



The State of 5G 2026



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Executive summary

Seven years after the commercial launch of 5G in 2019, the global connectivity landscape has reached a new phase in its evolution. At the end of 2025, more than half of the world's population was covered by a 5G network, making it the fastest-adopted mobile technology to date. However, 5G is still not the predominant technology globally, as 4G continues to represent the majority of mobile connections, particularly in low- and middle-income markets. As a result, despite significant progress, 5G is not yet a universal platform for digital transformation.

At the same time, the priorities for 5G deployment are shifting. Early phases focused primarily on extending coverage and capacity through non-standalone (NSA) networks. Today, attention is moving towards the capabilities enabled by 5G standalone (SA) and 5G-Advanced, which provide more consistent performance, improved uplink capacity, lower latency and features such as network slicing. These capabilities are increasingly relevant as AI becomes a more influential part of the connectivity landscape, shaping both how networks operate and the services used by consumers and enterprises.

Within this context, the 5G Connectivity Index (5GI) provides a structured and forward-looking framework for assessing 5G readiness and development. The 2026 edition continues to evaluate two main categories – 5G infrastructure and 5G services – while incorporating new metrics designed to reflect technological advances and emerging requirements. These additions allow the index to capture not only the scale of 5G rollout but also the maturity of development.

Convergence in core areas and divergence in advanced capability

The latest 5GI results show clear improvement across the foundational components of 5G: coverage has expanded in all 46 markets included in the index; affordability has improved as lower-cost 5G plans and devices have become more widely available; and adoption continues to rise. This is reflected in higher 5G penetration and a growing share of 5G device shipments.

But significant variations emerge when evaluating more advanced dimensions of 5G maturity. These dimensions include performance on 5G SA deployment, 5G-Advanced networks, upload speeds, quality of experience, 5G FWA penetration, IoT connectivity, RedCap deployment and mobile data usage. While many countries have achieved basic 5G availability, only the leading markets are progressing towards more capable 5G ecosystems that are able to support demanding consumer experiences, enterprise digitalisation and emerging AI-dependent applications.

5G leaders surge ahead

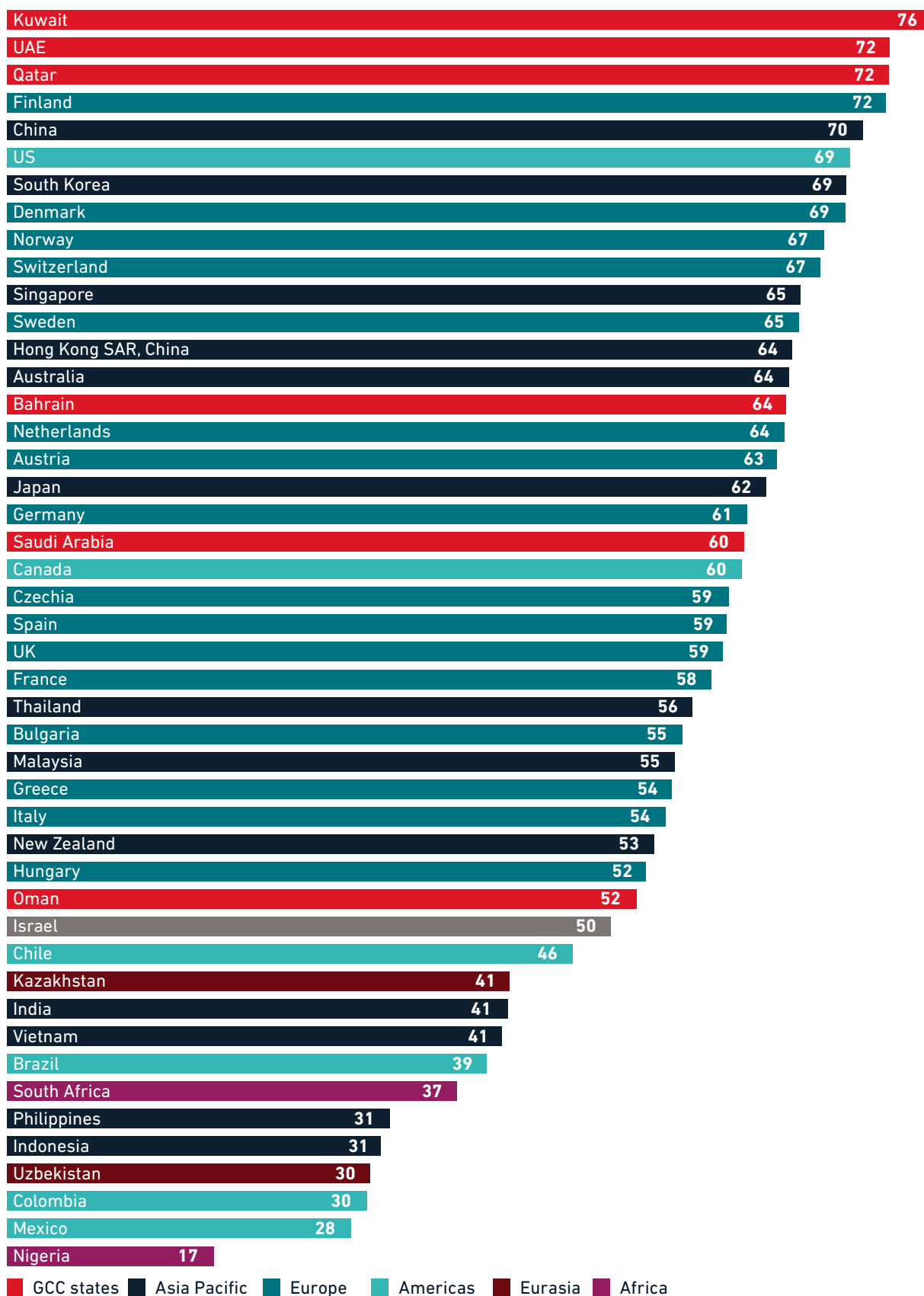
A group of leaders – including the Gulf Cooperation Council (GCC) states, Nordic countries, developed Asia Pacific, China¹ and the US – continue to perform strongly across the index, supported by a combination of advanced network capabilities, affordable services, broad adoption and consistently strong experience outcomes. These markets typically exhibit extensive 5G SA deployment, early progress in 5G-Advanced, strong uplink and latency performance, near-universal

coverage and high base station density. They also benefit from device and service affordability levels that enable widespread consumer use. Together, these conditions create a virtuous cycle in which networks, adoption and experience advance simultaneously, demonstrating that the alignment of infrastructure and usage is essential for achieving higher levels of 5G maturity.

¹ China in this report refers to mainland China unless otherwise stated.

Figure i

5GI scores by market, Q4 2025



Source: GSMA Intelligence

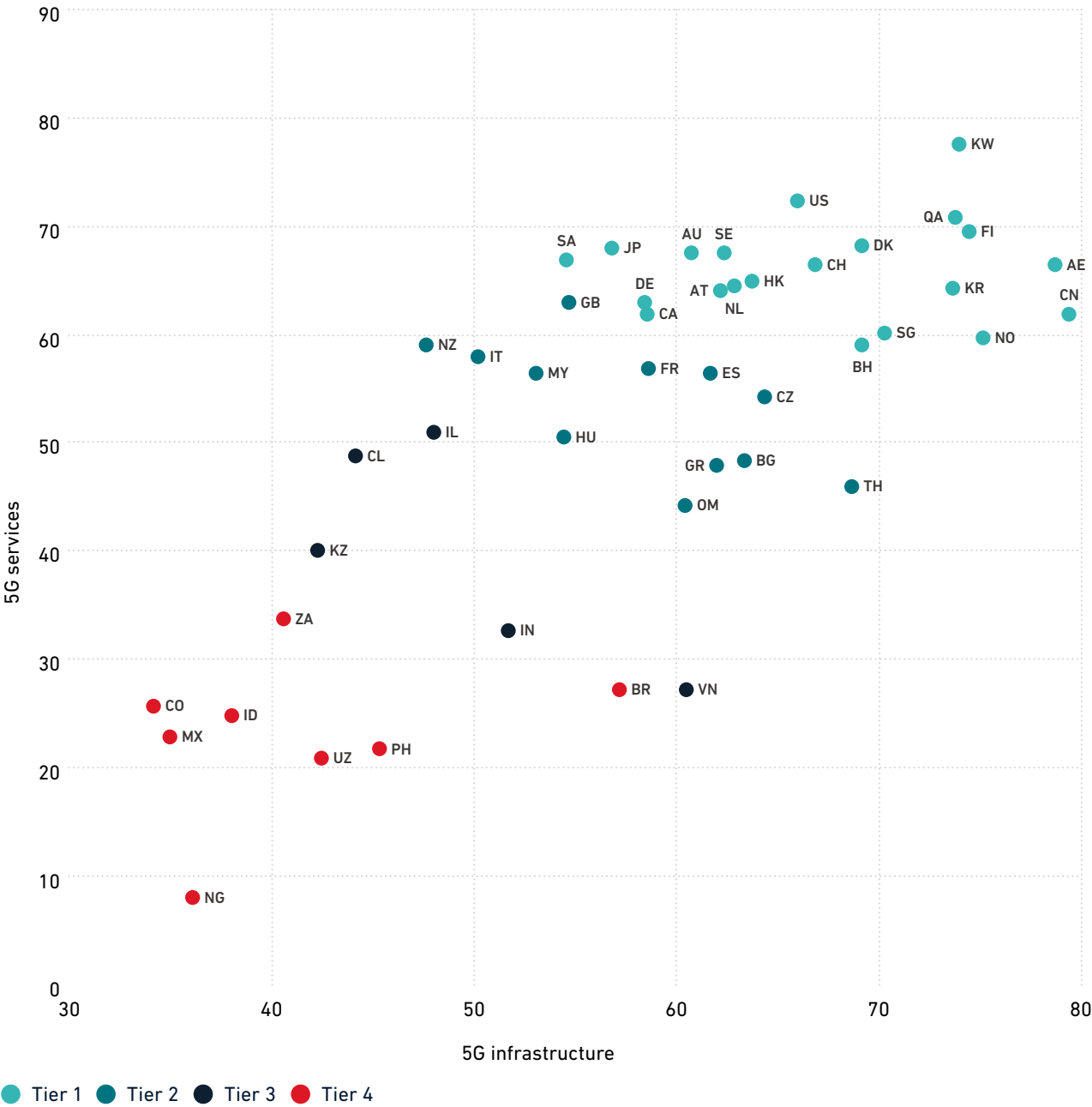
More markets progress into higher tiers, but the 5G gap is widening

Performance on the 5GI has improved significantly since 2023. Tier 1 markets (those scoring above 60 on the index) are now the largest group, reflecting sustained improvements in coverage, affordability and adoption. However, Tier 4 markets (those scoring below 40) have remain broadly unchanged, indicating that a subset of markets continue to face barriers in

advancing beyond the foundational elements of 5G. This means that the divergence in 5G evolution is becoming more pronounced: markets progressing quickly in 5G SA deployment, uplink performance, 5G FWA usage and the development of IoT and RedCap are moving ahead faster.

Figure ii

5GI: 5G infrastructure and 5G services scores



Source: GSMA Intelligence

Unlocking the next phase of 5G: monetisation and AI

The next wave of 5G growth will depend not only on improvements in network coverage and quality but also on the ability of markets to translate these gains into commercial and economic value. While 5G SA is central to enabling the full performance of 5G, progress remains uneven. While more than 80 operators worldwide have launched 5G SA, the depth and scale of deployment vary widely. Furthermore, there are only six markets where the adoption of 5G SA is greater than 10%.² Monetisation remains a key challenge. Despite wide 5G availability and rising data traffic, recurring mobile revenues have remained almost flat in most markets. However, some markets, such as China, the GCC states and the US, have diverged from this pattern as enterprise digital transformation has accelerated, speed-based mobile broadband pricing has emerged and 5G FWA has scaled up.

At the same time, AI is becoming a more significant factor in mobile networks and the services they deliver. Operators are expanding the use of AI for efficiency gains and shifting network management towards more data-driven and automated operations. AI-enabled applications are also reshaping network requirements, particularly for uplink performance.

These increasing demands explain the growing importance of 5G-Advanced. Although 5G-Advanced deployments remain at an early stage and are currently limited to a small group of markets, the technology provides stronger performance, improved reliability and enhanced positioning and sensing capabilities that support emerging AI-driven services.

The 5GI shows that advanced 5G capabilities are progressing unevenly across markets. This creates a widening gap between markets that are moving towards mature 5G ecosystems and markets that are still limited to more basic 5G availability. Addressing this divergence requires coordinated action across the ecosystem. Technology suppliers must provide clearer commercial pathways for advanced features; regulators must create the regulatory and investment conditions needed for these capabilities to scale up; and ecosystem partners must help translate new network capabilities into real enterprise and public-sector outcomes. As AI becomes more integral to both network operations and digital services, these enablers will be essential to avoid deeper divides and to ensure that 5G evolves into a truly transformative global platform.

² This refers to the proportion of 5G Speedtest samples that are on 5G SA, based on Speedtest Intelligence® data provided by Ookla®.

1

The evolution of 5G

1.1 Moving beyond just coverage and capacity

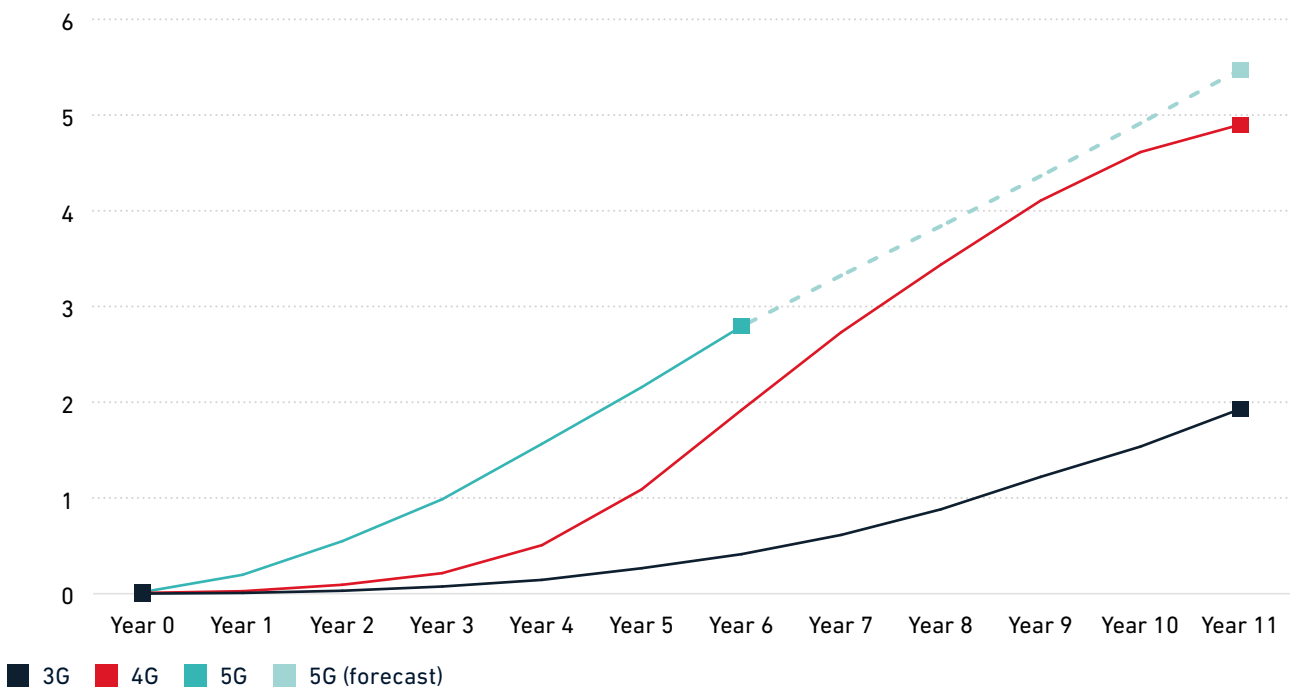
Seven years after the commercial launch of 5G in 2019, the global connectivity landscape has reached a new phase in its evolution. At the end of 2025, more than half of the world's population was covered by a 5G network and the number of 5G connections exceeded 2.7 billion, making 5G the fastest-growing mobile technology to date. However, 5G is still not the predominant technology globally, with 4G continuing to represent the majority of mobile connections,

particularly in low- and middle-income countries (LMICs), where device affordability, macroeconomic constraints, together with challenging regulatory and investment conditions, shape the speed of transition. This means that despite the strong growth in 5G deployment and adoption, operators, governments and the broader mobile ecosystem are still working to establish 5G as a universal platform for digital transformation.

