Report for Meta Platforms Inc.

The economic impact of Meta's edge infrastructure across 9 countries in the MENAT region

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Executive summary

The internet has played an increasingly important role in enabling people to access internet content and services from anywhere in the world. It has also helped businesses to reach more customers, create innovative products and services and generate new forms of economic value. The overall result has been the creation of a vibrant digital economy consisting of new digital companies, digitally transformed traditional companies and new high-tech jobs.

Meta operates some of the most popular apps and platforms on the internet, and its services are used by billions of individuals globally. To support the delivery of its services, Meta invests in complementary infrastructure in various parts of the connectivity value chain that supports the delivery of Meta's services over Meta's own private network across the globe. These include:

- data centres that host content that users of Meta's services upload to its platforms
- long-distance submarine and terrestrial cables that connect data centres to one another
- local or regional points of presence (PoPs) that allow internet service providers (ISPs) to pick up content requested by users at a location within a given country or region
- caching facilities that store content closer to end users, enabling more efficient delivery and a better quality of experience.

Meta's infrastructure enhances the functioning of the internet and helps ISPs to lower costs, by delivering content closer to ISPs and saving them on long-distance transport, while also providing revenue opportunities for ISPs based on increased internet data usage. These investments also contribute to the growth of a country's digital ecosystem by improving connectivity and making the country more attractive for other investors looking to deploy digital infrastructure.

The primary focus of this report is Meta's investments in edge infrastructure (PoPs and caches) across nine countries in the Middle East, North Africa and Türkiye (MENAT) region, including the Arab Republic of Egypt (Egypt), the Republic of Iraq (Iraq), the Hashemite Kingdom of Jordan (Jordan), the Kingdom of Saudi Arabia (KSA), the Kingdom of Morocco (Morocco), the Sultanate of Oman (Oman), the State of Qatar (Qatar), the Republic of Türkiye (Türkiye) and the United Arab Emirates (UAE).

Investments in digital infrastructure contribute to the development of these countries into regional connectivity hubs. For example, the 2Africa submarine cable, which Meta has taken a leading role in developing, will land in six of the nine countries of interest in this study and connect them to over 30 countries in Africa, Asia and Europe.[1] This will not only bring significant amounts of new capacity and connectivity, but also new cable landing stations that can be expected to act as magnets for complementary investments. The deployment of several different components of the connectivity value chain in close proximity to each other within specific locations helps to develop these locations into connectivity hubs, which in turn support economic growth.

1 2Africa, *Updates*.

At the same time, these investments have enabled end users in the MENAT region to enjoy lower latency and an improved online experience. This, in turn, encourages end users to increase their use of the internet, including economic activity which contributes to higher GDP in a given year.[2] When compounded over time, this leads to relatively substantial increases in annual GDP per capita resulting from the Meta investments, facilitating increased internet data usage per online connection.

- An increase in end-user data usage has resulted in an estimated annual real GDP impact (at 2024 prices and exchange rates) of USD10–13 billion across the nine countries listed above in 2024 alone, and USD36–48 billion over the 7-year period from the start of 2018 to the end of 2024.
- This impact on GDP can also be represented as a corresponding increase in job creation. As of 2024, we calculate that the GDP uplift supported by Meta's edge infrastructure investments translated to 400 000–510 000 jobs across the nine countries.

These results show that Meta's edge infrastructure investments can help to generate tangible economic benefits for the overall economy of different countries, as well as the individuals and businesses – notably small and medium sized enterprises (SMEs) – within these countries. Moving forward, these infrastructure investments are expected to continue playing an important role in facilitating consumer and business adoption of transformative new artificial intelligence and immersive (e.g. virtual, augmented and mixed reality) technology use cases,[3] which would drive future economic growth.

