Accelerate FWA growth with integrated business processes

Fixed Wireless Access handbook 2026

ERICSSON 150 years

Insight

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Driving FWA across business processes

Successful FWA deployments require coordination and shared decision-making across end-to-end processes and organizational boundaries.

Cross-functional teams to drive the FWA businesses on an end-to-end and agile manner

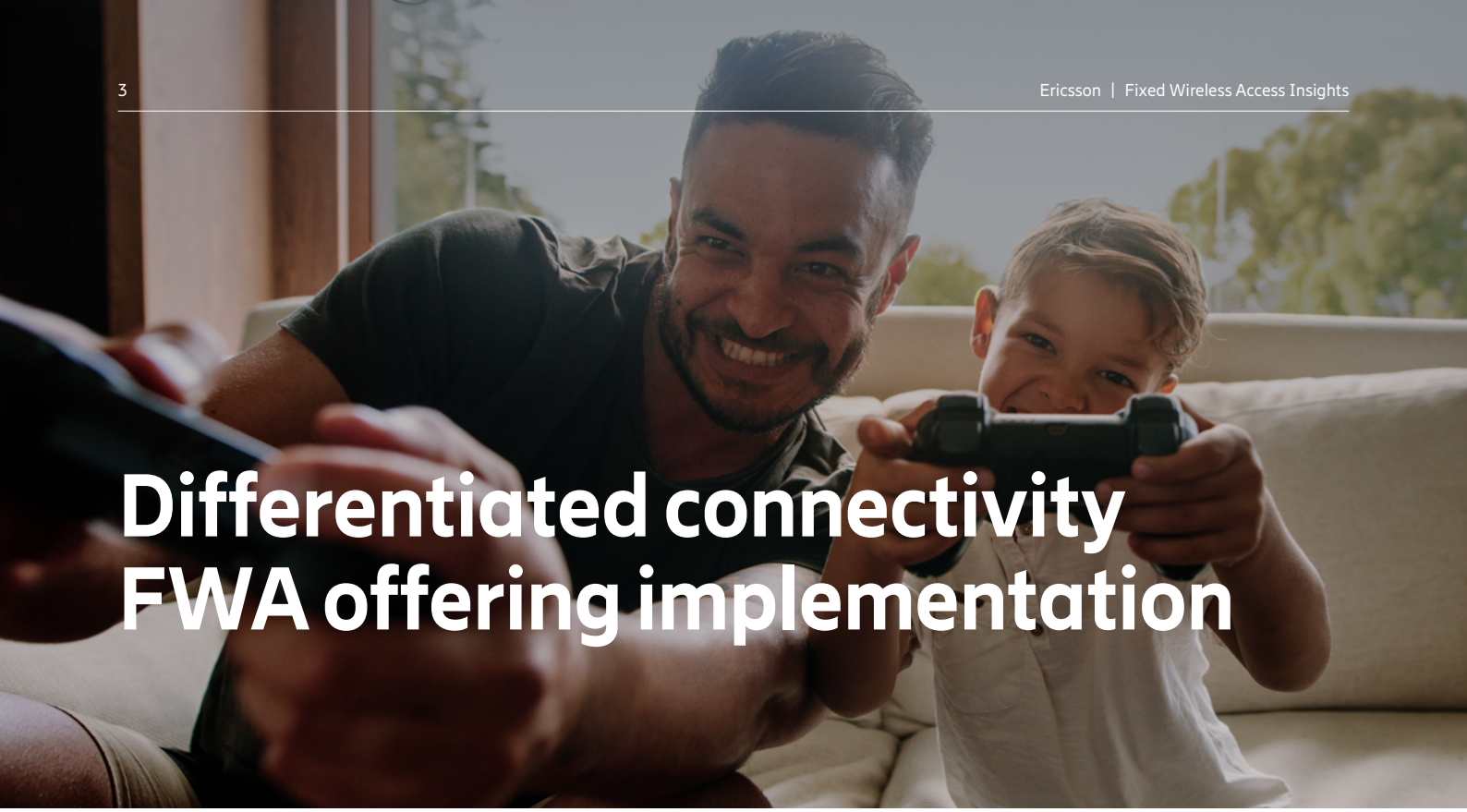
From the initial strategy and planning processes, having a holistic view that captures and considers FWA as an integral part of a service provider's business decisions is critical. This initial step includes key activities such as identifying the addressable market for FWA and selecting target segments and locations for FWA, which provide inputs for CAPEX allocation and network deployment plans.