Figure 1a

Number of 3G, 4G and 5G connections globally since launch

Billion

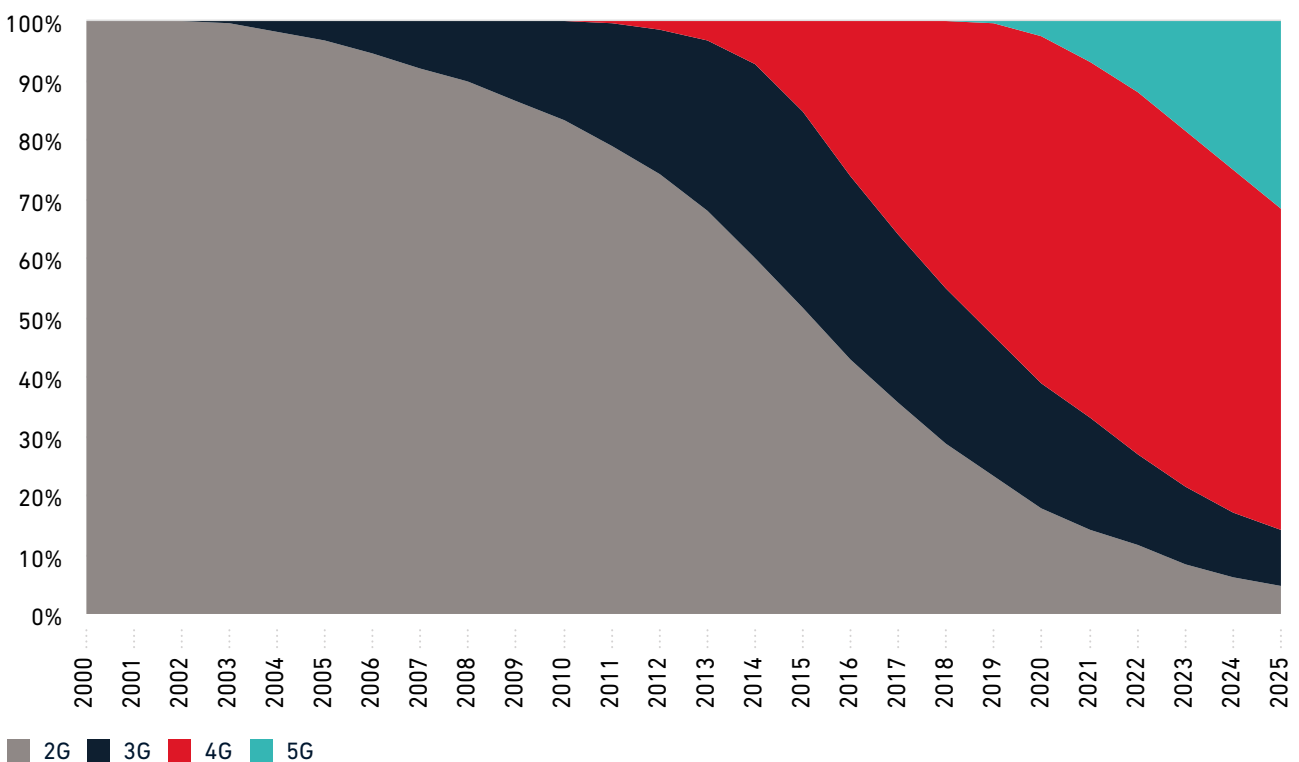


Source: GSMA Intelligence

Figure 1b

Global evolution of the share of mobile technologies

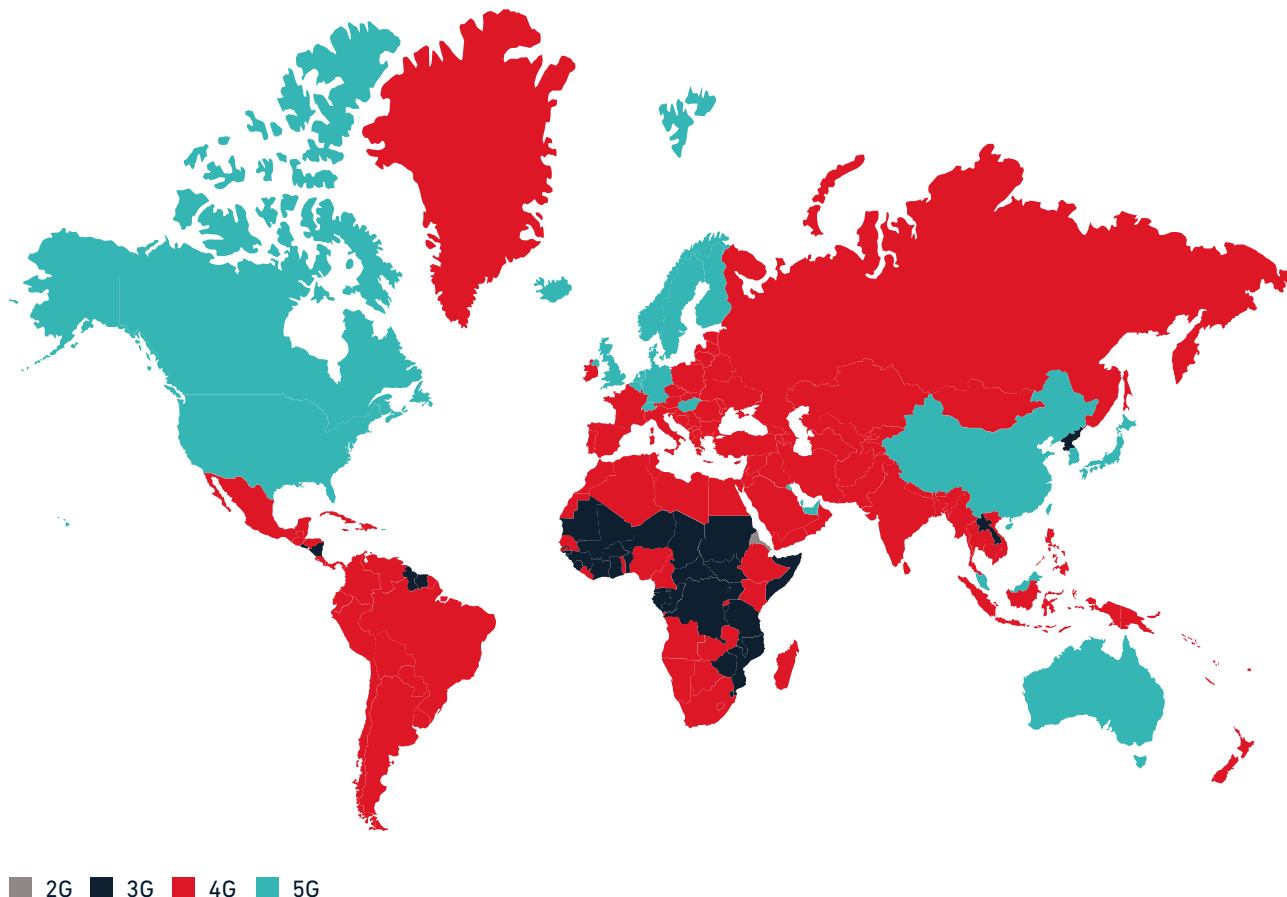
Percentage of connections



Source: GSMA Intelligence

Figure 2

Predominant mobile technology by market at the end of 2025³



Source: GSMA Intelligence

While many operators have made significant progress in expanding coverage and deploying new spectrum bands, global 5G performance continues to diverge sharply across markets. Advanced 5G markets – particularly the Gulf Cooperation Council (GCC) states, Nordic countries, developed Asia Pacific, China and the US – have invested in the next stage of 5G, including 5G standalone (SA), 5G-Advanced and AI-enabled capabilities to enhance network performance. This has allowed them to deliver improved speeds, more consistent performance and a more reliable user experience even under growing traffic loads. However, the majority of markets are either in the early stages of 5G deployment (if it has been deployed at all) or they have achieved widespread 5G non-standalone (NSA) network coverage but are yet to achieve high adoption among consumers and enterprises.

At the same time, the priorities for 5G are shifting. Early deployment phases were focused on coverage and capacity expansion, particularly for NSA networks.⁴ But going forward, attention is now shifting from coverage and headline speeds towards the capabilities that 5G SA and 5G-Advanced can deliver, which are essential for realising the technology's full set of productivity and innovation benefits. Beyond enhanced performance, 5G SA and 5G-Advanced introduce features such as network slicing, ultra-reliable low latency communication (URLLC), advanced positioning, massive IoT support, uplink enhancement, AI-native automation and network sensing. These capabilities, among others, directly enable industrial automation, resilient critical-infrastructure connectivity, real-time media production and next-generation public-service applications. Such features are largely unsupported by NSA networks.

³ Predominant refers to the mobile technology with the highest share at the end of the year.

⁴ 5G NSA anchors the 5G radio network to the existing LTE core for faster initial rollout, whereas 5G SA requires deploying a new 5G core network.

Figure 3

Support for 5G-Advanced features

5G-Advanced features	5G SA	5G NSA
Massive IoT	✓ Supported	✗ Not supported
URLLC	✓ Supported	✗ Not supported
Non-public networks (private 5G)	✓ Supported	– Limited support
Power efficiency	✓ Supported	– Limited support
Network slicing	✓ Supported	✗ Not supported
AR/VR	✓ Supported	✗ Not supported
Location and positioning	✓ Supported	– Limited support
Uplink boost	✓ Supported	✗ Not supported
Live broadcast	✓ Supported	✗ Not supported
AI/ML integration	✓ Supported	– Limited support
RAN control loops	✓ Supported	– Limited support
Network sensing	✓ Supported	– Limited support

Source: GSMA⁵

The importance of this shift is reinforced by the continued growth in mobile data consumption. Globally, between 2020 and 2025 mobile data traffic grew by more than 150%. This growth has been driven by richer content consumption, the expansion of video-based services and the increasing adoption of 5G fixed wireless access (FWA). These trends are reshaping expectations of network performance, requiring not only wider coverage and faster speeds but also improved resilience and more consistent user experience. In addition, AI is becoming a more influential part of the connectivity landscape. While still at an early stage, AI-enabled devices, applications and network-level optimisation tools are expected to play a growing role in shaping service quality and operational performance. This places further emphasis on the need to strengthen 5G networks, ensuring that capacity and reliability keep pace with evolving digital demands.

Against this backdrop, monetisation remains critical. In many markets, operators have yet to see significant revenue growth despite increasing 5G usage. Since the launch of 5G, recurring revenues have remained broadly stable in most markets and in some cases – most notably in parts of Europe – revenues have marginally declined since the launch of 5G, even as investment requirements have continued to increase. However, the next stage of 5G evolution will create new commercial opportunities. Enhanced 5G capabilities, including enterprise-focused connectivity solutions (for example, through enhanced security, connectivity and cloud-network integration) and the continued rise of 5G FWA, offer potential sources for revenue growth.⁶

⁵ Destination Growth – 5G Standalone: Getting Ahead of the Curve, GSMA, 2025

⁶ Digital transformation of vertical sectors: the new wave of B2B opportunities revealed by the global 2025 enterprise survey, GSMA Intelligence, 2025

1.2 5G Connectivity Index

As 5G enters a more mature stage of development, particularly in the leading markets, the need for a comprehensive, structured and future-oriented measurement framework is important. The GSMA 5G Connectivity Index (5GI) was designed to address this need, offering a holistic view of how markets are progressing across the full spectrum of 5G enablers and outcomes. The 2026 edition builds on this foundation, refining the index structure to capture not only the scale of 5G rollout, but the depth, quality and inclusiveness of 5G development around the world.

The updated framework retains the two overarching categories – 5G infrastructure and 5G services – but introduces important enhancements within each. These updates respond to three core shifts in the broader 5G landscape. First, network capabilities have evolved quickly as countries assign more spectrum, densify sites and move towards more advanced network configurations. Second, consumer and enterprise expectations have increased as data traffic grows and devices integrate more sophisticated applications, including AI-enabled services. Third, the policy environment has placed greater emphasis on affordability, availability and universal access, particularly as 5G becomes a key enabler of digital public infrastructure, enterprise productivity and national competitiveness.

