



ERICSSON



# LATIN AMERICA AND THE CARIBBEAN

ERICSSON MOBILITY REPORT APPENDIX

NOVEMBER 2014

# MARKET OVERVIEW

## Key figures: Latin America and the Caribbean

	2014	2020	CAGR 2014–2020
Mobile subscriptions (million)	740	900	3%
Smartphone subscriptions (million)	270	595	15%
Total mobile traffic (PB/month)	300	1,800	35%

### Macro-economic context

The Latin America and Caribbean region consists of 46 countries and around 620 million people. The region is diverse not only in terms of socioeconomic development and culture, but also in regards to Information and Communications Technology (ICT) maturity levels.

GDP per capita varies greatly, along with consumer profiles. This has a direct impact on the adoption speed of ICT services and products.

In the previous decade Latin America saw a 50 percent growth in its middle class.<sup>1</sup> More recently the economic growth slowed down in the region. With a 1.3 percent increase in GDP in 2014, Latin America is predicted to fall below the world average for the first time since 2009.<sup>2</sup>

The telecom industry remains an important driver for economic growth. In recent years, governments have supported plans for national broadband, operators have invested to evolve network technology, and there has been an increasing demand for services across the region. These factors are the main growth drivers for the sector and promote regional economic development.

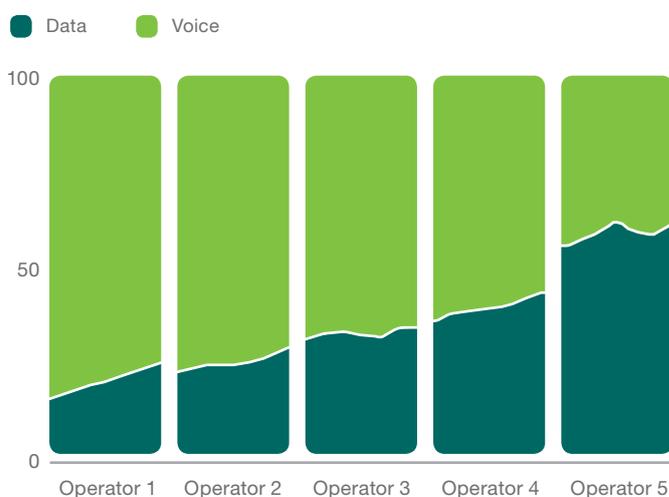
### Market penetration and growth

By Q3 2014, there were 720 million mobile subscriptions in the region, resulting in 115 percent mobile penetration. Only a small number of countries fall below 100 percent penetration.

Brazil and Mexico represent over 50 percent of the total mobile subscriptions in the region. 80 percent of all mobile subscriptions are concentrated within 7 countries.

Given the economic conditions, it is easy to understand that Latin America is a price-sensitive market dominated by prepaid plans. Despite this, postpaid subscriptions are on the rise due to the efforts of operators to increase their

### Mobile operators' voice and data revenue split, Q4 2012 to Q2 2014, Latin America



Source: Ericsson analysis based on operators' quarterly results

base of more profitable customers. Voice is still the biggest share of operators' incomes, but data is rapidly gaining relevance as a revenue stream, as shown in the chart above. Faster adoption of smart devices and diversified mobile content and services will boost data consumption and its proportion of average revenue per user (ARPU).

### Consumer trends<sup>3</sup>

A growing middle class, the availability of cheaper devices and the need to be connected everywhere will continue to boost the penetration and usage of telecommunication devices and services in the region.

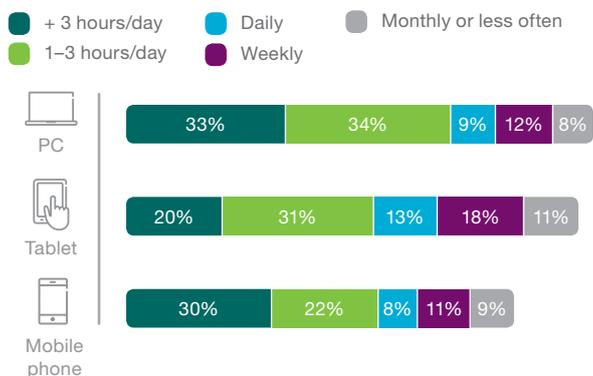
60 percent of households own at least 2 of the following internet-capable devices: personal computer, mobile phone and tablet. More than 60 percent access the internet on these devices daily and around 30 percent are connected for more than 3 hours per day.

