ERICSSON

SOUTH EAST ASIA AND OCEANIA

ERICSSON MOBILITY REPORT APPENDIX

NOVEMBER 2014

MARKET OVERVIEW

Key figures: South East Asia and Oceania

	2014	2020	CAGR 2014–2020
Mobile subscriptions (million)	995	1,330	5%
Smartphone subscriptions (million)	224	810	25%
Total mobile traffic (PB/month)	350	2,700	40%

South East Asia and Oceania is a truly diverse region, both culturally and in terms of market maturity for ICT (Information and Communications Technology).

Three key trends have been identified that are set to have a particularly big impact on the ICT sector in the region. These are:

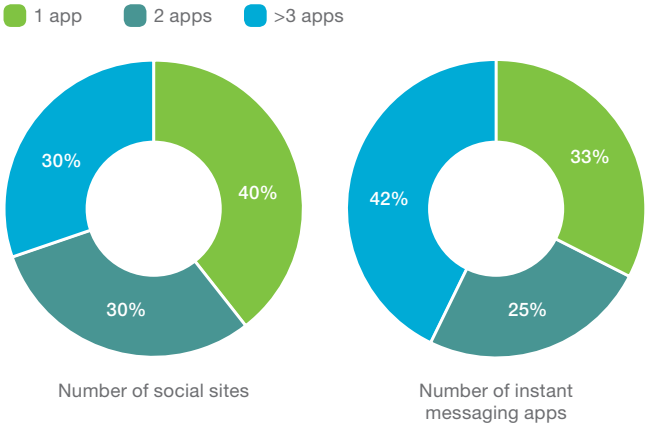
Youth culture – the region's youth segment is crucial in driving the use of apps, smartphones and mobile data services, particularly in developing markets.

Urbanization – urban growth will continue in the future, with ICT supporting social development

Rise of the smartphones – the availability of smartphones in lower price ranges gives more consumers the chance to get online. In the region's developing countries such as Indonesia, Thailand and Philippines, the smartphone is the primary device for accessing most internet services.

As urbanization remains rife, the youth and smartphones continue to be the key drivers for the evolution of communication and connectivity.

Multi-app usage – social media and instant messaging



Source: Ericsson ConsumerLab (2014)
Base: Urban mobile users 16–60 years old in Indonesia, Philippines, Thailand and Vietnam and daily internet users 16–60 years old in Malaysia, Singapore and Australia

Social media and instant messaging

The mobile phone is becoming an important tool for accessing online services. More consumers, especially young people and smartphone users in urban areas, are using mobile data services. The region is a leader when it comes to adopting social media and instant messaging services.

The ever-increasing need to be connected means consumers rely on more than one app to interact with friends and family. Ericsson ConsumerLab research reveals that 60 percent of daily internet users in South East Asia and Oceania have at least 2 social networking accounts and 67 percent use 2 or more instant messaging apps. Malaysians are the top multi-app users. 89 percent have more than one instant messaging app and 76 percent use more than one social messaging platform.[1]

Social media has become an integral part of consumers' lives. 23 percent of consumers in the region stated that social media is central to their daily activities. Social media has a higher level of importance for users in Vietnam, Thailand and Malaysia.

The growing functionalities of instant messaging apps allow users to do more than just chat with one another. 24 percent of consumers in the region are already using video/VoIP calls on a weekly basis.

From another perspective, the growing popularity of social media and instant messaging apps is already impacting SMS usage patterns. These services can be expected to eventually affect voice call usage patterns as well through the introduction of various new communication functionalities and features.

2 OUT OF 10

users claim social networks are central to their lives

[1] Ericsson ConsumerLab (2014)

The connected future

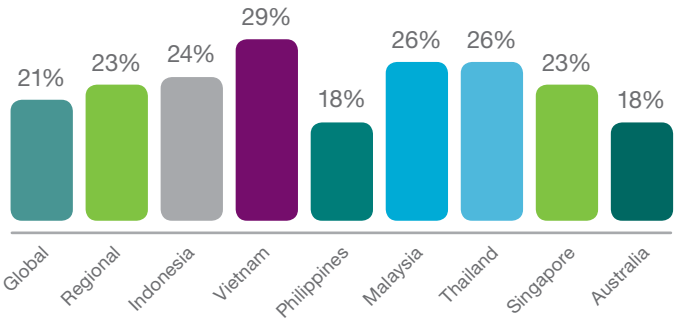
The internet is becoming an important part of consumers' lives in the region. As a result, users increasingly expect to be able to use their internet connection as part of their daily activities and interactions.

