FWA business opportunities to close the digital divide

Fixed Wireless Access handbook 2026

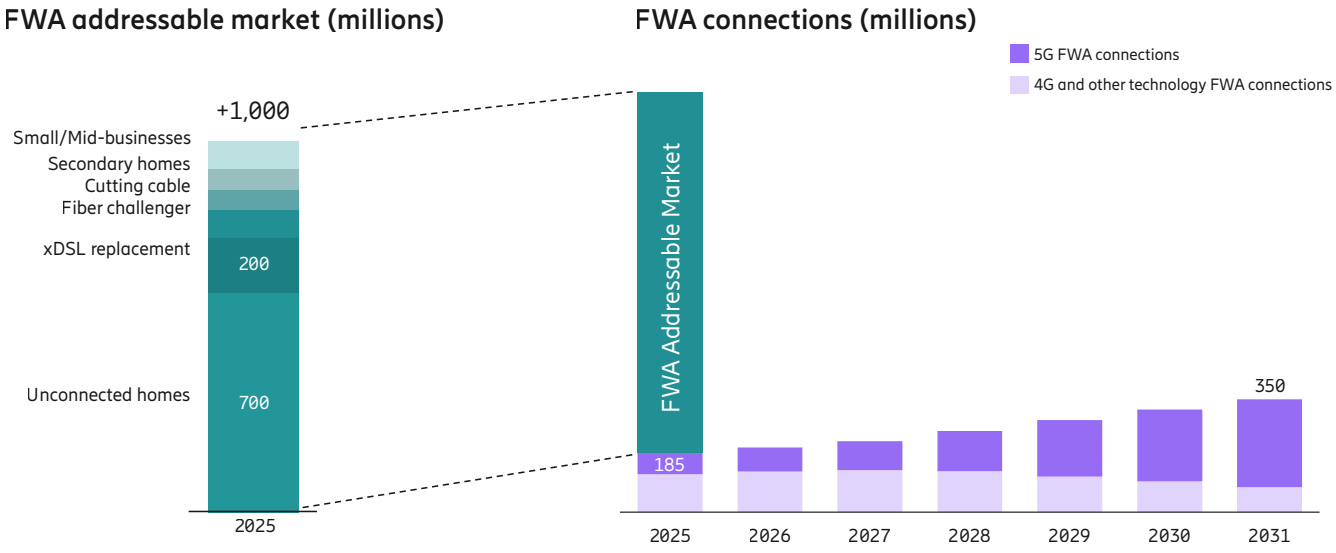
ERICSSON

150 years

Insight

4 of 9

Six opportunities for addressing ~1 billion digital divide premises



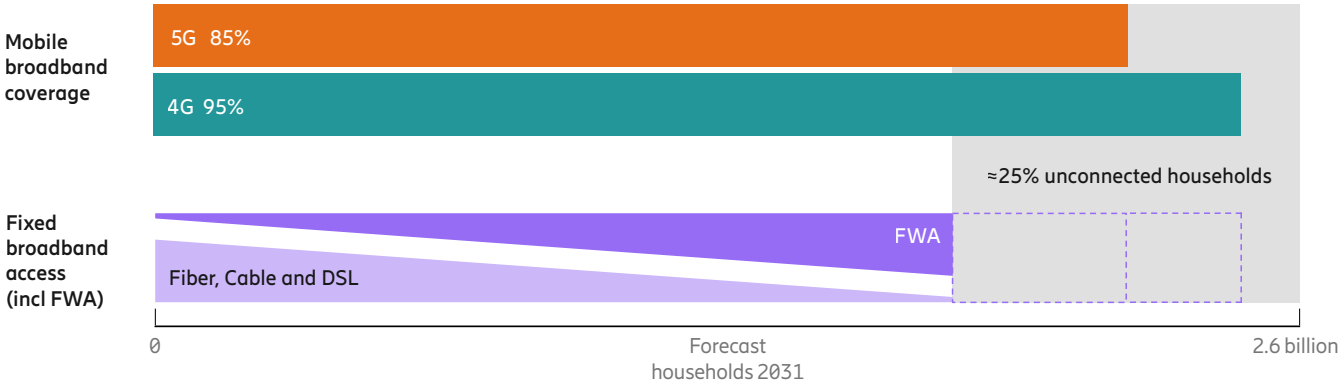
Despite the global broadband landscape continuing to expand, more than 1 billion premises remain unconnected or underserved, representing a potential addressable market for FWA.

1. **Unconnected:** out of the 2.4 billion households globally in 2025, there are over 700 million that are still unconnected, lacking fixed broadband connectivity. Many of these households are covered today with LTE and, in the near future, with 5G.
2. **xDSL replacement:** there are around 200 million xDSL connections in 2025 (TechInsights), with limitations of speed and future proofness, and many service providers have already started to discontinue these services. FWA is an efficient and scalable alternative to wired connections, particularly in less densely populated areas.
3. **Fiber challenger:** given the high upfront investments for fiber roll-out, there are various locations with only one provider. Some operators utilize 5G FWA as cost efficient and fast alternative to bring competition to these markets.
4. **Cutting cable:** an opportunity driven by three trends. First, some operators targeting legacy cable areas with high speed FWA offerings. Another approach it is to target cable users with cheaper offers and/or broadband-only offerings, as many consumers prefer to access content such as streaming services over the top. Lastly, FWA can provide a competitive alternative in locations where cable is the only broadband option.
5. **Secondary homes:** as many people want broadband connectivity for leisure and/or work at their vacation/ holiday homes. Sweden has over 600,000 cottages (around 12 percent of permanent homes) and the US has more than 4 million recreational homes (US census).
6. **Small and medium businesses:** connectivity plays an important role for enterprises and FWA can address primarily connectivity-only solutions for medium and small premises.