<sup>1</sup> The World Bank, Economic Mobility and the Rise of the Latin American Middle Class, 2012

<sup>2</sup> FocusEconomics, September 2014

<sup>3</sup> Ericsson ConsumerLab Infocom 2014. Based on 10,839 interviews conducted in Brazil, Mexico, Argentina, Uruguay, El Salvador and Bolivia, 15–69 years-old, SEC A to D in urban zones

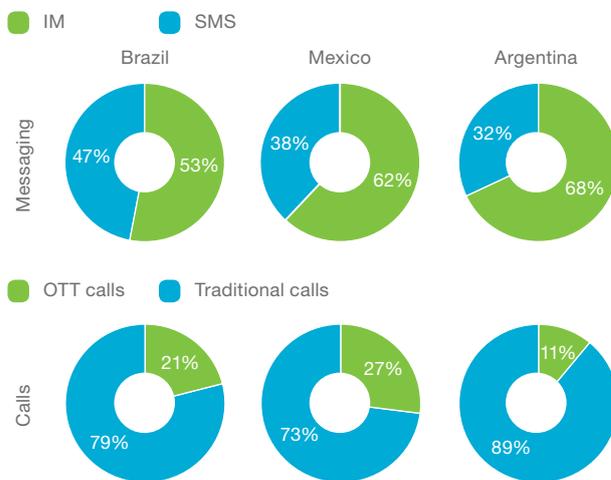
### Device owners' internet usage per device, Latin America



Source: Ericsson ConsumerLab (2014)  
Base: Internet user and device owners

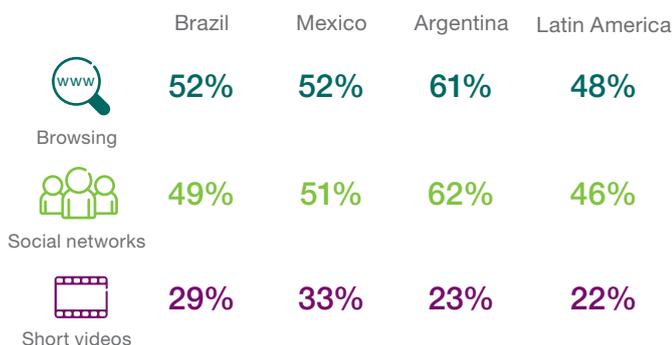
Digital activities are becoming part of the user's daily routine. 74 percent of Latin Americans browse the internet, 61 percent use social networks and 30 percent watch video clips at least daily, using any internet-enabled device.

### Preferred choice between SMS/calls and OTT on mobile phones (daily share)



Source: Ericsson ConsumerLab (2014)  
Base: Internet users with mobile phones

### Daily usage of services on mobile phones



Source: Ericsson ConsumerLab (2014)  
Base: Mobile phone users

New mobile services and applications emerge every day, changing the way users communicate and how they behave. 37 percent of mobile phone users in the region download apps at least weekly. Usage of over-the-top (OTT) services, that is, services which are used over the internet, is high with 57 percent of mobile phone users taking advantage of them.

Among those who use the internet on their mobile phones, 55 percent prefer to send Instant Messages (IM) over SMS. OTT calls are also gaining popularity, and 17 percent prefer this option to the traditional call service.

Video as a digital activity is also gaining popularity among Latin Americans. 26 percent of mobile phone users make video calls, 41 percent watch video clips

on apps such as YouTube, and 30 percent watch long videos using services such as Netflix, on their mobile phones at least weekly. The use of laptops, smartphones and tablets for watching video content is rapidly increasing. Access to video content is among the top three reasons that consumers in the region acquire an internet connection.

Mobile financial services are also on the rise, and at least 14 percent of mobile users access them weekly. They include mobile payment, mobile money and mobile banking. A recent study on this topic in Latin America showed that these services bring benefits both for the unbanked and banked populations.

### The M2M market

Although Machine-to-Machine (M2M) is not considered within the figures of mobile subscriptions in this report, it is a growing segment worth mentioning. It is estimated that there are 20 million cellular M2M connections in Latin America in 2014, a figure that is set to grow around 3 times during the forecast period.

The traffic associated with M2M represents only a small share of the total traffic, and will remain so in the coming years, despite its strong growth. The rapid increase of M2M subscriptions is driven by the popularity of the Internet of Things, M2M solutions in different industries and the proliferation of consumer electronics and connected vehicles.

