



ERICSSON



# MIDDLE EAST AND NORTH EAST AFRICA

ERICSSON MOBILITY REPORT

NOVEMBER 2016

# MARKET OVERVIEW

## Key figures: Middle East and North East Africa

	2016	2022	CAGR 2016–2022
Mobile subscriptions (million)	690	850	3%
Smartphone subscriptions (million)	230	480	15%
Data traffic per active smartphone (GB/month)	1.8	13	40%
Total mobile traffic (EB/month)	0.4	4.8	55%

Growth in the Middle East and North East Africa region has slowed in comparison to previous years. This is due to a number of factors, including the sharp decline in oil prices and political tensions in several countries, as well as the continuous devaluations of several local currencies against the US dollar.

However, the region is still expected to have a higher GDP growth rate than the world average; a trend that will be driven by its young (median age 23)<sup>1</sup> and growing population (2 percent average yearly growth).<sup>2</sup>

## Regional segmentation based on ICT maturity, consumer profiles and services adoption

### Advanced: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates

#### Characteristics:

- > Rich and urbanized
- > Very high Human Development Index (HDI)<sup>3</sup> with an average of 0.8
- > Most progressive ICT market
- > Mobile penetration and mobile broadband penetration over 100 percent in most countries (with averages of 170 and 110 percent, respectively)
- > High data consumption driven by video

#### Growth opportunities:

- > Growth is mainly expected from data consumption, contents and economy digitization
- > Operators are focused on delivering a superior user experience, and expanding their role in the digital space by investing in ventures and partnering with digital providers and OTT players

### Optimizers: Jordan, Lebanon, Turkey, Egypt, Iran, Iraq

#### Characteristics:

- > High to medium HDI (average of 0.7)
- > Medium mobile broadband penetration in Turkey, Jordan and Lebanon (average 60 percent) while penetration is lower in Iran, Iraq and Egypt (average of 35 percent)

#### Growth opportunities:

- > Significant growth expected in data consumption
- > Recent mobile broadband introduction in Iran and Iraq
- > Large mobile broadband subscription additions forecasted mainly in Iran, Egypt and Iraq

### Emerging: Afghanistan, Djibouti, Eritrea, Ethiopia, Pakistan, Palestine, Somalia, South Sudan, Sudan, Syria, Yemen

#### Characteristics:

- > Low<sup>4</sup> HDI (average of 0.46)
- > Low to no mobile broadband penetration (Palestine and Eritrea are the two remaining markets with GSM-only networks)

#### Growth opportunities:

- > Large mobile broadband growth outlook, predominantly in Pakistan, Ethiopia and Sudan
- > Challenges due to low income, service affordability and infrastructure unavailability

<sup>1</sup> Regional median age estimated based on CIA World Factbook

<sup>2</sup> Average yearly population growth estimated based on IMF population figures per country (April 2016)

<sup>3</sup> HDI: UN composite index of three dimensions: education, health life and standard of living (measured by gross national income per capita); HDI doesn't include environmental indicators

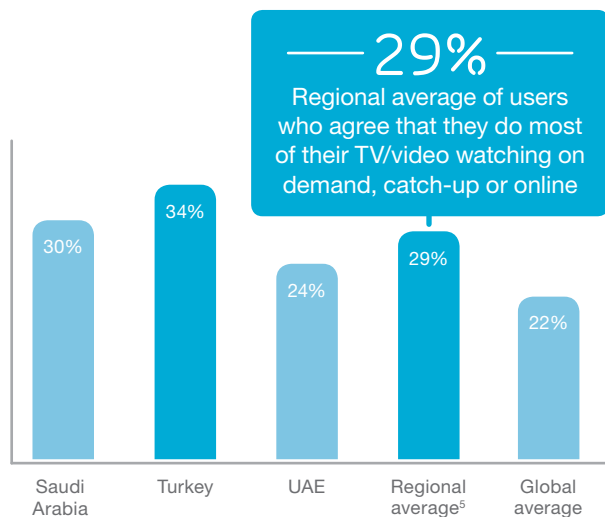
<sup>4</sup> Excluding Syria and Palestine, which have medium HDI

### Shift in video consumption

The way people watch TV and video is changing in the Middle East and North East Africa region. For example, in Saudi Arabia, Turkey and UAE<sup>5</sup>, one-third of internet users who use smartphones state that most of their TV and video consumption is now on-demand, catch-up or online.