5G infrastructure

The 5G infrastructure category continues to assess the essential components required for high-performing 5G networks, but with some important updates. The spectrum pillar remains central, capturing low-, mid- and high-band assignments, which recognises the critical role of balanced spectrum portfolios in achieving

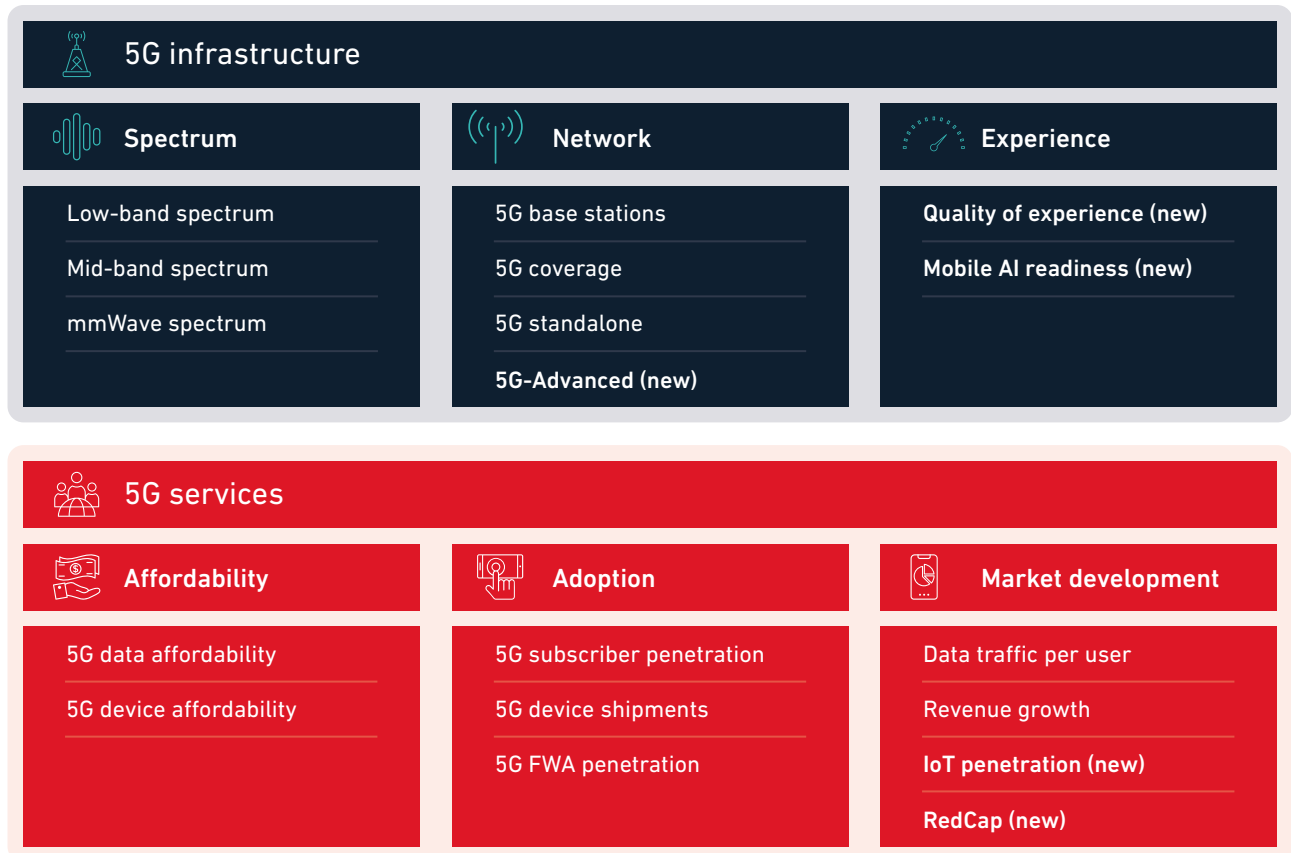
both coverage and capacity. The network pillar now incorporates a broader set of indicators, with a stronger emphasis on 5G SA use and early 5G-Advanced launches, recognising their role as prerequisites for low-latency services, AI-enabled services and improved uplink performance. The experience pillar has also been strengthened through richer datasets that assess not only downlink and uplink speeds and latency, but also quality-of-experience (QoE) metrics around video quality, web browsing and gaming performance, providing a better view of experience for end users. The index also includes a new mobile AI readiness indicator to reflect each market's ability to support emerging AI applications and services.

5G services

The 5G services category provides the complementary perspective: how consumers and enterprises adopt, use and benefit from 5G. While the three pillars of the 5G services category – affordability, adoption and market development – remain the same, the underlying metrics have been expanded. The affordability indicators retain their focus on device and data-plan accessibility, recognising that cost remains a barrier to 5G adoption in many countries. Adoption indicators continue to measure subscriber penetration, the 5G device ecosystem and the role of 5G FWA, reflecting the growing importance of FWA as a tool for expanding affordable fixed broadband access. The market development indicators have been broadened to capture not just data usage and revenue growth but also IoT and 5G RedCap as key drivers of enterprise demand. These additions recognise that 5G's long-term value will increasingly be shaped by industrial, public-sector and connected-infrastructure use cases.

Figure 4

5GI: categories, pillars and indicators



Source: GSMA Intelligence

The 2026 edition also expands the 5GI's geographical coverage, with 46 markets included. The inclusion of new markets allows for a richer assessment of the global 5G landscape, highlighting the regional disparities in deployment, variations in network

performance and the differing stages of progress across markets.⁷ Taken together, these refinements ensure that the 5GI remains a relevant and forward-looking tool for assessing 5G readiness and development.

⁷ See [here](#) for the methodological note for the 5GI, which has detailed definitions of each indicator, the underlying data sources and the estimation techniques used. The note also provides clarification on the construction of composite scores, treatment of missing data, normalisation procedures and the rationale behind each metric included in the index.

2

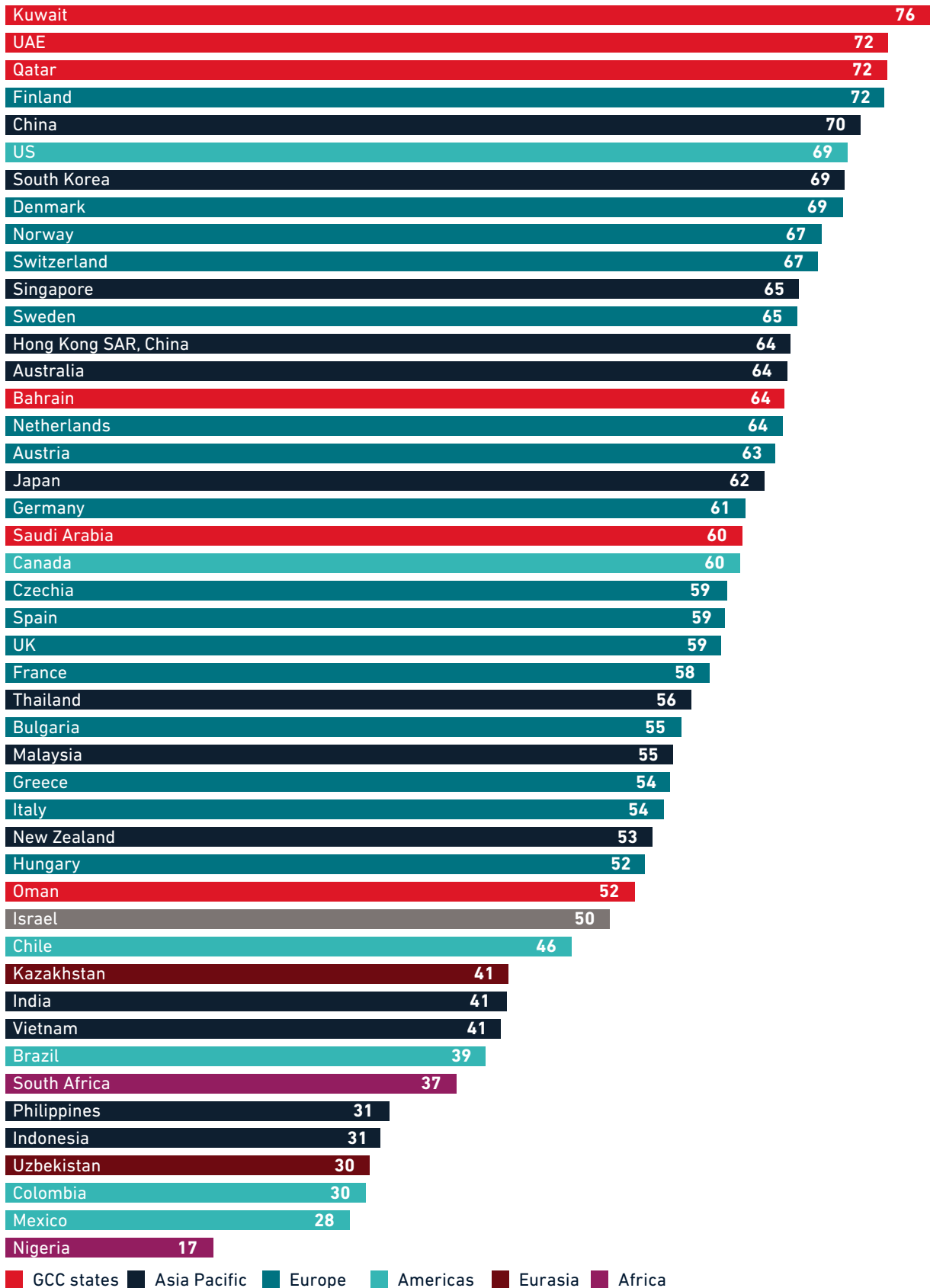
5G is growing but not evenly

2.1 5G leaders: the GCC states, Nordic countries, developed Asia Pacific, China and the US

The latest 5GI results highlight a stable set of leading markets across the GCC states, Nordic countries, China, developed Asia Pacific and the US. What distinguishes these markets is consistent strength in both the 5G infrastructure and 5G services categories of the index. Their position is defined by networks that support high performance and by user adoption and affordability conditions that allow consumers and enterprises to realise material gains from 5G.

Figure 5

5GI scores by market, Q4 2025



Source: GSMA Intelligence

GCC states: topping the leaderboard with robust 5G services

Kuwait, the UAE and Qatar achieve top-tier performances across both the infrastructure and services categories. Their infrastructure performance is characterised by very wide 5G coverage (99%), high 5G base station deployment and extensive deployment of 5G SA (around 80% of 5G connections are with operators that have deployed SA), with the UAE and Kuwait beginning to deploy 5G-Advanced in 2025. These conditions translate directly into very high scores for QoE and mobile AI readiness. Using a weighted-average comparison between these three markets and the rest of the markets assessed in the 5GI, their upload and download speeds are 139% and 395% higher respectively, while latency indicators are 44% lower.

Affordability and a strong 5G device ecosystem also enable a large share of subscribers to access high-performance 5G services: in all three markets, the combined cost of a 100 GB data plan and a 5G device is below 4% of monthly income. Qatar, Kuwait, Saudi Arabia and the UAE are also the markets with the highest 5G FWA adoption in the 5GI. The GCC states demonstrates how early investments in 5G capability, combined with accessible pricing, delivers fast and measurable 5G service benefits.

5G FWA has emerged as one of the most immediate and scalable monetisation opportunities for operators in the Middle East and North Africa region, particularly in areas where fibre coverage remains uneven. Operators are expanding 5G FWA through differentiated service tiers and bundling it with entertainment, gaming and smart home services to drive higher revenue.⁸ Governments are also promoting FWA to improve rural connectivity, strengthening demand and allowing operators to monetise their investments. With 5G-Advanced on the horizon, enhanced capacity and efficiency will further support premium FWA packages, helping operators unlock revenue growth from next-generation broadband.

Nordic countries: strong service outcomes supported by reliable 5G

The Nordic countries – namely Finland, Denmark, Norway and Sweden – stand out for their high scores in the experience pillar, reflecting consistently strong results across latency, uplink performance, consistency and overall QoE. These outcomes are enabled by a strong performance in the network pillar: 5G population coverage is extensive at 99%, 5G base station deployment is higher than in most other markets and 5G SA deployment is advancing, mainly in Finland and Denmark. The combination of high capability and stable user experience supports widespread device penetration (on average, 84% of new device shipments are 5G-capable devices) and favourable affordability (5G device prices represent around 3% of monthly income). The Nordic countries show how balanced infrastructure strength and broad usage together produce high service outcomes.

China: translating infrastructure strength into major B2B opportunities

China records the strongest performance in the infrastructure category. Wide 5G availability (more than 90% population coverage), high site deployment (around 340 sites per 100,000 people) and one of the highest 5G SA scores globally provide a strong 5G connectivity foundation for the next phase of network evolution. The adoption of 5G SA is higher in China than in any other market, at around 80%.⁹

China's position is further reinforced by being a leading market in the deployment of 5G-Advanced and RedCap. It also has the highest adoption of IoT (more than 10 times greater than in other markets), explaining part of its success in the business-to-business (B2B) segment. This is also reflected in a consistent increase in recurring revenues for mobile operators in China, with an average annual growth of around 8% since the launch of 5G, which is twice the average growth rate of Tier 1 and Tier 2 markets.¹⁰

China's 5G B2B market is progressing at scale, supported by the early and extensive deployment of 5G SA and strong enterprise demand for digital transformation. Operators have already enabled

⁸ The Mobile Economy Middle East and North Africa 2025, GSMA, 2025

⁹ This refers to the proportion of 5G Speedtest samples that are on 5G SA, based on Speedtest Intelligence data provided by Ookla.

¹⁰ See [Chapter 2.2](#) for further details on the tiers.

more than 4,000 5G-connected factories, alongside large-scale deployments in sectors such as manufacturing, ports, energy, healthcare and logistics, demonstrating that activity has moved beyond pilot phases.¹¹ Chinese enterprises also show strong demand for advanced connectivity: 91% consider public 5G networks important to their digital transformation strategies, and many are partnering with operators for cloud, AI and automation.¹² This combination of advanced networks and enterprise readiness positions China as a leading market in realising the productivity and innovation benefits of 5G for the industry.

Developed Asia Pacific: affordability and site deployments fuel 5G penetration

A number of developed Asia Pacific markets, particularly South Korea, Hong Kong and Australia, show consistently strong performance in the 5G services category, primarily driven by high levels of adoption and affordability. The weighted average 5G penetration in developed Asia Pacific stands at 88%, which is 40 percentage points higher than the weighted average of all other markets.

Much of the improvement comes from relatively low-cost devices, with an average weighted device price below 6% of monthly income, which is around half of the equivalent figure for the average of the other markets in the index.¹³ This affordable ecosystem – supported by both accessible services and devices – stimulates demand for internet usage, resulting in nearly double the data traffic per connection compared with the average of the other markets.

Another important factor is their extensive deployment of 5G base stations (460 per 100,000 people), which is almost four times higher than the weighted average of other markets. This level of infrastructure investment helps explain the near-universal 5G population coverage (99%) and strong performance in network experience in developed Asia Pacific.

US: affordable services, full 5G SA deployment and extensive 5G FWA

The US has the second strongest performance in the 5G services category (after Kuwait). This is driven in significant part by affordable 5G services and devices as well as the growth of 5G FWA (there were more than 15 million 5G FWA connections in the country at the end of 2025). This growth is also reflected in meaningful revenue streams and monetisation opportunities for operators. For example, Verizon generated \$2.1 billion in FWA revenues in 2024, while T-Mobile US supported its 6% service-revenue growth with 1.7 million net broadband additions.¹⁴ In addition, all major US operators have launched 5G SA networks, with 5G SA adoption standing at 32%, the fourth highest in the index. There have also been RedCap deployments in the US since 2024, while 5G-Advanced commenced in 2025.

What the leaders show about 5G maturity

Across all leading markets, the 5GI results highlight the same pattern: the best performance occurs when infrastructure and usage advance together. Investment in coverage and capacity, supported by 5G SA, provides the foundation for improved mobile AI readiness and QoE. At the same time, better user experience supports higher 5G adoption, lifting scores in the 5G services category, as improvements in performance strengthens applications and usage that reinforce one another. Markets that progress on network capability without broad user uptake will struggle with low investment returns (which will impact future investment), whereas markets that achieve high adoption without advanced networks will not be able to realise the full benefits of 5G. The leaders therefore demonstrate that 5G maturity depends on the alignment of both categories of the index.

