



Uneven 4G adoption has implications for 5G outlook

Author [Francesco Rizzato](#)

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4G-LTE now accounts for one in four mobile connections worldwide, with coverage reaching two thirds of the global population by the end of 2016. However, although 4G networks are now available in most countries, adoption is heavily concentrated in a small number of markets. The low levels of adoption across many developed and developing markets are limiting opportunities for operators in these countries to capitalise on data growth. As operators look to shut down legacy 2G and 3G networks, lack of 4G adoption could also delay the refarming of spectrum, potentially stifling 5G deployment.

Just 10 markets account for 80% of global 4G connections

Although 4G-LTE has been deployed in 188 countries since launch in 2009, 4G adoption has risen to account for the majority of connections in only 21 of them (11%). 3G is the most common technology in 37% of countries, with the remainder still mainly relying on 2G networks.

Early 4G markets such as South Korea, Australia and the US have the highest 4G-LTE adoption rates – all above 60% of total connections at the end of 2016. In these countries, the focus is now shifting to 5G. However, in other markets, including many in Europe, 4G spectrum was not made available until later, limiting early deployments to refarmed bands. While on average more than two in five connections in developed countries now operate on 4G, in 38 developed markets – including Greece, Israel and Russia – adoption rates remain below 20%, even though coverage is now widespread.

In developing countries, although one in five connections are on 4G, more than two thirds of these are in China, which saw adoption jump from 8% in 2014 to 57% at the end of 2016. The remainder of the developing world lags some way behind, with average 4G adoption at less than 10%.

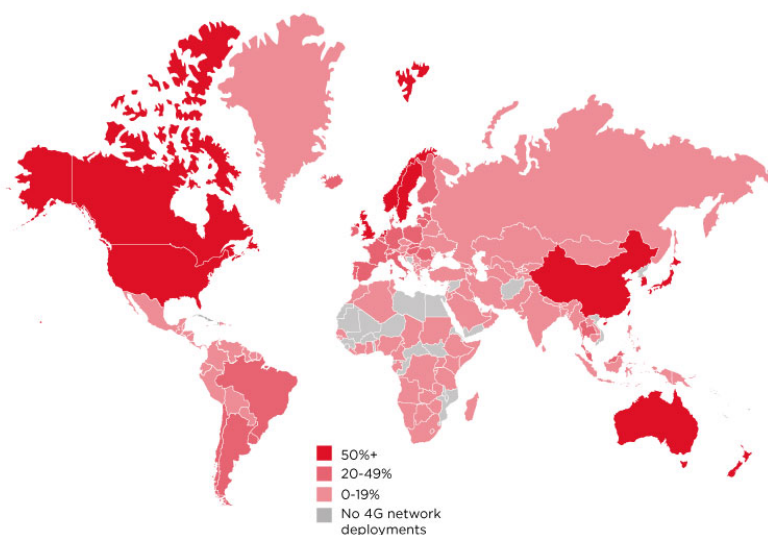


Figure 1: 4G-LTE adoption (percentage of connections), Q1 2017

Source: GSMA Intelligence

Handset/service costs and lack of digital literacy hold back mass adoption

GSMA Intelligence forecasts that by 2020 global 4G adoption will surpass 40%; by then, an additional 1.6 billion connections will operate on 4G. Although the number of 4G operators is set to increase by a third and coverage will reach three quarters of the world's population by 2020, some 150 countries will still have 4G adoption at less than 30% of connections.

A number of developed markets such as Israel and Greece already have substantial levels of 4G coverage, yet adoption lags some way behind. The Global Mobile Engagement Index (GMEI) shows that mobile subscribers in these countries are limited in their use of data-intensive applications such as video streaming due to the high perceived costs of handsets and service. Affordability is also a key factor in developing markets, but in countries such as Philippines and Mexico low levels of digital literacy among parts of the population are an equally significant barrier to use of mobile data.

Operators must look to stimulate 4G adoption in the coming years by offering more attractive yet commercially sustainable tariff models such as data sharing, converged bundles and data-centric pricing. For example, rebalancing voice+data tariffs to offer greater data allowances but fewer voice minutes at the same price has no implication for ARPU but offers better value for money for consumers. Otherwise, operators risk being less able to capitalise on data growth relative to other countries. In the longer term, a lack of 4G adoption also means reduced opportunity to shut down older 2G and 3G networks to refarm spectrum for more efficient LTE Advanced and 5G technologies.

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GSMA Intelligence, GSMA, The Walbrook Building, 25 Walbrook, London EC4N 8AF