Source: TechInsights and Ericsson Mobility Report (Nov. 2025)

Broadband households by 2031

The chart shows a forecast of how household broadband needs will be met by a variety of technologies in 2031.



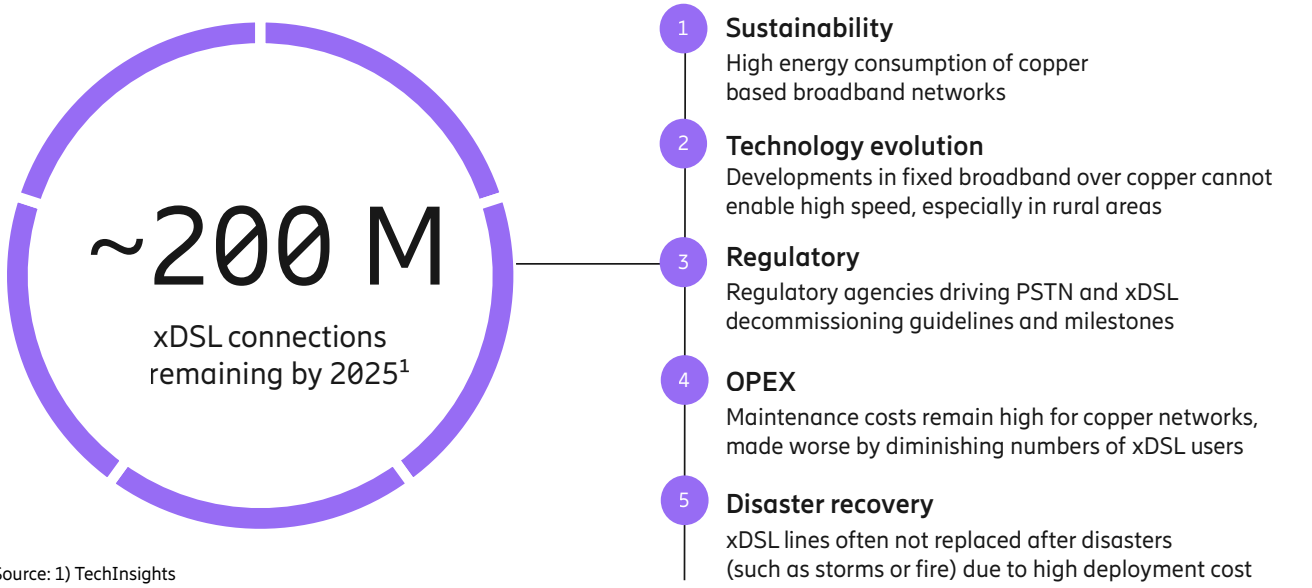
3GPP technologies are forecast to have huge population and household coverage by 2031. For instance, LTE is forecast to reach over 95 percent population and household coverage, while 5G is expected to cover around 85 percent of the world's population by 2031 (Ericsson, 2025). The huge potential household coverage creates a great opportunity for mobile operators to deliver FWA services on top of their existing MBB offerings.

When it comes to fixed broadband, including FWA, approximately 75 percent of all households are forecast to have a copper, cable, fiber or FWA connection in 2031. In many markets, it's not economically viable to build such broadband infrastructure much further. The forecast of 350 million FWA connections by the end of 2031 represents over one billion individuals having access to broadband over a wireless connection. Based on ITU data, we estimate that around 25 percent of households will still be unconnected in 2031.

Source: Ericsson Mobility Report (Nov. 2025)

FWA playing a key role in xDSL replacement

There are several reasons FWA is of growing interest as a DSL replacement.



Source: 1) TechInsights

First, even with developments to increase the broadband speeds offered by copper-based networks, speeds are reduced as the distance between the home and the first aggregation point increases. As a result, these networks need to be upgraded. FWA offers a very effective DSL replacement, especially in areas with low household density (such as rural areas), where fiber build-out is costly.

Second, most incumbent operators around the world have plans for decommissioning the existing legacy copper networks. For instance, GSMA reported that as of 2Q2025 there are about 60 countries with DSL decommissioning plans, with more than half in Europe. Some markets like Singapore, Spain and Norway have already achieved 100 percent decommissioning of their legacy copper networks. Other markets like Australia, Denmark, France and the USA, among others, have active programs in place to accelerate copper decommissioning. Some of these markets are driven by regulatory conditions, while others are driven by economic conditions, as maintenance and operational costs remain stable while the number of copper-based subscribers falls steadily. In addition to OPEX savings, shut down of copper networks can release capital of real estate facilities with copper network exchanges. For example, Telefonica Spain had 8,000 exchanges and it closed the last 661 exchanges in 2025 after a decade long shut down process.