# MOBILE SUBSCRIPTIONS

Latin America represents around 10 percent of global mobile subscriptions. The region is expected to reach 740 million subscriptions at the end of 2014. Between 2014 and 2020 it is forecast that Latin America's mobile subscriptions will grow at a compound annual growth rate (CAGR) of 3 percent, amounting to 900 million subscriptions by the end of 2020.

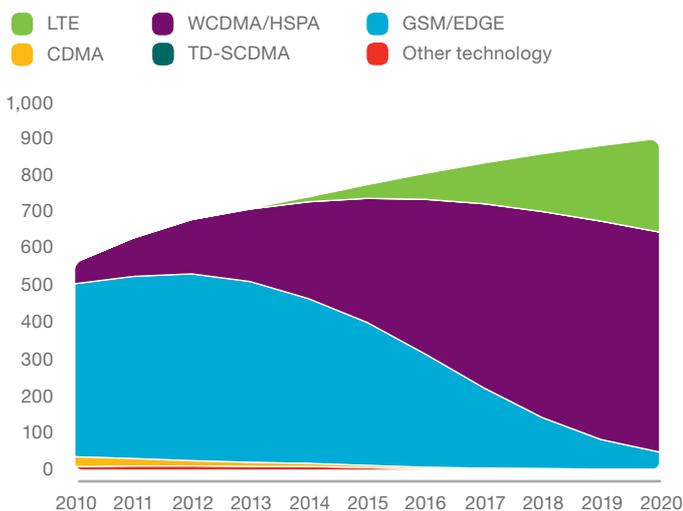
## Technology evolution

The majority (60 percent) of Latin America still uses GSM/EDGE, commonly known as 2G technology. This is due to the large proportion of lower income consumers using handsets that only work with that technology. GSM will continue to be the most popular mobile technology in the region up until 2016.

Between 2016 and 2020, WCDMA/HSPA will take over as the leading radio access technology in the region. It will account for about 65 percent of total subscriptions, up from almost 40 percent today. The increasing number of connected consumers and the need for speed are contributing to the fast growth of 3G.

LTE spectrum auctions and launches will continue to be a top priority for operators and regulators.

Mobile subscriptions, Latin America, split per technology (million)



These will accelerate the uptake of this technology. It is estimated that LTE will represent approximately 30 percent of total mobile subscriptions by 2020, with more than 250 million subscriptions.

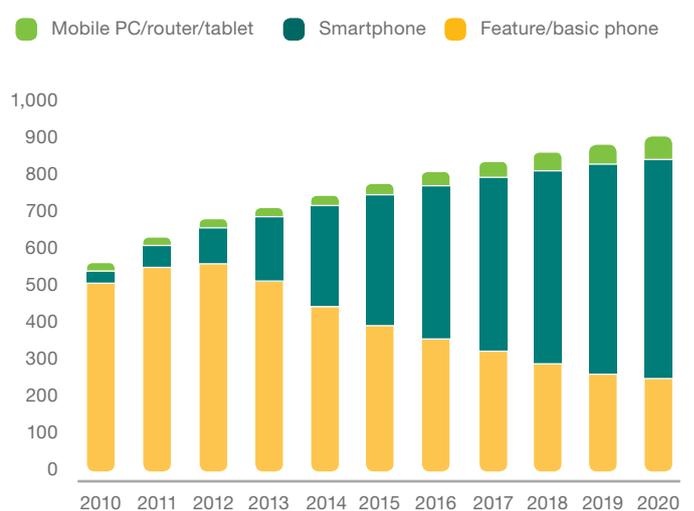
## Smartphone subscriptions

Smartphones will play a key role in 3G and 4G adoption. Lower prices, together with the increasing amount of online services, apps and virtual content, will boost smartphone adoption from over 35 percent of total subscriptions in 2014 to more than 65 percent by 2020.

It is estimated that the number of smartphone subscriptions in the region will surpass those for feature/basic phones by 2016. This is not unexpected considering that 34 percent of people are planning to buy, renew or upgrade their smartphones in the next 12 months, according to a study from Ericsson ConsumerLab in 2014.

The increase of cheaper smartphones will provide more consumers with the opportunity to access online services, since personal computers and tablets are more expensive. In some markets, like Mexico, the smartphone is the primary device for accessing the internet.

