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Ericsson Microwave Outlook

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Backhaul media for 5G and beyond

The global telecommunications backhaul landscape remains dynamic, driven by increasing data consumption. Microwave continues to play an important role in meeting these demands.

Mobile data traffic continues to grow at 15 percent year over year, according to the June 2025 Ericsson Mobility Report,¹ largely powered by 5G rollouts. 5G's share of mobile data traffic is currently 35 percent and it is forecast that by 2029, it will increase to 75 percent.

By 2030, global mobile traffic is expected to rise with the introduction of 6G, although the rate of network expansion will gradually stabilize in mature markets. Service providers are balancing capacity, coverage, and cost considerations as they build resilient future-proof infrastructure.

Backhaul media equalization

While backhaul connections will keep increasing overall, the ratio of microwave to fiber in 2030 is expected to equalize to a 49/51 split along the trends previously identified in 2023, as seen in Figure 1, driven by increased data use. Fiber is a key technology for trunk

and aggregation sites, while most 5G backhaul in suburban and rural areas is supported by new microwave technology.

Trend breakers

Although global patterns point to a gradual equalization between fiber and microwave backhaul by 2030, certain markets are defying these broader trends, as can be seen in Figure 2.

Contrary to the long-standing shift toward fiber dominance in North American markets, the US is witnessing renewed investment in microwave infrastructure. This change is driven by three main factors: firstly, the acceleration of rural 5G deployments where fiber economics remain challenging; secondly, the emergence of high-capacity E-band and multi-band solutions capable of delivering fiber-like connections; and thirdly, strategic redundancy planning to improve network resilience against fiber cuts.

By leveraging microwave, US service providers can act faster, reduce investments and extend coverage.

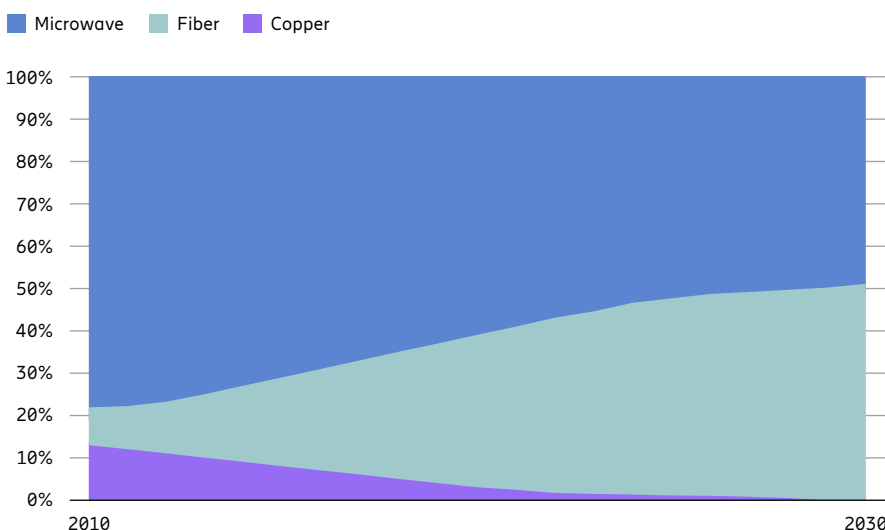
Across Western Europe, fiber rollout momentum is showing early signs of a slowdown. Factors such as complex permit processes, urban construction challenges and inflationary cost pressures are slowing down expansion compared to earlier forecasts. Service providers are increasingly deploying a mix of fiber and advanced microwave solutions in urban and suburban contexts to balance cost, speed and coverage.

Within the broader North East Asia market region, which includes mainland China, the microwave share is expected to remain at approximately 6 percent by 2030. The presence of extensive rural and hard-to-reach areas within mainland China ensures the continued relevance of microwave technology. In the Taiwanese market, recent regulatory changes that lower microwave spectrum fees have incentivized selective microwave deployments, particularly for enhancing coverage, increasing flexibility and providing redundancy for high-reliability links. Collectively, these trends highlight that even in markets with extensive fiber infrastructure, microwave solutions retain strategic importance in various deployment scenarios.

A 49/51 split is predicted between microwave and fiber for mobile backhaul by 2030.²