Third, some service providers are not replacing copper networks after damage caused by disasters such as storms, fires, floods and earthquakes. It is increasingly common for service providers to rebuild these networks with newer technologies such as fiber and FWA.

Last, decommissioning of copper-based networks is likely the largest sustainability opportunity for fixed broadband operators. As the energy consumption of xDSL based networks is very high, decommissioning with efficient technologies is a key part of sustainability initiatives.

AT&Ts legacy copper transition

AT&T announced that it will no longer provide copper-based services across the large majority of its footprint by the end of 2029. The company has made solid progress in its efforts to modernize its networks and ultimately provide customers with newer services like AT&T Fiber, AT&T Internet Air, AT&T Phone – Advanced, and AT&T Wireless:

- **AT&T Fiber:** America's largest fiber builder (plans to reach 60M+ by 2030)
- **AT&T Internet Air:** Up to ~25X faster speeds than legacy copper DSL
- **AT&T Phone Advanced:** FCC approved as a replacement for copper-based landlines. Works like a traditional landline. Customers can keep their same device and phone number.
- **AT&T Wireless:** Covers 99% of U.S. population

AT&T's strategic transition away from legacy copper-based networks is both a business and customer imperative, as copper networks are increasingly inefficient and no longer capable of meeting rising customer demands for speed, reliability, and always-on connectivity.

AT&T is following a geographically sequenced approach that balances customer experience, network economics, and operational efficiency. For Wireless First areas it targets to exit copper services by end of 2027, offering customers a better experience with mobility and Fixed Wireless solutions. No residential fiber is planned for these locations but it may still have fiber supporting business or cell sites. For Fiber First areas it targets to exit copper services by end of 2029, noting that not every customer will be reached by fiber, and some will be served with wireless alternatives. Importantly, AT&T has committed that no customer will lose access to voice or emergency services during the transition.

Overall, AT&T's network modernization present a clear, credible roadmap for copper exit—one that frees up capital and energy resources, improves customer outcomes, and accelerates the industry's move toward modern, scalable network infrastructure.

> "The copper network is very inefficient. This transition is going to free up a significant portion of energy that we can then put into better use..."
>
> Susan Johnson,
> Senior Executive Vice President of Transformation & Supply Chain, AT&T

Geographic approach for copper transition

Exit Wireless First areas first by 2027

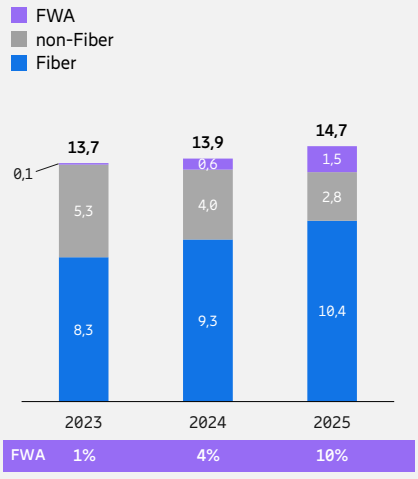
- 50% of land area, 10% of population
- Offering customers a better experience with mobility and fixed wireless solutions
- No residential fiber. May still have fiber supporting business or cell sites.
- No customers using copper-based services in these areas by end of 2027.*

Exit Fiber First areas next by 2029

- 50% of land area, 90% of population
- Not every customer will be reached by fiber, and some will be served with wireless alternatives.
- No customers using copper-based services in these areas by end of 2029.*

*Excludes California

AT&T: FWA connections growth



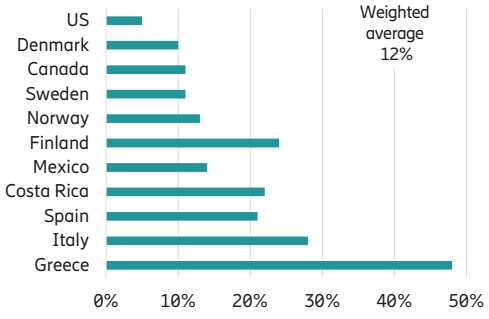
Source: AT&T Investor Day 2024 and quarterly reports.

Secondary homes as a significant opportunity

Expand the market:

5-48% more premises to be connected, in addition of primary homes

Secondary homes as % of primary homes



Rationale for reliable internet in secondary homes

Digital lifestyle leveraging connectivity to a large array of activities

- **Digital entertainment** – seamless streaming, gaming, and online content for all family members
- **Workcation** – support remote work during vacations, combining productivity with leisure
- **Short-term rental** – key search requirement and poor internet is a major source of complaint (e.g., Airbnb recommends +50Mbps)

Smart home and remote management for convenience and automation

- **Remote energy management** – control heating, cooling, and appliances from anywhere, optimizing energy use and costs
- **Enhanced security and surveillance** – smart alarms and cameras for safety, potentially lowering insurance premiums.

