



ERICSSON



SOUTH EAST ASIA AND OCEANIA

ERICSSON MOBILITY REPORT

NOVEMBER 2015

MARKET OVERVIEW

Key figures: South East Asia and Oceania

	2015	2021	CAGR 2015–2021
Mobile subscriptions (million)	1,030	1,300	4%
Smartphone subscriptions (million)	350	850	15%
Data traffic per active smartphone (GB/month)	1.2	9	40%
Total mobile traffic (EB/month)	0.5	6	55%

In South East Asia and Oceania, urbanization will continue to drive the information and communications technology (ICT) industry. There will be more than 450 million people living in urban areas by 2021, compared to around 400 million today¹

South East Asia and Oceania is a dynamic region for ICT. Driven by smartphone and mobile broadband growth, internet adoption continues to grow in the region. Australia and Singapore are the leading countries, with internet penetration (mobile and fixed) at over 80 percent.² In other parts of the region, internet penetration can be expected to continue rising.

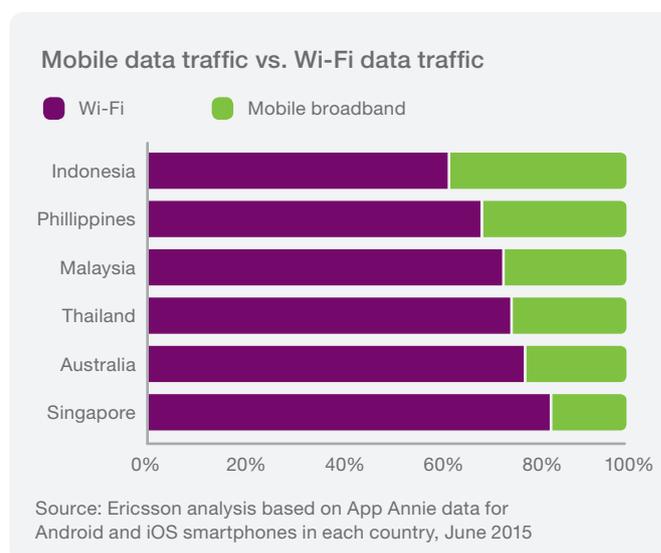
Despite smartphone and mobile broadband potential there are still challenges, especially in the region's developing markets. The next wave of smartphone users are expected to come from rural or remote areas, raising issues on how to bring services to these lower-income populations in a cost-effective way. In order to guarantee a good user experience, mobile operators' ability to address mobile data growth will be key.



¹ World Urbanization Prospects 2014 (United Nations)
² ITU Statistics 2015

Higher reliance on mobile broadband in developing markets

Depending on the type of app, consumers will decide between mobile broadband or Wi-Fi to connect to the internet. Like most global markets, mobile broadband and Wi-Fi are growing in parallel. Wi-Fi usage complements mobile broadband usage, as it is utilized for apps that are more data-intensive and activities that can be postponed. On the other hand, mobile broadband is more often used for activities that are always-on or require frequent feedback. In countries with lower broadband penetration and access to Wi-Fi such as Indonesia and the Philippines, the ratio of data traffic carried via mobile broadband is significantly higher.





Mobile broadband plans

The shift from 3G to 4G is expected to impact the distribution of users across different data plans. Usage of smart devices appears to follow a similar pattern around the world, with growing mobile broadband traffic observed and more consumers migrating to higher data volume packages.

In 2015, 40 percent of consumers in South East Asia and Oceania subscribe to 2.1–5 GB mobile broadband plans, compared to 30 percent in 2014. For all of the countries included in the analysis, the number of subscribers with packages below 1 GB has declined within the same period, while the number of subscribers with higher data volume packages has increased significantly.

50% One in two consumers already subscribe to mobile broadband plans beyond 2GB

There are some differences between the countries. In Australia and Indonesia, the 1.1–2 GB plans are slightly more popular than the 2.1–5 GB plans, but for the other countries 2.1–5 GB is the leading plan. Besides volume plans, other types of mobile broadband plans are also popular in the region, especially in Indonesia and Thailand. The other types could be service-based, duration-based or pay-per-use. The changes in mobile subscription patterns require a personalized approach from mobile service providers to improve consumer satisfaction and perception on pricing.