There is good potential for new connected services among consumers in South East Asia and Oceania. Wearable technology, such as Fitbit or smart watches (Connected Me), interactive cars (Connected Car) and household items (Connected Home) are still in their infancy. Higher usage is observed in Australia, Singapore and Malaysia. However, based on consumer interest, the usage of different connected services is expected to increase along with the growth of the internet.

Network performance needs to evolve along with the growing demand for new services. To capitalize on this opportunity, different initiatives from telecommunication service providers and utilities companies are underway in the region.

Machine-to-Machine (M2M) communication is expected to take off in the region, driven by declining costs, improved coverage, more capable radio technologies and regulatory mandates. At the end of 2014, there will be around 10 million cellular M2M devices in use in South East Asia and Oceania, growing 3–4 times by 2020.

Consumers who say social media is central to their lives



Source: Ericsson ConsumerLab (2014)
Base: Urban mobile users 16–60 years old in Indonesia, Philippines, Thailand and Vietnam and daily internet users 16–60 years old in Malaysia, Singapore and Australia

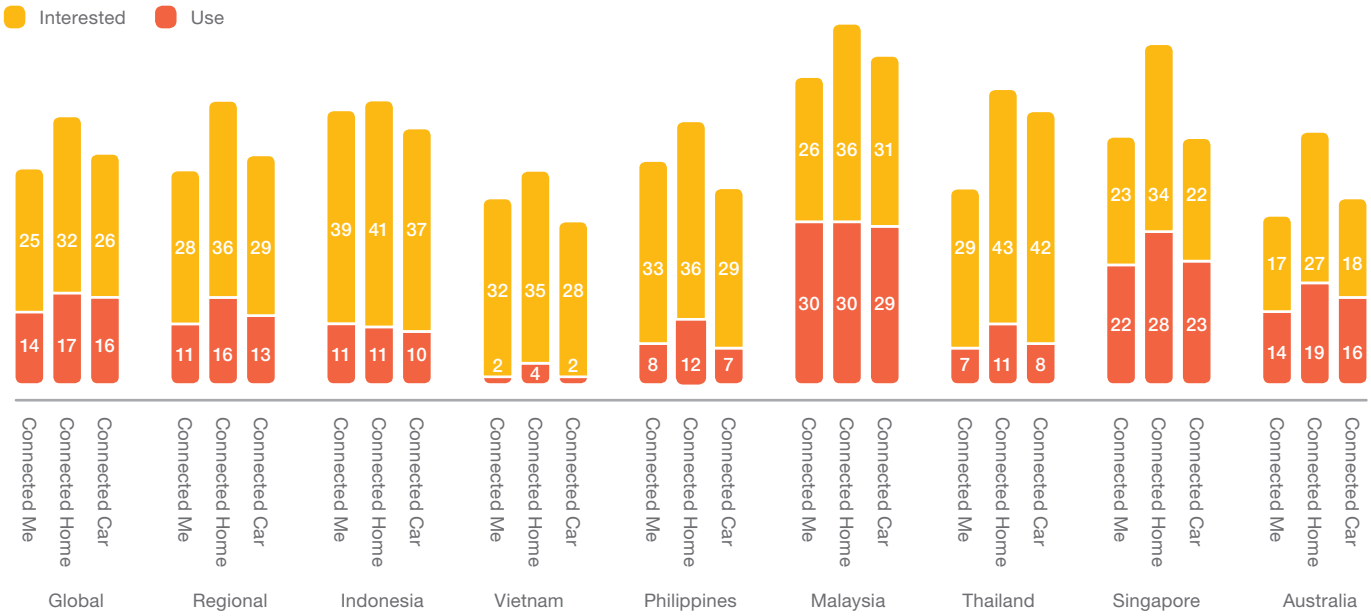
New connected services

Connected Me: Using wearable technology (such as Fitbit or smart watches)