Secondary homes represent an often-underestimated growth opportunity for FWA, particularly in tourism-intensive economies and markets with a high share of seasonal housing. Beyond primary residences, this segment materially expands the broadband addressable market.

By including secondary homes alongside primary homes, operators can increase the number of connectable premises by approximately 5 to 48 percent, depending on the country. This is not a marginal uplift. In several markets, secondary homes account for a double-digit share of the housing stock, enabling meaningful expansion without relying on population growth or new household formation.

Across countries such as the United States, the Nordics, Southern Europe, and selected tourism-driven economies, secondary homes form a structurally important part of the housing landscape. In markets like Italy, Spain, Greece, and parts of Northern Europe, these homes are a permanent feature of the real-estate stock rather than a niche category. While usage is often seasonal or intermittent, expectations around connectivity increasingly mirror those of primary residences, driven by digital lifestyles, remote work, and rental demand.

The underlying analysis is based primarily on data from national statistical institutes, complemented by Eurostat and North American housing authorities. Although definitions of secondary homes vary by country, the overall conclusion is consistent: secondary homes represent a large and under-served pool of premises that traditional fixed broadband models struggle to address efficiently.

This structural gap strongly favors FWA. Fiber and cable networks are optimized for year-round, high-utilization households and rely on cost structures that are largely fixed, including wholesale access fees, MDU charges, and long installation cycles. Secondary homes, by contrast, tend to have lower utilization and irregular occupancy, making these cost models inefficient. FWA's lower cost to serve, rapid activation, and independence from in-building wiring make it inherently better aligned with the economics of secondary housing.

Reliable internet access in secondary homes is no longer optional. Digital entertainment, workcation use cases, and short-term rentals all depend on stable connectivity. Platforms such as Airbnb explicitly highlight internet quality as a key search criterion, and poor connectivity is a frequent driver of negative guest reviews. In addition, connectivity enables remote energy management, security, and smart-home functionality, which are particularly valuable when properties are unoccupied for extended periods.

Overall, secondary homes should be viewed as a distinct broadband segment where FWA holds a natural economic and operational advantage, enabling operators to drive incremental growth even in markets with already high levels of fiber coverage.

Source: ISTAT, ANSA, ELSTAT, INE, INEGI, INEC, SCB, SSB, Statistikcentralen, Nordregio, DST, U.S. Census Bureau, Statistics Canada, CMHC, NAHB, Eurostat

Opportunity to close the digital divide for businesses

Beyond consumers, there is an opportunity for FWA to address enterprises, in particular, the sizable small and medium enterprise (SME) segment, especially in emerging markets where SMEs represent a significant part of the economy.

Strategic importance of connectivity for enterprises

Growing digitalization across many aspects of doing business is accelerating the need for high-speed broadband connectivity among enterprises of all sizes. Better connectivity is needed for enterprises, including main and branch offices to satisfy the increasing reliance on electronic payment and ecommerce, cloud services and enterprise resource planning (ERP) applications.

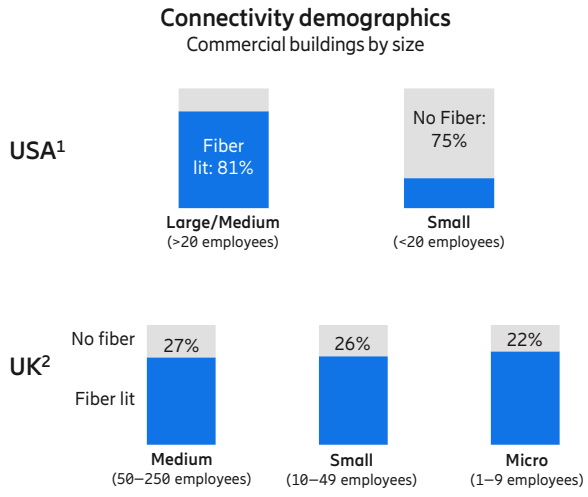
IDC Enterprise survey from 2025 covering almost 800 large enterprises globally illustrates the growing importance of connectivity. Over 60 per cent of respondents characterize connectivity as extremely important today. In 2 years from now, over 70% of respondents characterize connectivity as being mission critical.

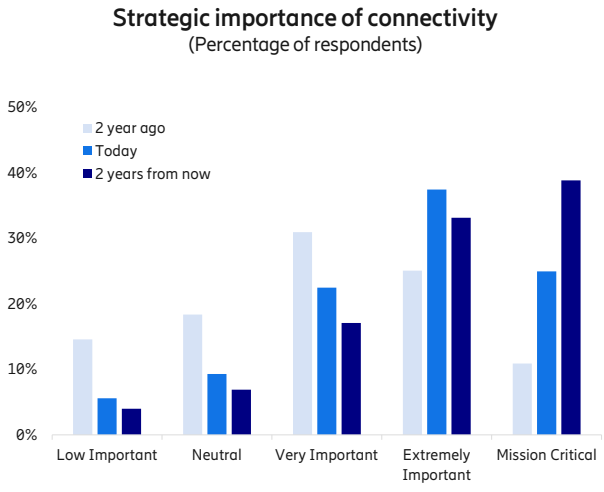
Availability of high speed broadband

Many SMEs are located in underserved areas with low speeds, limited broadband alternatives, or no connectivity whatsoever. Many of these underserved companies could include SME and SoHo (Small Office and Home Office) businesses that are located in suburban areas, in city outskirts (e.g., small industrial or distribution/storage facilities), or in buildings and business parks that lack in-building cabling to reach their facilities.