¹¹ [The Mobile Economy China 2025](#), GSMA, 2025

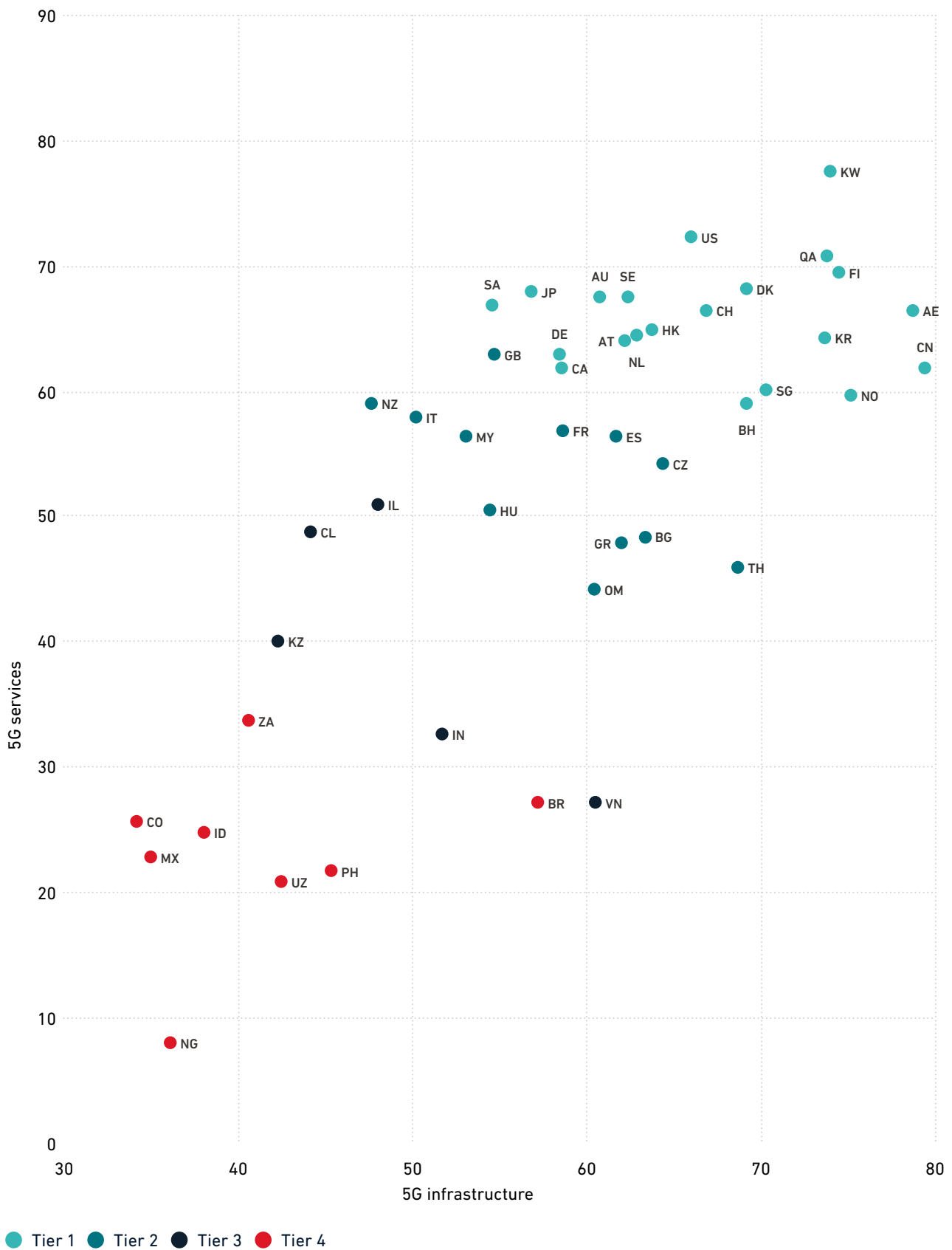
¹² *Idem*

¹³ Nigeria is excluded, as it is an outlier for this metric.

¹⁴ [The Mobile Economy North America 2025](#), GSMA, 2025

Figure 6

5GI: 5G infrastructure and 5G services scores



Source: GSMA Intelligence

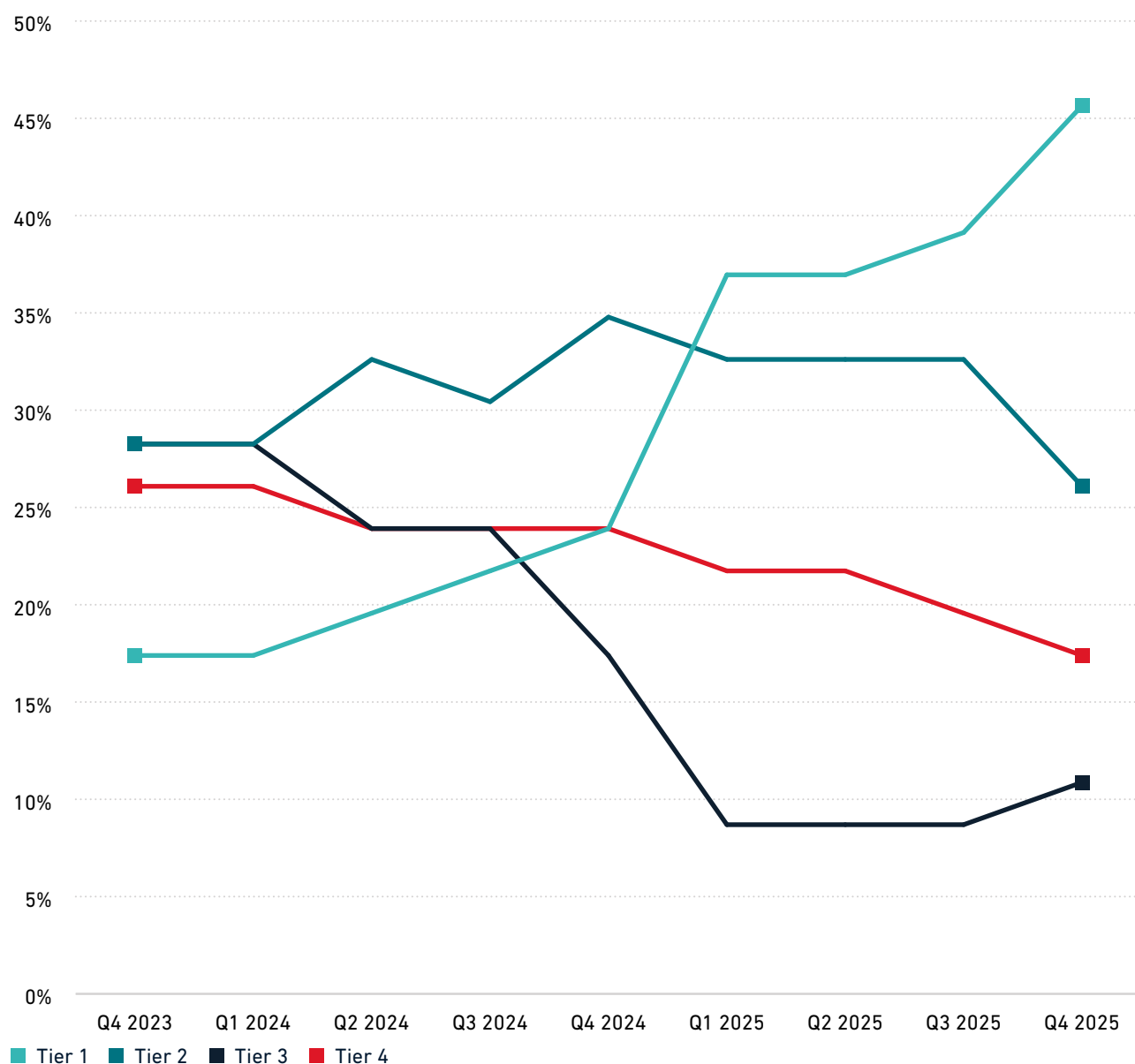
2.2 More markets break into the top tier, but the 5G gap widens

To better understand the characteristics of markets at different stages of 5G development, we group markets into four tiers of 5G development, based on their 5GI score: above 60 (Tier 1); greater than 50 and up to 60 (Tier 2); from 40 up to 50 (Tier 3); and below 40 (Tier 4). Figure 7 shows how the distribution of markets across these tiers has evolved over time.

Overall, progress is visible in most markets. Tier 1 has shifted from accounting for the lowest share of markets to the greatest share, reflecting a broad move of markets into the top grouping as 5G maturity improves. At the same time, the relatively flat trajectory of Tier 4 indicates that a subset of markets are not progressing at the same pace. This divergence suggests that while many markets are advancing in 5G, others remain static, increasing the gap between the leaders and emerging markets.

Figure 7

5GI: market distribution of 5G tiers over time, Q4 2023 to Q4 2025



Source: GSMA Intelligence

Tier 1: high alignment across infrastructure and services

Tier 1 markets combine strong 5G infrastructure and services performance, driven primarily by their leading scores in the network, experience and adoption pillars. On the network side, these markets generally have widespread 5G coverage and availability, high 5G base station deployment, 5G SA in active use and, in a few leading markets (e.g. China, Kuwait, Finland, the UAE and the US), early 5G-Advanced capability. The experience pillar is consistently strong: download and upload speeds, latency and consistency all perform at a high level, while QoE indicators (e.g. video, web and gaming) demonstrate how this translates into a reliable and consistent experience for end users. On the services side, adoption is broad, reflected in high 5G penetration, a mature 5G ecosystem (seen by a high share of 5G device shipments) and, in some markets, significant 5G FWA use. These factors are in large part facilitated by the availability of affordable 5G devices and services.

Although Tier 1 markets outperform those in other tiers in the market development pillar, this remains the pillar with the lowest score due to two main challenges: slow mobile revenue growth and early-stage RedCap adoption. Still, as highlighted in the previous section, some markets have shown clear progress. The US and GCC markets are generating revenue through strong 5G FWA deployment and adoption, while China is performing particularly well in B2B, expanding IoT and RedCap-based solutions. RedCap deployments in the US and Kuwait also show that adoption is starting to accelerate. RedCap will become an important enabler of future growth, allowing IoT devices such as sensors, cameras and video-surveillance systems to use network resources more efficiently, supporting industrial use cases and new revenue streams.

In line with the general evolution of 5G globally, the number of markets reaching Tier 1 has grown from eight markets in Q4 2023 to 21 markets in Q4 2025, highlighting the progress achieved.

Tier 2: moderately advanced with clear gaps in infrastructure

Tier 2 markets are moderately advanced but still face important challenges in the infrastructure pillar.

These challenges stem from more limited base station deployment, slower progress in 5G SA deployment and very limited 5G-Advanced activity, compared to Tier 1 markets. These constraints weaken the overall QoE and mobile AI readiness scores.

Many Tier 2 markets perform strongly in adoption and affordability. However, progress in the market development pillar is narrower. Most remain at an early stage of 5G FWA, IoT, RedCap and data traffic growth. As a result, the broader ecosystem effects that characterise Tier 1 – such as reinforcing growth between usage, device availability, network capabilities and new service development – are not yet fully realised. Like with Tier 1 markets, revenue growth remains a challenge in Tier 2 markets. Stronger monetisation and profitability are essential to sustain investment and enable the rollout of new 5G features.

Since the end of 2023, the number of markets in Tier 2 has remained relatively stable, fluctuating between 12 and 16 markets, with the most recent period including a concentration of European markets.

Tier 3: developing infrastructure and emerging services

Tier 3 markets are still in the foundation-building phase. Network indicators show expanding coverage and rising site deployment, but 5G SA remains limited and 5G-Advanced has not been deployed yet (aside from in India). The experience pillar is improving from a low base, though QoE varies and the performance needed to enable new AI services is only beginning to emerge. On the services side, adoption continues to rise, driven largely by device affordability and replacement cycles, while data affordability is generally favourable. However, 5G FWA is present in fewer markets compared to Tier 1 and 2, and broader market-development signals (data traffic, IoT adoption and RedCap deployment) remain modest. In relative terms, Tier 3 has the smallest and most rapidly shrinking representation: it has fallen from a peak of 13 markets to just four markets in the latest period. This reflects meaningful progress across most markets, but also highlights a growing divergence, as the group of lagging Tier 4 markets has remained broadly unchanged.

Tier 4: early stage development while establishing the core base

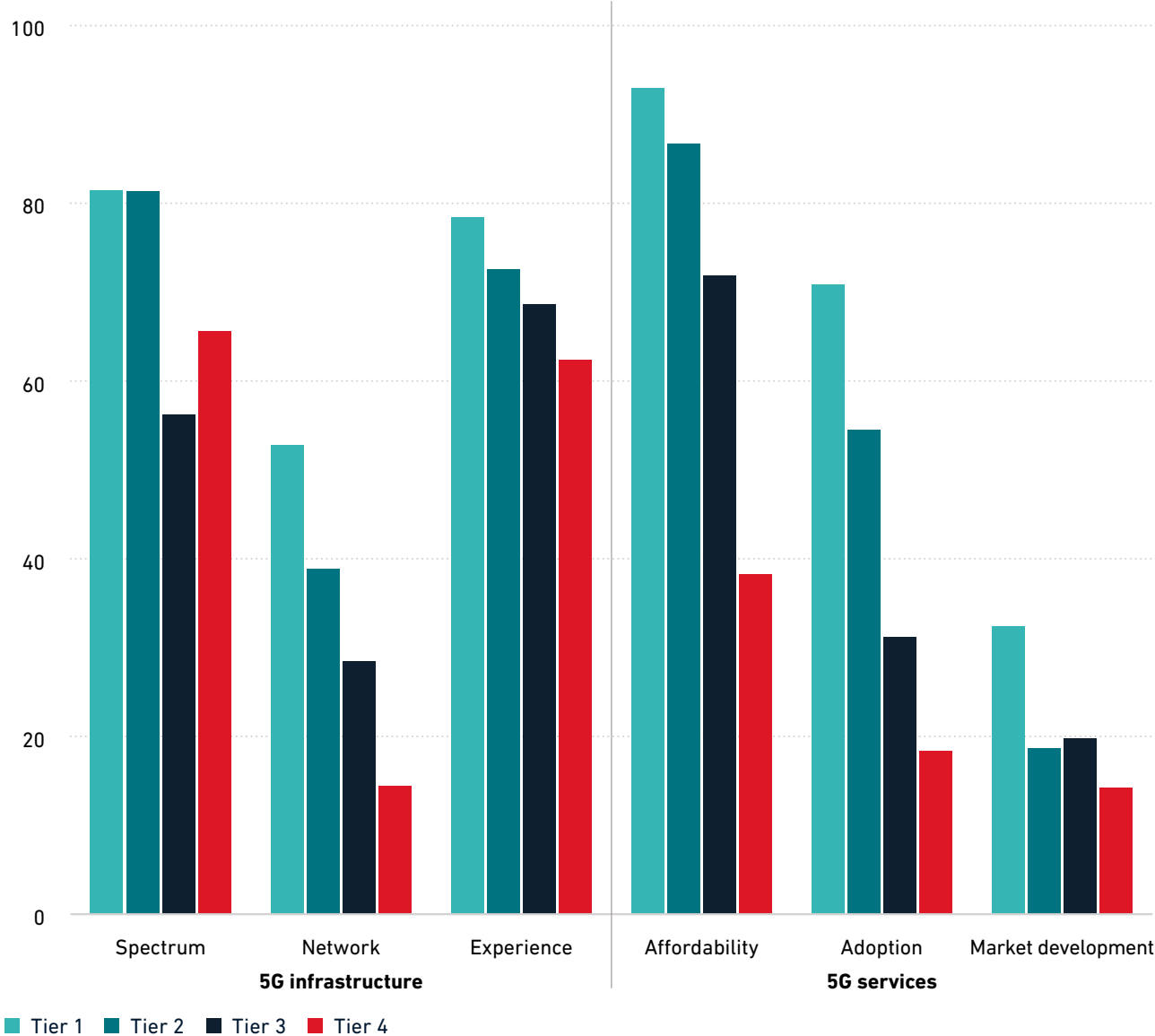
Tier 4 markets are in the early stages of 5G. Coverage is still partial, network deployment remains limited, 5G SA has generally not yet been introduced and 5G-Advanced has not started. Low scores in the QoE and mobile AI readiness indicators reflect this early stage of development.