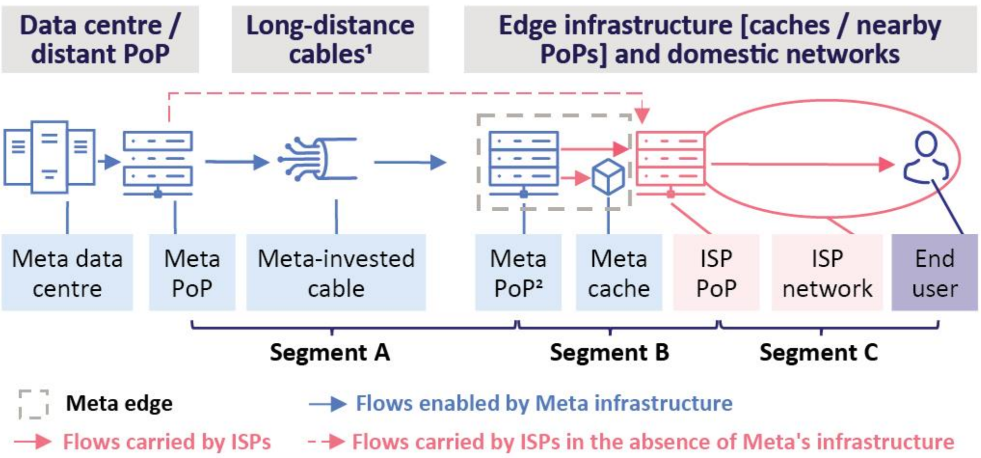
2 In Section 5 of this report, we estimate the impact of Meta's edge infrastructure investments on data usage, which in turn generates economic benefits that can be measured in terms of GDP and jobs. It should be noted that our estimates are conservative, given that we only account for the direct impact of Meta's infrastructure on Meta-related data usage, and do not assume any indirect increase in data usage associated with non-Meta services owing to Meta's infrastructure.

3 Although the technical requirements of new services using artificial intelligence and immersive technologies could differ from that of existing use cases, edge infrastructure is expected to continue playing a role in delivering these new services.

The economic impact of Meta's edge infrastructure across 9 countries in the MENAT region

Generating ~USD36-48 billion in cumulative real GDP since 2018, which translates to 400-510 thousand jobs as of 2024

Meta invests in internet infrastructure to improve the delivery of its platforms and services



Meta platforms

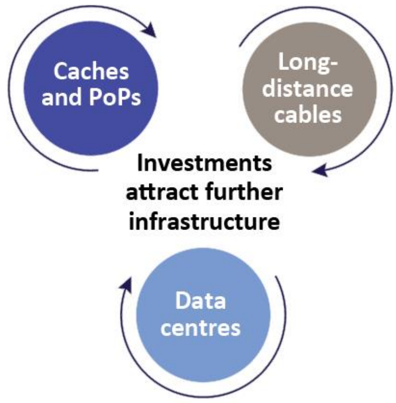
- Facebook
- Instagram
- Threads
- Messenger
- WhatsApp

Meta's infrastructure and platforms benefit the ecosystems in which they are present

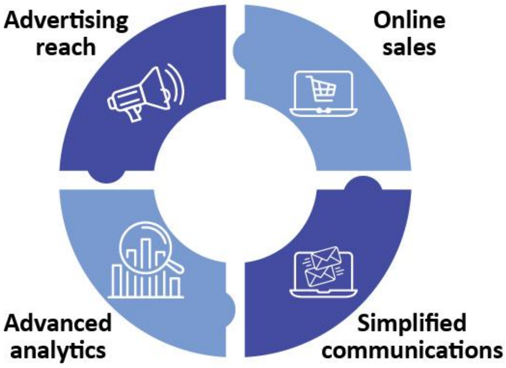
Impact of Meta investments on ISPs

- **Increased capacity** for other traffic
- **Lower cost** of international capacity
- **Improved service** for users
- **Supports growth** in data revenue

