

# ERICSSON MOBILITY REPORT

ON THE PULSE OF THE NETWORKED SOCIETY

MOBILE WORLD  
CONGRESS EDITION

FEBRUARY  
2015

# KEY FIGURES

## Accumulated mobile subscriptions (net additions)

	2009–2014	2015–2020	Unit
Worldwide mobile subscriptions	3,200	2,300	million
Smartphone subscriptions	2,400	3,400	million
Mobile PC, tablet and mobile router subscriptions	250	350	million
Mobile broadband subscriptions	2,700	5,400	million
Mobile subscriptions, GSM/EDGE-only	900	-2,900	million
Mobile subscriptions, WCDMA/HSPA	1,700	2,300	million
Mobile subscriptions, LTE	500	3,100	million

## Accumulated mobile data traffic

	2009–2014	2015–2020	Unit
Total	70	860	ExaByte
Smartphones	40	580	ExaByte
Video	25	440	ExaByte

## Monthly data traffic per smartphone\*

	2014	2020	Unit
Western Europe	1.3	6.5	GB/month
Central and Eastern Europe	1.1	2.5	GB/month
Middle East and Africa	0.7	2.9	GB/month
Asia Pacific	0.7	3.2	GB/month
North America	1.6	6.0	GB/month
Latin America	0.9	2.7	GB/month

\*Active devices



To find out more, scan the QR code, or visit [www.ericsson.com/ericsson-mobility-report](http://www.ericsson.com/ericsson-mobility-report)

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# ERICSSON MOBILITY REPORT MWC 2015



90 percent of all subscriptions will be for mobile broadband by 2020

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## Welcome to Mobile World Congress 2015

Ericsson predicts continued growth in mobile subscriptions and traffic over the coming six years. New smartphone subscribers and those exchanging basic phones for smartphones are fueling this. During 2014 alone, 800 million smartphone subscriptions were added worldwide. It took over five years to reach the first billion smartphone subscriptions, a milestone that was reached in 2012, and less than two years to reach the second billion, illustrating the strong growth.

The number of mobile broadband subscriptions has increased rapidly, and there is more to come. Up to the end of 2020, there will be 5.4 billion mobile broadband subscriptions added worldwide. Mobile broadband will account for 90 percent of all subscriptions by the end of 2020.

Mobile devices and networks are also evolving. The faster network speeds that come with continued HSPA and LTE deployments are enabling improved app coverage.

The growth in popularity of streaming video has been caused by many factors. One of these is that video content within online applications such as social media, news, and advertising is increasing.

A shift from web browsing towards more app-based mobile usage indicates changing consumer preferences. Having studied nine key markets around the world, Ericsson ConsumerLab has identified a shift in consumer viewing behavior in those markets: this year for the first time more people will watch streamed on demand video than broadcast TV at least twice per week.

We hope that you enjoy this year's Mobile World Congress and look forward to an exciting 2015!