In Saudi Arabia, Turkey and UAE<sup>5</sup>, watching video clips on social media and free online sources are among the top activities. Over 70 percent of internet users with smartphones in these countries watch video clips on social networking websites at least once a week, in comparison to 65 percent globally. Additionally, 64 percent watch free videos online at least once a week.

### Percentage of internet users who agree that they do most of their TV/video watching on demand, catch-up or online



Source: Ericsson ConsumerLab, Analytical Platform (2015), 48 countries  
Base: Weekly internet users who use a smartphone, 16-65 years old

### Top smartphone apps by total data traffic, Middle East and North East Africa

UAE	Saudi	Turkey	Egypt	Lebanon
YouTube	YouTube	YouTube	Facebook	Facebook
Facebook	Facebook	Facebook	YouTube	YouTube
Instagram	Snapchat	Instagram	Chrome	Instagram
WhatsApp	Instagram	Chrome	Instagram	WhatsApp

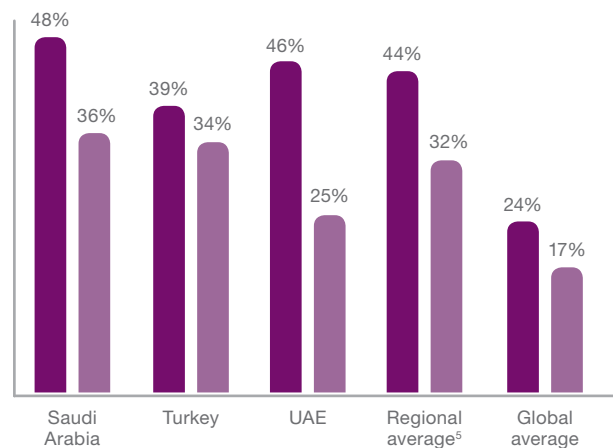
Source: Ericsson analysis of App Annie data, top Android apps (May 2016)

### Social networking gains prominence

In Saudi Arabia, Turkey and UAE, social networking is among the top three online activities for those who access the internet on a weekly basis using a smartphone. Forty four percent of users believe that they cannot live without social networking, compared to the global average of 24 percent.

### Percentage of internet users who agree with the following statements

- Social media is something I don't think I could live without
- I enjoy expressing my views online on social networks/blogs/forums



Source: Ericsson ConsumerLab, Analytical Platform (2015), 48 countries  
Base: Weekly internet users who use smartphones, 16-65 years old

### Apps generating data traffic

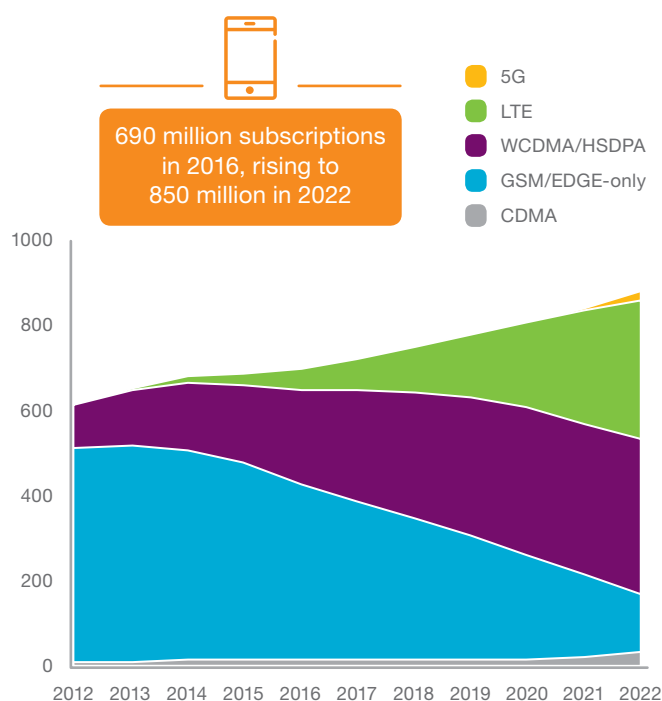
In the advanced and optimizer countries, video streaming, social media, messaging and browsing are the smartphone apps generating the most data traffic per user. In UAE, Saudi Arabia and Turkey, YouTube is the top application, while in Egypt and Lebanon, social media applications hold the number one spot.