As an illustration of the size of this opportunity, let's consider broadband provision to commercial buildings in the USA. According to Vertical Systems Group, around 1.8 million of USA's ~5 million commercial buildings (~20 percent) were lit with optical fiber in 2024. Of these, buildings with more than 20 employees had a fiber availability rate of 81 percent, while those with fewer than 20 employees had a fiber availability rate was around 25 percent.

For the UK, Ofcom estimates that over 25 percent of commercial premises of medium (50-250 employees) and small (10-49 employees) business have no fiber connections in 2025. For micro (1-9 employees), 22 percent have no fiber connections as of July 2025.



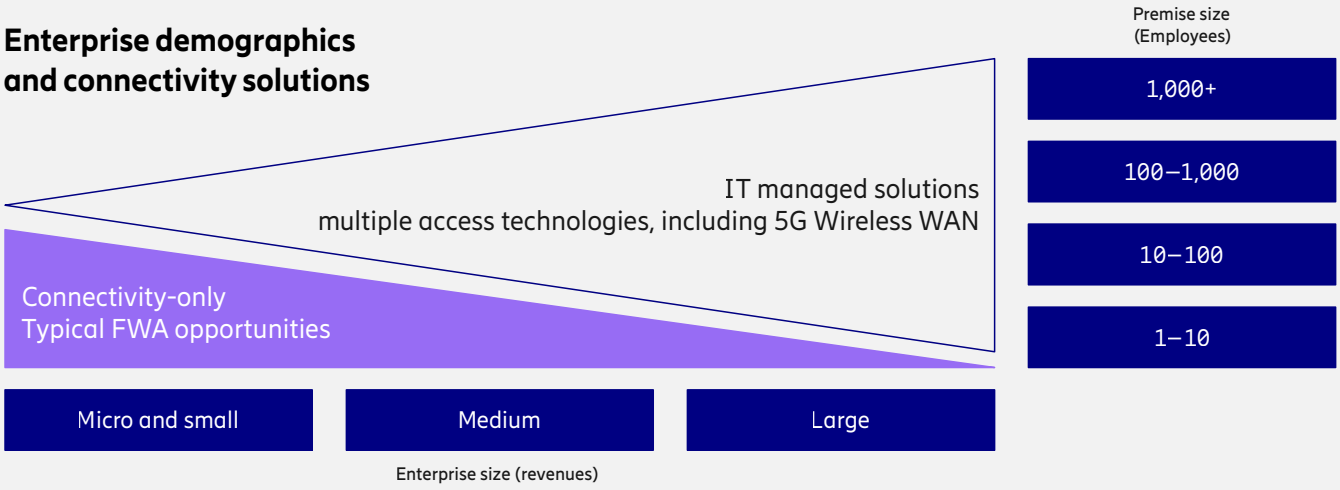


1) Vertical Systems Group Inc., 2024 2) Ofcom Connected Nation Report, 2025.

Source: Future Enterprise Connectivity Infrastructure and Services Survey, IDC, August, 2025; N=758Notes: Data Weighted by IT Spending by country.

Business connectivity – the role of FWA in different enterprise segments

Targeting the enterprise market with FWA solutions requires understanding of the market opportunity being addressed. Business size (revenues), premise size and number of employees per location are just some of the parameters that need to be considered.



Regarding size of business, it is referred to the company revenues which then relates to presence and size of workforce. The other dimension is related to the size of the premise that needs connectivity. Small and micro enterprises are typically only present in one location. On the other extreme, large enterprises have multiple premises, including often a large headquarter with many employees, regional offices and even local offices. The larger the enterprise, the more sophisticated IT systems, centralized and standardized solutions.

In addition to size of enterprise and premise, it is also important to understand how company segments drive usage of IT solutions and connectivity needs. For instance, some retail branch offices (such as small stores or fast-food outlets) may require connectivity only for payment, inventory management, and facilities management (such as security), which have relatively low connectivity needs. On the other hand, IT-intensive service companies (such as gaming developers or design agencies) with high level of cloud-based IT solutions, will have much higher demands on connectivity. As a result, some market segments may want to procure integrated managed IT solutions, which include connectivity as part of the offer (using multi-access solutions, encompassing wireline and wireless, to enable redundancy). This segment is referred to Wireless WAN and include solutions such as Ericsson Cradlepoint.

When it comes to FWA for enterprise, the opportunity is typically for connectivity-only solutions, primarily addressing premises with fewer than 100 employees – that is, micro and small and medium businesses. Some operators may include value-added services on top of connectivity-only solutions, including security, SD-WAN and IT services (like Microsoft 365).