Once the FWA market opportunity has been identified, the next step is to define suitable FWA product(s), including potential value-added services (such as TV and video streaming services), the business model, the technical solution (including CPE choices and installation options), and price positioning. The FWA offering needs to consider the local fixed broadband market dynamics. For the sales and go-to-market processes, it is important to understand that FWA equates to fixed broadband services, where geo-marketing plays a defining role. At the same time, it is critical to adapt processes for sales (including incentives) and user qualification for FWA services.

Sales process for FWA shall leverage triggers for acquisition and/or upgrade of broadband services. For example, these could include new home owners and tenant (e.g., using real estate agency for promotions), new content or home devices (e.g., promotion on electronic retailer). Other traditional sales tactics for home broadband sales include geo-marketing such as door-knocking and targeted advertising as well as promotions from service providers as new 5G mid-band coverage arrives to a new neighborhood.

The delivery step of FWA services includes network provisioning and installation, sometimes including options for self-installation in addition to technician installation. Once the service is activated, it is time to monitor FWA performance, site utilization, and usage behavior – combining typical MBB KPIs and considering the fixed broadband paradigm.

FWA is often a new, adjacent service for service providers and initially requires new skills and tight monitoring across organizational boundaries. Some service providers implement cross-functional teams to regularly monitor progress and take corrective actions to ensure continued FWA growth and uptake.



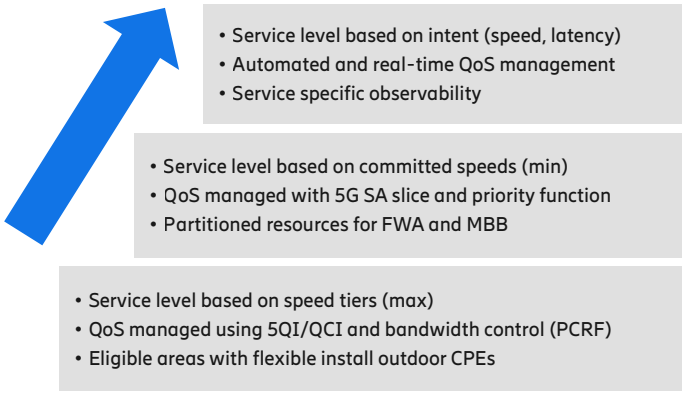
Differentiated connectivity FWA offering implementation

Fixed broadband offerings are predominantly marketed using speed levels by service providers. These are typically achieved using a combination of network capabilities and performance management. The same principles apply for implementation of speed-based FWA offerings, in particular Differentiated Connectivity FWA plans with guaranteed performance based on 5G Standalone and network slicing.

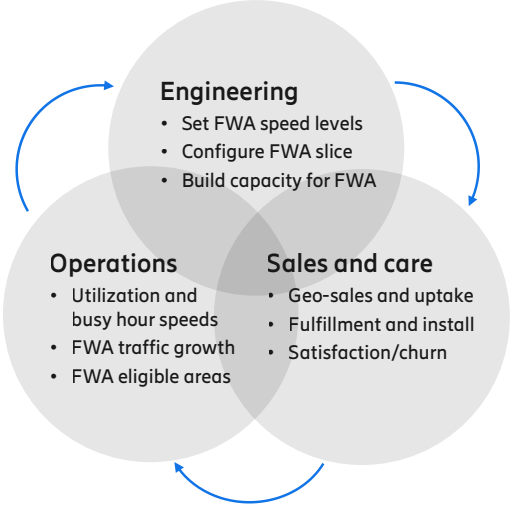
On the capability side, key functionality for the provisioning of speed-based FWA services is needed in the radio access network, core network, and in the FWA CPEs. Many CSPs start speed-tiered FWA implementation with maximum download speeds achieved with a combination of priority scheduling, eligible areas, and flexible self-install outdoor CPEs. As the network capabilities evolve, new functionality supports higher performance and service level guarantees, such as slicing and radio resource partitioning. At the same time, new capabilities are put in place to improve management and automate operations.

On the performance management side, it is very important that different parts of the organization are synchronized in a continuous performance management process. This will include different parts of the organization, e.g., Operations, Engineering, Sales and Care in areas such as traffic growth, speeds available, eligible areas, CPE type required, Geo-sales and uptake and customer satisfaction, etc.

