

Telco Network Trends Report, 2024

Fixed Wireless Access - Survey Insights: Fast Lanes & Bottlenecks



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The Wireless Road: Unpacking Fixed Wireless Access (FWA)

Fixed Wireless Access (FWA) delivers internet access using wireless technology to connect fixed locations, such as homes and businesses, to the internet. It is an efficient and scalable alternative to wired connections, such as xDSL and fiber, and is particularly suitable for suburbs, and remote and rural areas where deploying fiber or cables is challenging and expensive. According to Ericsson Consumer Lab study, millions of people are still waiting for reliable home broadband, highlighting the potential impact and necessity of FWA solutions.

Stepping Stones and Stumbling Blocks

FWA offers several advantages, including cost-effectiveness due to lower infrastructure costs compared to traditional wired networks, scalability for easier deployment in varied terrains, and flexibility for both urban and rural areas.

However, as global internet usage soars, rising congestion poses significant challenges. All networks, including FWA, are struggling to keep up with the increasing demand for bandwidth, leading to slower speeds and reduced service quality. Addressing these issues is critical to ensure FWA can meet the growing needs of a connected world.

87% of FWA providers expect network traffic to increase in the coming year

7.9B is the expected number of Internet users in 2029



Rising Congestion Challenges

It's a Data-Hungry World Out There

Can Congestion Possibly Get Worse?

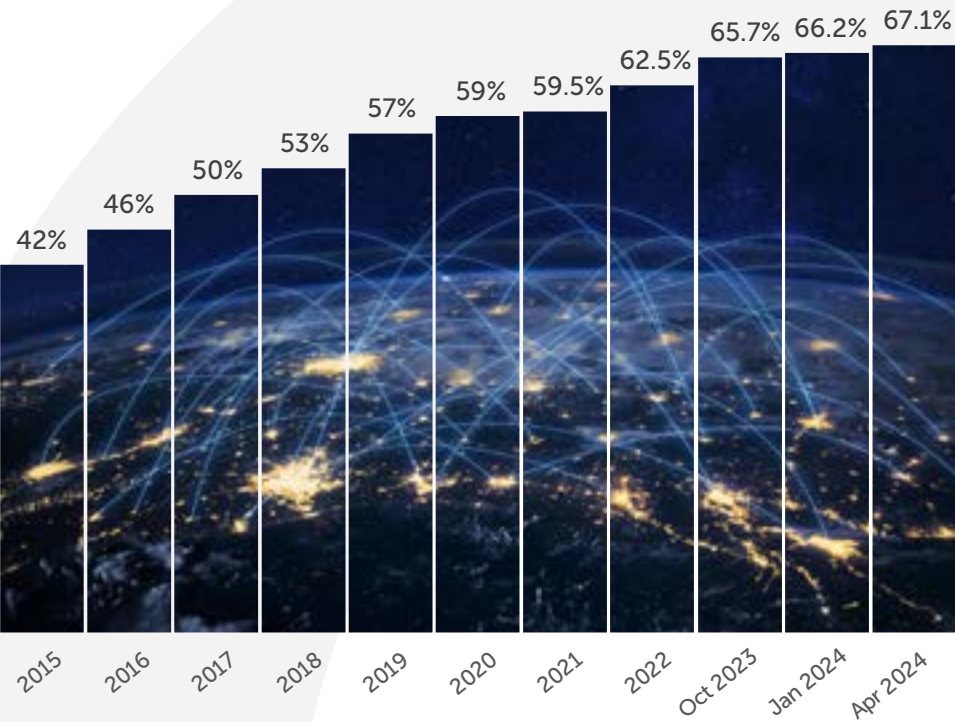
You bet, it can! The insatiable demand for internet bandwidth shows no signs of slowing down. According to our survey, a staggering 87% of FWA providers anticipate increased traffic on their networks the next year. Specifically, 40% foresee a 10-20% rise, while 20% brace for even more substantial growth.

42GB per month is the forecasted global mobile data traffic per smartphone by 2027 - a 16-fold increase since 2017

Major congestion growth drivers include:

- **Connected Devices**
Household PCs and tablets, and IoT devices, are now commonplace.
- **Streaming Services**
Data-hungry video streaming and gaming.
- **Cloud Applications**
Increased use for both personal and professional purposes.