Performance in the 5G services category is also low. 5G penetration, 5G device shipments and 5G FWA usage remain restricted, often due to affordability barriers. There is emerging growth in the market development indicators, such as for IoT, RedCap and data-traffic growth, meaning these markets are still building the conditions needed for sustained 5G usage and value creation.

For these markets, the main priorities are extending coverage, accelerating network deployment and improving the affordability of devices and mobile services in order to create a stronger platform for future 5G adoption and service growth.

Figure 8

5G: average pillar scores by tiers, Q4 2025



Source: GSMA Intelligence

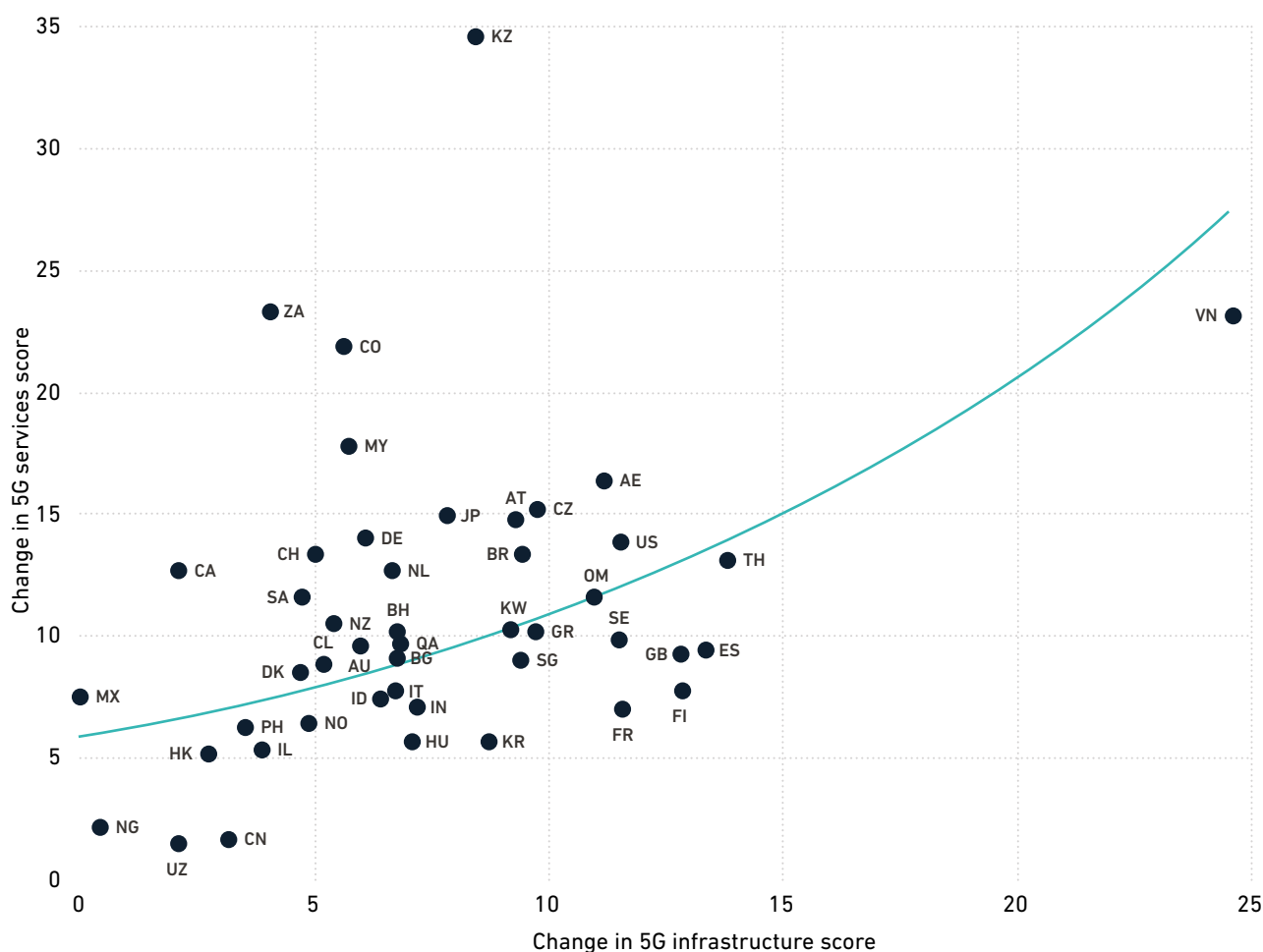
2.3 Convergence across core areas and divergence in advanced capability

The 5GI results from 2023 to 2025 point to a pattern of broad global progress, but with uneven development across markets. The basic components of 5G – coverage, affordability and adoption – have improved almost everywhere. Most markets now report high or rising 5G coverage. 5G base station deployments are also increasing, though this remains one of the key differentiators across markets, as the scale of deployment varies significantly and directly shapes performance differences in other outcomes. Meanwhile, device and data affordability have improved as large-allowance plans have become standard and 5G devices have reached lower price tiers. As a result, adoption has increased steadily, reflected in rising 5G penetration and the growing share of 5G device shipments.

But critically, the 5GI shows that indicators reflecting 5G maturity are becoming decisive differentiators. These include 5G SA, 5G-Advanced, mobile AI readiness, 5G FWA penetration, IoT adoption, data usage and RedCap development. They separate markets into those that have basic 5G availability and those that are moving towards advanced 5G ecosystems, where performance, applications and usage reinforce one another. This shift is also reflected in the evolution of infrastructure indicators, which generally progress alongside improvements in service-related measures, as highlighted in Figure 9.

Figure 9

5GI: changes in category scores, Q4 2023 to Q4 2025

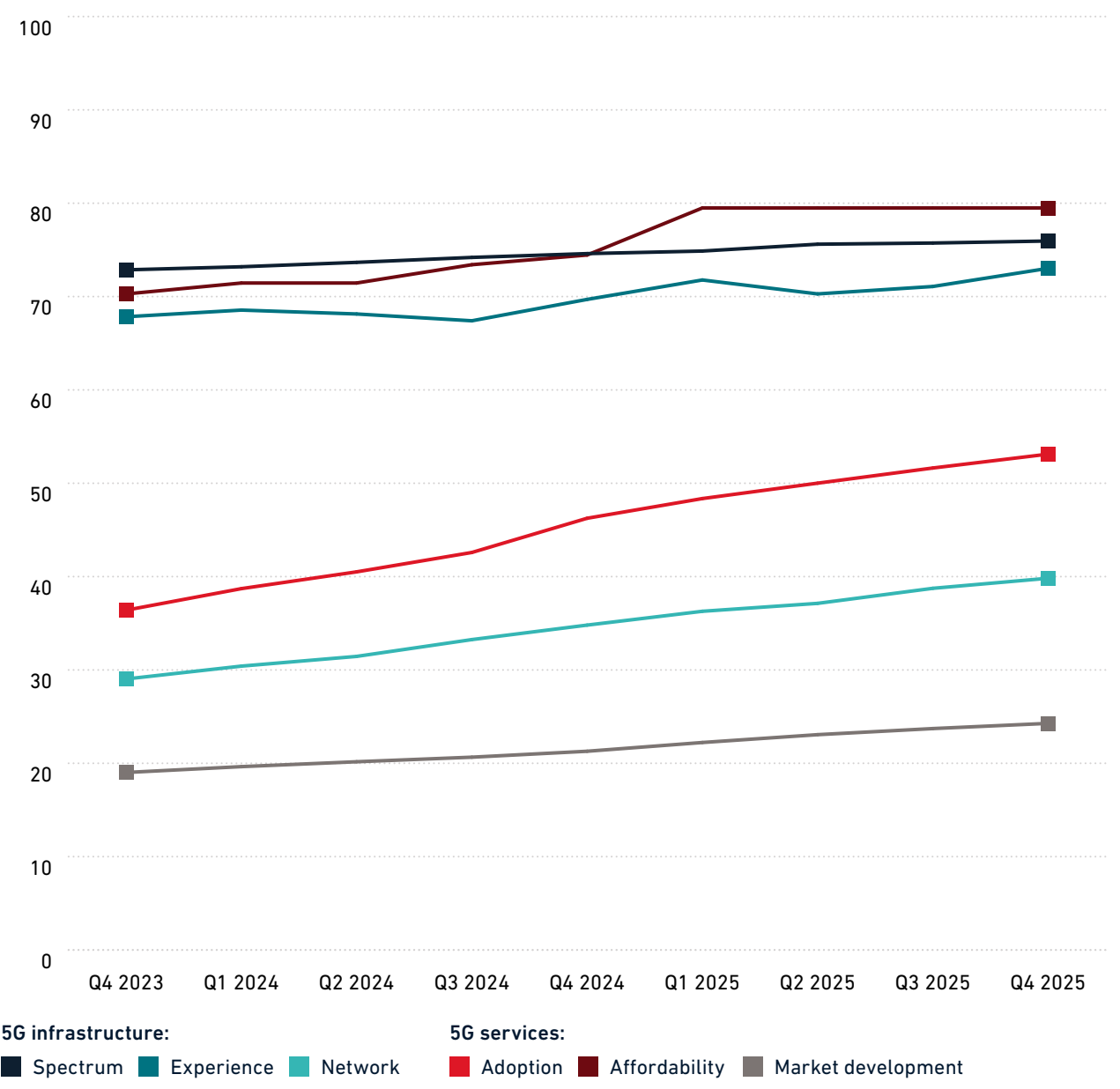


Source: GSMA Intelligence

There is also a mixed picture in terms of progress in 5G services. Adoption has risen and affordability continues to improve, but usage patterns differ across regions. Data traffic per user is rising in all markets, yet the magnitude of growth is higher in markets with stronger performance in the experience pillar. 5G FWA availability remains limited (though expanding quickly in some markets) and meaningful penetration tends to emerge in markets where mobile networks have sufficient capacity and where competitive fixed-broadband dynamics position FWA as a viable

pathway for revenue growth. IoT and early RedCap deployments are developing most clearly in markets with stronger network foundations, with other markets remaining at an earlier stage of development. Revenue growth remains modest across most markets, indicating that stronger capabilities and higher usage have not yet delivered consistent monetisation outcomes. This will likely shape investment decisions in the next phase, especially for densification and advanced 5G capabilities.

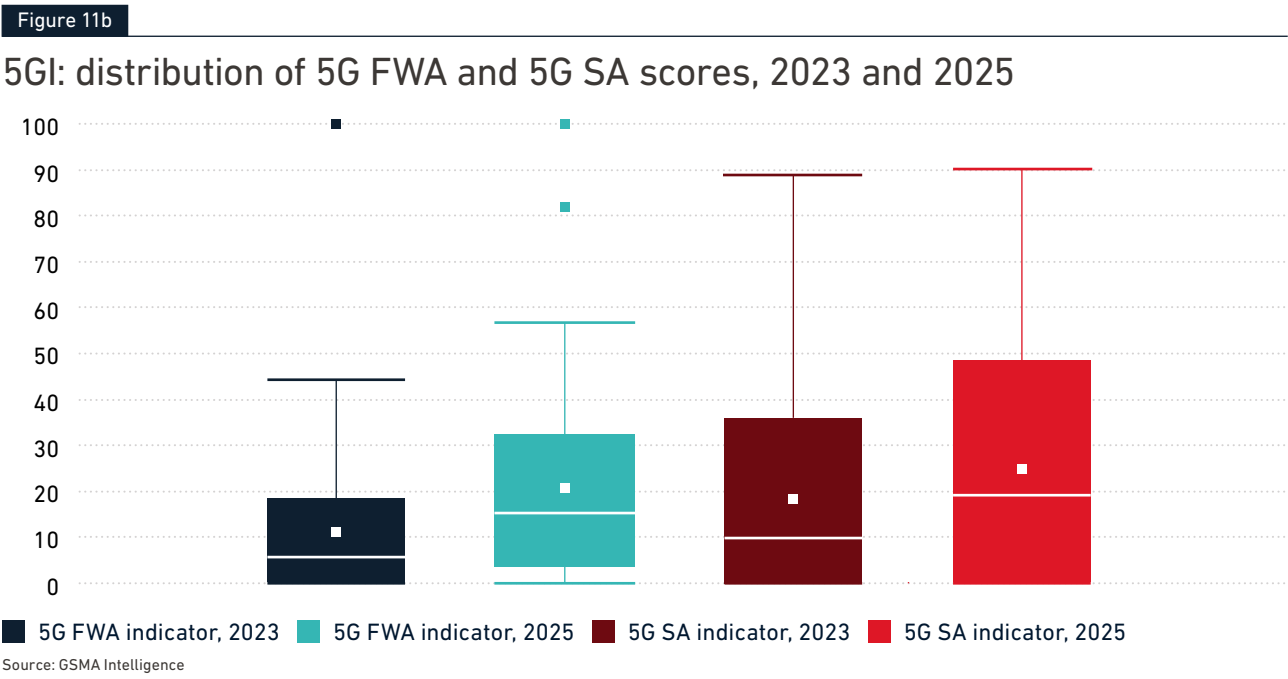
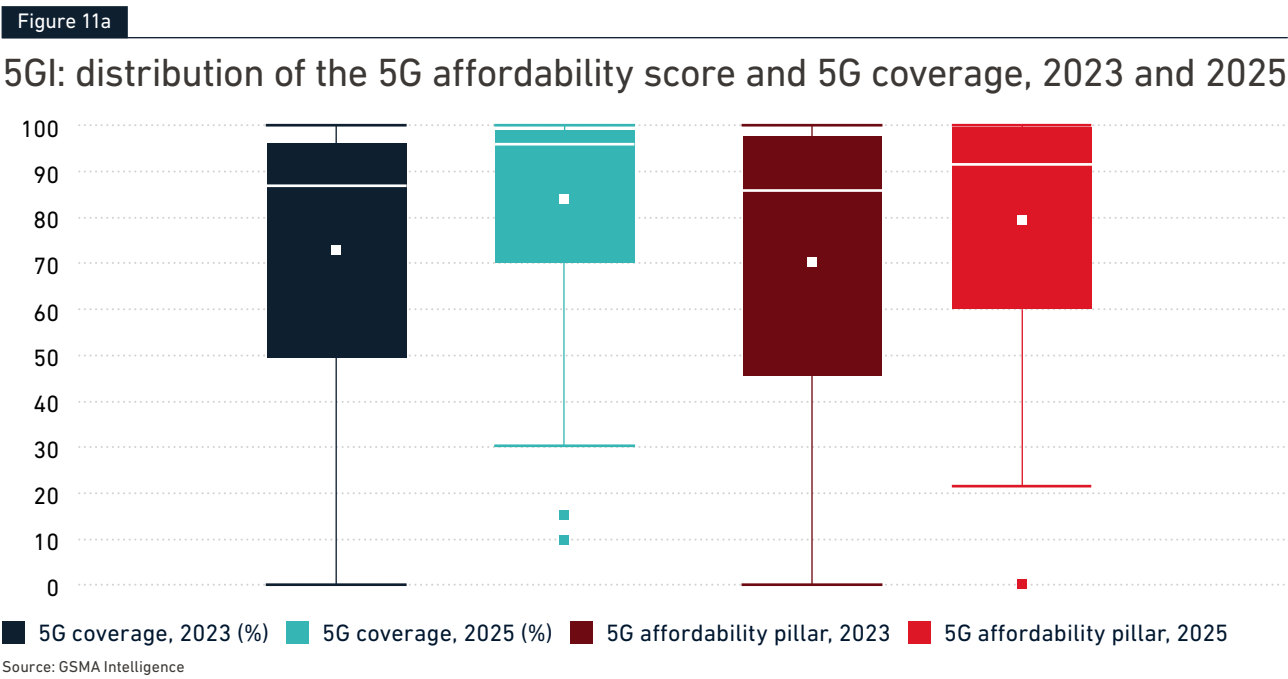
Figure 10
5GI: average pillar scores, Q4 2023 to Q4 2025