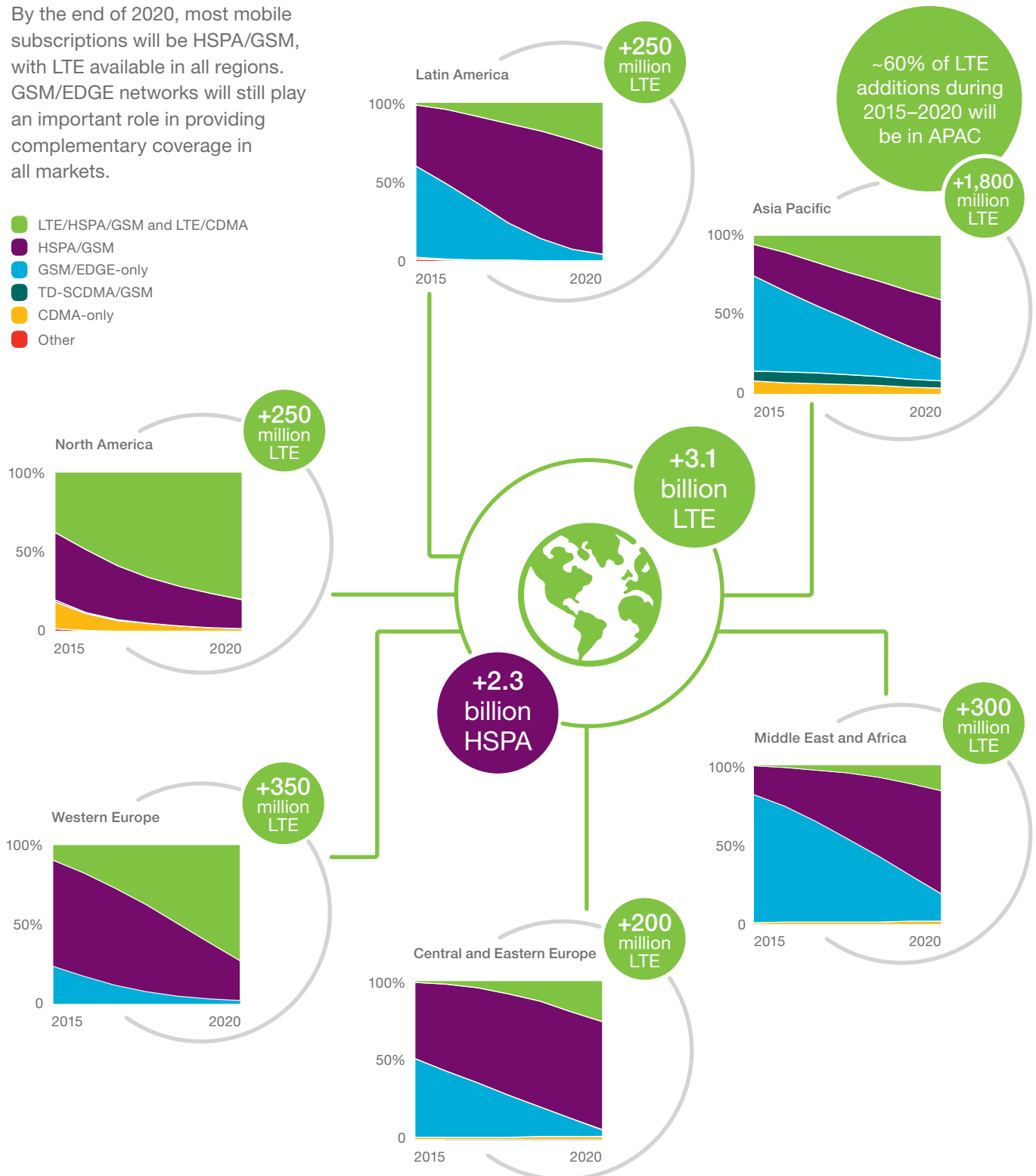
**Publisher:** Rima Qureshi  
Senior Vice President,  
Chief Strategy Officer

# TRANSITION TOWARDS LTE IN ALL REGIONS

## It's a multi-standard world

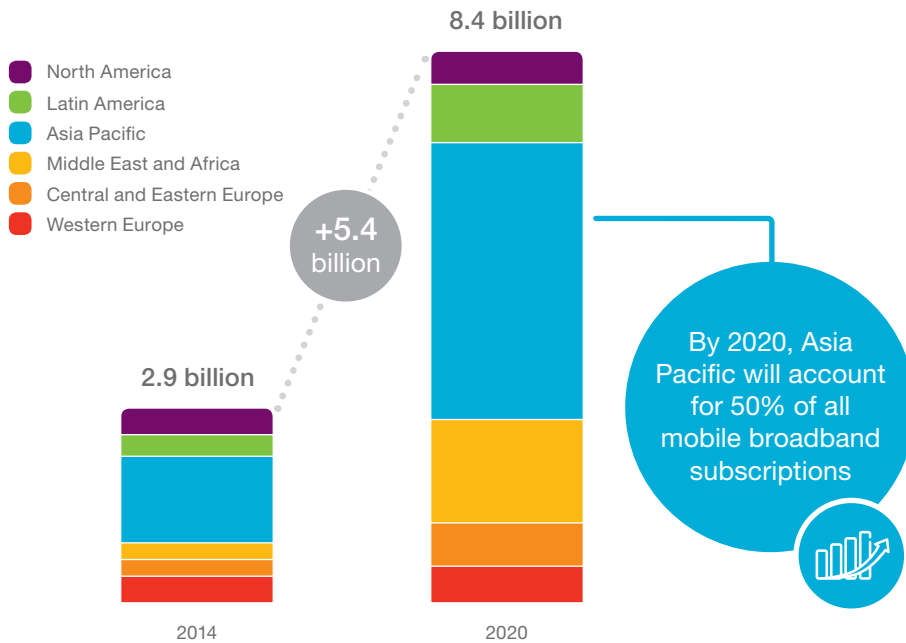
By the end of 2020, most mobile subscriptions will be HSPA/GSM, with LTE available in all regions. GSM/EDGE networks will still play an important role in providing complementary coverage in all markets.