Network capability evolution (examples)



Continuous performance management



Analytics-driven FWA opportunity identification and monetization

Turning network insights and public data into profitable FWA expansion

	Market/Demand assessment		Capacity and delivery readiness		Monetization plan
Analysis	Map FWA demand locations and broadband alternatives • Population density, 2nd homes, 3D spatial maps • Fixed/fiber availability gaps • DSL sunset areas • Income/affordability KPIs • 4G FWA, data only-SIMs Sources: regulator, statistics office, own customer base Granularity: lat/long or zip code	+	Assess network readiness and capacity available for FWA • Spectrum and technology deployed per site (e.g., 3.5GHz on MU-MIMO) • Network BH utilization • TX/backhaul capacity • MBB capacity evolution Sources: own network insights Granularity: site lat/long, sector and technology level	→	Quantification and prioritization of FWA opportunities per location • Identification of high-value FWA households • Migration opportunities (e.g., from 4G to 5G FWA, DSL) • Increase network utilization, keeping mobile performance • Higher ARPU and margin with controlled growth
Output	Rank locations with highest potential for FWA demand		Locations with ready for sale capacity for FWA without risking mobile performance		Embed FWA opportunity areas into CRM, Marketing and Sales tools

FWA scaling requires a disciplined, data-driven approach rather than technological complexity. The foundation begins with understanding where demand for broadband exists. Public datasets—including population density, the presence of second homes, income and affordability indicators, and regulatory broadband maps—provide a clear view of where fixed or fiber alternatives are limited or insufficient. These inputs make it possible to identify households with a clear broadband need and a high willingness to pay, forming the basis of a robust market and demand assessment.

The decisive differentiator comes from combining this external market view with an operator's internal network intelligence. Knowing site locations, deployed spectrum, sector configurations, and busyhour traffic patterns allows operators to pinpoint where spare capacity exists and where additional FWA load can be absorbed without risking degradation of the mobile experience. Transport and backhaul capabilities, as well as visibility into mobile broadband capacity evolution, further guide operators in determining network readiness and understanding how much incremental traffic can be supported today or through targeted upgrades such as Massive MIMO or mid-band spectrum activation.

When these datasets are overlaid, operators can quantify and prioritize specific FWA opportunities at a granular level. This includes identifying highvalue households, such as those currently reliant on DSL or legacy 4G FWA, and defining migration paths toward 5G. It also captures opportunities among unconnected households or secondary homes that demonstrate seasonal demand. This structured prioritization ensures that network utilization increases while maintaining mobile performance and improving ARPU and margin through controlled, profitable growth.

The outcome of this analytics framework includes a ranked list of the highest potential FWA demand areas, clear identification of locations where the network is ready for FWA without compromising mobile quality, and seamless integration of this intelligence into CRM, marketing, and sales execution tools.

By systematically combining public data, internal network insights, and address-level modeling, operators can expand FWA coverage confidently and efficiently. This approach shortens time-to-market, protects mobile network performance, and allows FWA to evolve into a scalable, highmargin growth engine—turning data and analytics into tangible commercial success.

Analytics supporting eligibility and targeted areas

This analysis illustrates a structured framework for identifying, prioritizing, and addressing the most attractive FWA.

Using a site density grid and household distribution, the model segments the market into four distinct opportunity areas—each with its own demand drivers, coverage characteristics, and recommended CPE deployment strategy. The goal is to optimize FWA uptake by matching solution design with local technical and commercial conditions.

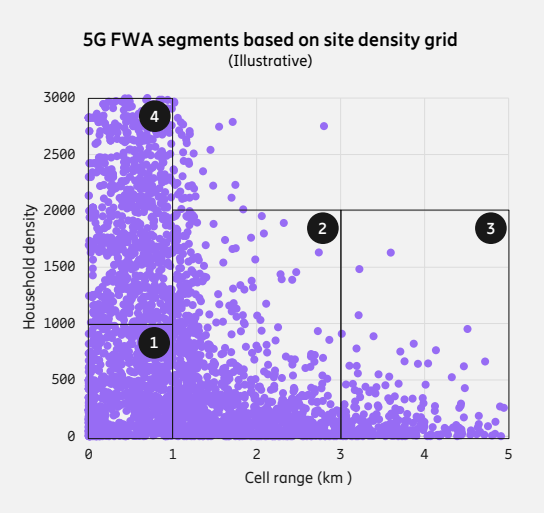
Area 1 represents zones with short cell ranges combined with mid-to-low household density. These areas are well suited for **indoor self-install CPE**, as signal strength is generally sufficient to penetrate homes without the need for an outdoor installation. The customer proposition focuses on convenience and quick onboarding.