Global internet user penetration 2014-2024*



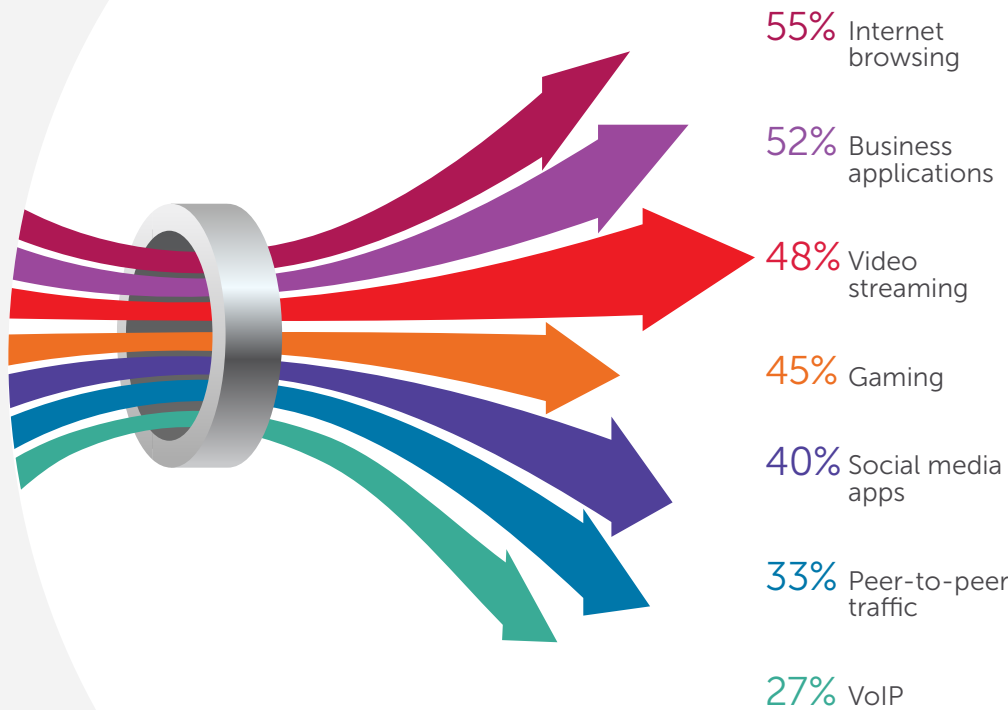
* Source: Statista.com Digital 2024: April Global Statshot Report, page 8

Bandwidth Bottleneck: The Impact on Essential Activities

When it comes to applications...
All apps are equal, but some are more equal than others.

According to our survey, over 50% of respondents identified internet browsing and business applications as the most impacted activities. This indicates that business customers often find themselves navigating a congested highway and are unable to compete effectively with their rivals due to a decline in network performance. This degradation can manifest in several ways, including high levels of jitter, packet loss, and latency, as well as a decrease in throughput.