Connected Car: Connecting your car to other devices to download apps, access online services, or control features on your car from your phone

Connected Home: Connecting your home to devices or the internet to control, for example, temperature, or lighting, or to play music

Usage and interest in connected services among internet users/urban users



Source: Ericsson ConsumerLab (2014)
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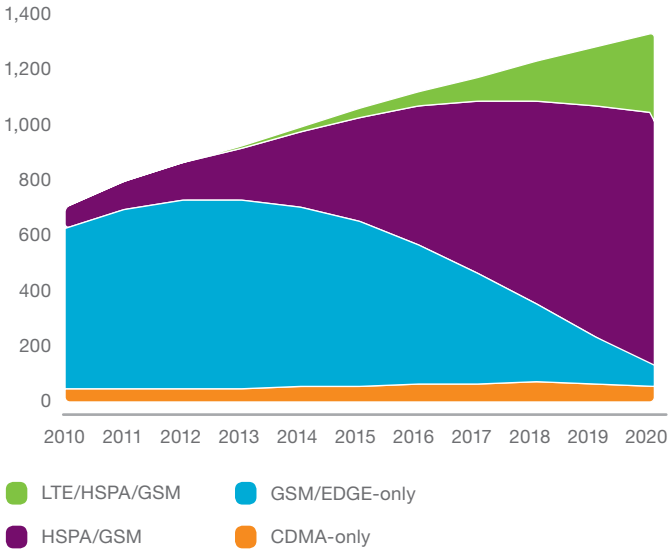
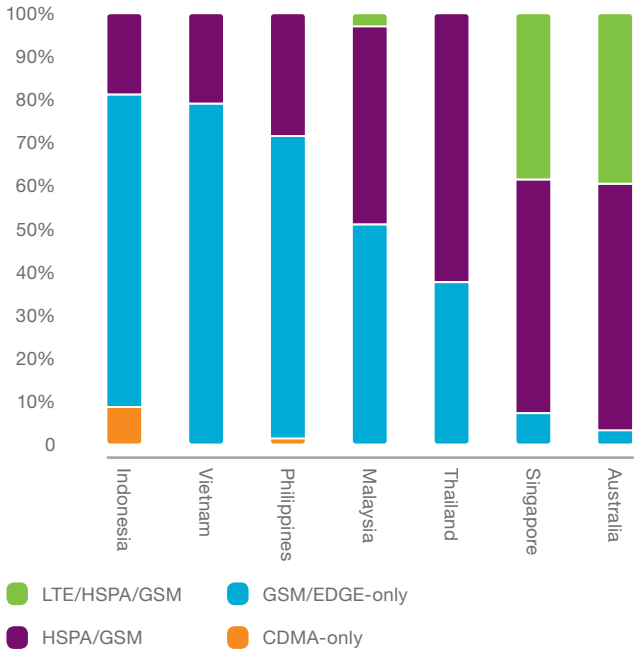
MOBILE SUBSCRIPTIONS

Mobile subscriptions, South East Asia and Oceania (million)



Market share per technology, South East Asia and Oceania[2]



The region has witnessed strong growth for both 3G/HSPA and 4G/LTE over the first half of the year, with 4G/LTE uptake being spearheaded by Singapore and Australia. Breakthrough innovations in LTE have been implemented in the region with the world's first LTE Broadcast stadium demonstration taking place in Australia and the world's first commercial full-featured Voice over LTE (VoLTE) service in Singapore. It is expected that LTE subscriptions will ramp up in the region during 2015 as several countries have started LTE trials, while others are awaiting upcoming spectrum auctions.

Mobile technologies

Developing countries in South East Asia will be home to a remarkable rate of uptake in 3G/HSPA over the next five years as users upgrade from GSM/EDGE plans to access faster speeds and newer devices. By the end of the forecast period, 3G/HSPA will the dominant technology in the region.

