Saudi users, with usage doubling annually since 2020. Currently, 10% of FWA users connect up to 10 devices per CPE, leveraging new services such as Extended Reality (XR), gaming, and IoT. By 2025, it is anticipated that

customers will require an estimated 500Mbps to fully support these services.

To meet the evolving demands of its users, Zain KSA, in collaboration with Huawei, developed the FWA² solution tailored for three distinct user segments.

The first segment, home users, benefits from the FWA Pro solution. This innovative networking model combines a single wireless CPE with a single fiber per room to support multiple applications. Its deployment features extremely large antenna arrays (ELAAs), carrier aggregation technologies, and high-performance 5G CPEs. The solution ensures a stable ultra-high downlink speed of over 300Mbps and latency under 10ms, supporting 8K video streaming, large-scale cloud gaming, home security monitoring, and VR sports for multiple concurrent users.

The second segment, users without home broadband or those requiring a lower-speed network, is served by Zain KSA's new FWA Lite solution. Utilizing RedCap CPEs, this solution offers downlink rates of up to 150Mbps, providing a 30% better user experience than 4G WTTx, while consuming 50% less power than standard 5G CPEs. Zain KSA plans to migrate 4G WTTx users to 5G FWA this year, with the solution also ideal for extending home broadband to unconnected regions in the Gulf.

The third segment, business users such as retail outlets, warehouses, and banks undergoing digital transformation, is targeted by the new FWA Business Solution. This solution is designed to expand the super uplink service market for SMEs, offering deterministic assurance with 5.5G high-bandwidth private lines. It guarantees uplink rates between 50Mbps and 1Gbps, with latency under 20ms and 99.99% reliability. 🌐



5G FWA Routers Expected to Represent 42 Percent of Total Shipments in 2024

According to the GSA's 4G-5G Fixed Wireless Access Forum, 5G-enabled fixed wireless access (FWA) consumer premises equipment (CPE) shipments are expected to account for 42 per cent of all FWA CPE shipments in 2024, up from 34 per cent in 2023.

In 2023, shipments of 5G-enabled fixed wireless access (FWA) reached 10.2 million units, while 4G FWA CPE shipments declined by 5 per cent compared to the previous year. Further, the survey highlighted that, innovations such as 5G standalone (SA), reduced capability (RedCap), millimeter-wave (mmWave), and self-install outdoor CPEs will drive the global growth of 5G FWA services.

Furthermore, according to the GSA, FWA CPE shipments are expected to grow by 23 per cent in 2024, reaching 37.5 million units, up from 30.4 million in 2023, which marked a 2 per cent increase from 2022. India is significantly contributing to the rise in 5G FWA shipments, with 86 per cent of these shipments being 5G-enabled, followed by North America at 65 per cent and the rest of Asia-Pacific at 39 per cent. In India, Reliance Jio and Bharti Airtel are actively offering 5G

fixed broadband services to consumers and enterprises, aiming to

monetise their fifth-generation networks. [🔗](#)



FWA Could Boost UK Economy to the Tune of £4bn – Report



The UK Wireless Internet Service Providers Association (UKWISPA) has called on the government to consider more widespread use of fixed wireless access (FWA) to meet its Project Gigabit targets.

A report carried out on the lobby group's behalf by Intelligens Consulting claims that the country could reap up to £4 billion worth of economic benefits from the technology.

The figure can be broken down into £1 billion of savings from rolling out connectivity faster and more cost-effectively, and generating £3 billion from rural and remote households signing up to FWA services.

Under Project Gigabit, the government has doled out more than £1 billion from a total budget of £5 billion to extend gigabit-capable broadband to unserved areas. It's going pretty well so far – gigabit broadband coverage reached 81% in January, and is on track to hit the government's target of 85% by 2025.

However, UKWISPA's report suggests that the government has to date

put too heavy an emphasis on fibre, without considering the benefits of alternative technologies, namely FWA.

Going wireless promises to extend the benefits of high-speed broadband more rapidly and cost-effectively than fixed, UKWISPA said, delivering instantaneous connectivity, especially in hard-to-reach areas.

While UKWISPA concedes that current FWA services do not deliver gigabit speeds, it argues that such is the pace of technological development that this won't necessarily always be the case.

"This report highlights the huge role of FWA alongside fibre in achieving the UK's ambitions to provide comprehensive access to gigabit broadband connectivity," said UKWISPA chairman David Burns. "Not only can roll-out be accelerated, but both urban and rural locations can get their enhanced connectivity sooner, and at less cost."

Ericsson's most recent Mobility Report revealed that there are 130 million FWA connections worldwide, and that 128 telcos have launched services, up

from around 100 in April 2023.

Stats coming out of Australia last month revealed that the number of FWA users has almost doubled over the past two years to 510,000 as of the end of 2023.


And just last week, Odido saw fit to launch the Netherlands' first FWA service, despite the fact that the country has one of the most extensive fibre footprints in Europe.

UKWISPA, which advocates on behalf of FWA providers, understandably wants the technology to thrive in the UK as well, and has made five policy recommendations for the government to consider.

They include ensuring that FWA is considered alongside fixed broadband tech when the government plans future market interventions, and recognising that FWA as a competitor to fibre can put downward pressure on prices for end users.

UKWISPA also wants the government to ensure fair spectrum allocation for wireless broadband providers, and consider dedicated FWA spectrum channels.

Furthermore, the lobby group has called on the government to make it easier for smaller providers to sell services to the public sector.

"UK infrastructure investors, the DSIT (Department for Science, Innovation and Technology), Ofcom and BDUK (Broadband Delivery UK) are all slowly realising the untapped potential that FWA has in accelerating gigabit Internet rollout, and the advantages when built alongside fibre networks," Burns said. "This report sets out key areas and policy directions that can maximise this opportunity for the UK." 

GCT Semiconductor and Global Supplier Partner on 5G FWA Technology

GCT Semiconductor Holding has announced the execution of a memorandum of understanding (MOU) with a tier one worldwide infrastructure and terminal provider (the Tier One Supplier) to collaborate on the development of Fixed Wireless Access (FWA) technology using GCT's 5G solutions including modem chipset and RFIC. The Company expects to close a definitive agreement before the end of 2024.

The MOU extends GCT's existing relationship with this Tier One Supplier to include 5G chipsets, and collaboration on developing unique performance-enhancing features for



FWA devices. The Company expects the launch of FWA devices related to

this activity to commence in the second half of 2025. [🔗](#)

Odido to Launch 5G Fixed Wireless Access Service in Netherlands

Dutch operator Odido announced plans to launch fixed wireless access (FWA) over its 5G network, which it describes as a full-fledged new choice for fixed internet. The new high-speed internet service, named Klik&Klaar Internet, will enable Odido users to enjoy the benefits of wireless connectivity nationwide. This announcement follows Odido's national rollout of 3.5 GHz band spectrum.

The Odido FWA solution will be available to nearly 20,000 addresses in the Netherlands where fiber-optic network is not available or being installed. Leveraging recently acquired 3.5 GHz frequencies, Klik&Klaar Internet promises speeds up to 300 Mbps, even in areas where fiber optic isn't available.

The operator highlighted that the 3.5 GHz band allows for higher mobile speeds, enabling customers to benefit

from high-speed internet service. Odido already offers coverage of 75 to 80 percent of the Netherlands. By the end of this year, all of Odido's antennas throughout the Netherlands will be ready to use the 3.5 GHz frequency. With FWA, users will no longer depend on fixed internet connections or local providers. The service, featuring a plug-and-play modem and an easy installation app, will be available this later this year. [🔗](#)

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