Area 2 includes suburban like environments with lower household density and medium intersite distances. While indoor CPE remains relevant, performance improves when offering **flexible self-installed outdoor CPEs** to extend usable coverage beyond 1 km from the serving site. This segment benefits from hybrid CPE strategies, giving customers a choice between ease of installation and higher performance.

Area 3 identifies rural or semi-rural areas characterized by large cell ranges, low population density, and limited fixed broadband infrastructure. Here, a standard indoor self-install approach is typically insufficient. The most effective strategy is to deploy **technician-installed outdoor CPE**, often mounted to achieve lineofsight conditions at distances of up to 4–5 km. While acquisition cost per customer is higher, these areas show strong demand for reliable high-speed broadband where fiber is absent. FWA becomes a transformative connectivity solution.

Area 4 corresponds to dense urban clusters where fiber and cable availability is widespread. FWA plays an **opportunistic role**, targeting specific underserved or mobile-lifestyle segments such as students, renters, and "urban nomads." Indoor CPE remains the dominant solution, with value propositions centered on flexibility, portability, and price. Although volume potential is lower, these micro-segments contribute incremental share without significant network strain.

Collectively, these four categories form a comprehensive roadmap for FWA growth. Each area pairs a clear rationale with a tailored CPE strategy, ensuring the product offer aligns with both customer needs and radio network capabilities. This approach allows for precise forecasting of addressable households, smarter gotomarket planning, and targeted investments that maximize FWA adoption across the footprint.



	Rationale for FWA targeted segments	CPE Solution
1	• Areas with short cell range with mid-to-low household density • Target potential FWA users primarily using self install indoor CPEs	Almost entirely based on Indoor CPEs
2	• Likely suburban areas with low household density with mid inter site distance • Target potential FWA users based on flexible self-install outdoor CPEs over 1km	Complement indoor CPE with flexible self-installed outdoor CPEs
3	• Somewhat rural areas with large cell range and low household density—likely lack of fiber • Leverage outdoor CPEs with technician install CPEs to deliver high speed FWA plans	Outdoor CPE installed by technician for homes ~4-5km from site
4	• Densely populated areas urban areas • Likely fixed broadband availability • Opportunistic target FWA niche segments (e.g., urban nomad, underserved homes)	Almost entirely based on Indoor CPEs

FWA home eligibility and provisioning

For tiered, speed-based broadband offerings, it is important to know the likely speed and capacity available to the consumer in each location.

Since the FWA consumer is in a fixed location, it is possible to estimate the load in the network from FWA and calculate the available speed options.

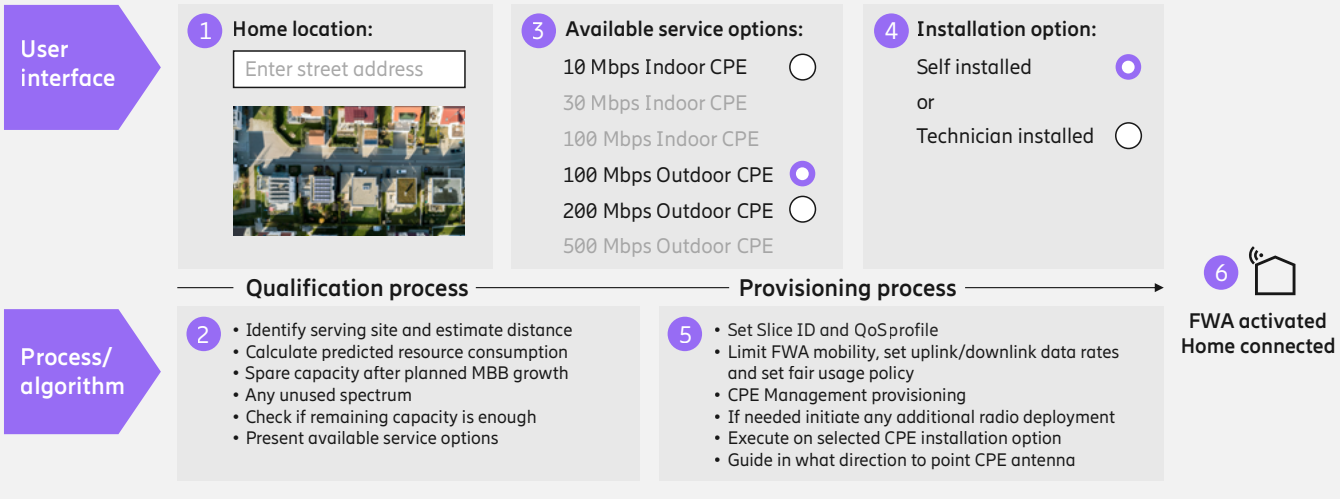
The first step in the FWA home eligibility process is to enter the address for the household. Next, the eligibility process matches the home with the serving site, estimates the radio conditions and determines what resource consumption is likely for this household. This is based on the spare capacity available after planned MBB growth; if needed, any unused spectrum could be activated by installing more radio equipment.