In the region's mature ICT markets where 3G/HSPA already hosts most existing mobile subscriptions, mobile operators have a very low number of subscriptions as GSM/EDGE-only connections. This situation can open the door for service providers to consider refarming their 2G spectrum to 3G/4G in order to gain spectrum efficiencies as well as cost savings in their operations. As an example, in Australia the market leader has already announced plans to close their GSM/EDGE network by the end of 2016.

Smartphone penetration

Mobile subscriptions have been rapidly increasing and mobile penetration is reaching – and in some cases exceeding – 100 percent in several countries in the South East Asia and Oceania region. Therefore, other important mobility metrics to consider when looking into ICT maturity are mobile broadband and smartphone penetration.

Mature markets such as Australia and Singapore, where LTE is widely available, have a very high mobile broadband penetration, already exceeding 90 percent. Developing markets, on the other hand, still have a long way to go, which offers a unique opportunity for mobile operators to enhance the mobile broadband experience for end-users.

By the end of 2014 smartphone penetration is expected to be around 80 percent in Australia and Singapore, while in other countries in the region it will still be under 50 percent. This provides an exceptional growth opportunity for mobile operators and device manufacturers alike as users will consume more data through newer and faster devices.

[2] World Cellular Forecasts 2014-2019, WCIS, Informa June 2014

Smartphone subscriptions

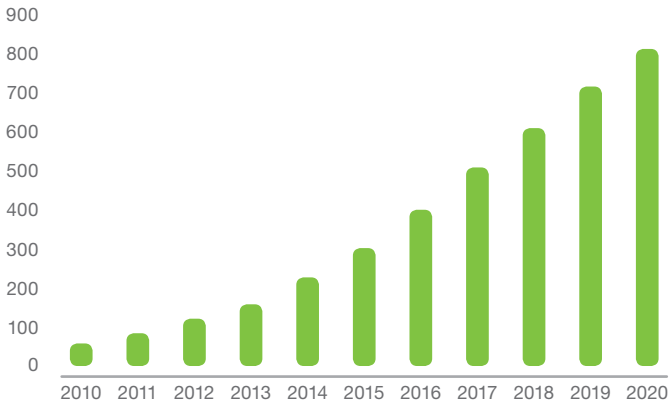
As device affordability increases, smartphone adoption for the region steadily grows. By 2020 it is expected that there will be more than 800 million smartphone subscriptions in South East Asia and Oceania. While developed markets are key battlefields for high-end devices, low-end smartphones will make an important contribution to higher smartphone penetration in developing markets.

Mobile traffic

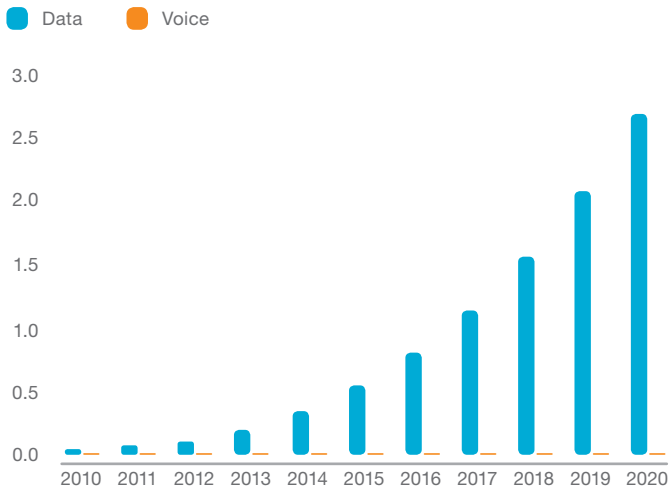
As smartphone penetration increases and data consumption per device also continues to ramp up, mainly driven by video, data traffic will continue to grow in the region. While voice traffic remains flat, growth in data will see regional traffic exceed 2.5 ExaBytes by 2020. This will bring opportunities for service providers as traffic in their networks rises, but also challenges as user demands increase, as we have found through Ericsson ConsumerLab research.