<sup>5</sup> Ericsson ConsumerLab, Analytical Platform (2015), Saudi Arabia, Turkey and UAE

# MOBILE SUBSCRIPTIONS

Mobile subscriptions in the region are growing steadily and will reach 690 million at the end of 2016 – around 8 percent of the global market. Between 2016 and 2022, it is forecast that mobile subscriptions in the region will grow at a compound annual growth rate (CAGR) of 3 percent, reaching 850 million

Mobile subscriptions, Middle East and North East Africa, split per technology (million)



## Subscriptions by technology

At the end of 2016, GSM will account for around 60 percent of total mobile subscriptions in the region. This is mainly due to the number of subscribers from less developed, emerging countries that have a lower income. However, this number is decreasing year-on-year and will reach 17 percent by 2022.

Mobile broadband subscriptions are gradually taking over and will surpass GSM-only subscriptions by 2018. WCDMA/HSPA subscriptions will increase from around 30 percent of total subscriptions in 2016 to around 42 percent in 2022. LTE subscriptions are increasing quickly, as a result of the deployment of LTE networks. In 2016, they will account for around 7 percent of total mobile subscriptions. This number is expected to reach around 38 percent by end of 2022. 5G subscriptions are expected to be around 20 million by the end of 2022.

## App coverage is increasingly important

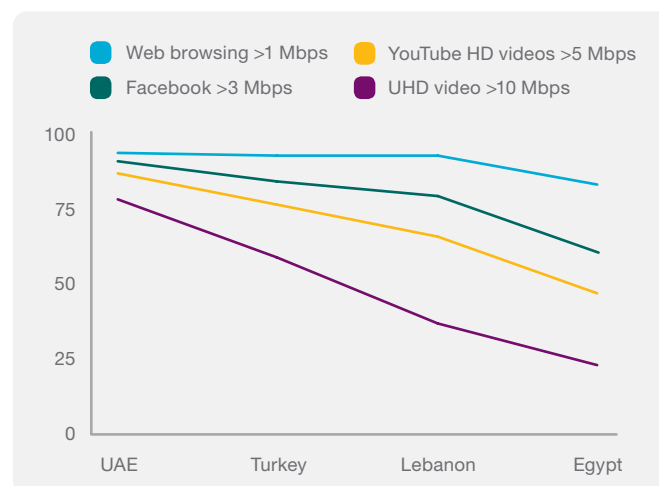
For mobile broadband users, app coverage is increasingly important, making it a key consideration for operators when evaluating minimum required data speeds. This relates to the probability that the network will deliver sufficient performance to run a particular application at an acceptable level of quality, and is predominantly dependent on downlink speeds – particularly if the app involves video streaming and online gaming.

The minimum downlink speeds needed for a good app experience are:

- > 1 Mbps for web browsing
- > 3 Mbps for Facebook
- > 5 Mbps for YouTube HD videos
- > 10 Mbps for Ultra HD (UHD) videos such as 4K

From the results shown below, it is clear that across the countries analyzed, users have a good web browsing experience. However, the quality of Facebook and video (YouTube) experiences differs significantly from country to country. For UHD video, the experience is poorer. UAE and Turkey are the two markets where the best app coverage is provided amongst the countries below.

## Probability of a user achieving the minimum required network speed for the related app (percent)

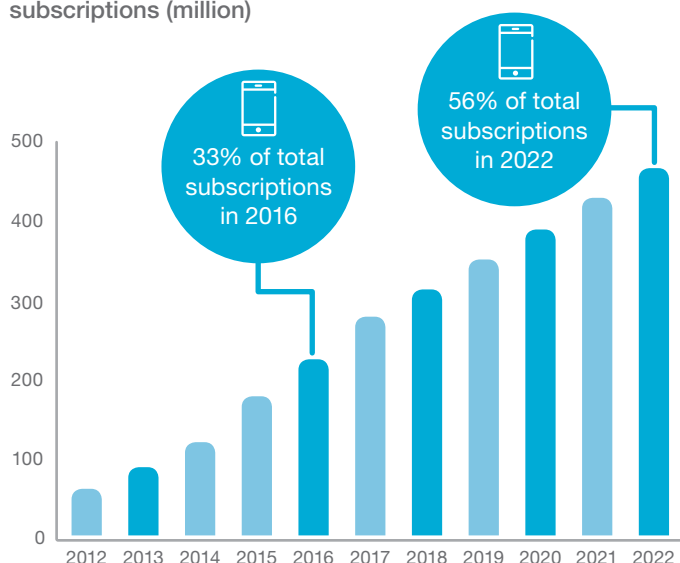


Source: Ericsson analysis of Speedtest Intelligence data from Ookla (September 2016)