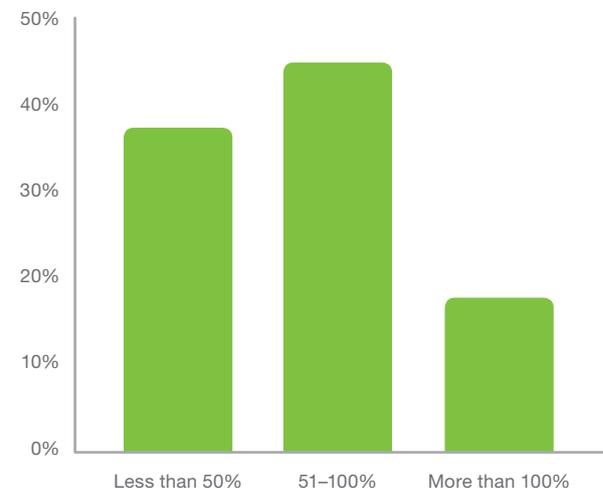
Among consumers who subscribe to volume-based packages, around 40 percent utilize less than 50 percent of their mobile broadband plan data quota and close to 20 percent utilize more than 100 percent. Consumers who subscribe to mobile broadband packages that are not aligned with their usage pattern will have a lower perception of the attractiveness and affordability of the package that they subscribe to. These consumers will be more likely to switch, especially if they can find a mobile broadband package that meets their requirements.

Mobile broadband plans, South East Asia and Oceania



Source: Ericsson analysis based on App Annie data for Android smartphones and tablets in each country, June 2014 and June 2015

Mobile broadband volume package utilization, South East Asia and Oceania



Source: Ericsson analysis based on App Annie data for Android smartphones and tablets in each country, June 2015

MOBILE SUBSCRIPTIONS

Mobile subscriptions in the region will exceed 1 billion by the end of 2015 – around 14 percent of the total global market. Between 2015 and 2021, mobile subscriptions are forecast to grow at a compound annual growth rate (CAGR) of 4 percent, reaching around 1.3 billion subscriptions by the end of the period

South East Asia and Oceania continues to be a main contributor to global mobile subscription growth

The region continues to experience strong growth in new mobile subscriptions. Globally, Myanmar, Bangladesh and Indonesia are among the top 10 countries by net additions in Q3 2015.

WCDMA/HSPA expanding rapidly, GSM/EDGE-only declining

By the end of 2015, WCDMA/HSPA will have almost doubled its subscription numbers in only two years. It is forecast to reach almost 450 million subscriptions by the end of the year, which is close to 45 percent of all mobile subscriptions, up from 35 percent at the end of 2014. GSM/EDGE-only subscriptions are expected to decline from around 510 million in 2015 to around 160 million in 2021. GSM/EDGE reached its peak in the region in 2012 and declined thereafter, as subscribers migrated to WCDMA/HSPA.

By 2016, WCDMA/HSPA will be the dominant technology in the region and will continue to maintain its leading position in 2021. However, it is expected that WCDMA/HSPA will start to decline in 2020. By 2021, LTE/5G is forecast to have grown significantly to more than 500 million subscriptions.

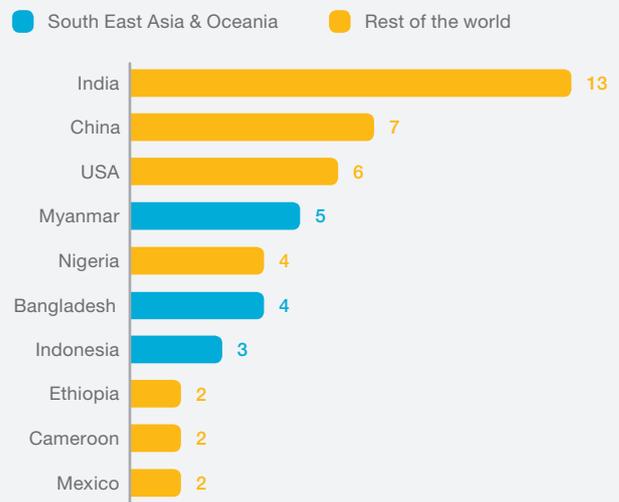
Embracing LTE

Around 40 percent of total mobile subscriptions will be LTE/5G by the end of 2021, driven by migration from WCDMA/HSPA and the emergence of new services, like VoLTE. The deployment of LTE features, such as carrier aggregation, will bring an increase in data usage, which has the potential to drive increased data revenues for operators.