As a result, mobile operators should ensure that they have not only the capabilities to deliver these large amounts of data, but also that they can do so reliably and efficiently. At the same time, operators should continue to develop new business models that will allow them to monetize data growth and see a return on their network investments in a data-centric world.

Smartphone subscriptions, South East Asia and Oceania (million)



Mobile traffic, South East Asia and Oceania (EB/month)



NETWORK PERFORMANCE

Network performance

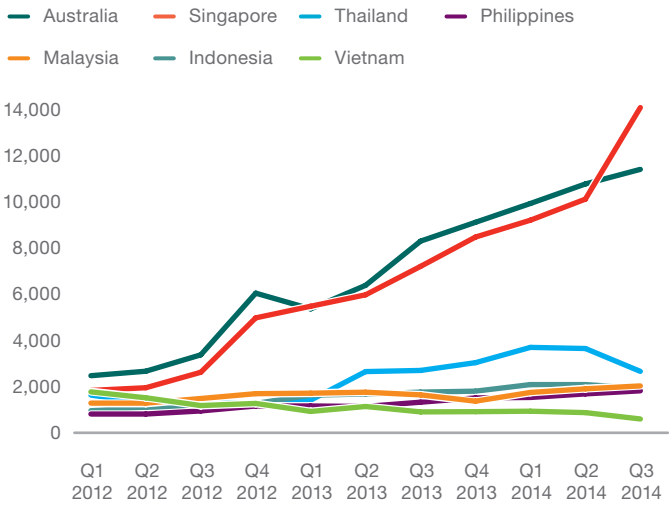
LTE uptake has been limited in most countries in the region. The gap in network performance, that for a while has separated mature ICT countries from developing ones in South East Asia and Oceania, not only still exists, but has widened.

As service providers increase their efforts to migrate end-users to faster, more efficient technologies, we expect to see a ramp-up in the speeds that networks in developing markets can deliver. By deploying cost-efficient technologies such as Dual-Carrier HSPA (DC-HSPA), it is expected that network performance will greatly improve in several South East Asian countries in the short term. Median speeds in those countries will come closer to the levels experienced in developed countries such as Australia and Singapore prior to the introduction of LTE.

In Singapore, expanded LTE coverage and increased spectrum allocation for LTE by the major carriers has seen median speeds rise notably over the second half of the year. With the introduction of LTE carrier aggregation (LTE Advanced) in May 2014 and as more devices that support the standard become available, we expect a further boost in peak and median speeds during the next few months. Aggregation of multiple LTE bands – enabling the possibility of delivering downlink speeds of 300 Mbps and beyond – will soon have a positive impact on the overall performance of Singapore's networks.

In Australia, carrier aggregation in LTE has been available since November 2013 and different combinations of carriers in the 900 MHz, 1800 MHz and 2600 MHz bands are already offered to users. With the full activation of APT700 spectrum (700 MHz) for LTE in early 2015 and a growing device ecosystem, Australian mobile users will also benefit from LTE Advanced through improved network speeds and capacity.

Median (50 percent probability) downlink throughput (Kbps)



Source: Analysis performed by Ericsson based on Ookla's NetMetrics data from Speedtest.net 2014