Mobile subscriptions, Latin America, split per device (million)



## >250 MILLION

LTE subscriptions by the end of 2020

# MOBILE TRAFFIC

With the rise of apps and smartphone usage, mobile data traffic will continue to grow steadily in the region.

Between 2014 and 2020, mobile data traffic will increase, reaching 1.8 ExaBytes (EB), 6 times more than 2014. Meanwhile, annual growth for voice traffic will only be around three percent during the same time period.

Data traffic in the mobile segment is boosted mainly by two components:

## 1. The rapid uptake of smart devices

In developing markets, price is the primary barrier in the adoption of smart devices. With the availability of lower priced models, it is expected that these devices will rapidly achieve a critical mass. In 2016, 50 percent of mobile subscriptions will be smartphones.

The rise of smartphone subscriptions is the primary driver for mobile data growth. In 2012 the total mobile traffic generated by mobile phones (mainly smartphones) exceeded that of mobile PCs, tablets and routers. By 2020, it is estimated that smartphone data traffic will represent around 75 percent of the total mobile data traffic in the region. This will result in more than 2.5 GB of data traffic per month per active smartphone on average.

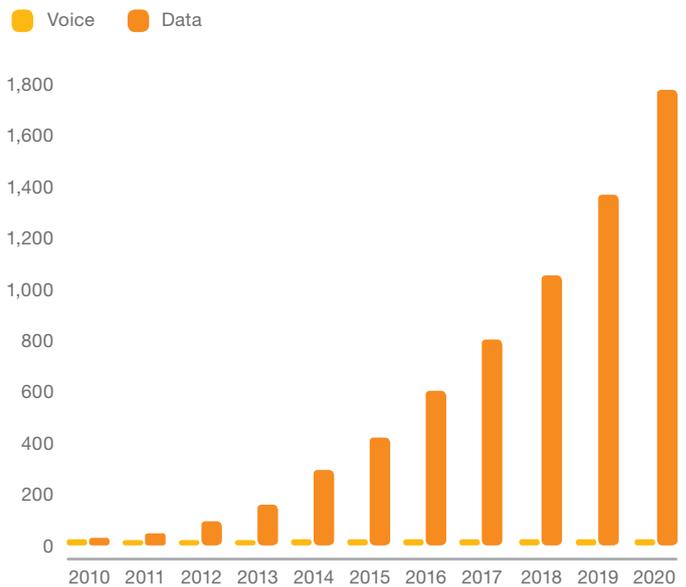
## 2. The explosion of video and apps in the cloud

Video is the largest contributor to data traffic volumes for any device. Globally, it represents approximately 40 percent of mobile data traffic. Social networking and web browsing represent shares of around 15 and 10 percent, respectively.

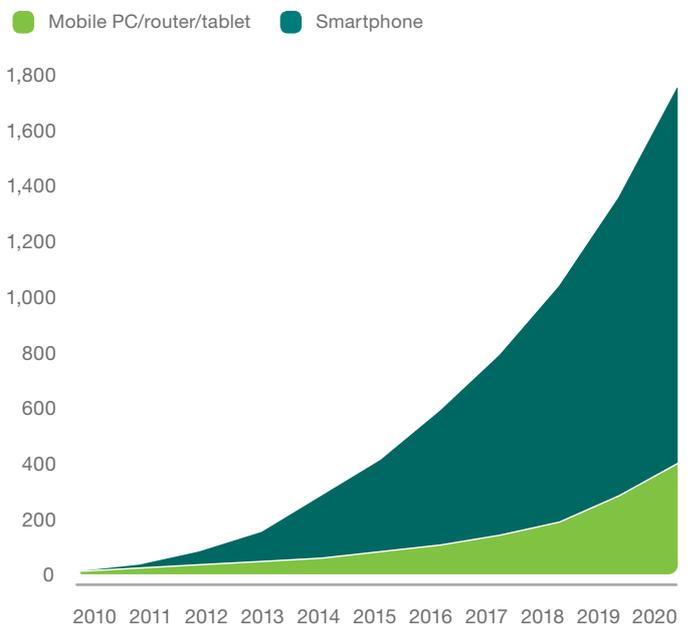
An Ericsson study<sup>4</sup> conducted in Brazil, Mexico and Chile indicated that on average 86 percent of internet users use mobile devices such as laptops, tablets and smartphones to consume video on a weekly basis. 59 percent do so outside the home.