- LTE/HSPA/GSM and LTE/CDMA
- HSPA/GSM
- GSM/EDGE-only
- TD-SCDMA/GSM
- CDMA-only
- Other



# SURGING MOBILE BROADBAND DEMAND

## Mobile broadband subscriptions per region

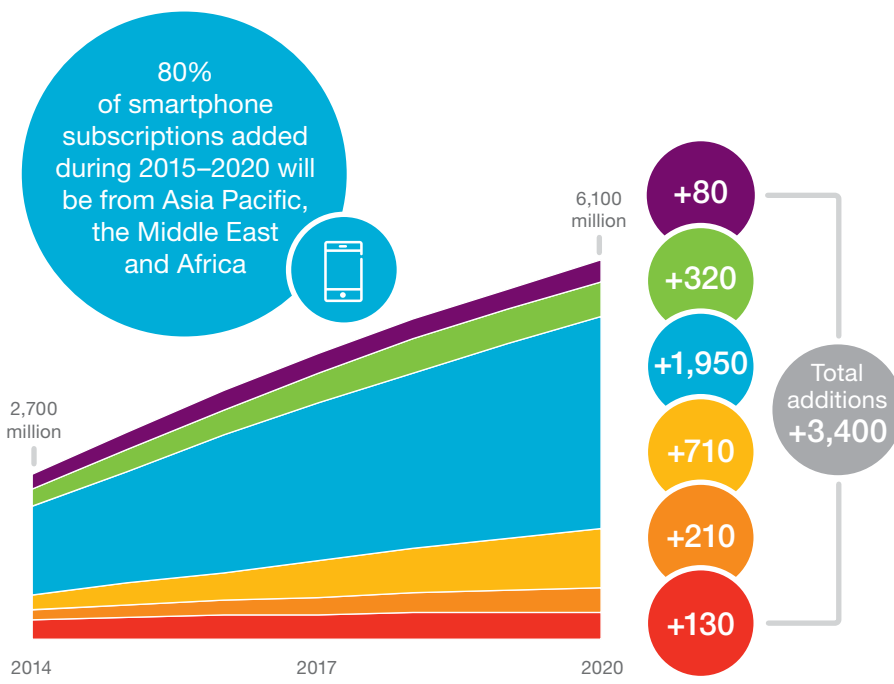


## 90 percent of all subscriptions will be for mobile broadband by 2020

Global mobile broadband subscriptions account for a growing share of all broadband subscriptions. Mobile broadband will play a complementary role to fixed broadband in some segments, and replace it in others.<sup>1</sup> Most mobile broadband devices are, and will continue to be, smartphones. Many consumers in developing markets first experience the internet on smartphones, usually due to limited access to fixed broadband.

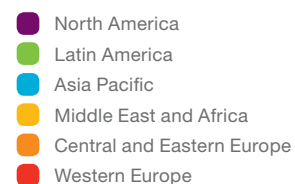
Note: The figures shown do not sum precisely due to rounding

## Smartphone subscriptions per region 2014–2020



## Smartphone subscriptions set to more than double by 2020

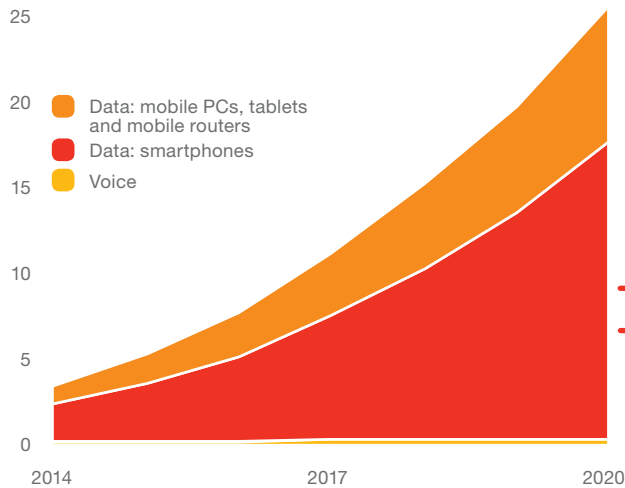
2014 saw 800 million smartphone subscriptions added, due to the addition of new subscribers and existing subscribers exchanging their basic phones for smartphones. It took over five years to reach the first billion smartphone subscriptions, a milestone that was reached in 2012, and less than two years to reach the second billion. By 2016 the number of smartphone subscriptions will exceed those for basic phones.



<sup>1</sup> The number of fixed broadband users is at least three times the number of fixed broadband connections, due to multiple usage in households, enterprises and public access spots. This is the opposite of the mobile phone situation, where subscription numbers exceed user numbers.

# SMARTPHONE TRAFFIC DOMINATES

Global mobile traffic (monthly ExaBytes)



In 2020, smartphones alone will generate five times the total mobile traffic of today

X5

**Total mobile data traffic is expected to rise at a compound annual growth rate (CAGR) of around 40 percent**

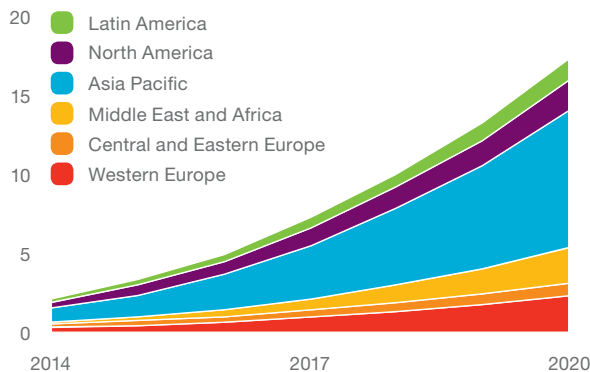
The rising number of smartphone subscriptions and increasing data consumption per subscriber are driving mobile data traffic growth. This will result in an 8-fold increase in traffic by the end of 2020. The growth in data traffic between 2019 and 2020 will be greater than the total sum of all mobile data traffic up to the end of 2013.