Activities Suffering Most from Congestion



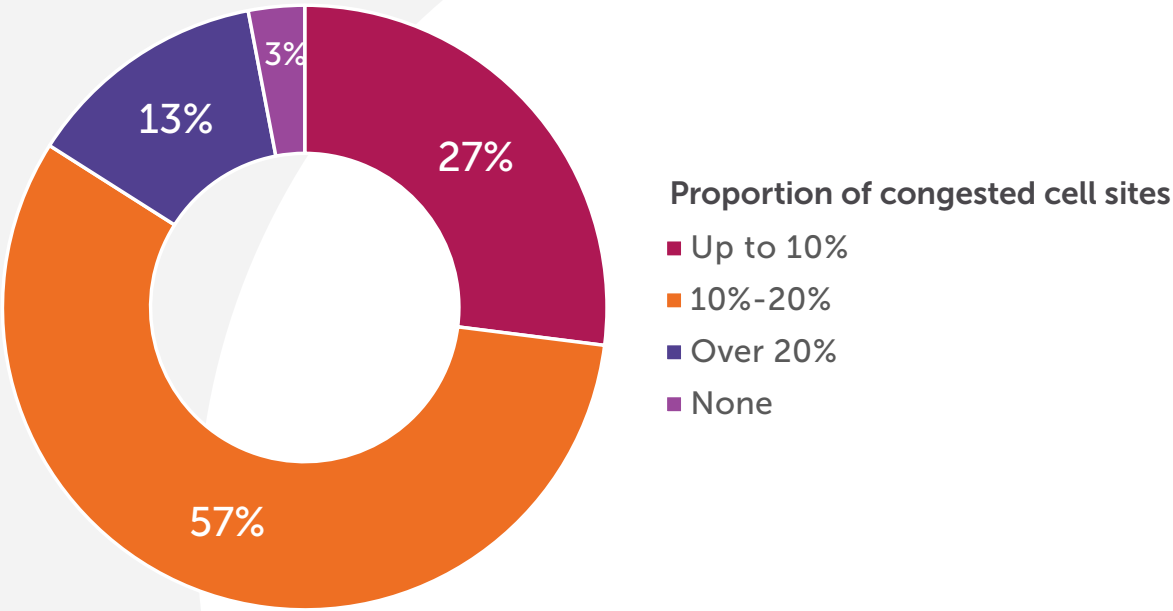
Network Susceptibility to Traffic Jams

To gain a more detailed understanding of where congestion hits FWA networks, we analyzed granular data from our survey.

An astounding finding was the percentage of cell sites where providers reported congestion. When considering the 10% to 20% range—where over half of the survey respondents indicated congestion—it is staggering to calculate how many customers are experiencing sluggish Internet speeds, dropped connections, service unavailability, and buffering daily.

FWA providers report significant congestion:

- 57% in 10-20% of cell sites
- 13% in over 20% of cell sites



Is QoE Management Hitting Roadblocks?

QoE is customers' top concern, even more crucial than cost considerations. High-quality network performance is paramount for customer satisfaction, often outweighing price as the primary factor in choosing and staying with a service provider. As FWA networks strive to deliver seamless connectivity, we wanted to understand if and how the QoE differed between business and residential customers.

Only 53% of WISPs rated the QoE for business customers as excellent during peak times, only 42% could say the same for residential customers. These percentages underscore the importance of having capabilities that can prioritize business and other QoE-sensitive applications effectively to maintain high QoE across all user types.

Key Findings

- + Business QoE During Peak Times**
Only 53% of WISPs rated the QoE for business customers as excellent.
- + Residential QoE During Peak Times**
Only 42% of WISPs rated the QoE for residential customers as excellent.
- + QoE During Normal Traffic**
Only 45% of WISPs rated the QoE for business customers as excellent during normal traffic, while only 47% rated it as excellent for residential customers.

Factors Affecting QoE

As FWA networks strive to deliver seamless connectivity, several critical factors impact the QoE for their customers. To pinpoint the obstacles, we asked providers about the specific challenges hindering their ability to deliver excellent QoE. Their responses revealed a variety of significant roadblocks.



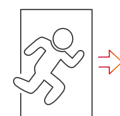
Lack of Adequate Tools

The lack of adequate tools to manage congestion significantly affects QoE. Over half of the respondents lack proper traffic prioritization tools, which hinders their ability to manage network performance effectively.



Congestion Management

Almost all FWA providers monitor congestion, but not all receive real-time data from network providers, leading to delays in addressing congestion issues and negatively impacting QoE.



Customer Churn

The increase in customer churn directly linked to low QoE is a significant concern, with 37% of providers reporting this issue. High churn rates can strain resources and divert focus from improving network performance.



Network Core and Access Network Congestion

Congestion mostly affects the network core (38%) and access network (28%), which in turn impacts the overall user experience.