Based on the radio resources available to the household, a number of different service options are presented. These include the CPE type (indoor or outdoor), and the speeds that can be achieved at the household's location. If an outdoor CPE is selected, the next step is to choose the installation option: self-installation or technician installation.

When all the input from the consumer has been received, the provisioning process starts. The new FWA user will be assigned attributes according to the service options selected. These include the slice identification and QoS profile, authorized geographical location, data rates and fair usage policies.

If there is free spectrum and a nearby tower, this can be a very fast process. If radio hardware is already in place, all that is needed is to ship the CPE and, if the technician installation option was selected, schedule a site visit. The household should get FWA broadband service within a matter of days.

FWA enables very fast time to market (1–7 days)



FWA eligibility prediction

There are various models for eligibility prediction. A leading 5G FWA service provider utilizes a forward-looking capacity prediction model to identify eligible homes for FWA on a sector level.

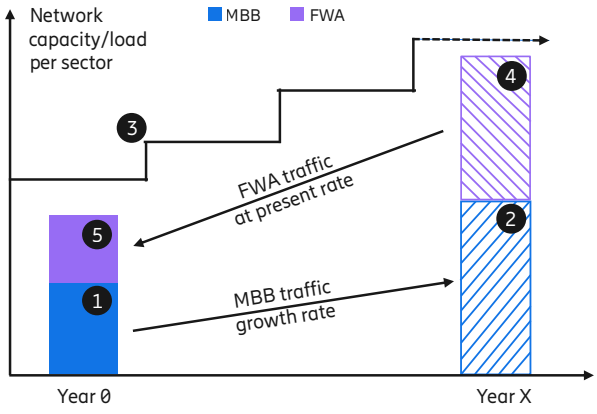
The starting point is to identify current MBB capacity usage/utilization for a given sector.

The second step is to estimate how that utilization will grow for a certain period such as 5 years.

The third step is to estimate the capacity evolution for that sector in terms of new technology, spectrum and eventual densification.

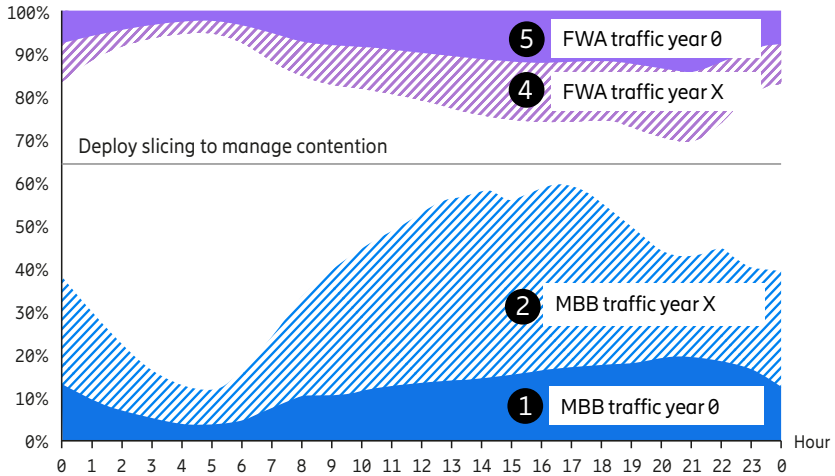
The FWA capacity on year X is estimated as the available busy-hour load (i.e., capacity available minus the MBB utilization on year X). It is important to leverage the daily usage pattern synergies as FWA busy-hour is typically around 9pm and the MBB busy hour is typically at 6pm. The eligible (i.e., ready for sale) FWA homes are then estimated as the present value of the year X load discounted at a FWA traffic growth rate.