There are large differences in subscribers' data consumption patterns between networks, markets and subscriber segments. Factors such as data plans, user device capabilities and network performance all impact data consumption per subscriber.

70% of mobile data traffic will be from smartphones by the end of 2020



Smartphone data traffic per region (monthly ExaBytes)

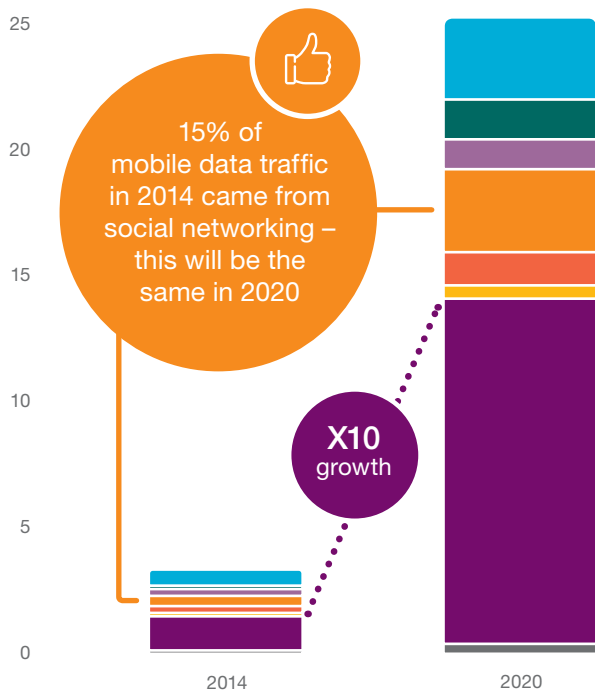


**Asia Pacific will generate 50 percent of smartphone traffic by the end of 2020**

Monthly smartphone data consumption per active subscription in Asia Pacific (3.2 GB) will only be 50 percent of that in North America (6.0 GB) and Western Europe (6.5 GB). However, the Asia Pacific region will have the largest share of total smartphone traffic in 2020, due to subscription growth.

# THE RISE OF MOBILE VIDEO

Mobile data traffic by application type (monthly ExaBytes)



## Mobile video dominates traffic growth

In many mobile networks today, 40–60 percent of video traffic is from YouTube. Mobile video in general is forecast to grow by around 45 percent annually through to 2020, when it will account for around 55 percent of all mobile data traffic. Consumers increasingly prefer app-based mobile use over web browsing. Music streaming is gaining popularity, but functions such as content caching and offline playlists limit the impact on traffic growth. However, audio traffic is still expected to increase in line with total mobile traffic growth.

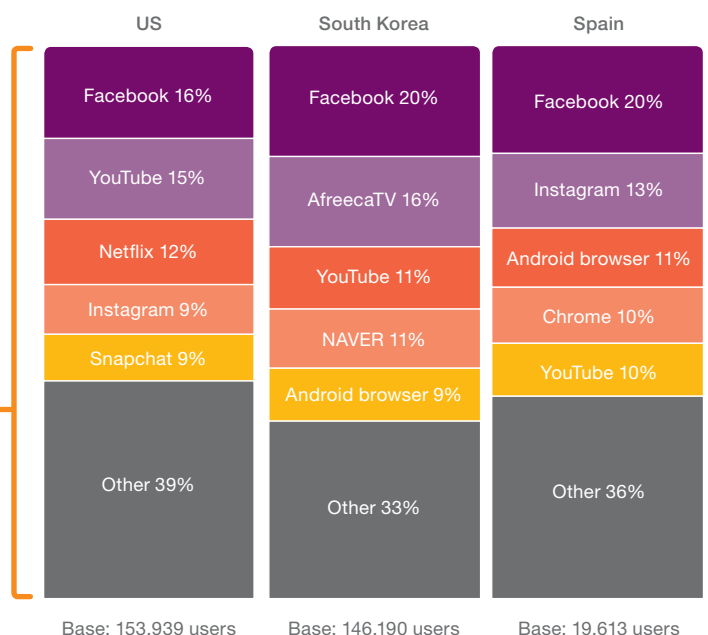
## App traffic is dominated by video streaming and social networking

Globally, the top five apps generate a large portion of all mobile traffic. As an example, we studied three countries – the US, South Korea and Spain. Each nation's list of top five apps included social networking and video streaming, but also had its own characteristics.