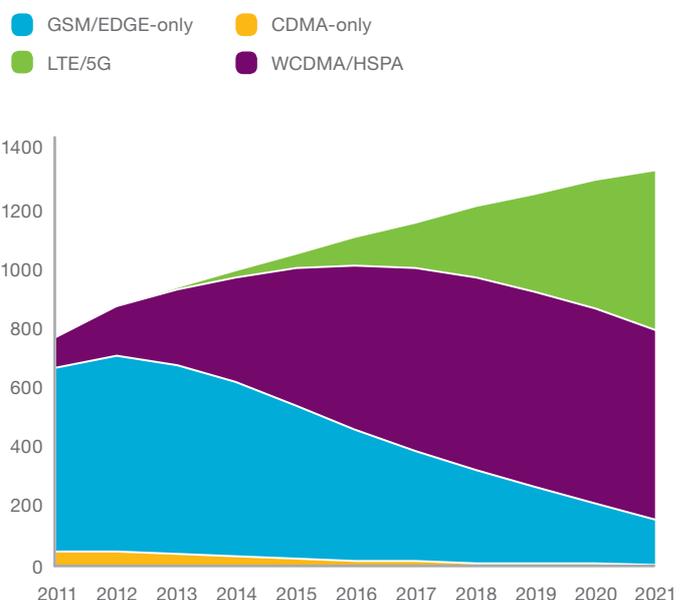
By the end of 2015 LTE will represent around 40 percent of total mobile subscriptions in Australia and 50 percent in Singapore. In both countries, this number will have increased to around 80 percent by 2018.

The transition from 3G to 4G provides a huge boost in the mobile broadband value proposition by providing much better mobile services via improved devices and more efficient networks. Several mobile operators have already trialed or implemented features such as FDD/TDD LTE carrier aggregation, LTE Broadcast and VoLTE to improve video and voice experiences.

Top countries globally by net mobile subscription additions, Q3 2015 (million)



Mobile subscriptions, South East Asia and Oceania split by technology (million)

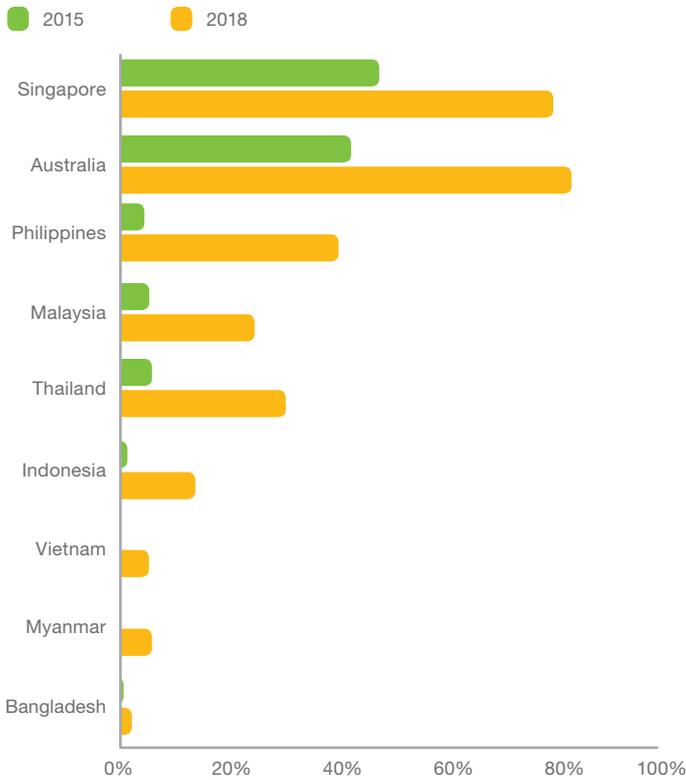


Smartphone growth in South East Asia and Oceania

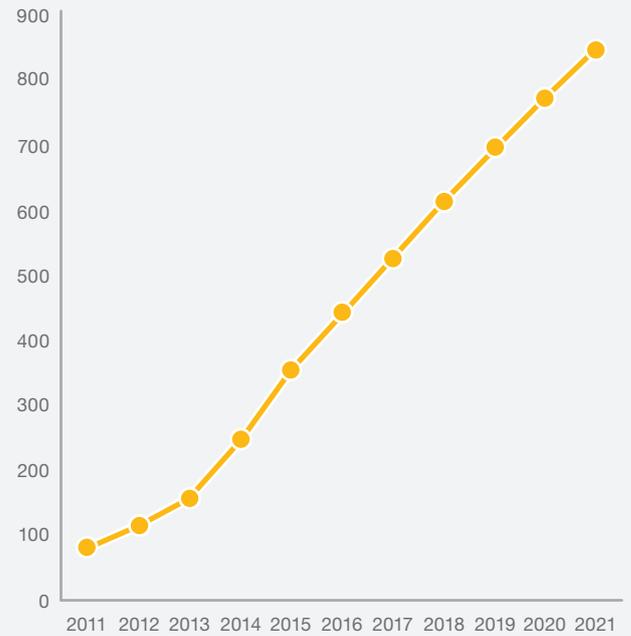
The number of smartphone subscriptions is expected to grow from over 350 million in 2015 to around 850 million subscriptions by the end of 2021. As the availability, affordability, and desirability of smartphones has increased,