Impact of Meta investments on connectivity ecosystems



Benefits of Meta platforms and services for businesses



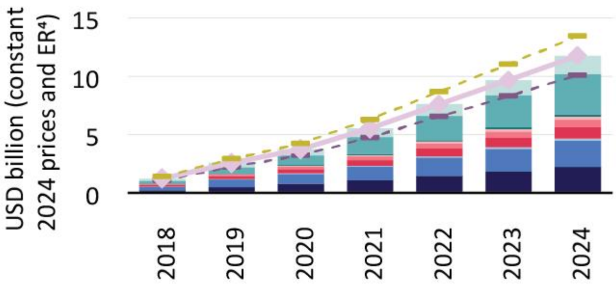
Meta's edge infrastructure investments have a quantifiable impact on data usage, GDP and jobs

Meta's investments support data usage, which has economic benefits

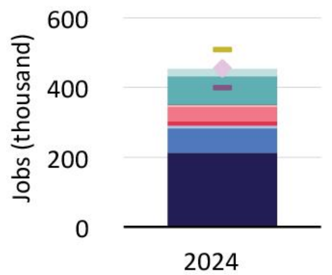
Meta's investments improve user experience by reducing latency,which encourages data usage

This does not only benefit users and ISPs (see above), but also helps stimulate broader economic growth³

Impact of Meta edge on annual real GDP



GDP impact measured in equivalent jobs in 2024



Egypt | Jordan | Morocco | Qatar | UAE | All - middle case
Iraq | KSA | Oman | Türkiye | All - low case | All - high case

¹ Refers to long-distance submarine and / or terrestrial cables
² Not every country connected by a Meta-invested cable contains a Meta PoP
³ As shown in previous studies; see full report for citations
⁴ Exchange rates

Download the report at www.analysysmason.com

1 Introduction

The internet has become an essential part of daily life for many people across the world, as it enables them to communicate, learn, work, access entertainment, participate in culture and engage in the buying and selling of products and services. People use the internet to access content and services that can be provided from anywhere in the world, allowing for new types of connections between friends and strangers, governments and citizens, and businesses and customers.

The growth in online interaction over the past three decades has led to the creation of a vibrant global digital economy, including not just digital companies but also the digital transformation of more traditional economic sectors. Moving forward, digital development is expected to play an even more significant role in driving economic growth for many countries worldwide, based on the interplay between increased adoption and usage by individuals and businesses and innovative new services and increased investments by tech companies.

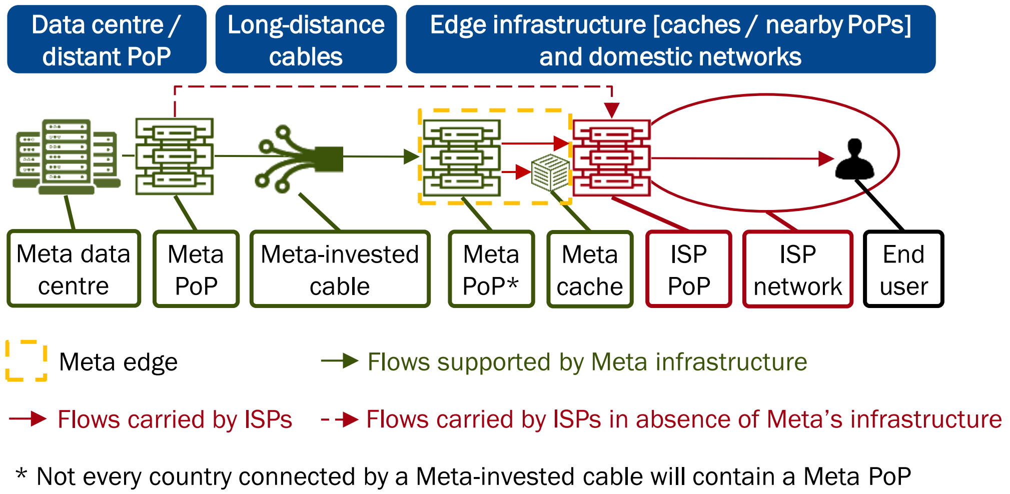
Meta operates some of the most popular apps and platforms on the internet, and its services are used by billions of individuals globally. To support the delivery of its services, Meta invests in complementary infrastructure that supports the delivery of Meta's services over Meta's global private network. This enhances the functioning of the internet and brings benefits to internet service providers (ISPs) and to the broader global connectivity ecosystem. These investments create socio-economic benefits for consumers, businesses and governments and their economies throughout the world.