For example, the US list included Netflix, while South Korea's was notable for peer-to-peer TV app AfreecaTV and home-grown search portal NAVER. All three lists reflect a global trend where the top five apps accounted for around two-thirds of all app traffic.<sup>1</sup>

In each country, two-thirds of all app traffic on smart devices is from its top five apps

## Top five apps by mobile traffic volume



<sup>1</sup> It should be noted that traffic to and from social networking apps in the graph to the right includes a significant portion of video traffic, so the percentages are not compatible with those in the network traffic analysis in the graph above.

Source: Ericsson analysis based on Mobidia data, December 2014

# MOBILE VIDEO DRIVERS

The number of video-capable devices is a prominent factor in the rapid growth of video. Devices are also evolving, with larger screens and higher display resolutions enabling better picture quality.

Video is increasingly becoming part of other online content including news, advertisements and social media. Video streaming growth is primarily driven by over-the-top providers like YouTube and Netflix.

User behavior is changing, resulting in video being consumed in larger quantities, when people are out and about, and on all types of devices.

Continued HSPA and LTE deployments enable faster networks and therefore improved video app coverage. Technological improvements, like video compression techniques, allow higher resolutions to be more efficiently transmitted over mobile broadband networks, helping operators accommodate increased demand.

Total mobile video traffic over the next 6 years will be more than 17 times that of the last 6

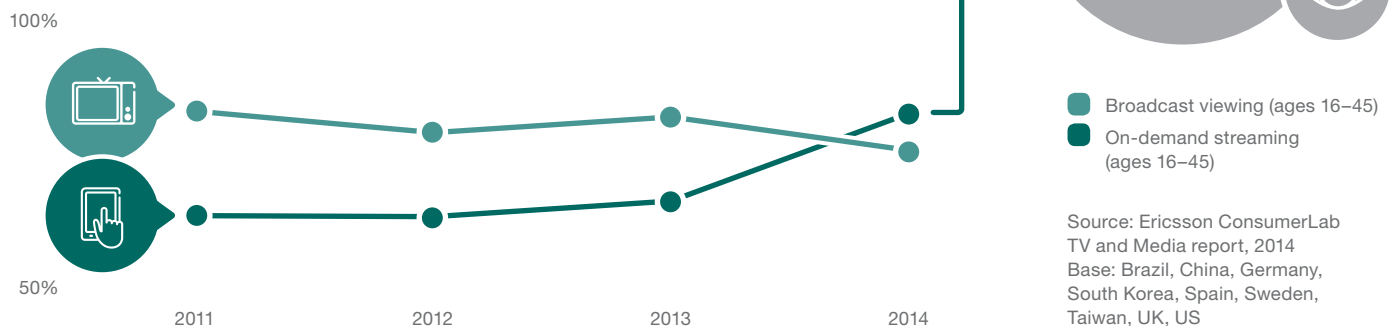
2009–2014  
25 →  
ExaBytes

2015–2020  
440  
ExaBytes

## Behavioral change in viewing habits

Since 2011, Ericsson ConsumerLab has been studying nine countries, observing media behaviors and attitudes. In 2011, 83 percent of consumers in these countries watched broadcast TV several times a week, with 61 percent viewing streamed content on demand. Today, video/TV viewers are shifting towards easy-to-use, on-demand services that offer cross-platform access to content.

Percentage of people watching TV on a more than weekly basis

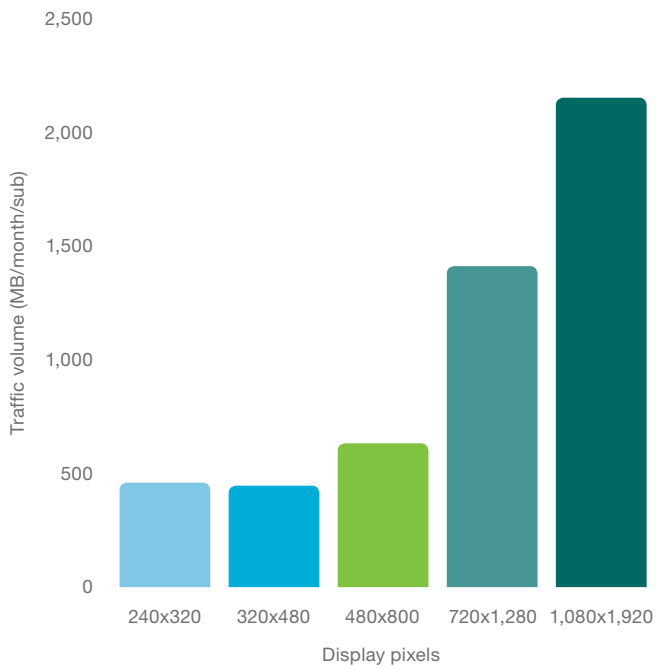


Note: The survey measured the number of people watching streamed on-demand video versus broadcast TV at least twice a week and not viewing hours.