# SMARTPHONE UPTAKE

Smartphone uptake is a key driver for data traffic. Between 2016 and 2022, smartphone subscriptions will increase twofold from 230 million to 480 million. By end of 2016, 33 percent of subscribers will have smartphones, while in 2022 this figure is expected to increase to 56 percent

Middle East and North East Africa smartphone subscriptions (million)

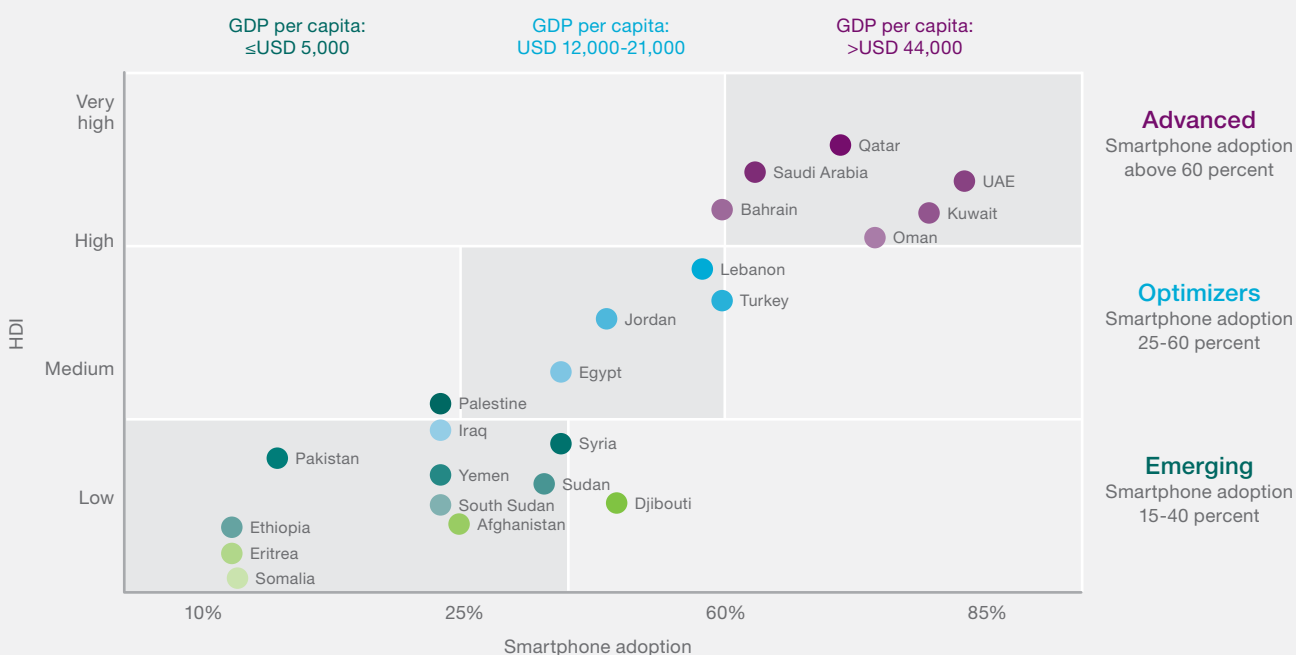


## Smartphone adoption varies among countries

There is a correlation between HDI and smartphone adoption. Advanced countries, with a very high HDI or GDP per capita, have the highest smartphone adoption rates at over 60 percent.

At over 80 percent, UAE (in the advanced segment) has one of the highest smartphone adoption rates in the world. However, in the optimizer segment, countries' adoption rates vary between 25 percent to 60 percent, with Turkey having the highest rate in this segment. Overall, adoption rates are lowest in the emerging segment countries, varying between 15 percent to 40 percent. Eritrea, Ethiopia and Somalia have the lowest rates among these countries, while Syria, Djibouti and Sudan have higher rates. The availability of more affordable smartphone models, together with a young growing population and rising GDP per capita in some of the emerging and optimizer countries, will drive the adoption of mobile broadband.