Road Signs Ahead

FWA Challenges

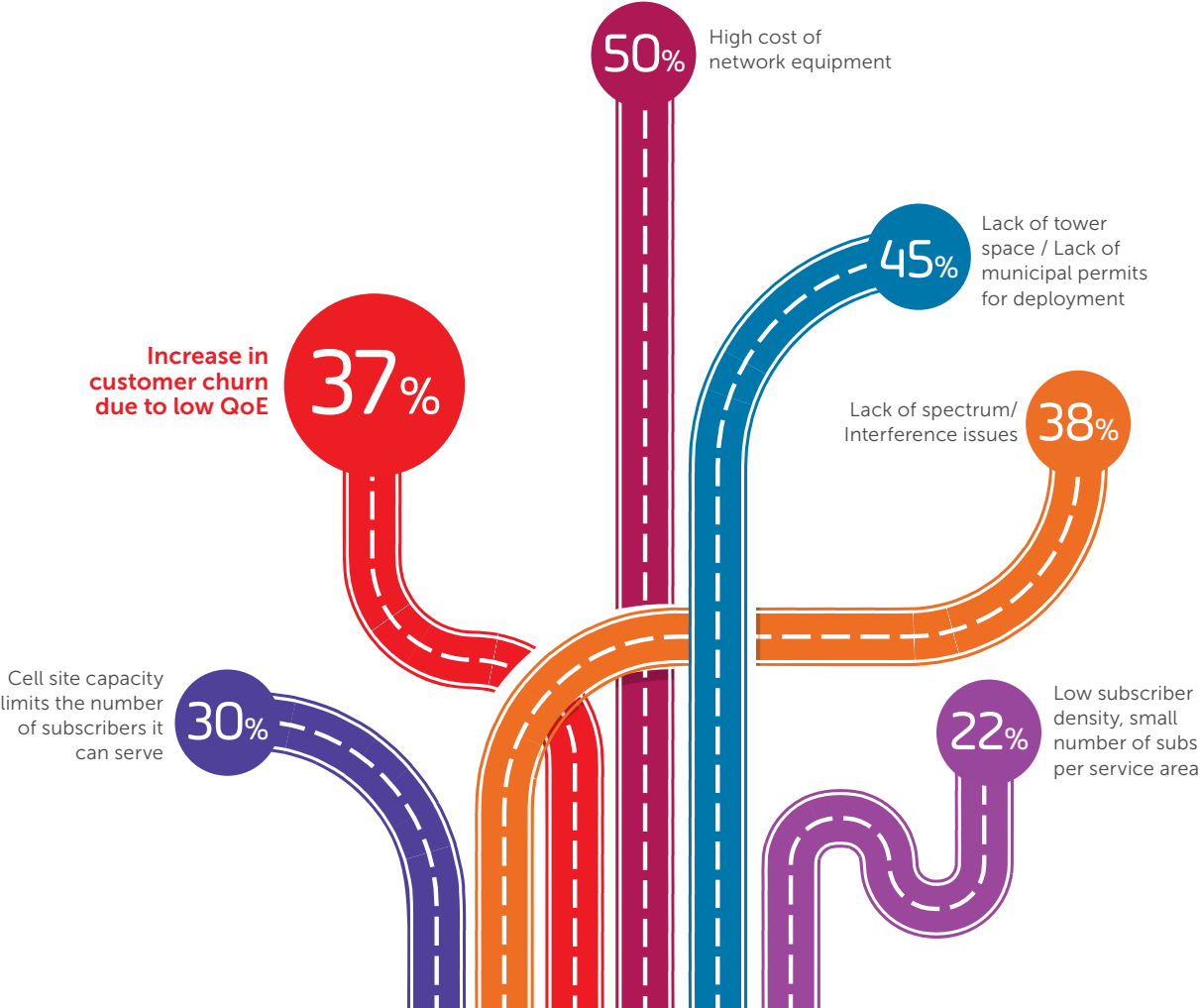
To understand what may be holding back FWA providers from further growing their subscriber base year after year, we surveyed network operators about the issues they face when deploying FWA networks. Despite the capability of FWA networks to be deployed in rural areas at substantially lower costs than their wired counterparts, several key challenges emerged:

- 1

High Equipment Costs
High equipment costs topped the list, cited by half of the surveyed providers as a significant challenge. The financial burden of acquiring and maintaining network equipment can be a substantial barrier to avoiding congestion during peak hours and maintaining network performance, which is crucial for improving customers' QoE.
- 2

Deployment Issues
45% of respondents identified obtaining permits and finding tower space as critical, while 38% highlighted spectrum allocation and its costs. These regulatory, logistical, and financial challenges add complexity and expense, potentially delaying the expansion of FWA Network
- 3

Congestion Management
The survey also found that providers struggle with congestion management, with many lacking real-time monitoring tools. This delay in identifying and resolving network issues leads to poor QoE, resulting in customer dissatisfaction and ultimately driving customer churn—a significant challenge highlighted by a startling 37% of respondents.





Stuck in Traffic

Can FWA Providers Serve SMBs Effectively?

The survey highlights significant challenges in maintaining high QoE for business customers on FWA networks.

- **Inadequate Prioritization Tools**

A significant 68% of respondents reported lacking adequate tools for prioritizing QoE-sensitive business applications, with some having no tools at all. Similarly, 68% indicated they are unable to adequately prioritize QoE-sensitive residential applications.

- **Poor QoE for Business Customers**

During normal hours, only 43% of respondents rate the QoE for business customers as excellent. This percentage rises slightly to 53% during peak hours, emphasizing the significant challenges in maintaining consistently excellent performance throughout the day.