Dimensioning of FWA eligible areas



1. Current MBB capacity usage/ utilization at busy hour
2. Projected MBB consumption at year X
3. Network capacity as a result of evolution plan
4. Capacity available for FWA without impacting MBB experience
5. Potential FWA eligible users at current consumption level

Leveraging daily usage synergies



FWA coverage eligibility prediction

FWA coverage eligibility is a **network-driven, household-level process** designed to ensure a consistent, fixed-like customer experience while enabling scalable and cost-efficient deployment. Eligibility decisions are grounded in accurate radio modeling and validated against the ability of the network to guarantee a minimum performance level (Rmin) for each household.

The process begins with **3D geospatial and propagation modeling at household level**. Terrain-, clutter-, and building-aware radio models are used to identify per-household signal quality, penetration loss, and achievable speeds. This address-level insight replaces coarse coverage maps and enables precise qualification of individual households. By accurately identifying viable and non-viable locations upfront, operators significantly reduce failed installations, unnecessary truck rolls, and post-activation performance issues.

Based on the predicted radio conditions, **performance dimensioning is applied to guarantee Rmin at Busy Hour**. Each candidate household is evaluated to ensure that its expected throughput remains above the minimum guaranteed rate even under peak load conditions. This step protects households with low signal quality and ensures that adding a new household does not degrade overall service performance. Validating Busy Hour performance prior to approval is essential to maintaining long-term service quality and customer satisfaction.

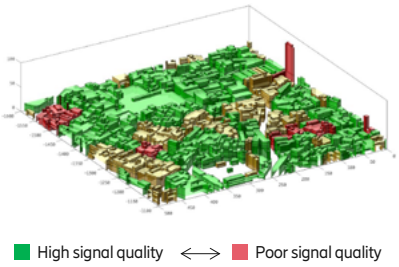
Next, **CPE determination becomes a key commercial control point**. Households with strong radio conditions are provisioned with indoor CPE, enabling low-cost self-installation and rapid scaling. Locations with moderate signal quality are served with flexi self-installed or professionally installed outdoor CPE, improving achievable speeds and extending coverage without additional network build-out. Households with insufficient radio conditions are deliberately excluded to protect network efficiency.

Performance dimensioning is CPE-dependent. For the same household location, outdoor CPE typically delivers higher and more stable achievable speeds than indoor CPE due to improved signal quality and uplink margin. This allows households further from the site, or in more challenging radio environments, to qualify for higher speed tiers when served with outdoor CPE, while maintaining the minimum guaranteed rate (Rmin).

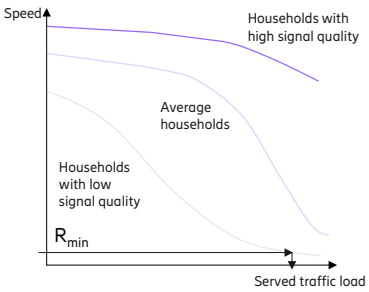
The outcome of this process is a clear eligibility classification for each household: **Eligible, Conditional (CPE-dependent), or Rejected**. By combining household-level radio modeling, Busy Hour performance validation, and differentiated CPE strategies, operators can scale FWA coverage confidently while maintaining predictable performance and controlled cost per connection.

Household-level radio modeling and CPE choice determine FWA coverage eligibility

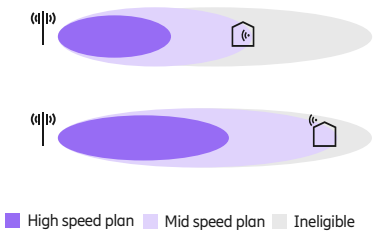
Propagation modeling



FWA Performance level



FWA CPE choices



3D geospatial radio reality uses terrain- and clutter-aware propagation models to identify per-household radio performance, predicting signalquality, penetration loss, and achievable speeds for accurate FWA coverage eligibility.