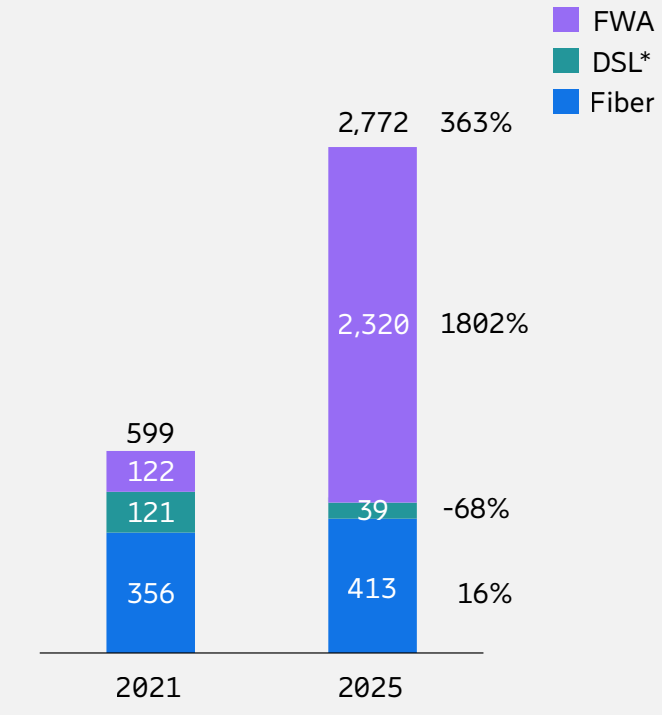
Verizon expanded its FWA for business with a new SLA-backed network slicing plan

Verizon has been one of the pioneers of 5G FWA globally, with early launch of 5G mmWave based FWA in 2018. Since then, the company has expanded the FWA offerings to cover several markets as well as to add mid-band (C-band) spectrum. At the end of 2025, about 41 percent of all FWA connections for Verizon were related to 5G Business Internet. The 5G Business Internet connections grew 19-fold since end of 2021, reaching over 2.3 million connections and representing almost 85 percent of all business internet connections.

Similarly, to the residential 5G FWA, 5G FWA has been an opportunity for Verizon to provide nationwide broadband services, as the FIOS (FTTH) service is available primarily in the North East region. 5G Business Internet is available with options of indoor gateways and outdoor receivers. However, for 5G Business Internet Verizon includes speed based FWA offerings, with three speed options such as 100 Mbps, 200 Mbps and 400 Mbps.

Late 2025, Verizon launched a new FWA for Business plan called 5G Network Slice Enhanced Internet. It features a SLA-backed performance plan, including enhanced uplink speeds that are marketed towards cloud-rich and AI services.

Business broadband
(Connections – thousands, growth %)



*DSL refers to wireline excluding FIOS (fiber)

Speed-tiered price plans

- 100 Mbps: USD 69/month
- 200 Mbps: USD 99/month
- 400 Mbps: USD 199/month, with outdoor receiver with professional installation

Internet back-up plans

- 0.5 - 3GB/month: USD 10-30/month

Highlights

- Primary connectivity, SMEs and large
- Retail, construction, professional services, distribution, logistics, and healthcare
- Business usage couple of times lower than consumer
- Router management tool and dashboard

5G network slice enhanced internet

- New offering launched in Dec 2025
- Enterprise-grade Business Internet on a 5G network slice
- Enhanced capability for the uplink-heavy, cloud-rich business environment that AI thrives in

Key benefits

- SLA-backed performance
- More uplink and faster speeds, such as 200 Mbps downlink and 45 Mbps uplink
- Optimized for AI and Edge with high uplink throughputs and data reliability
- Managed deployment (optional)

Source: Verizon Website, Financial Reports

Address FWA opportunities in markets with high penetration of fiber broadband

Bypass connectivity barriers

- Rights-of-way limitations
  - Historical/heritage areas
  - Access to private property
  - Bypass road/street/utility
- Landlord owner and/or community restrictions and regulations
  - Bypass gated communities or MDUs that allow only one broadband provider
- High one-time installation cost
  - Older homes and buildings without ethernet wiring

End user preference

- Easy and fast installation
- Short time-to-market
- FWA's user satisfaction/NPS often on-par/higher than fiber
- Short-term duration (e.g., property tenants, students and expats)
- Low usage households (e.g., 1-2 persons per household)
- FWA as second line or back-up access

Fixed Wireless Access is increasingly positioned not as a fallback technology, but as a credible challenger to fiber (and cable)—even in markets with high fiber penetration. The opportunity arises less from headline speeds and more from fundamentally different economics, deployment models, and customer preferences.

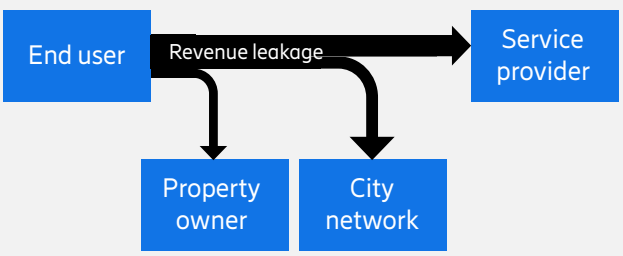
The first dimension is avoiding interconnect costs. Traditional fiber-based broadband often relies on a layered value chain where retail service providers must pay wholesale access fees to network owners and, in many cases, additional access or real-estate charges to property owners and MDUs. These upstream costs compress margins and limit pricing flexibility, particularly in competitive retail markets. FWA operates on a more direct model: the operator controls both access and service delivery. By removing intermediaries, FWA materially lowers cost to serve while still enabling competitive ARPU levels. This cost asymmetry allows operators to capture market share profitably even when retail prices are lower than fiber or cable.