- **Lack of Precedence for Business Traffic**

Just over a quarter of respondents (28%) reported being unable to prioritize traffic for business customers, leading to significant performance issues. This inability to prioritize ultimately impacts the overall QoE for business customers.

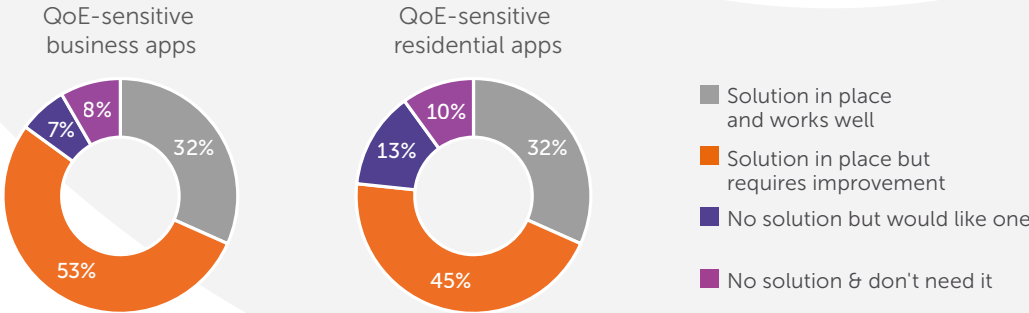
Prioritizing by Service Invites Customers to Prioritize You

The survey revealed significant gaps in traffic prioritization among FWA providers, particularly in terms of the deployment and effectiveness of prioritization tools.

When it comes to prioritizing traffic for business customers, 72% have effective solutions in place. However, only 42%, have adequate tools to prioritize traffic for residential customers.

Providers equipped with the granular capability to differentiate traffic by apps can significantly enhance service quality for all user types. This could provide a valuable competitive edge in the market.

Traffic Prioritization Capabilities



Traffic Prioritization Gaps

Service-Plan Prioritization

- 58% lack adequate tools to prioritize traffic by service-plan for residential customers.
- 28% still lack the capability to prioritize traffic by service-plan for business customers.

Application-Aware Prioritization

- 68% lack adequate solutions to prioritize by apps for business and residential customers.
- Only 32% have effective tools to distinguish and prioritize traffic by service or app type.

Prioritizing traffic by app meets diverse business and residential needs, enhancing QoE universally

Traffic Management: Are WISPs in the Fast Lane?

Can WISPs Keep the Traffic Flowing?

In today's highly competitive market, customers prioritize exceptional QoE when choosing their service providers. They seek seamless, reliable, and high-performance services that meet their ever-growing digital needs. This fact highlights the critical importance of maintaining high QoE to ensure customer satisfaction and reduce churn. We asked our survey respondents if they have tools in place to meet these expectations and how effective they consider these tools to be.