This report will describe and quantify the benefits of Meta's investments made in nine markets in the Middle East, North Africa and Türkiye (MENAT) region: the Arab Republic of Egypt (Egypt), the Republic of Iraq (Iraq), the Hashemite Kingdom of Jordan (Jordan), the Kingdom of Saudi Arabia (KSA), the Kingdom of Morocco (Morocco), the Sultanate of Oman (Oman), the State of Qatar (Qatar), the Republic of Türkiye (Türkiye) and the United Arab Emirates (UAE).

To understand how benefits are generated from Meta's private infrastructure investments,[4] it is first necessary to understand the connectivity value chain, which provides a link between locations where content is stored or 'hosted' and the end users requesting the content. Figure 1.1 shows Meta's investments in the connectivity value chain that are used to deliver content to the nine countries of interest in the MENAT region, and these investments are described further below.

4 Throughout this report, references to Meta's infrastructure relate to complementary private network infrastructure built and used to support the provision of Meta's services.

Figure 1.1: Illustration of Meta's investments in the connectivity value chain [Source: Analysys Mason, 2025]



- Users of Meta's services upload their content (i.e. text, images, videos, etc.) onto Meta's platforms, and this content is then hosted in Meta's data centres,[5] which are outside the MENAT region. When a request for content hosted in Meta's data centres is made by an end user, the piece of content then travels from a Meta data centre to a nearby Meta-deployed point of presence (PoP). From this PoP, content then travels across borders, through long-distance terrestrial cables and submarine cables (in which Meta increasingly invests, usually in collaboration with local telecoms providers), before reaching the same country as the end user. Within Meta's global network, PoPs are connected to one another via backhaul capacities which use terrestrial and submarine cables. However, not every country that is reached by a Meta-invested cable will have a Meta-deployed PoP.

- If there is a Meta-deployed PoP in the same country as the end user, then that Meta-deployed PoP is used for delivering content and filling Meta caches. ISPs access content from Meta-deployed PoPs and caches and then carry the content over their own backhaul and access networks, to deliver to their subscribers. Some content, such as pictures and recorded videos, can be served to end users from caches,[6] while other content, that is based on user interactions, needs to be served directly from a PoP. Using a cache has significant benefits, as content that can be cached is delivered only once to the cache no matter how many times it is used, and the cache can be 'embedded' at an ISP PoP, or deeper within the ISP network (i.e., closer to end users), which reduces the time, or latency, needed to deliver the content to the end user, which boosts user experience.

- Meta uses PoPs and caches to make content available to end users. If a Meta-deployed PoP is not present in a country, then ISPs must access content at an international PoP directly or

5 It should be noted that unlike some other technology companies that offer third-party hosting through the cloud, all of Meta's data centres are used only for its own services.

6 Pictures and recorded videos are examples of static content, which does not change unless updated by a user. Dynamic content, meanwhile, constantly changes based on user interactions (e.g. a live video call).

indirectly via internet protocol (IP) transit and bring it back to its network to fill a cache or deliver directly to its end user. The international PoP could be in a neighbouring country, elsewhere in the region or on another continent.

- **Meta's edge infrastructure investments relate to the PoPs and caches deployed by Meta in different countries.** These edge investments, and their economic impact, are the focus of this study. We also describe Meta's investments in **long-distance cables that are increasingly used to deliver traffic to Meta-deployed PoPs**, but do not quantify the economic benefits of these cable investments within this study.

With respect to the nine countries in this study, Meta has been investing in edge infrastructure and long-distance cables in order to improve the performance and user experience of its services, including by reducing the latency of traffic delivered to end users and increasing the reliability of its platforms, resulting in more usage of Meta services. These investments by Meta result in a slight increase in overall data usage by end users, however, they also result in a more significant reduction in the amount of international traffic and domestic backhaul traffic that ISPs need to carry.