Performance dimensioning ensures each household meets minimum speed (Rmin) by combining per-household radio modeling, CPE selection, band availability, and Busy Hour performance checks before approving FWA eligibility.

FWA CPE implications: Indoor vs. Outdoor assigns indoor, flexi self-installed, or professionally installed outdoor CPE based on per-household signal quality and achievable speed tiers, balancing installation cost, coverage reach, and guaranteed service levels.

FWA deployment and evolution options

The starting point: status of 5G deployment

The status of a service providers' 5G deployment is the starting point of a FWA network evolution. For example, the primary focus for 5G deployment for a typical US service provider has been the addition of mid-band spectrum (i.e., TDD bands above 2.3GHz). The large service providers are expected to deploy that capacity for large part of the network, with some already reaching 90% population coverage. Other markets are following similar mid-band deployment strategy such as China, Korea and India, while other are still lagging on the mid-band deployment. In addition to mid-band deployments, mmWave spectrum in the US has been primarily added for venues (e.g., stadiums, airports) and high traffic locations (e.g., Time Square in New York City). Given this 5G deployment, FWA eligible areas are typically for suburban and rural areas where large share of the mid-band capacity is allocated for FWA. For dense urban and urban areas, eligible areas for FWA are more restricted to protect the MBB traffic and user experience.

Network evolution: multiple complementary options

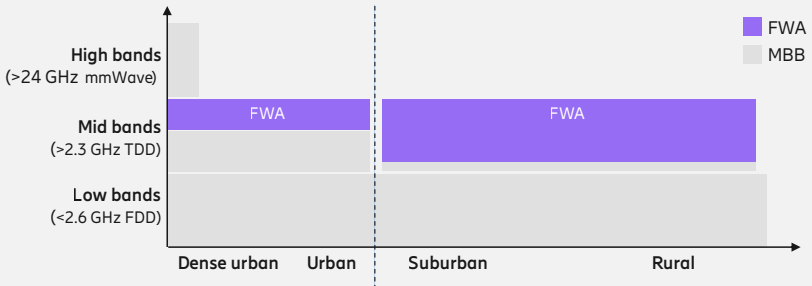
Service providers have multiple complementary network evolution options to add more capacity and performance for FWA. Starting from the customer premises, migration from indoor CPEs to outdoor CPEs will add significant capacity because of high antenna gains and reduce attenuation losses, in particular for users in poor radio conditions.

Moving to the radio access node, new technological improvements will bring capacity and performance benefits such as 5G SA and Carrier Aggregation. In addition to that, deployment of high-capacity radios (e.g., MU-MIMO) and sectorization could also increase the capacity significantly. The capacity of the existing site can also be augmented with the deployment of additional spectrum bands, with mmWave spectrum being one of the most attractive given the large bandwidth available. Important to add that although mmWave will offload mid-band capacity from line-of-sight (LOS) FWA users, the non-LOS users will also benefit as a result of all mid-band capacity allocated for these users.

Apart from that, additional capacity could be added by site densification. Site densification could be done by adding small cells and macro sites. Most of the costs for new sites are related to passive infrastructure, which can be mitigated by using tower companies and government incentives in case applicable for FWA areas.

Last, if the service provider has reached high market share of FWA users, there could be also an option to build a fiber access network in case it is financially attractive given considerations for household density, terrain, permitting and labor cost.

FWA deployment (example)



FWA dense urban – urban

- Target: challenge fiber monopolies, older building without wiring, SMEs
- Advantage: mid-band spare capacity until MBB traffic picks up
- Service providers: mobile-only

FWA suburban – rural

- Target: DSL replacement, FWA first before fiber, cable/fiber monopolies
- Advantage: FWA to fund mid-band deployment. Enhance MBB experience
- Service providers: mobile-only and converged operators (FWA-only service provider for rural areas)

Capacity evolution options

Spectrum
More spectrum on existing site (e.g., mmWave)

Migration
Migrate to fiber if financially attractive

CPE
Migrate heavy/cell edge users to outdoor CPEs

RAN
Deploy latest technology and features (e.g., 5G SA)

Densification
Build additional sites (e.g., macro and small cells)

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

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Ericsson
SE-164 80 Stockholm, Sweden
Telephone +46 10 719 0000
www.ericsson.com