WISPs found that advanced traffic management solutions boost QoE and revenues

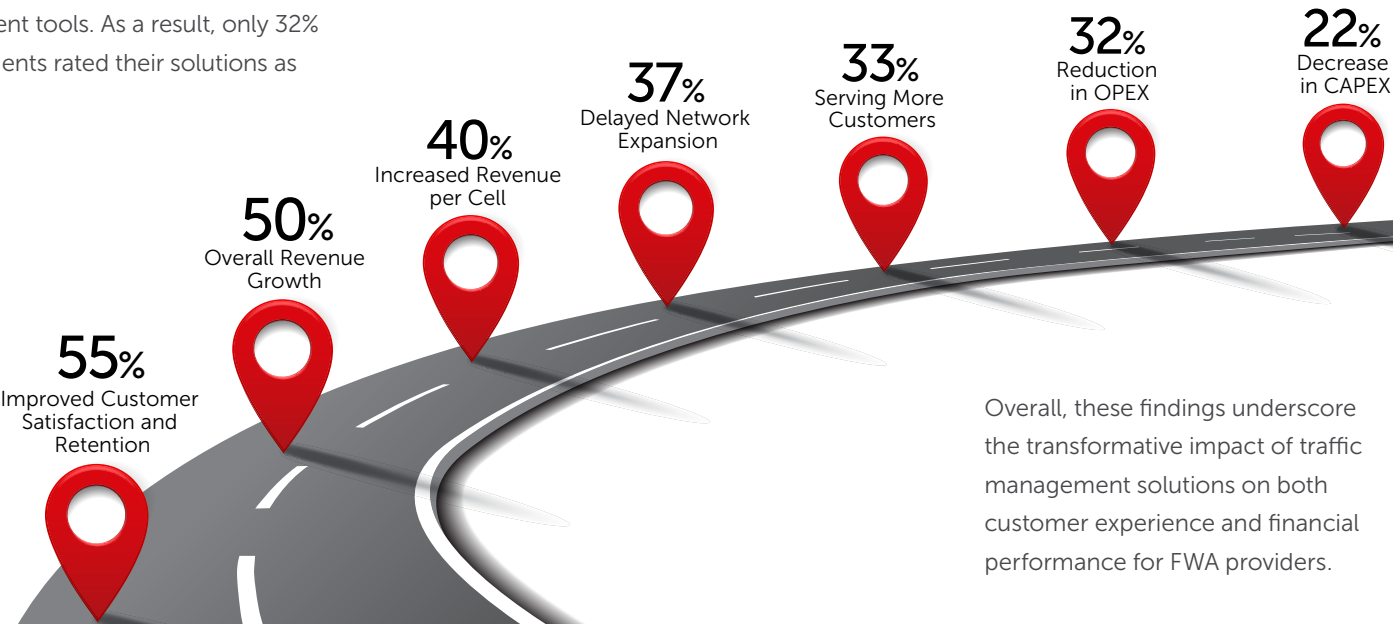
Only 32% Claim Their Tools are Excellent

While traffic management solutions offer exceptional, revenue-rich benefits such as operational efficiency and churn reduction, a sizable portion of providers (38%) still rely on legacy tools that are not equipped to meet modern network demands. Additionally, 15% use a mix of traditional and advanced solutions, while less than half have fully adopted advanced traffic management tools. As a result, only 32% of respondents rated their solutions as excellent.

Lack of Quality Equals Lack of Loyalty

Relying on outdated or semi-advanced tools can lead to inefficiencies, higher costs, and lower customer satisfaction, putting providers at a competitive disadvantage in the fast-evolving Telecommunications landscape.

FWA Providers Highlight Key Traffic Management Impacts



Overall, these findings underscore the transformative impact of traffic management solutions on both customer experience and financial performance for FWA providers.

Allot's Traffic Management Solution

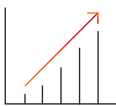
Smart Traffic Management Solutions are designed to address the key challenges faced by FWA providers. Leveraging advanced AI-driven technologies, Allot's solutions provide real-time insights and automated traffic prioritization, ensuring optimal network performance even during peak usage times.

Key Benefits



Reduced churn

Streamlined network performance improves customer satisfaction, which enhances QoE and ultimately reduces churn.



Revenue Growth

Increased revenue by introducing differentiated services vs. competitors or tiered service plans to higher ARPU.



Enhanced Profitability

By deferring network expansion, FWA providers can gain more customers using the existing infrastructure.



Cost Savings

Reduction in OPEX and CAPEX by optimizing existing infrastructure and delaying network expansion.

Features

- Real-Time Congestion Monitoring: Provides instant insights into network performance, allowing providers to proactively manage congestion.
- Automated Traffic Prioritization: Ensures that critical applications receive the necessary bandwidth during peak times.
- AI-Driven Solutions: Utilize advanced algorithms to predict and manage network traffic efficiently.



Key Takeaways

Fixed Wireless Access (FWA) providers are pivotal in bridging the digital divide, especially in regions underserved by traditional wired broadband, areas with high congestion, or locations where laying cables or fiber is prohibitively expensive. However, the escalating demand for bandwidth and unique operational challenges necessitate the adoption of smart traffic management solutions. These solutions are essential for enhancing service offerings, ensuring customer satisfaction, and driving sustainable, cost-effective growth.

Rising Demand for Bandwidth

87% of FWA providers expect traffic on their networks to increase in the coming year, driven by the proliferation of connected devices, streaming services, and cloud applications.

Critical Challenges

High equipment costs, regulatory hurdles, and managing network congestion are the primary challenges faced by FWA providers. Ensuring reliable and high-quality service is particularly difficult during peak hours and for QoE-sensitive business applications.