Across the nine countries considered, the total volume of data served from Meta's caches is over five times that of the volume of data entering caches, highlighting that Meta's caches help to significantly improve the efficiency of content delivery to end users.[7] On balance, this results in material cost savings for ISPs, as the cost of carrying traffic internationally and over domestic backhaul is much more sensitive to traffic volumes than the cost of carrying traffic over the 'last mile' to reach end users within the ISP's own network.[8] Meta's infrastructure investments therefore help ISPs to lower costs, while also providing revenue opportunities based on this increased data usage.

Additionally, these investments can generally help to grow a country's digital ecosystem by improving connectivity and making the country more attractive for other investors looking to deploy digital infrastructure. We have calibrated our results with interviews with ISPs in MENAT and supplemented them with targeted case studies.

The remainder of this report will start by describing the general state of connectivity in the countries in this study, before moving to the analysis of Meta's investments and their associated benefits:

- **Section 2** examines the nature of the growing internet usage in the nine countries and the connectivity infrastructure that facilitates it.
- **Section 3** describes Meta platforms and infrastructure within the countries in this study.
- **Section 4** gives an overview of the general socio-economic benefits of Meta's services and infrastructure investments for the regions in which they are present.
- **Section 5** aims to quantify the economic benefits provided by Meta's infrastructure investments, in terms of both GDP and jobs.

7 Based on interviews with ISPs and internal data provided by Meta.

8 Analysys Mason (2022), *The impact of tech companies' network investment on the economics of broadband ISPs*.

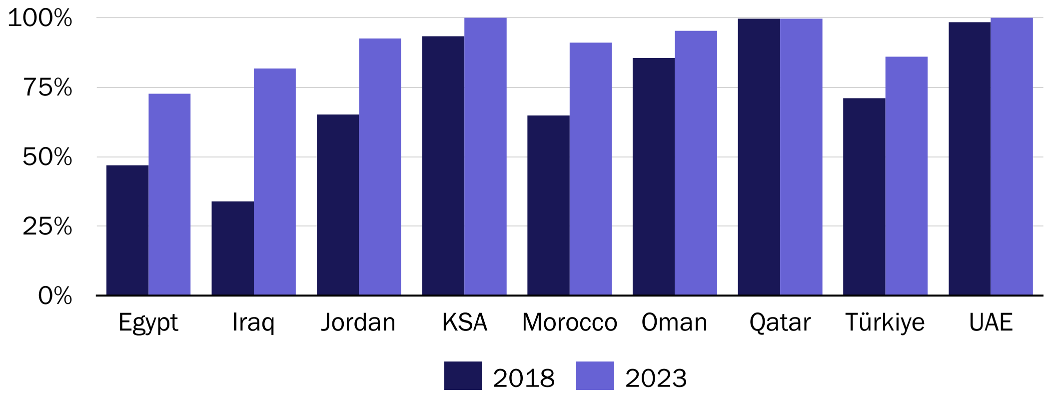
2 Internet use in the MENAT region has grown, enabled by improving connectivity infrastructure

Internet use across the world has increased in recent years, enabled by an ever-expanding web of connectivity infrastructure. Despite ubiquitous growth in traffic, key differences remain between countries in terms of levels of connectivity, with some countries still focusing on increasing internet penetration while others focus on improving internet experience for an already-connected population. Meta is active in helping to improve the connectivity value chain across this wide spectrum of countries at various stages of development.

2.1 Individuals in the nine countries of interest are largely connected to the internet and are active on social media platforms

The percentage of individuals that use the internet has increased between 2018 and 2023 across the nine countries of interest (see Figure 2.1). In KSA, Qatar and UAE, countries with highly developed internet infrastructure – nearly 100% of the population was online by 2023,[9] according to data from the International Telecommunication Union (ITU) and published by the World Bank.