49%

Figure 1: Predicted global backhaul media distribution up to 2030

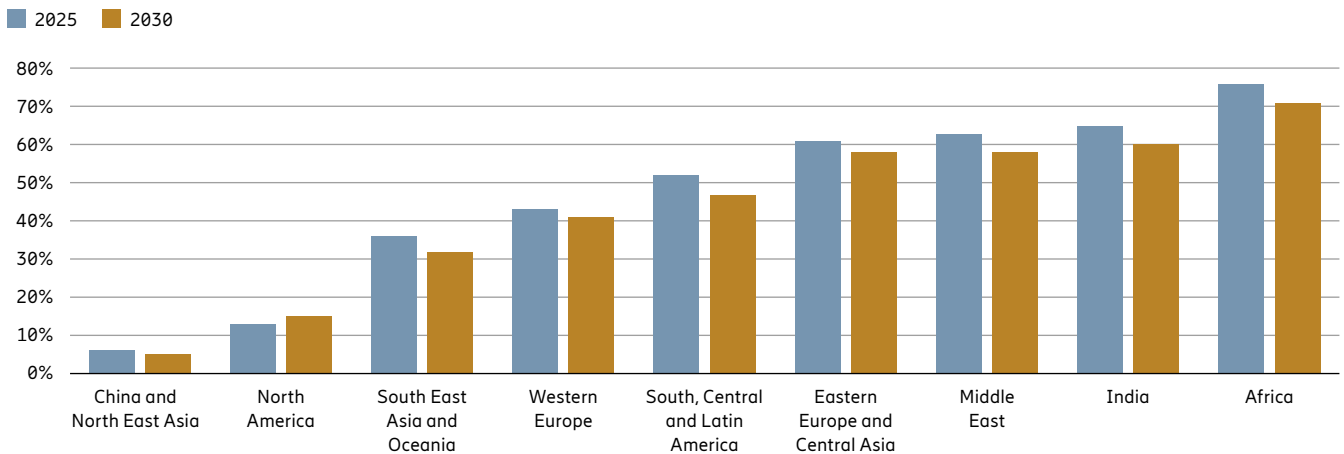


Source: Ericsson (2025).

¹ Ericsson Mobility Report (June 2025)

² Excluding North East Asia.

Figure 2: Predicted regional differences in deployment of microwave backhaul in 2025 and 2030



Source: Ericsson (2025).

In India, fiber rollout is accelerating faster than previously projected, particularly in urban areas. Service providers have been focusing on easy-to-reach, high-capacity sites and replacing trunk links. While fiber is expanding rapidly, microwave continues to play a major role in rural and suburban 5G backhaul. The overall site count is growing, meaning microwave's absolute presence will likely increase in parallel even as its share declines in dense urban areas.

South East Asia is demonstrating some of the fastest fiberization rates globally. Microwave supports rural and island connections, while the region's infrastructure trajectory shows a preference for fiber as the urban backhaul technology.

Network resilience and backhaul strategies

As 5G networks mature and preparation for 6G begins, resilience and redundancy are vital to maintain service quality.

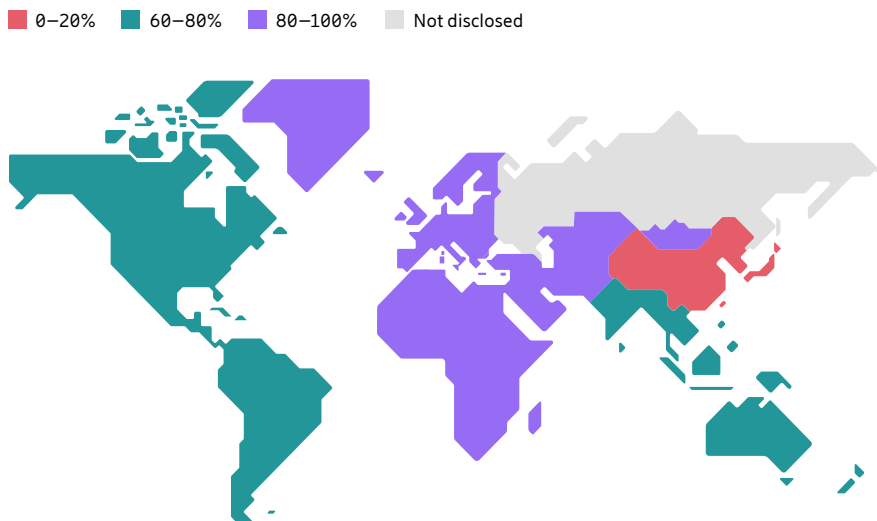
Today, microwave backhaul is used in 75 percent of the live 5G networks worldwide, ensuring fast, dependable connectivity (Figure 3). Often, dual-carrier XPIC links in traditional frequency bands act as the foundation for 5G backhaul, offering long reach and future-proof capacity. In most cases the traditional spectrum is enough but, when required, E-band and multi-band solutions can be used to deliver multi-gigabit throughput for urban and suburban areas.

In the realm of network resilience, microwave remains a vital, future-proof enabler of robust, high-performance networks, giving service providers network protection against disruptions such as fiber cuts.

Conclusions

The global backhaul landscape is on track to reach a 49/51 split between microwave and fiber solutions by 2030. However, advanced economies such as the US show signs of breaking the trend of increased fiberization. In these regions, fiber is already deployed to easily fiberized backhaul sites, leading to renewed interest in modern, high-capacity microwave. Overall, the main use of fiber is for aggregation and urban areas, while microwave solutions continue to be indispensable for mobile backhaul into 2030 and beyond. By leveraging the complementary strengths of fiber and microwave, service providers can ensure that their networks can support the data demands of both advanced 5G services and the projected increase of capacity needs in 6G. The future of backhaul is not a contest between fiber and microwave; instead, both play essential roles in building robust and future-proof networks.

Figure 3: Share of live 5G networks using microwave backhaul



Source: Ericsson (2025).

Globally, microwave backhaul is used in 75 percent of live 5G networks today.

75%

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For nearly 150 years, we've been pioneers in creating technology for communication.

We offer mobile communication and connectivity solutions for service providers and enterprises.

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