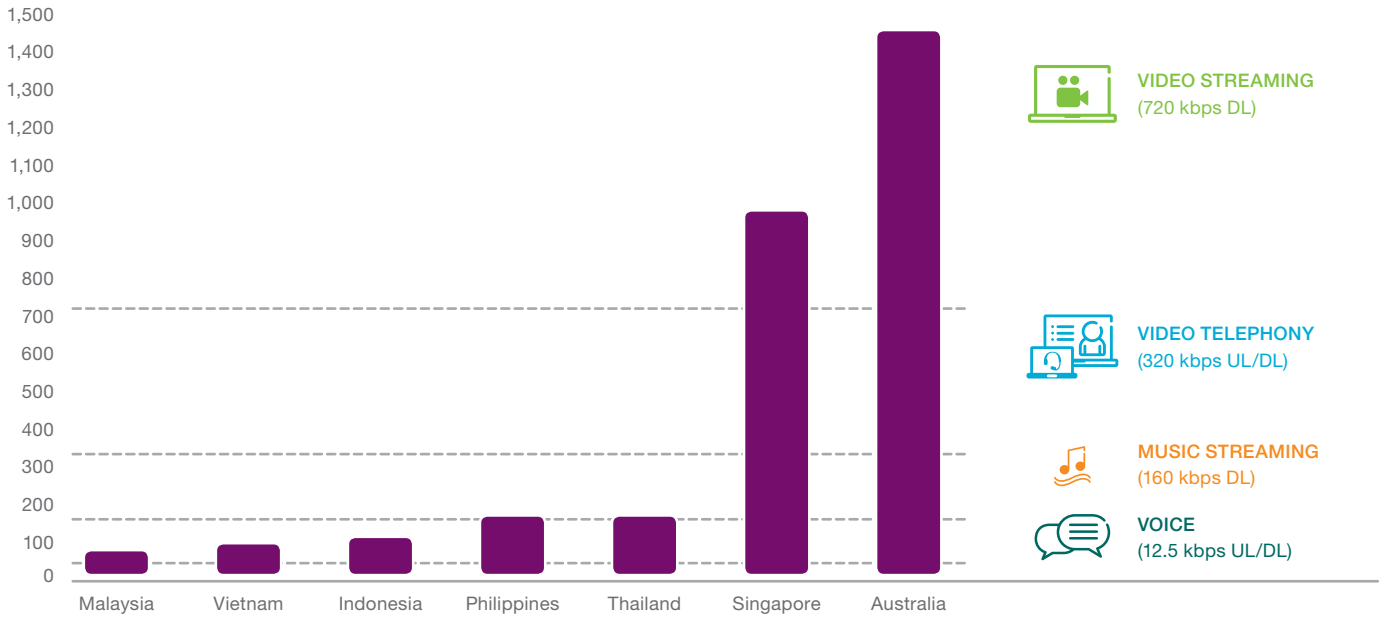
APP COVERAGE

The coverage area for any given app is relative to the level of network performance needed for it to function. App coverage describes the area within which there is a high probability of experiencing sufficient network performance to run any given app, e.g. video streaming or web browsing. Its usefulness comes from the fact that smart devices and apps continually evolve and encompass newer capabilities and therefore require more network resources to provide a good user experience. App coverage is an integrated view of mobile broadband network coverage, capacity and quality.

Ericsson's analysis on Speedtest.net data from Ookla shows that data-intensive applications such as video streaming could easily be delivered by mobile networks in Singapore and Australia. However the same situation would prove to be a challenge in the remaining South East Asian countries. As users discover new ways to consume data, it will be of greater importance for service providers to be able to fulfill that demand. With the performance of streaming becoming more important as users consume music and videos on-the-go, it makes sense for operators to ensure such services can be delivered throughout the coverage area.

A challenging situation for app coverage is the cell-edge experience (or indoor experience as we move toward borderless cells), which describes the poorest coverage situation end-users can expect from their networks. Depending on several factors, ranging from geographical to urban development conditions, the ultimate challenge for service providers might be ubiquitous coverage for vast countries or providing network capacity or indoor coverage in big cities where skyscrapers are abundant. For operators to be able to deliver a consistent experience for their users' most popular apps, they must ensure users' particular app coverage demands are catered for in different traffic situations and geographical areas.

App coverage based on cell-edge (90 percent probability) downlink throughput (Kbps)



Note: thresholds depicted are indicative and based on typical smart devices
Source: Analysis performed by Ericsson based on Ookla's NetMetrics data from Speedtest.net 2014

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, businesses and societies 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 more than 110,000 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.

Founded in 1876, Ericsson has its headquarters in Stockholm, Sweden. Net sales in 2013 were SEK 227.4 billion (USD 34.9 billion). Ericsson is listed on NASDAQ OMX stock exchange in Stockholm and the NASDAQ in New York.

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