smartphone penetration in the region has surged. By 2021, smartphones are expected to make up close to 70 percent of total mobile phone subscriptions.

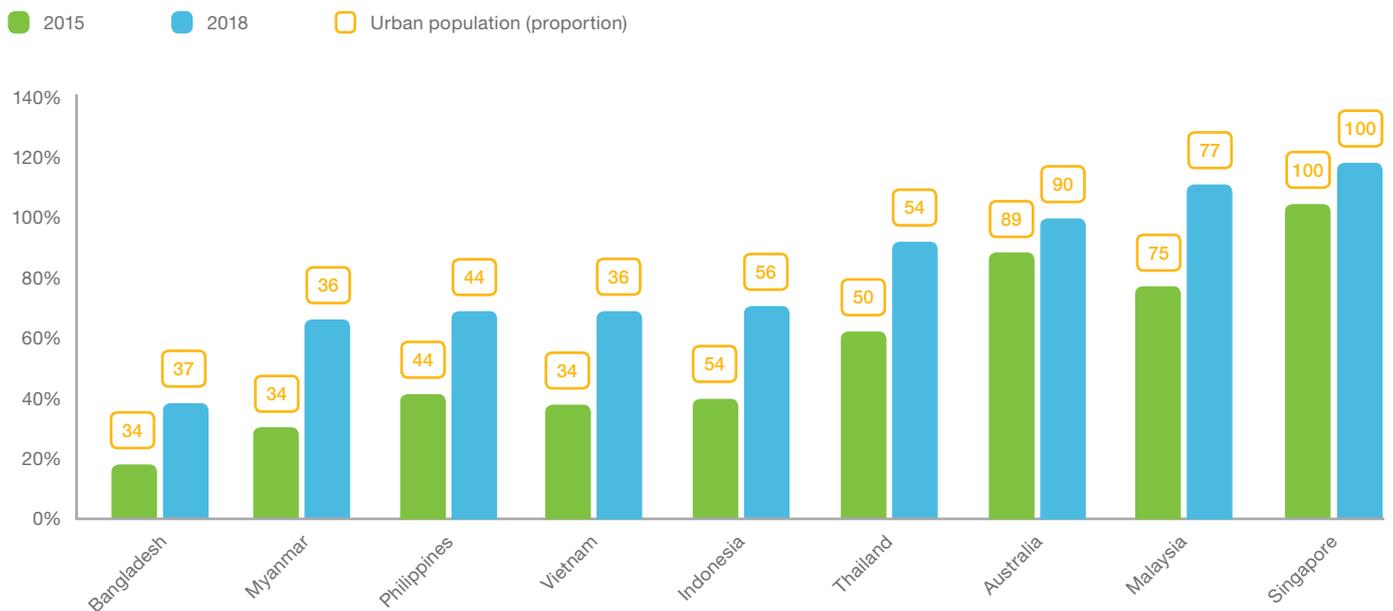
LTE subscriptions, South East Asia and Oceania (share of total mobile subscriptions)



Smartphone subscriptions, South East Asia and Oceania (million)



Smartphone subscriptions penetration and urbanization rate (percent)



Source: Ericsson analysis and World Urbanization Prospects 2014 (United Nations)