# MOBILE VIDEO FACTORS

## Display pixels and average data consumption



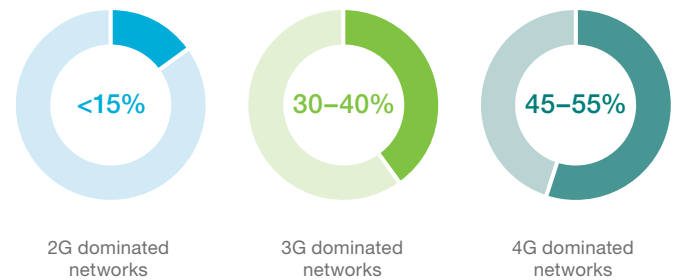
Source: Ericsson analysis of data consumption for Android devices in a representative sample of networks worldwide

**Increasing screen size and resolution, as well as the availability of high-speed networks fuel the demand for mobile video**

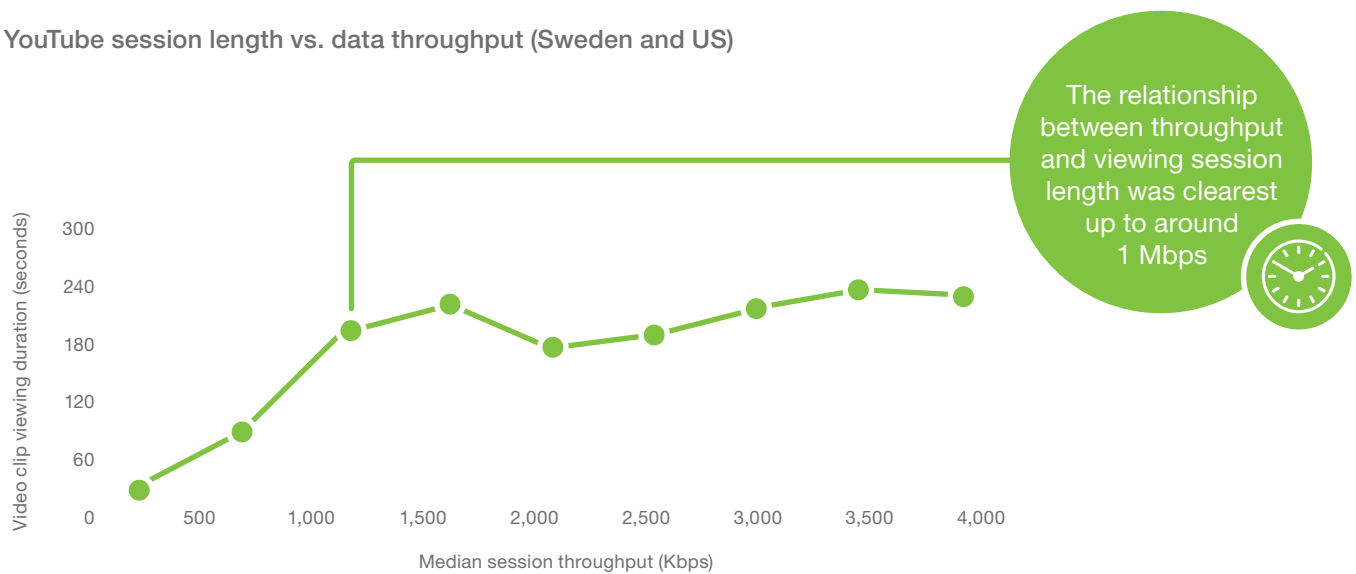
Many factors contribute to how long a person will watch a streamed video on a smart device, including its full length, production quality, the viewer's expectations and network performance.

An Ericsson SmartphoneLab study of YouTube usage on Android devices calculated the relationship between network throughput and the length of viewing sessions in Sweden and the US. The study indicates that there is a positive correlation between the two factors.

## Proportion of video traffic based on network traffic measurements



## YouTube session length vs. data throughput (Sweden and US)



Source: Ericsson SmartphoneLab  
Base: 351 users over 4,659 sessions

# MOBILE SUBSCRIPTIONS Q4 2014

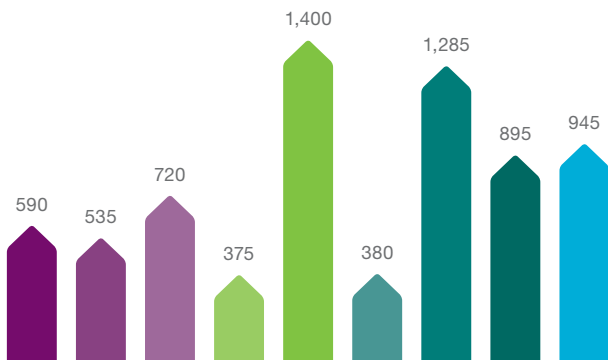
The total number of mobile subscriptions in Q4 2014 was around 7.1 billion, including 105 million new subscriptions. Global mobile subscriptions are growing by 1.5 percent quarter-on-quarter and around 5 percent year-on-year. China grew the most in terms of net additions (+14 million), followed by India (+12 million), USA (+5 million) and Japan (+4 million). Global mobile penetration reached 97 percent.