HDI levels in Middle East and North East Africa countries



Source: Ericsson analysis of UN and GSMA data

HDI: UN index. HDI doesn't include environmental indicators. GDP per capita PPP based on IMF (April 2016)

# MOBILE TRAFFIC

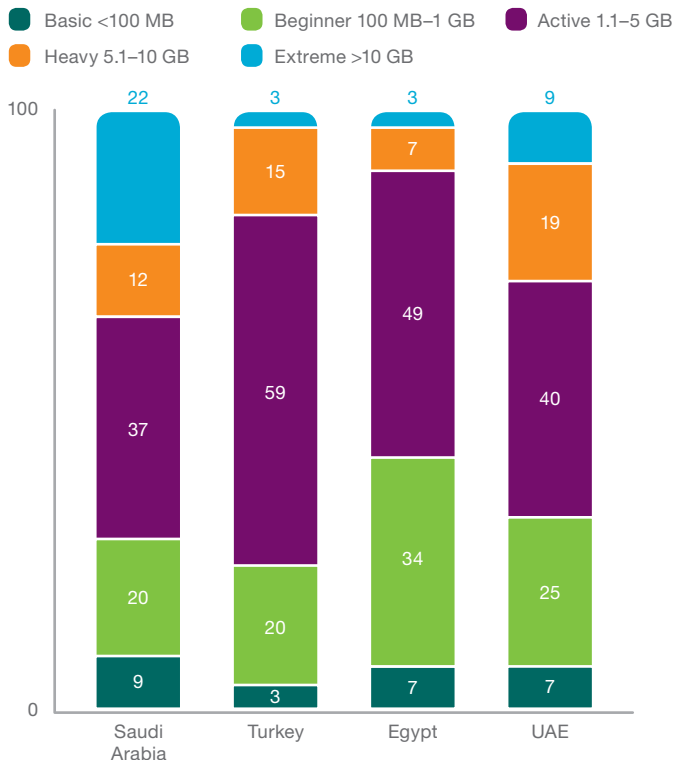
In the Middle East and North East Africa, mobile data traffic is expected to reach around 4.8 ExaBytes (EB) per month by the end of 2022, which is almost 13 times greater than at the end of 2016. Mobile voice traffic is expected to stay almost flat over the same period

Mobile data traffic growth is mainly a result of increases in both smartphone subscriptions and average smartphone data consumption per month. By 2022, average active smartphone data consumption per month will reach 13 GigaBytes (GB), from 1.8 GB by end of 2016.

## Mobile broadband plans

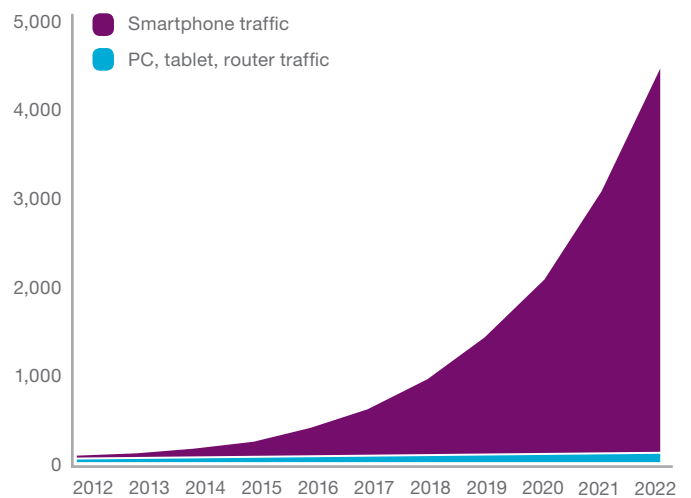
The graph below shows the data plans preference in some countries. In Saudi Arabia, UAE, Turkey and Egypt, most smartphone users have data plans with a minimum 1 GB of data. Saudi Arabia is the country with the highest percentage of users with very high data plans, where the percentage of “extreme users” is much higher than the same category in the next closest country. This trend in Saudi Arabia is mainly driven by intense video consumption behavior. In the case of Turkey, more than half of smartphone users prefer the 1.1–5 GB packages.