Smartphone users with a data subscription who watch video content at least on a weekly basis have increased their total viewing time by more than 30 percent since 2012. They watch 8 hours of video content per week on their smartphones, compared to 6 hours in 2012.

Mobile traffic, Latin America (monthly PetaBytes)



Mobile data traffic, Latin America, split per device (monthly PetaBytes)



6X

growth in mobile data traffic  
between 2014 and 2020

<sup>4</sup>Ericsson ConsumerLab TV and Video Study 2014. Based on 3,000 interviews with people with a broadband internet connection that watch TV/video at least on a weekly basis, 15–69 years old

# POPULATION AND APP COVERAGE

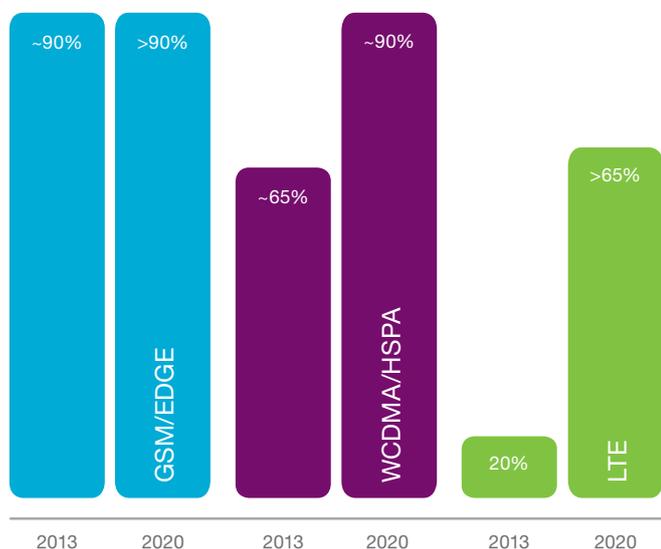
## Population coverage

Population coverage of an area is defined as the proportion of the population with sufficient signal to connect to a mobile network. This concept impacts the perception of service quality and as such will grow in importance since connectivity is expected everywhere, at any time.

Back in 1997, the first GSM network in the region was rolled out in Chile. Over the years the technology spread across Latin America. Today, GSM/EDGE has almost 90 percent population coverage in the region and it will continue to grow.

Nine years later, in 2006, Chile was again the pioneer, implementing the first 3G network in the region. WCDMA/HSPA has been deployed faster than GSM and it already covers approximately 65 percent of Latin America's population. It is expected to increase to around 90 percent by the end of 2020.

Population coverage, Latin America



>65%

LTE population coverage by 2020 in Latin America

In recent years, LTE has been on the agenda of governments and operators, along with continued 3G investments. Since the introduction of LTE in Puerto Rico in 2011, more than 40 networks have been launched in 18 countries in the region.

At the moment, LTE has a 20 percent population coverage and it is forecast to increase to cover more than 65 percent by 2020. This makes it the fastest growing mobile technology in history. However, spectrum liberalization and availability of a wide range of LTE devices and business models to monetize investments are the major challenges to the successful uptake of 4G in the region.

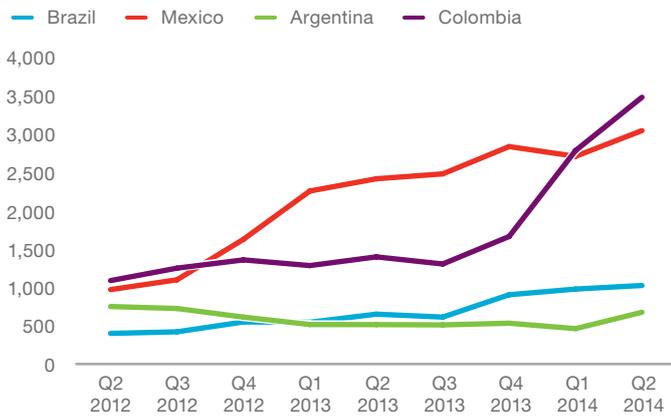
Currently in Latin America most LTE operations use high spectrum bands (2600 MHz, 1700/2100 MHz). New LTE deployments in low spectrum bands (700 MHz) have started to emerge in the region. These are equally important to provide less expensive and more efficient mobile broadband coverage in rural or low-income areas, as well as dense urban areas and indoor environments.