Around 1.3 billion smartphones were sold in 2014. They account for close to 75 percent of all mobile phones sold in Q4 2014, compared to around 60 percent during Q4 2013. Around 40 percent of all mobile phone subscriptions are associated with smartphones, leaving considerable room for further uptake.

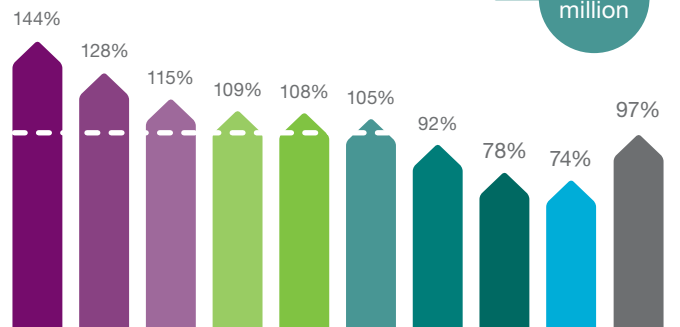
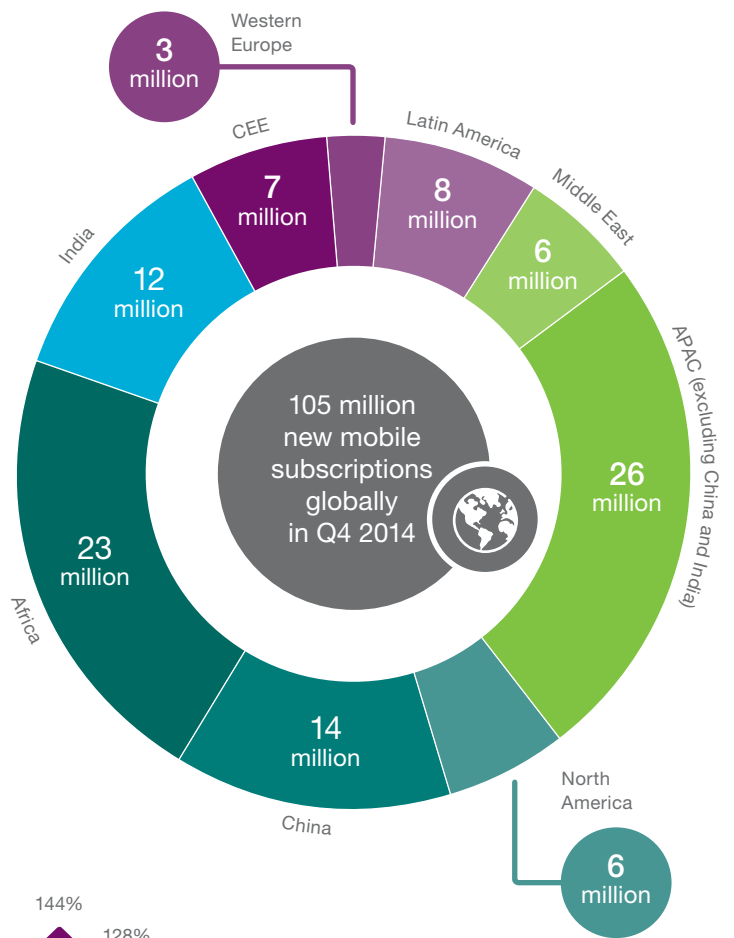
The number of mobile broadband subscriptions is growing globally by around 30 percent year-on-year, increasing by 190 million in Q4 2014 alone.

LTE continues to grow strongly and has reached around 500 million subscriptions. Q4 2014 saw this technology achieve the highest quarterly additions for the first time, with around 110 million new subscriptions. WCDMA/HSPA added around 65 million during Q4. The majority of 3G/4G subscriptions have access to GSM/EDGE as a fallback, although GSM/EDGE-only subscriptions declined by 65 million (0.2 percent).