## User data plan consumption (percent)



Source: Ericsson analysis of App Annie data for Android smartphones (May 2016), in each country

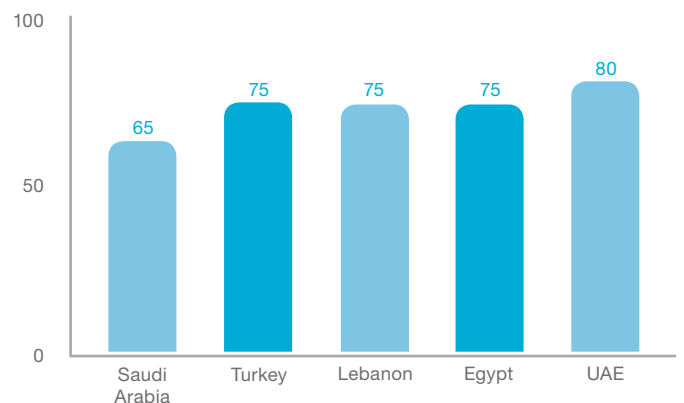
## Mobile data traffic, Middle East and North East Africa, split per device (monthly PetaBytes)



## Mobile broadband data traffic vs. Wi-Fi data traffic

On-device measurement data shows that all markets experienced increases in average monthly data traffic per user for both mobile broadband and Wi-Fi. However, Wi-Fi continues to have a larger share of overall smartphone data traffic. Mobile broadband and Wi-Fi are complementing connection types that users toggle between, depending on the situation and time of the day.

## Monthly Wi-Fi average over total traffic for Android users who use both fixed and mobile connections (percent)



Source: Ericsson analysis of App Annie data for Android smartphones (May 2016), in each country

# ON THE ROAD TO 5G AND IOT

In the region, operators, governments and industries are investigating what new opportunities 5G and Internet of Things (IoT) would bring, as vendors and universities push the limits of technology towards enabling a networked society. As more and more devices, sensors and appliances connect to each other and to the internet, security and sustainability continue to be key requirements

## Around 20 million 5G subscribers by 2022

By 2022, the region is expected to have around 20 million 5G subscribers with the first 5G deployments anticipated to be in the GCC countries, Turkey and Lebanon. 5G will help operators monetize by improving efficiency gains or through new use cases in various vertical segments, such as oil and gas, transport and smart cities.

Events such as Expo 2020 in Dubai and FIFA World Cup in Qatar in 2022 will create new opportunities and accelerate 5G introduction in the region. Governments, telecom regulatory authorities, universities and vendors are working together to find use cases that, when combined with operator infrastructure assets, will bring new socio-economic gains.

The growth of 5G is linked to the expansion of the complete ecosystem. Network development and rollout needs to happen at pace with the development of terminal and devices, and this should be influenced by access to and licensing of suitable spectrum bands. In addition, 5G will enable a wide range of use cases for IoT.



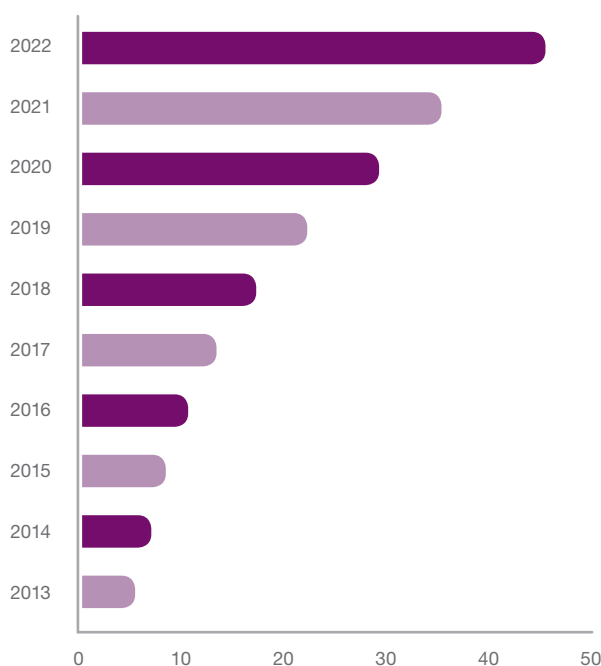
## The IoT future

IoT has the power to facilitate the digital transformation of industries, and unleash creative business models that will help operators in the region to prosper in the future. The number of cellular IoT connections in the region is predicted to increase around 4 times between 2016 and 2022, reaching approximately 45 million by the end of the period. In addition, greater technology investments are foreseen in the region, with manufacturing and transportation sectors expected to be the largest contributors. Over the coming years, we expect to see the development of use cases and business models for IoT, particularly in freight monitoring and smart grids for gas.



Cellular IoT connections will reach 45 million in 2022, increasing from 10 million in 2016

Cellular IoT subscriptions (million), Middle East and North East Africa



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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.