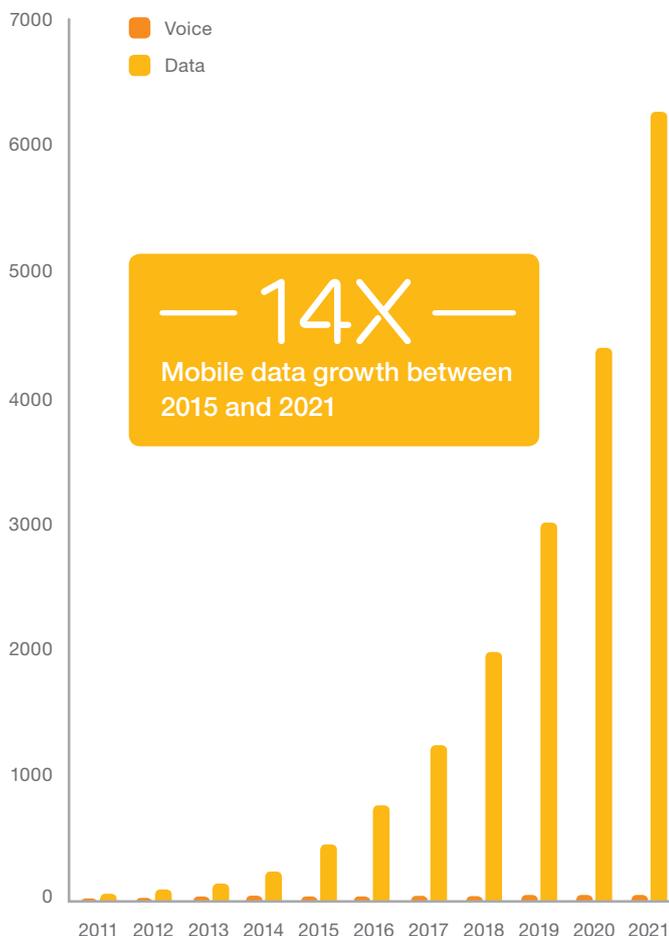
NETWORK PERFORMANCE

Unabated growth in mobile data traffic will continue to challenge mobile operators to make sure they have the capabilities to deliver large amounts of data reliably and efficiently. On the business side, this will also feed their need to continue developing new business models that will allow them to monetize data growth and see a return on their network investments in a data-centric world

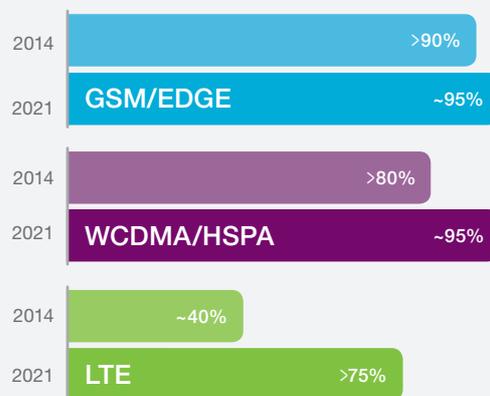
Unabated data traffic growth

While voice traffic remains flat in the region, mobile data traffic will exceed 6 ExaBytes (EB) per month by 2021, up from over 0.4 ExaBytes (EB) in 2015. To give an idea of scale, 6 EB can be equivalent to about 1.5 billion movie downloads (with a typical 2-hour HD movie taking about 4 GB). This will yield opportunities to service providers as data traffic rises, but will also result in challenges as user expectations increase at the same time.

Mobile traffic, South East Asia and Oceania (monthly PetaBytes)



Population coverage, South East Asia and Oceania



GSM/EDGE to experience modest growth

Modest growth in population coverage for GSM/EDGE will be observed between 2015 and 2021 mainly due to two factors. Firstly, the technology is already the most popular in several countries, servicing the majority of those populations. Secondly, by 2021 regional population coverage for this technology will be affected as several operators in developed markets, such as Singapore and Australia, plan to close their GSM/EDGE networks.

However, as service providers in the region carry on with network deployments, WCDMA/HSPA will continue to see steady growth over the next five years. By 2021, it should achieve about 95 percent population coverage. Currently, LTE only has a sizeable population coverage in Singapore (100 percent) and Australia (90 percent). It will experience dramatic growth over the next 6 years, reaching over 75 percent coverage by 2021. This is due to several developing markets in the region continuing or starting LTE deployments. Today, markets such as Thailand, Indonesia and the Philippines have started to commercially launch LTE networks and have contributed to today's LTE population coverage of around 40 percent.



The challenge of app coverage

App coverage is the geographical area where an app works as expected, and can therefore be used by operators to connect user experience to network performance KPIs. In the Networked Society, communications are increasingly app-centric and consequently, high expectations are placed on network performance. This is significant as one of the most demanding apps in terms of performance – video streaming – will account for almost 70 percent of all global mobile data traffic by 2021.

Different countries will face different app coverage challenges depending on the apps users are consuming.