Source: GSMA Intelligence

Therefore, a key finding in the 5GI is that progress since 2023 has two distinct dimensions. On one hand, differences between markets have narrowed in terms of foundational elements such as coverage, affordability and adoption. On the other hand, they have diverged with respect to 5G SA coverage, 5G-Advanced, mobile AI readiness, QoE, FWA penetration, IoT adoption, RedCap development and data usage per user. Where these indicators improve together, the 5GI shows more robust experience outcomes and a broader range

of usage. For example, Figure 11a shows how the distribution for 5G coverage and the affordability pillar has improved between 2023 and 2025, with differences between markets narrowing. In contrast, Figure 11b illustrates how indicators related to monetisation and 5G development (e.g. 5G FWA and 5G SA) have also improved, but with divergence between markets increasing over the same period, with some markets still having not progressed in these two indicators.



3

Unlocking 5G's next wave: priorities for growth

3.1 Accelerating 5G SA

5G SA allows consumers and enterprises to realise the full benefits of 5G. Early 5G launches were built on a 4G-based core (NSA), allowing faster rollout but limiting the reliability and flexibility that 5G was originally designed to deliver. SA, by contrast, introduces a dedicated 5G core that enables more predictable performance, lower latency, stronger uplink capacity and the ability to tailor the network more precisely. These capabilities are increasingly important, as many emerging consumer and enterprise use cases depend on features that only 5G SA can provide.¹⁵ Such use cases include uplink-heavy content creation, live broadcasting, AR/VR, mission-critical applications, industrial IoT and advanced positioning.

¹⁵ [Destination Growth – 5G Standalone: Getting Ahead of the Curve](#), GSMA, 2025 and [Destination Growth – The Journey to Complete 5G](#), GSMA, 2025

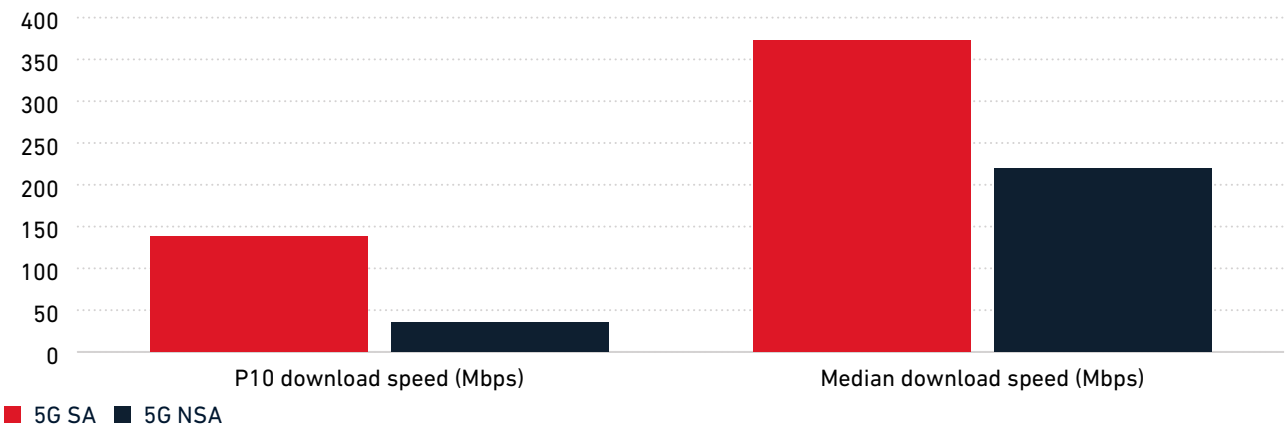
Global progress remains uneven. More than 80 operators worldwide have launched 5G SA, though the depth and scale of deployment vary widely. 5G SA is now present in most markets, with around 65% of those in the 5GI having at least one operator offering it. Japan, Thailand, Brazil, the US, China, Australia, the UAE and France have moved fastest, with almost all of their operators having launched 5G SA. However, uptake remains low, with only six markets reporting 5G SA adoption above 10%.¹⁶

Figures 12a and 12b compare performance between 5G SA and 5G NSA networks in the second half of 2025 for the markets considered in the 5GI, illustrating the clear improvements delivered by 5G SA, particularly when it is

supported by greater spectrum depth, enhanced carrier aggregation and mature networks. It enables faster and more consistent speeds with lower latency, showing the added value for users and operators and underscoring its importance for delivering reliable and high-quality national digital infrastructure. The comparison for the bottom deciles is particularly revealing. Taking the example of 5G download speeds, Figure 12a shows that the bottom 10% experienced 5G NSA download speeds of 35 Mbps, while on 5G SA they experienced download speeds of almost 140 Mbps, almost a fourfold increase (this is similar to the upload speed impact). This shows that 5G SA provides a better service across all users (not just on average), with lower latencies and better uplink supporting more reliable connectivity and use cases.

Figure 12a

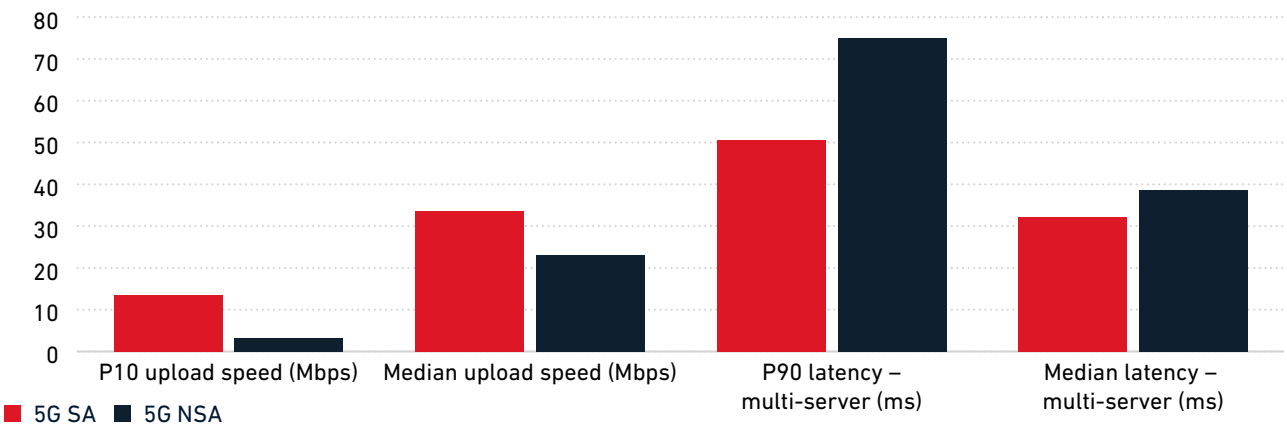
Comparison of download speeds between 5G SA and 5G NSA



Source: GSMA Intelligence analysis of Speedtest Intelligence data provided by Ookla

Figure 12b

Comparison of upload speeds and latency between 5G SA and 5G NSA



Source: GSMA Intelligence analysis of Speedtest Intelligence data provided by Ookla

16 This refers to the proportion of 5G Speedtest samples that are on 5G SA, based on Speedtest Intelligence data provided by Ookla.

The barriers to wider rollout are changing. 5G SA adoption has been slowed by the complexity of integrating a new cloud-based core and the need for new operational and engineering skills – challenges that have been more difficult for smaller operators to overcome. Device readiness also remains uneven in some markets. In contrast, financial uncertainty is not a primary constraint: only 16% of operators cite unclear return on investment (ROI) as their main concern.¹⁷ In fact, GSMA analyses show that 5G SA can lift mobile revenues by up to 5% by 2030 through services such as uplink-boosted streaming, live broadcast, AR/VR and enhanced FWA.¹⁸

Accelerating 5G SA therefore involves two priorities: expanding coverage and turning its capabilities into services that users need. To support this transition, friction needs to be reduced in practical, user-facing ways. This includes helping consumers and businesses access 5G SA-ready devices more easily, making the upgrade experience intuitive and ensuring that networks can handle new types of traffic without creating unnecessary barriers or negatively impacting 5G NSA users. Stable and forward-looking spectrum policy, smoother site-deployment processes and support for developing cloud-era skills all play a role in enabling operators to scale up 5G SA confidently and cost effectively.¹⁹

3.2 5G monetisation and affordability

A central question for operators and the wider ecosystem is whether 5G deployment has translated into stronger revenue growth for operators. The evidence so far suggests that, despite wider 5G availability and rising data traffic, recurring mobile revenue growth has remained small or flat in most markets after launching 5G, with most of the markets having revenue growth rates below 5%. This pattern is reflected in the revenue growth indicator of the 5GI, which shows limited year-on-year improvement for most markets. These results make it clear that monetisation is not an automatic outcome of 5G investment.

In this context, the recent GSMA Intelligence Enterprise in Focus: Global Digital Transformation Survey 2025 shows that the development of more advanced digital capabilities presents a major opportunity for operators as enterprises increase their investments and spending on digital transformation. Much of this investment

is directed towards foundational transformation capabilities – many of which are designed, delivered or enabled by operators. These technologies span 5G, private networks, AI, IoT, cloud, edge computing, cybersecurity, network APIs and future-looking developments such as 6G.

Enterprises express a strong intention to continue digitalising their operations, as shown in Figure 13a, meaning there is potential to monetise this transformation by providing the connectivity, platforms and capabilities that underpin these efforts. The survey also reveals the markets with the greatest levels of enterprise digital transformation, as shown in Figure 13b. These markets tend to score higher in the 5GI, including Qatar, South Korea, the US, the UAE and China. This confirms that ecosystem benefits are bidirectional: 5G enables further digitalisation and greater digitalisation strengthens the value of 5G-enabled solutions.

¹⁷ Destination Growth – 5G Standalone: Getting Ahead of the Curve, GSMA, 2025

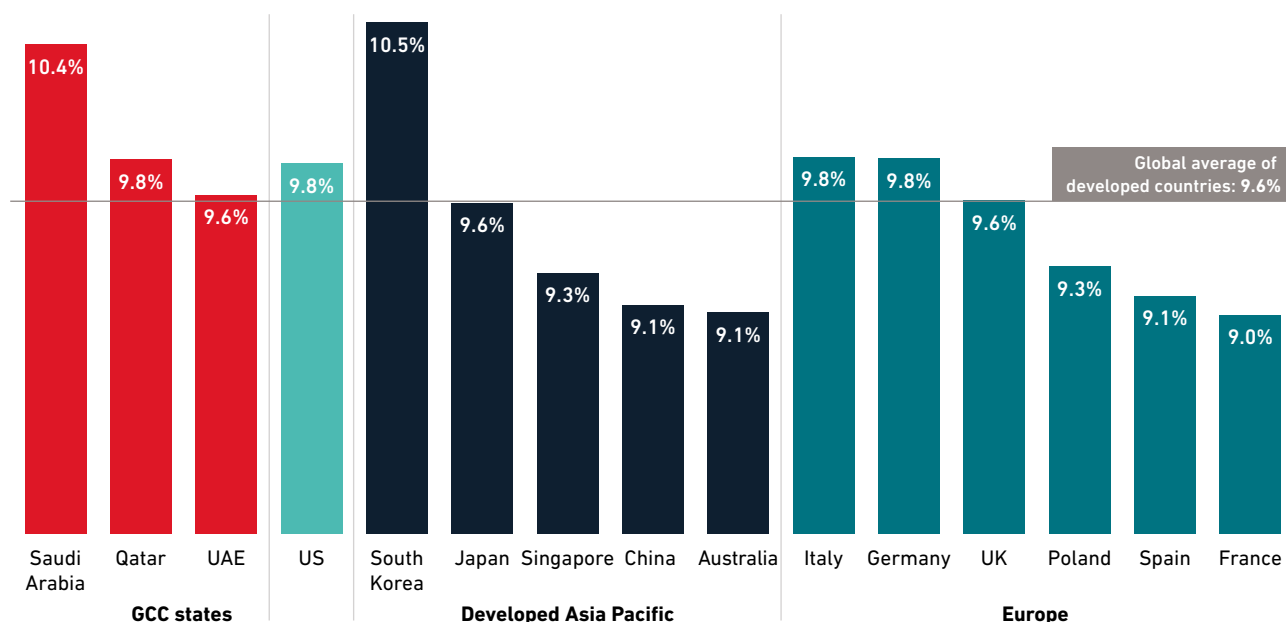
¹⁸ Idem

¹⁹ Destination Growth – The Journey to Complete 5G, GSMA, 2025

Figure 13a

Expected enterprise spending on digital transformation during 2025–2030 as a percentage of revenues: developed countries*

Aggregate figures across 10 vertical sectors surveyed. Figures represent weighted averages.