## App coverage

This term refers to the area within which there is a high probability of experiencing sufficient network performance to run a given app, e.g. video streaming or web browsing. App coverage is an integrated view of mobile broadband network coverage, capacity and quality.

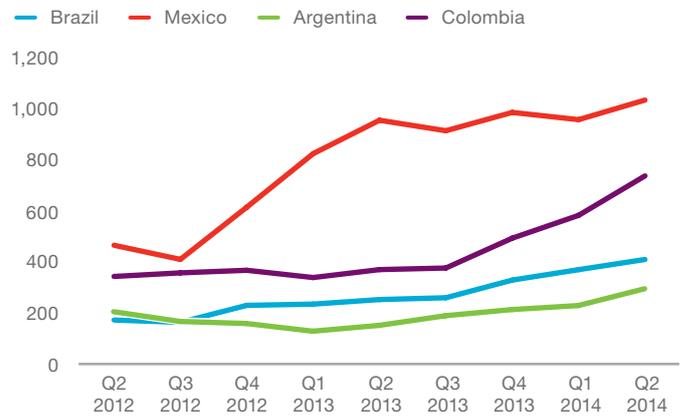
The increasing usage of apps as an integral part of people's lives constitutes a challenge for networks. Low satisfaction with network performance among smartphone users is related to time-to-content. Slow webpage and content download speeds are the most common issues reported by users in Latin America, followed by apps crashing when in use and problems with streaming video. At least 67 percent of smartphone users have faced these problems, according to an Ericsson ConsumerLab study conducted in the region during 2013.

### Median (50 percent probability) downlink throughput (Kbps)



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

### Median (50 percent probability) uplink throughput (Kbps)



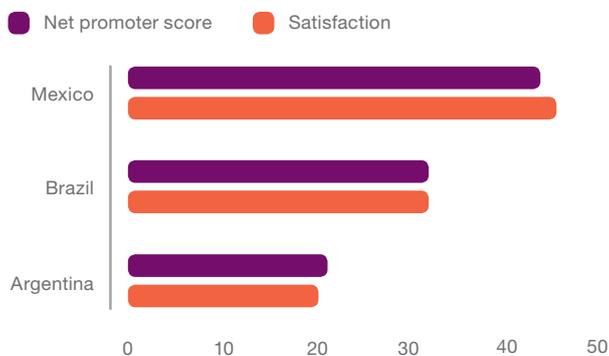
Source: Analysis performed by Ericsson, based on Ookla's NetMetrics data from Speedtest.net, 2014

### Satisfying new market demands

Perception of network performance is the factor with the highest impact on loyalty for smartphone users. In Latin America it has twice the impact compared to customer support, 4 times the impact of loyalty rewards and 60 percent more impact than value for money, according to an Ericsson ConsumerLab study conducted in 2013.

Network performance satisfaction levels in Latin America show there is room for improvement. In the biggest mobile subscription markets (Brazil, Mexico and Argentina), on average only 34 percent of mobile users are satisfied with their mobile service, while 34 percent would recommend

### Satisfaction and recommendation levels (percentage)



Source: Ericsson ConsumerLab (2014)  
Base: Mobile phone users

their current operator. On the other hand, 20 percent would consider churning their operator in the next 12 months.<sup>5</sup>

Ericsson has analyzed the network performance measurements from Speedtest.net to calculate the median downlink and uplink data throughput rate. A user has a 50 percent probability of getting the median rate or higher throughout the network coverage area.

In Latin America, median values of downlink and uplink throughput have grown over the last year. Colombia and Mexico have shown steady growth with a median rate of over 3 Mbps in Q2 2014 for downlink and 1 Mbps for uplink, as shown in the chart above.

This can be explained by network optimization and the recent deployment of LTE networks. Faster speeds are expected as LTE is rolled out in the region. This will reduce the gap with developed countries around the world where median speeds can reach between 5 to 8 Mbps for downlink throughput. Parallel network optimizations are needed while LTE grows in coverage and penetration.

Today, users expect permanent mobile connectivity, with a signal that enables a good experience according to their unique requirements. Unquestionably, the boom of devices, applications, digital content and OTT services places higher demands on networks in terms of capacity, speed and coverage. Meeting these new demands will only be possible through superior performing networks.

<sup>5</sup> Satisfaction level: Top 2 in a scale of 11 points. Recommendation level: Top 2 in a scale of 11 points.

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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