- Central and Eastern Europe
- Western Europe
- Latin America
- Middle East
- APAC (excluding China and India)
- North America
- China
- Africa
- India
- Global penetration



Mobile subscriptions (million)



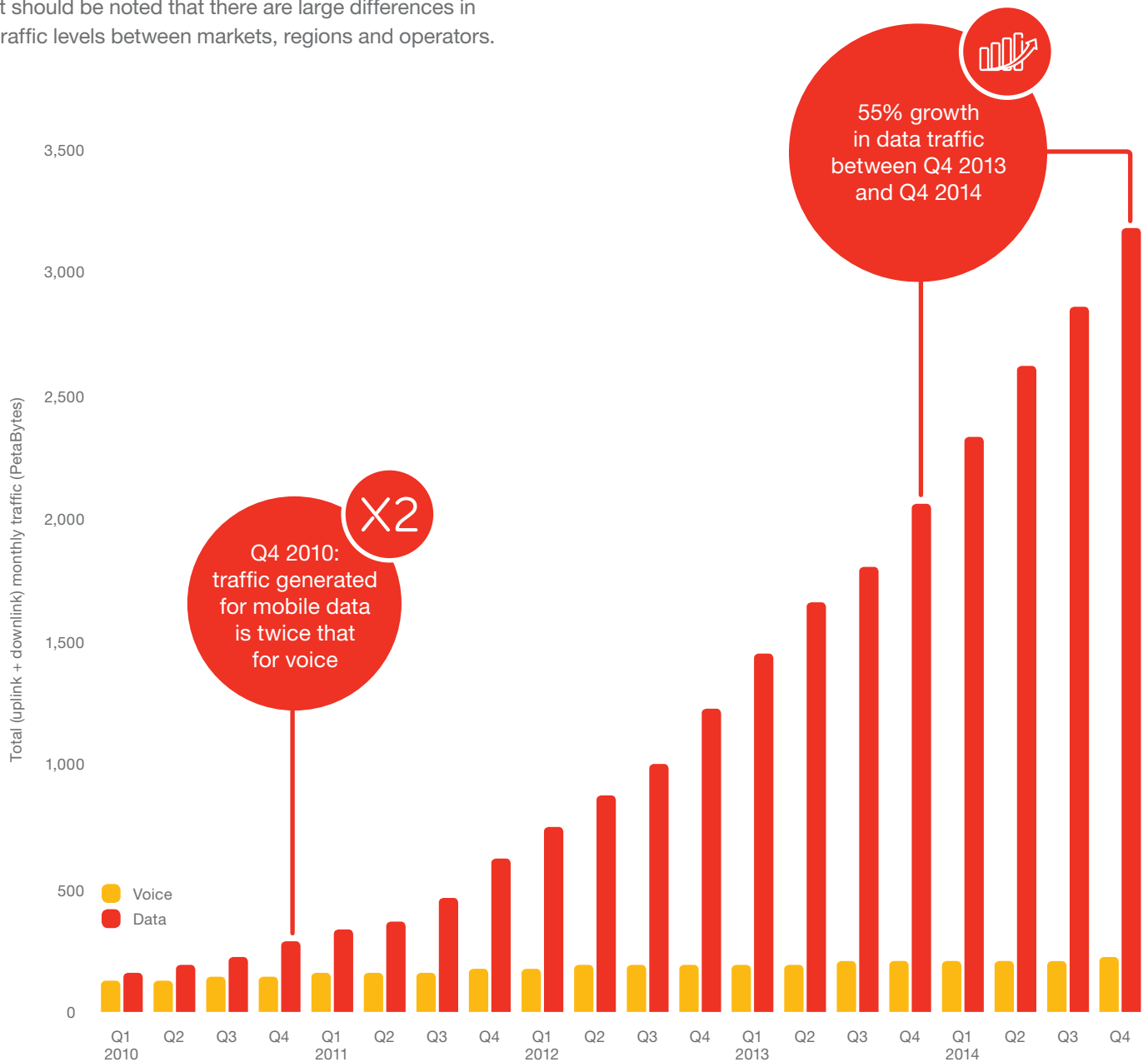
Penetration

Note: The methodology for reporting Indian subscriptions has now been aligned with that used in all other countries.

# MOBILE TRAFFIC Q4 2014

The graph below shows total global monthly data and voice traffic from Q1 2010 to Q4 2014.<sup>1</sup> It depicts an increase in data traffic that is gradually moderating over time and flat voice traffic development. The growth in data traffic is being driven by the rise of mobile data subscriptions, along with a continued increase in average data volume per subscription. Data traffic grew around 10 percent quarter-on-quarter and 55 percent year-on-year.

It should be noted that there are large differences in traffic levels between markets, regions and operators.



<sup>1</sup> Traffic does not include DVB-H, Wi-Fi, or Mobile WiMax. Voice does not include VoIP.

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.

Founded in 1876, Ericsson has its headquarters in Stockholm, Sweden. Net sales in 2014 were SEK 228.0 billion (USD 33.1 billion). Ericsson is listed on NASDAQ OMX stock exchange in Stockholm and the NASDAQ in New York.