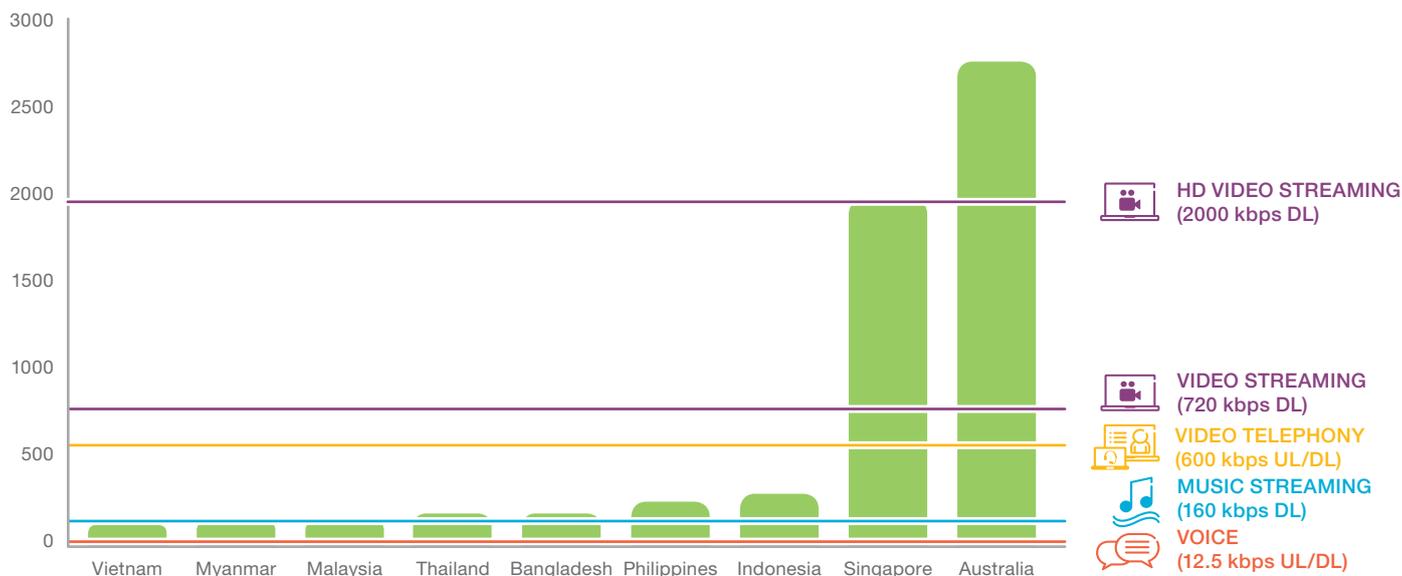
APP COVERAGE

App coverage, for any given app, is the geographical area within which a mobile broadband network delivers sufficient performance for a good user experience.

LTE adoption drives app coverage

While most countries can deliver a decent music streaming experience, only Australia and Singapore have high enough cell-border speeds to guarantee the seamless delivery of high-throughput applications, such as video streaming, across the whole coverage area. Moreover, networks in both countries have now reached a point where the minimum of 2 Mbps required for HD video streaming can be delivered anywhere there is demand. Increased app coverage can often be aided by network features such as carrier aggregation: LTE carrier aggregation in Australia has enabled possible peak download speeds of up to 600 Mbps.

Operators that want to meet or exceed user expectations in the region will need to carefully track the use of apps and devices on a constant basis and keep up with performance requirements. These requirements can be translated into a set of network KPIs that can ensure an ideal user experience of a particular app with optimized network performance.



Notes: App coverage for apps where downlink throughput is the main factor limiting their performance
Thresholds depicted are indicative and based on typical smart devices
Captured samples include all cellular technologies
Robotic users removed

Source: Source: The Analysis was performed by Ericsson based on Ookla's Speedtest Intelligence Data from Speedtest.net (Q3, 2015)

Ericsson is the driving force behind the Networked Society – a world leader in communications technology and services. Our long-term relationships with every major telecom operator in the world allow people, business and society to fulfill their potential and create a more sustainable future.

Our services, software and infrastructure – especially in mobility, broadband and the cloud – are enabling the telecom industry and other sectors to do better business, increase efficiency, improve the user experience and capture new opportunities.

With approximately 115,000 professionals and customers in 180 countries, we combine global scale with technology and services leadership. We support networks that connect more than 2.5 billion subscribers. Forty percent of the world's mobile traffic is carried over Ericsson networks. And our investments in research and development ensure that our solutions – and our customers – stay in front.