The second dimension is the ability to bypass connectivity barriers that constrain fixed-line expansion. Rights-of-way limitations remain a persistent challenge in historical districts, rural areas, and locations with restricted access to private land. In many markets, fiber rollout is delayed or blocked by permitting processes, street excavation constraints, or utility coordination. Similarly, landlords, gated communities, or MDUs may restrict broadband access to a single provider, limiting competition and consumer choice. Older homes without internal wiring further increase one-time installation costs. FWA sidesteps these barriers entirely, enabling rapid coverage expansion without civil works, negotiations, or intrusive installation.

The third dimension is end-user preference, where convenience increasingly outweighs theoretical performance advantages. Many customers value fast activation, simple self-installation, and short commitment periods over multi-gigabit speeds they do not fully utilize. This is particularly true for short-term tenants, students, expatriates, and seasonal residents. FWA also serves well as a second line or back-up connection, as well as a primary solution for low-usage households such as one- or two-person homes. In these segments, perceived value is driven by flexibility, reliability, and ease of use rather than maximum throughput.

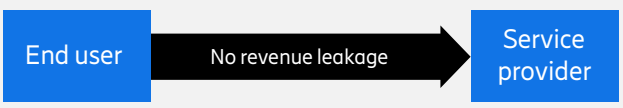
Taken together, these factors explain why FWA continues to gain traction even in fiber-saturated markets. By combining lower structural costs, fewer deployment constraints, and strong alignment with real customer needs, FWA competes not by outperforming fiber technically, but by outperforming it economically and operationally where it matters most.

Fiber scenario with intermediaries



Intermediaries, e.g.:
- Open fiber networks
- City networks
- MDUs owner

Direct scenario with FWA



Advantages of direct model with FWA:
- Lower cost to serve without middleman
- Capture market share with competitive ARPU levels

High level revenue flow diagram (illustrative)

TPG Australia growing profitability with 5G FWA

TPG Australia increased its FWA efforts with the roll out of 5G starting in 2020. Currently, it has 2 speed-based price plans for home internet based on 5G FWA. TPG has been one of the fastest-growing 5G FWA providers in Australia, reaching over 285 thousand connections by June 2025.

FWA has been a key driver in growing profitability of broadband services. Its CEO, Inaki Berroeta, commented that TPG could avoid AUD 50 million in wholesale costs annually for every 100,000 customers migrated to on-net fixed wireless. As a result, TPG has been actively adding new 5G FWA customers and migrating its existing customers to its on-net 5G FWA offerings.

Based on its reported financials, it is clear that FWA AMPU (average margin per user) is more than twice that of non-FWA broadband services. Given the strong growth in FWA connections, FWA accounted for almost 30% of fixed broadband margins as of 1H2025.

Attractive FWA offerings

Home internet FWA plans

Plus
Speeds Mbps (DL/UL)
- Max: 50/20
- Typical[1]: 50/16

Unlimited internet
5G Standalone
Fee: AUD 59.99/month

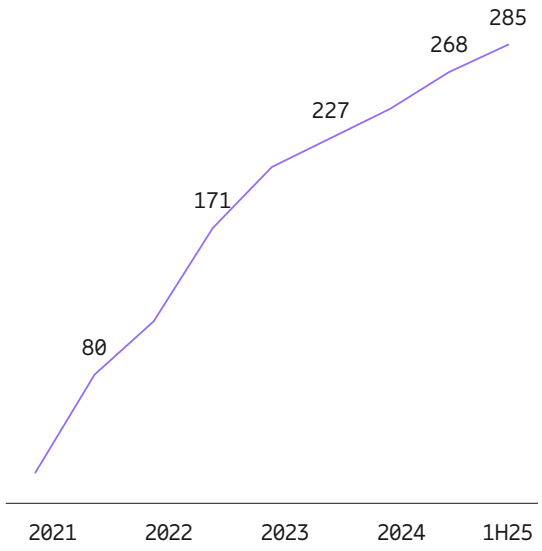
Premium
Speeds Mbps (DL/UL)
- Max: 100/20
- Typical[1]: 100/18

Unlimited internet
5G Standalone
Fee: AUD 64.99/month

Terms and conditions
- No lock-in contract
- No activation fee
- No upfront for 5G modem with WiFi7
- No delivery fee

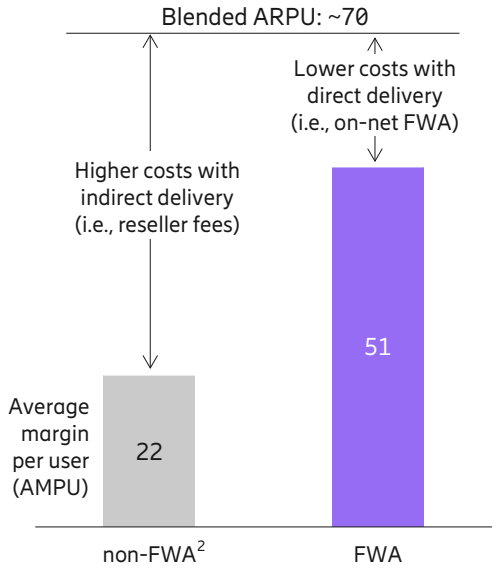
FWA connections growth

Connections year end (000s)



Broadband profitability

AUD/month as of 1H25



1) Typical evening speeds. 2) Non-FWA includes NBN and Vision network.
Source: company website, reports, Ericsson analysis.