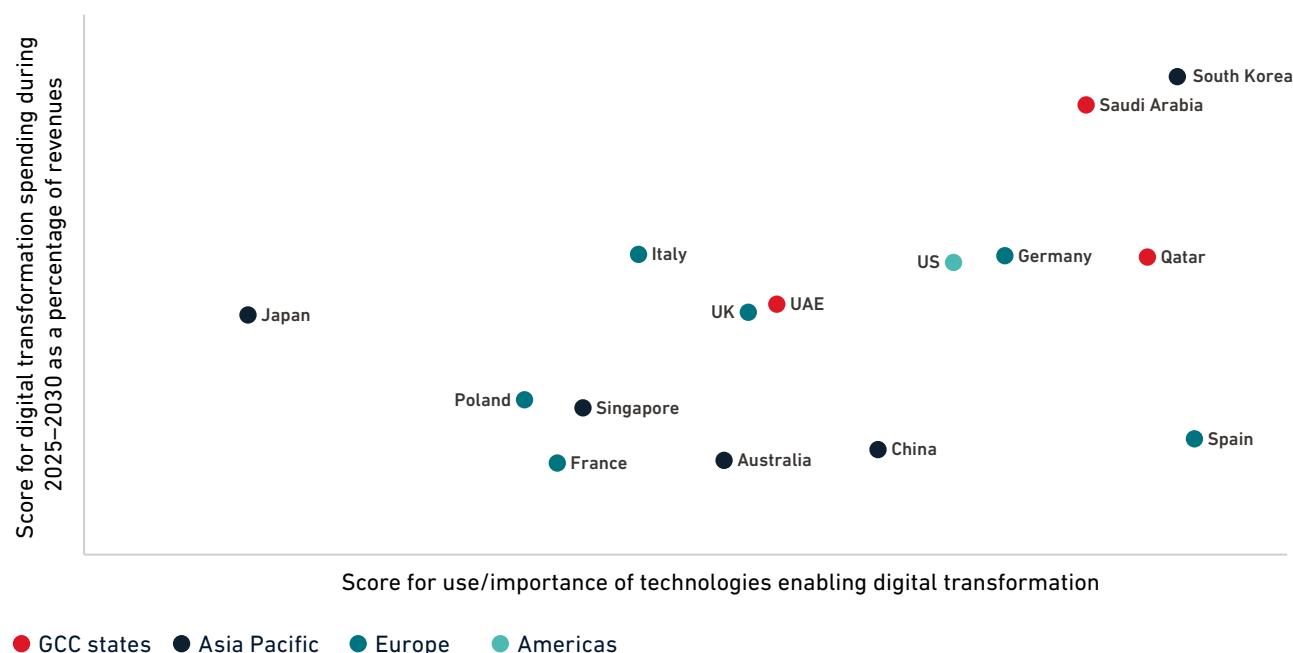
* Includes high-income countries (based on the World Bank's methodology) and China.

Base: enterprises undertaking digital transformation.

Source: GSMA Intelligence²⁰

Figure 13b

Digital transformation of industries: mapping developed countries



Source: GSMA Intelligence²¹

²⁰ Digital transformation of vertical sectors: the new wave of B2B opportunities revealed by the global 2025 enterprise survey, GSMA Intelligence, 2025

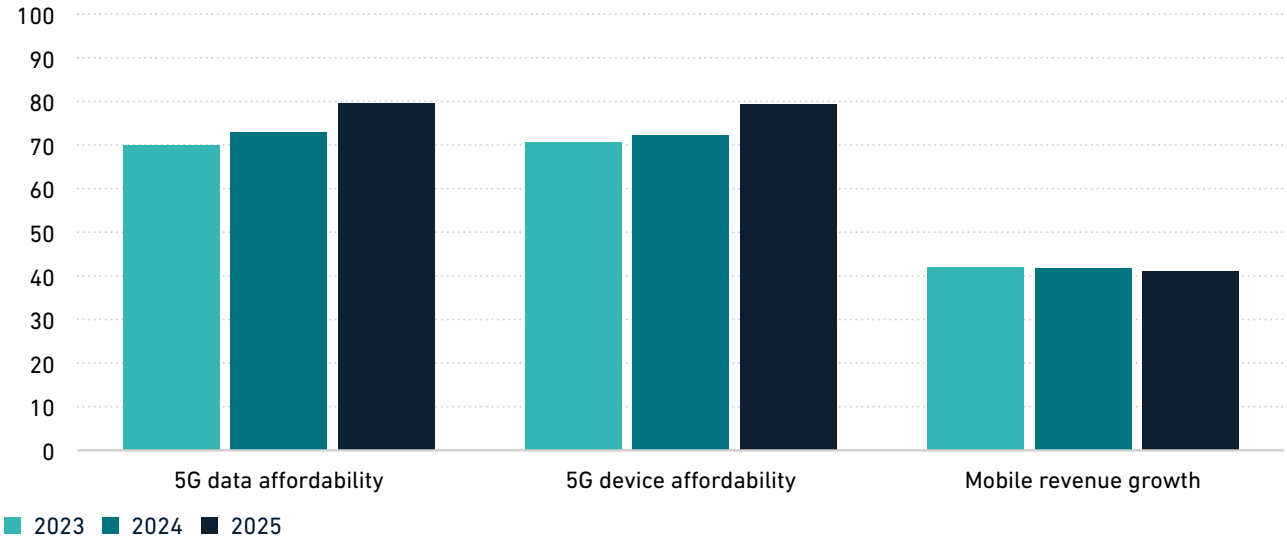
²¹ Idem

In addition to industry digital transformation, recent developments in certain markets show that operators are able to monetise the consumer experience across both mobile broadband (MBB) and FWA. On the MBB side, speed-based tariffs are emerging as an effective way to monetise superior network quality, with evidence from early adopters such as Finland and the US demonstrating that consumers are willing to pay meaningful premiums for higher guaranteed throughput.²²

5G FWA further expands this opportunity: the shift from 4G to 5G delivers more than a 10× speed improvement, alongside major capacity gains, making wireless broadband a substitute for fixed alternatives and allowing operators to target a broader addressable market. As adoption accelerates globally, operators are differentiating offers to create monetisable experience tiers, through speed-based packages (e.g. Zain Saudi Arabia and Du UAE), guaranteed minimum speeds (e.g. Zain's 70% guarantee) and bundling strategies that integrate customer devices and premium over-the-top content.²³

At the same time, most 5G markets show improvements in data affordability and device affordability. These indicators demonstrate that consumers now face lower effective prices per gigabyte of data and more accessible 5G-capable devices. From a policy perspective this matters because it expands the number of users able to adopt 5G services. The question is whether these improvements in affordability help or hinder monetisation. According to recent empirical evidence, greater affordability can support monetisation if operators can differentiate the value of 5G services clearly and consistently. A hedonic tariff analysis shows that consumers do attach measurable value to features such as more data, higher speeds and unlimited packages, even in competitive markets. This implies that falling device and data prices do not necessarily push revenue down; instead, they allow more consumers to enter segments where they are willing to pay for higher-quality service attributes.²⁴

Figure 14
5G: average scores for the affordability and mobile revenue growth indicators



Source: GSMA Intelligence

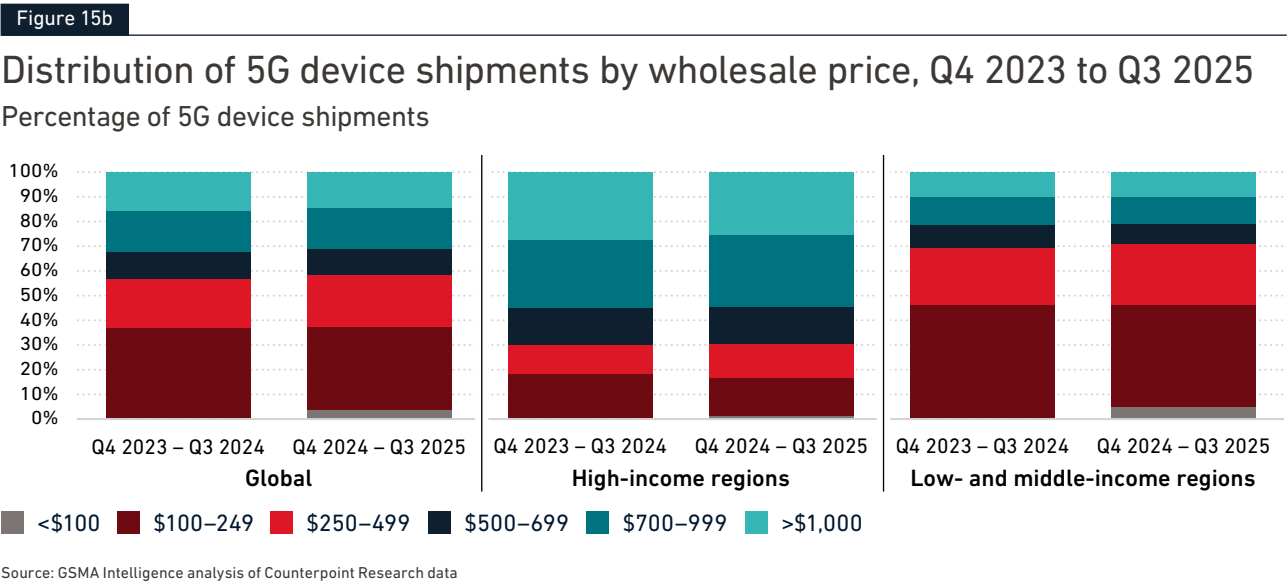
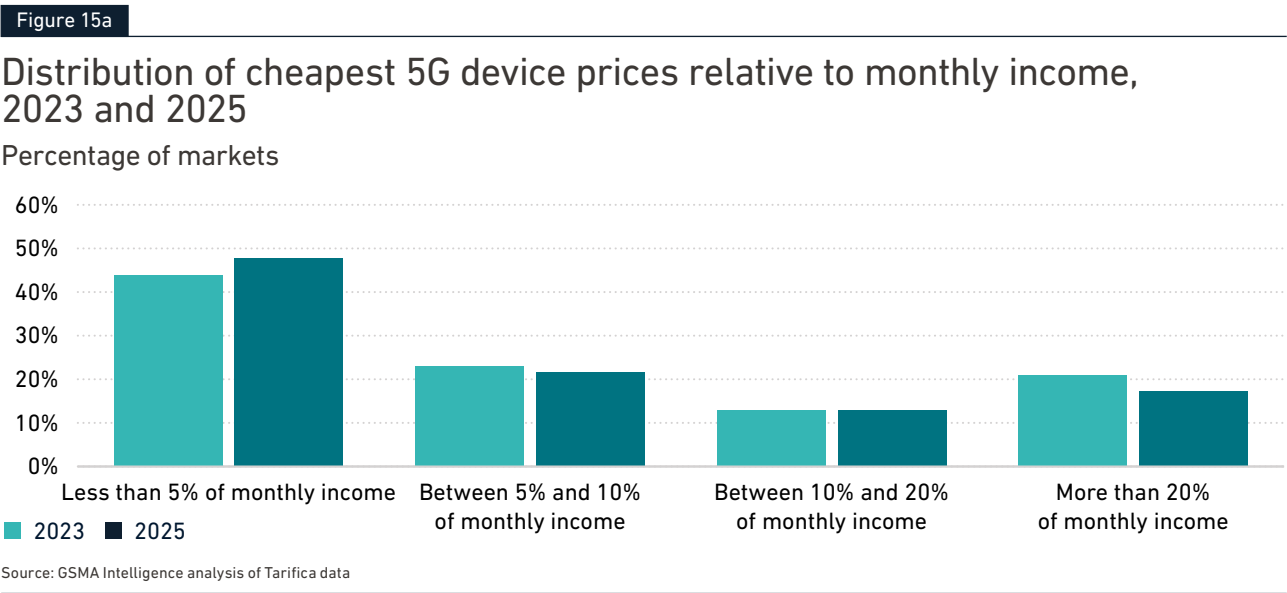
The implication of this trend is that technology alone does not explain the weak recurring revenue growth. Instead, the results suggest that monetisation depends on a mix of regulatory flexibility, tariff design and competitive dynamics. Tariff structures that allow

operators to provide quality differences can help ensure that investments in 5G can be recovered over time. Where regulation or network constraints limit the ability to differentiate, revenues tend to remain flat even when 5G coverage is high.²⁵

22 [Revisiting 5G monetisation: upping the experience](#), GSMA Intelligence, 2024 and [Verizon: Targeting consumer 5G monetisation through innovative pricing plans](#), FWA and digital entertainment, GSMA Intelligence, 2025
 23 [Revisiting 5G monetisation: upping the experience](#), GSMA Intelligence, 2024
 24 Idem
 25 Idem

Device affordability has improved across most markets assessed in the 5GI. The price of the cheapest 5G device was lower than 5% of monthly income in 48% of the markets we assessed, an increase of 4 percentage points compared to 2023 (see Figure 15a). When looking at device shipments by wholesale price bands (see Figure 15b), there has been a significant increase in low-cost 5G devices below \$100, notably in lower-income regions such as the Middle East and Africa and Asia Pacific. More generally, the trends suggest new 5G consumers are moving to cheaper device prices – growth in the \$700–999 band is stronger than the >\$1,000 price band and growth in the \$250–499 band is stronger than in the \$500–700 segment.