Current Tools Inadequate

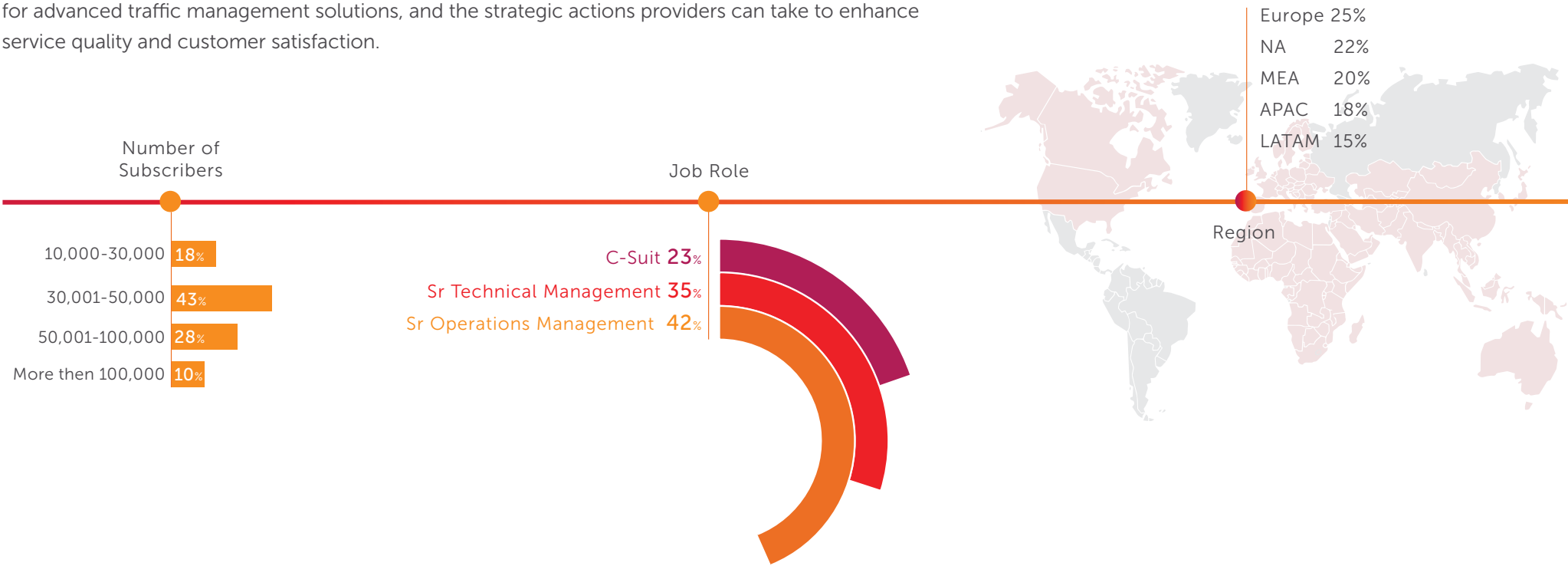
Many providers still rely on legacy traffic management tools, which are not equipped to handle modern network demands. Less than half have implemented the necessary advanced traffic management solutions.

Potential Benefits

Implementing advanced traffic management solutions can significantly enhance network performance, improve customer satisfaction, reduce costs, and drive revenue and profitability growth.

Methodology

This report is based on an online survey conducted between April and May 2024. The survey, commissioned by Allot and conducted by Coleman Parkes, delves into the pressing challenges and emerging trends faced by Fixed Wireless Access (FWA) network operators worldwide. With insights from 60 network operators globally, this report reveals the increasing demand for bandwidth, the critical need for advanced traffic management solutions, and the strategic actions providers can take to enhance service quality and customer satisfaction.



Resources

For more information on FWA and traffic management, refer to the following resources:



Podcast – What is FWA and why is it expected to grow in 5g?

[Listen Now >](#)



Smart traffic management solutions

[Learn More >](#)



Quality of experience and its impact on profitability

[Learn More >](#)



FWA is Coming: What you need to know

[Learn More >](#)

About Allot

Allot Ltd. (NASDAQ: ALLT, TASE: ALLT) is a provider of leading innovative network intelligence and converged security solutions for service providers and enterprises worldwide, enhancing value to their customers. Our solutions are deployed globally for network and application analytics, traffic control and shaping, network-native security services, and more. Allot's multi-service platforms are deployed by over 500 mobile, fixed and cloud service providers and over 1000 enterprises. Our industry-leading network-native security-as-a-service solution is already used by many millions of subscribers globally.

For more information, visit
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