Reseller model as your go-to-market strategy

Rationale for FWA reseller model

Some service providers may utilize resellers for FWA as a complement to existing go-to-market channels. In some cases, mobile-only service providers need to have processes and tools in place to manage a residential service. At the same time, some internet service providers reselling unbundled copper-based broadband see the need for higher speeds and migration of legacy users. It could also be that some service providers leverage systems integrators and resellers to address the business segment. Other cases relate to bundling of services, where home broadband is included together with TV services from satellite providers.

Rationale

- Lower cost to serve for service provider and reseller
- Faster time to market with lower upfront cost
- Enable internet service provider to migrate DSL customers to FWA
- Lower subscriber acquisition cost

Potential partners

- Service provider: mobile-only and/or converged operators
- FWA reseller:
  - Satellite TV
  - Internet service providers (ISPs)
  - Fiber providers

Examples

- Telenor Norway and Allente (satellite TV provider)
- Telia Norway and NextGenTel (ISP) and BRDY (ISP)
- 3-Denmark and Fastspeed (ISP)
- Verizon and Brightspeed

Operational synergies drive the operating model

The split of responsibilities defines the capabilities of the FWA reseller and FWA provider. For mobile-only service providers, there is a high value in leveraging the existing processes and expertise of an ISP reseller on how to serve residential customers. At the same time, logistics to handle and finance costs for service providers can become a critical driver for the reseller model.

Area	Capabilities	Service provider	Reseller
Engineering	• Design and dimensioning • Product planning • Configuration and tiers	✓	
Marketing	• Geo-marketing • Broadband geo-intelligence • Advertising and brand		✓
Sales and Care	• Door-to-door sales • Call center sales and support		✓
CPE/Router Logistics	• Procurement • Warehouse and logistics • Returns and warranty		✓
Field force operations	• Training and staffing • Dispatching • Installations		✓
Network Operations	• Performance and usage • Capacity and eligibility	✓	
Financials	• FWA-reseller ARPU • Cost based on asset ownership	Network Capex and Opex	CPE Capex and Opex

Source: Ericsson analysis based on public service providers information

Key levers for value creation

There are multiple levers for value creation with FWA, with service providers ability to capture these depending on their market position and assets.

With new FWA connections, service providers can grow revenues. There are other variants to be quantified, related to higher ARPU when migrating existing customers on slow-speed offerings (e.g., xDSL) to high-speed 5G FWA offerings. Moreover, a fast time for deployment for FWA means service providers can have weeks (or months) of additional revenues compared to other technologies that take longer time for deployment. Last, in addition to typical FWA connectivity revenues, service providers can add value-added services such as video streaming, TV, and gaming.

Converged operators with legacy copper-based fixed broadband networks can achieve operational savings from xDSL decommissioning related to energy consumption and operation and maintenance costs. Additional operational benefits from bundling FWA with MBB include lower go-to-market costs from reduced subscriber acquisition cost (SAC), reduced churn, and improved MBB experience in areas with high capacity deployed for FWA. Last, service providers can also achieve savings from migrating 4G FWA traffic to 5G FWA with a lower production cost.

For converged operators, FWA represents an alternative to optimize CAPEX, deploying lower upfront cost and cost per home passed compared to fiber. In addition, CAPEX invested can also be shared with MBB, lowering risk. Mobile-only service providers have an additional revenue source to finance high-capacity deployments outside large cities, resulting in improved MBB experience and lower production costs.

Revenue growth

- Growth new FWA connections
- Higher ARPU for existing customers using higher speeds (e.g., upgrade DSL users)
- Fast time to market to capture new customers
- Upselling value-added services (e.g., video, gaming)

OPEX reduction

- DSL decommissioning (energy and network operating costs)
- Reduced churn/SAC/OPEX
  - Lower churn with bundle FWA+MBB
  - Billing/operation synergies
  - Better MBB performance driven by FWA-funded 5G mid-band roll-out
- Offload 4G FWA traffic to 5G

Optimized CAPEX

- Fixed CAPEX improvements
  - Lower $/home passed in low dense areas
  - Lower upfront CAPEX
  - Lower risk as CAPEX is shared with MBB
- Improved MBB CAPEX
  - FWA to fully/partially fund 5G mid-band outside cities
  - Lower $/GB from high-capacity MIMO

Read all nine insights on capturing the value of 5G FWA

ericsson.com/fwa-insights

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