While most markets assessed in the 5GI have improved in device affordability, the cost of internet-enabled handsets remains a main barrier to mobile internet adoption globally and particularly across LMICs.²⁶ As 5G expands, ensuring access to affordable devices becomes essential. Targeted measures include reducing or removing taxes and import duties on entry-level smartphones, lowering handset prices by reducing the bill of materials where possible, scaling up device-financing schemes that have demonstrated strong results in enabling first-time smartphone ownership in low-income segments and ensuring that import policies do not inadvertently raise handset prices.²⁷



²⁶ The State of Mobile Internet Connectivity 2025: Affordability of Internet-Enabled Handsets and Data, GSMA, 2025
²⁷ See Analysis to improve handset affordability, GSMA, 2024 and The impact of financing schemes on handset access, GSMA, 2025 and Breaking Barriers: Improving Handset Affordability for Greater Inclusion and Economic Growth, GSMA, 2025

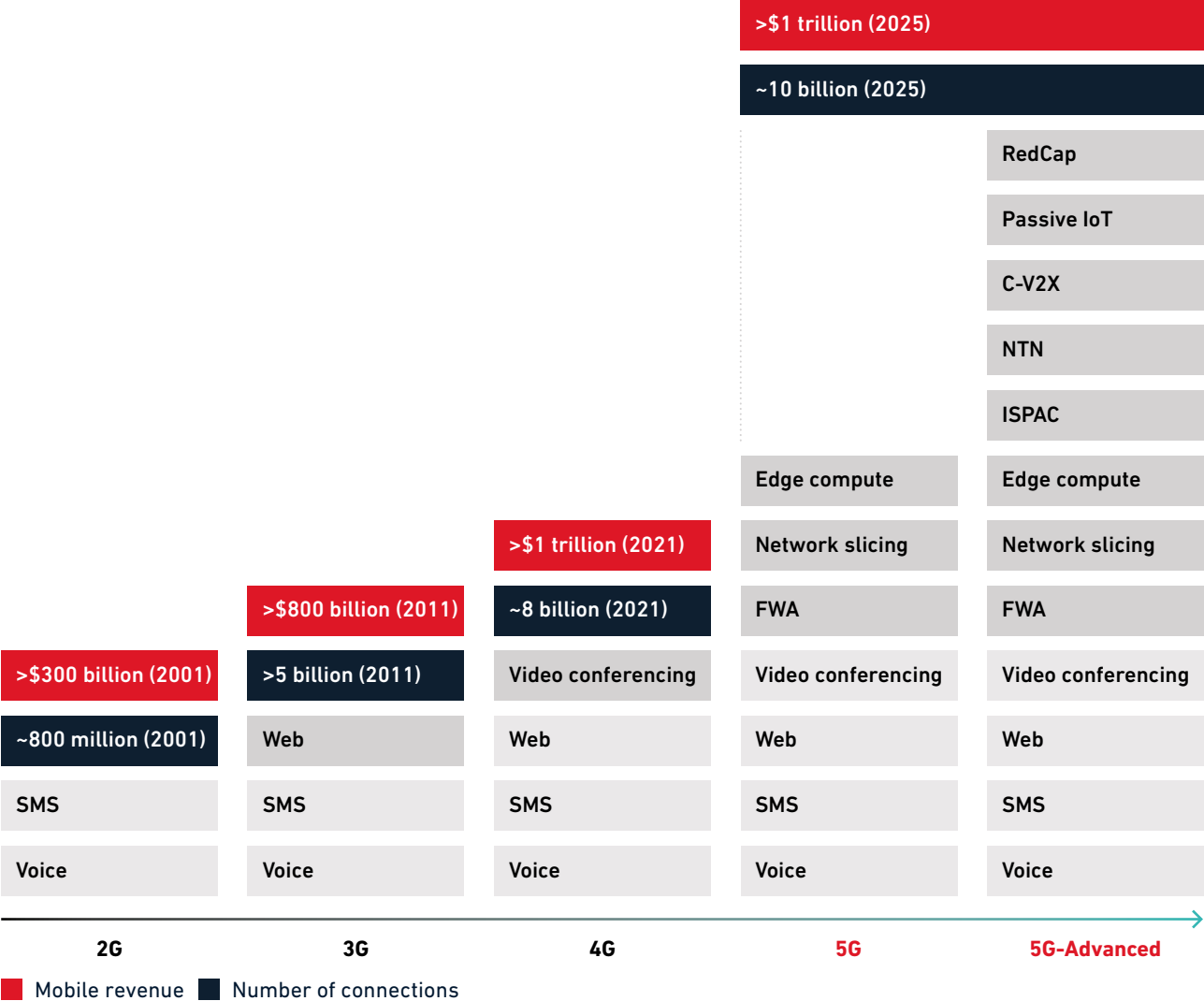
3.3 Advancing with 5G-Advanced

5G-Advanced is the next evolutionary step in the 5G technology cycle. It builds on today's 5G networks but introduces improvements such as more consistent performance, better uplink capacity, new positioning and sensing capabilities and enhanced

support for industrial applications. As previous GSMA Intelligence research has demonstrated, 5G-Advanced should be understood not as a new generation but as a continuation of 5G – in the same way that LTE-Advanced extended 4G.²⁸

Figure 16

5G-Advanced is the next step in the development of cellular technologies



Globally, deployment of 5G-Advanced remains at a very early stage. Based on GSMA Intelligence tracking of operator announcements, around 30–40 operators in 15–20 markets have initiated 5G-Advanced trials, early deployments or public launch plans. Only a small number of operators in China, India, Finland, the US,

Kuwait, the UAE and Malaysia launched the technology between 2024 and 2025.

The 5GI reinforces this picture: the 5G-Advanced indicator remains extremely low for nearly all markets, as only seven markets have commercially

²⁸ The 5G-Advanced era: the importance of 5G's evolution for the mobile core, GSMA Intelligence, 2024

²⁹ Idem

launched the technology as of the end of 2025. From a policy standpoint, the priority is not to accelerate 5G-Advanced deployment in isolation, but to ensure readiness for it. This requires regulatory predictability, a supportive environment for 5G SA investment, timely access to appropriate spectrum and facilitating conditions that encourage operators to experiment with new service models. Without progress on 5G SA and core modernisation, 5G-Advanced progress will

remain limited. Markets that approach 5G-Advanced as part of a sequential, long-term infrastructure strategy, rather than a standalone technology shift, will be better positioned to unlock industrial and public-sector benefits later in the decade. This is evident in markets such as the UAE and Kuwait, where strong 5G SA foundations have enabled leading 5G-Advanced performance; it is not surprising that these markets also rank as the top performers in the overall index.

3.4 AI and the next phase of 5G evolution

AI is becoming central to how mobile networks are built, operated and used. For operators, the relationship between AI and 5G moves in two directions: AI is increasingly used inside networks to improve performance and reduce costs (AI for networks); at the same time, the growth of AI-enabled services places new demands on networks (networks for AI). These two dynamics reinforce why 5G-Advanced, with its stronger uplink performance, represents the natural next step in 5G evolution.

On the operator side, the evidence shows that AI adoption is driven by clear operational and commercial goals. The GSMA Intelligence Network Transformation Survey finds that operators prioritise reducing operating costs and improving customer experience, followed by the need to support new services and drive revenue growth.³⁰ This is reflected in the practical areas where AI is being deployed: current use is dominated by network optimisation, fault detection, security support and energy efficiency. Collectively, these uses mark a shift from manual and reactive network management towards predictive, automated and data-driven operations.

Table 1

Primary business objective of AI deployments, by region

Region	AI deployments launched Cumulative	Primary objective		New deployments Six months to December 205	
		Internal Costs and efficiencies	External Product revenue	Internal Costs and efficiencies	External Product revenue
Europe	134	80%	20%	73%	27%
Asia Pacific	133	70%	30%	75%	25%
Latin America	59	91%	9%	100%	–
Sub-Saharan Africa	55	93%	7%	90%	10%
MENA	49	77%	23%	91%	9%
Eurasia	26	74%	26%	89%	11%
North America	15	70%	30%	50%	50%

Source: GSMA Intelligence³¹

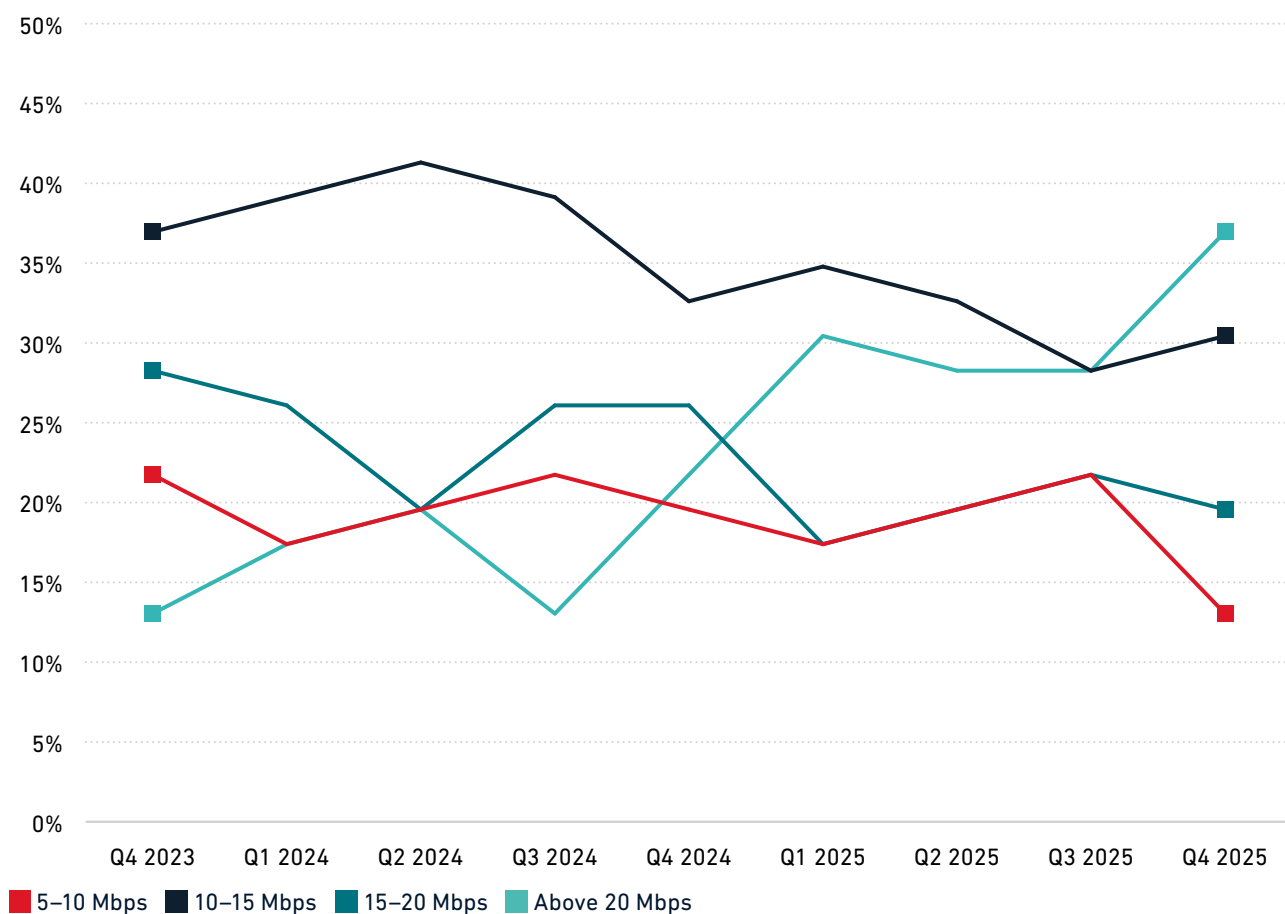
30 Operators in Focus: Network Transformation Survey Dashboard 2026, GSMA Intelligence, 2025
31 Telco AI: State of the Market, Q4 2025, GSMA, 2026

At the same time, AI-enabled applications themselves are reshaping network requirements. Many emerging uses, including real-time video analytics, industrial automation, robotics and sensor-rich environments, depend on high and stable uplink throughput and low latency. In practice, these applications require uplink speeds well above traditional consumer needs. Real-time analytics often require 10–50 Mbps of sustained uplink, while multi-camera industrial inspection systems may exceed 100 Mbps. These requirements are difficult to meet in NSA environments, where uplink was not a primary design focus. This is why recent research consistently identifies uplink improvements and 5G SA deployment as essential for early enterprise AI use cases. As 5G-Advanced strengthens uplink capabilities further, it becomes a critical enabler for the next phase of AI-related services.³²

Considering these requirements, the 5GI assesses upload performance under the mobile AI readiness indicator by identifying and highlighting markets that achieve higher upload speeds, specifically those exceeding 20 Mbps. Figure 17 shows how the share of markets in each upload-speed category has evolved quarter by quarter. As AI-intensive applications become more prevalent, uplink performance requirements are rising. This is reflected in the growing share of markets now achieving median upload speeds above 20 Mbps (this speed range accounted for the smallest share in 2023, but it is now the fastest-growing category). However, more than 60% of markets still fall below this threshold, underscoring that most markets still face challenges to meet the uplink demands associated with emerging AI-driven use cases.

Figure 17

Evolution of share of markets across upload-speed categories, Q4 2023 to Q4 2025



Source: GSMA Intelligence and Ookla Speedtest Intelligence

32 See GSMA (2025), [Destination growth. 5G Standalone: Getting Ahead of the curve](#) and [Destination Growth: The Journey to Complete 5G](#)

4

Enabling the 5G future: what needs to change?

The results of the 2026 edition of the 5GI show that 5G has made substantial progress globally, but this evolution remains uneven and divided across markets.

Foundations such as coverage, base station deployment, device affordability and adoption have improved almost everywhere. Yet the advanced capabilities that define the next phase of 5G – 5G SA, uplink performance, 5G-Advanced readiness, network consistency, AI readiness, FWA expansion, IoT development and RedCap—are progressing far more unevenly. As a result, the global landscape now reflects a widening gap between markets with basic 5G availability and those moving towards a mature 5G environment.

This divergence matters because the transformation promised by 5G increasingly depends on network and service capability. The leading markets – including the GCC states, Nordic countries, developed Asia Pacific, China and the US – combine extensive 5G SA coverage, strong uplink and latency results, early 5G-Advanced deployments and meaningful usage across FWA, IoT and other emergent applications. In contrast, many other markets have widespread 5G coverage but lack the enhanced features needed to support more demanding consumer experiences, enterprise digitalisation and AI-driven applications. As AI becomes more embedded in devices and services, this gap may widen further: AI raises expectations for network responsiveness, uplink reliability and service consistency while also becoming integral to how operators manage their networks internally.

The 5G also confirms that monetisation remains a structural challenge, even as technical progress accelerates. Revenue growth has remained modest in most markets despite higher usage, showing that technology on its own does not guarantee financial sustainability. Markets with better revenue performance tend to be those where higher performance can be priced, through experience-based tariffs, reliable 5G SA performance or enterprise-oriented services. But most markets have not yet translated 5G capability into recurring revenue growth.

Looking ahead, enabling the full 5G future will require stronger action across three groups:

- **Technology suppliers** must deliver clearer and more tangible monetisation pathways for advanced features, including ROI models, credible enterprise use cases and demonstrations of how uplink improvements, deterministic performance, sensing or RedCap translate into operational gains. Many features of 5G SA and 5G-Advanced require core upgrades or new spectrum strategies; without commercial clarity, operators may be reluctant to invest in these enhancements.
- **Regulators** will play a central role in reducing deployment friction and maintaining investment incentives. Predictable spectrum policy, supporting

dynamic competition, flexible site-deployment processes and support for enterprise experimentation create the environment needed for 5G SA expansion, uplink enhancement and eventually 5G-Advanced adoption. As AI-enabled demand grows, regulatory clarity becomes essential to avoid widening gaps that could result in broader digital transformation divides. In terms of addressing the digital divide, regulators play a critical role in creating an enabling policy environment for affordable devices and inclusive connectivity. This includes reducing sector-specific taxes and fees that increases handset prices, adopting technology-neutral spectrum policies supported by affordable spectrum pricing and long-term, predictable spectrum roadmaps to enable 5G adoption and future network readiness.

- **Industry partners and integrators** remain essential for shifting from connectivity-only propositions to operationally relevant solutions. Enterprise digitalisation depends on integrating network features, such as low latency, uplink reliability, positioning and determinism, into real workflows across manufacturing, logistics, utilities, healthcare and public services. Without these partnerships, operators risk underutilising their 5G SA and 5G-Advanced capabilities.
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