

5G: Overpromised, underdelivered?

The telecom sector has yet to deliver on lofty promises about 5G. 5G stand-alone network capacity is growing and trials for new services are underway. For now, the sector must focus on delivering 5G services that truly make a difference while working on a large, longer-term update for 6G



We think it's crucial that the 5G experience is perfected to meet consumer demands before the industry shifts its attention to 6G

5G still holds promise, but needs to deliver better services

Shortly before the launch of 5G, many telecoms promised vastly superior speeds that would unlock technological innovations in a plethora of economic domains outside of telecoms. A few years on, data heavy use cases such as smart cities, connected vehicles and immersive augmented reality are yet to come to fruition. Even though 5G benefits have been relatively slow to materialise, the telecom sector is now moving towards 5G standalone (SA) standards to unlock innovative use cases. In 2024, 47 operators in Europe offered commercial 5G services on SA networks (according to the GSMA).

We are now slowly seeing the first applications of private 5G networks, which offers customers enhanced control and more secure networks – but also provides telecoms with a new revenue opportunity. The same can be said for network slicing. While still in its infancy, allowing multiple virtual networks to be created on a shared physical infrastructure offers telecoms the opportunity to be more flexible and customise network slices according to bandwidth, security and latency

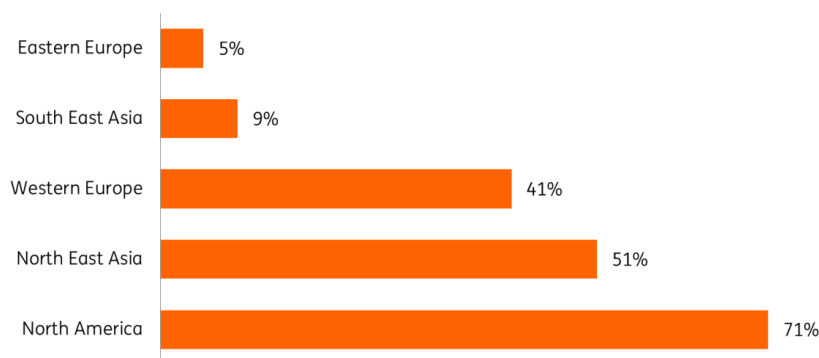
requirements.

5G subscriptions will keep growing

At the end of last year, roughly 25% of all mobile subscriptions globally were 5G subscriptions (the GSMA, Ericsson). This percentage will keep growing over the coming years. Ericsson expects 5G subscriptions to grow with as much as 20% per year and overtake the number of 4G subscription as early as 2027. This is necessary as subscriptions in Europe have been underwhelming in the first years of 5G availability, and as a result, return on investment has been modest. However, penetration differs widely per region. At the end of last year, North America had the highest percentage of 5G subscribers at 71%, whereas Eastern Europe has very few 5G subscribers at only 5%.

Penetration rates of 5G differ widely across regions

Percentage of 5G subscribers per region



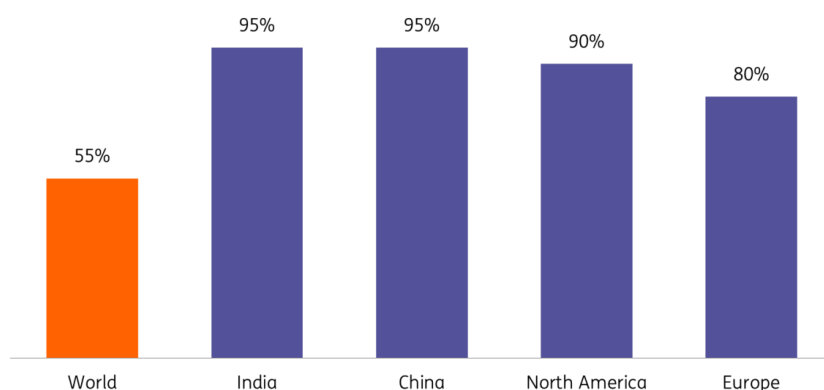
Source: Ericsson

Providing nationwide coverage will prove challenging

As mentioned, 25% of all mobile connections globally are 5G connections, yet 34% of data traffic comes from 5G subscriptions. This means that, on average, people with a 5G subscription are power users of their mobile connections. Data use is expected to continue to grow over the coming years in all areas of the world. However, of the global population, about 55% is covered by 5G coverage whereas 85% of the world is covered with 4G. In many countries, the key challenge for telecoms is therefore achieving nationwide 5G coverage. For vast areas in particular, one major question lingers: is the investment worth it? Even excluding these kinds of areas, telecom operators in many countries outside North America and Europe face a significant infrastructural challenge in extending 5G coverage to more people across the globe.

Just over half of the world is covered by 5G

Population coverage in percentages



Source: GSA, Ericsson

5G value should be delivered before the focus shifts to 6G

It is important that the telecom industry focuses on delivering the full value of 5G before shifting its attention to 6G. This involves ensuring that the monetisation of 5G is fully realised and allowing telecom operators to recoup their investments. Moreover, telecom companies face significant costs with each generational leap, and customers are unlikely to embrace 6G if their 5G experience falls short of expectations. It's therefore crucial to perfect the 5G experience, ensuring robust, reliable, and widespread coverage that meets consumer demands.

This also means that in the years to come, the standard setter 3GPP will conduct a study to evaluate the needs and use cases of a 6G standard. We think that such a standard should offer clear benefits to consumers. Otherwise, they become a marketing gimmick, and customers are left in doubt as to what it is they are paying for. We argue that it needs to be a relatively big upgrade, and that it doesn't matter if in turn it takes time before we get there.

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