Figure 2.1: Percentage of population using the internet [Source: ITU via the World Bank ,[10] 2025]



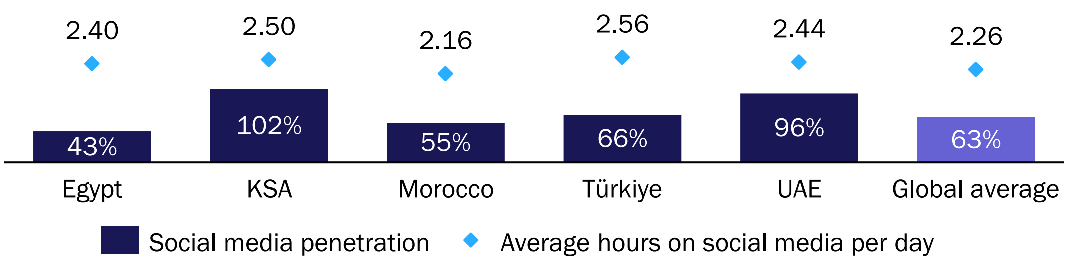
Similar patterns are reflected in social media penetration: almost everyone in KSA and UAE uses social media, ahead of the global average, compared to under half of the population of Egypt as of April 2024 and just over half in Morocco and two thirds of the population in Türkiye (see Figure 2.2). Engagement is high among those who do use social media, however, with individuals spending

9 This number is intended as an estimate of the total population of the country but in some cases only takes in a more limited group, for example individuals aged 5 years or older, allowing figures of close to 100%.

10 From the ITU World Telecommunication/ICT Indicators Database; see World Bank Group, *Individuals using the Internet (% of population)*. Data was not available for all countries at the time of writing, and was only available for KSA (100%), Oman (95%), Türkiye (87%) and UAE (100%).

more time on social media per day than the global average in most of the countries for which data is available (as of the first quarter of 2023).

Figure 2.2: Social media penetration and usage [Source: Statista, [11]2024; Statista,[12] 2023]



Younger generations tend to drive more usage of social media, with Gen Z and Millennial individuals typically spending more time on social media per day than Gen X and Boomer individuals.[13] In the MENAT region, young people make up a relatively large share of the population,[14] further emphasising the role of social media in shaping day-to-day interactions.

Individuals access the internet and social media through a combination of mobile and fixed networks operated by ISPs in these countries.

2.2 Mobile and fixed access networks enable increased access and usage in each country

In the nine countries in this study, mobile networks are commonly used to access the internet, with market penetration of unique mobile internet subscribers reaching close to or over 65% in most of the markets as of 2024, with the exception of Egypt, Iraq and Morocco, where penetration of unique mobile internet subscribers was less than 50%.[15] Meanwhile, household penetration of fixed broadband varies between countries, reaching ~80% in UAE as of 2024 while remaining at ~30% for KSA, as many

11 Data Reportal (May 2, 2024). Active social network penetration in selected countries and territories as of April 2024. In Statista: https://www.statista.com/statistics/282846/regular-social-networking-usage-penetration-worldwide-by-country/; According to Statista, "the number of users may not represent the number of unique individuals" and it is possible for figures to exceed 100%, as a result of "discrepancies between census data and actual resident populations" and also possibly the existence of "fake accounts".

12 GWI (April 10, 2024). Average daily time spent on social media according to global internet users as of the first quarter of 2023, by territory. In Statista: https://www.statista.com/statistics/270229/usage-duration-of-social-networks-by-country/

13 Edelman Data and Intelligence for lululemon athletica (February 13, 2022). Global average time spent per day on social media by generation 2021. In Statista: https://www.statista.com/statistics/1314973/global-daily-time-spent-on-social-media-networks-generation/

14 A publication by the OECD stated that people under 30 accounted for 55% of the population in MENA, compared to 36% of the population across OECD countries; see OECD (2022), *Youth at the centre of government action: A review of the Middle East and North Africa*.

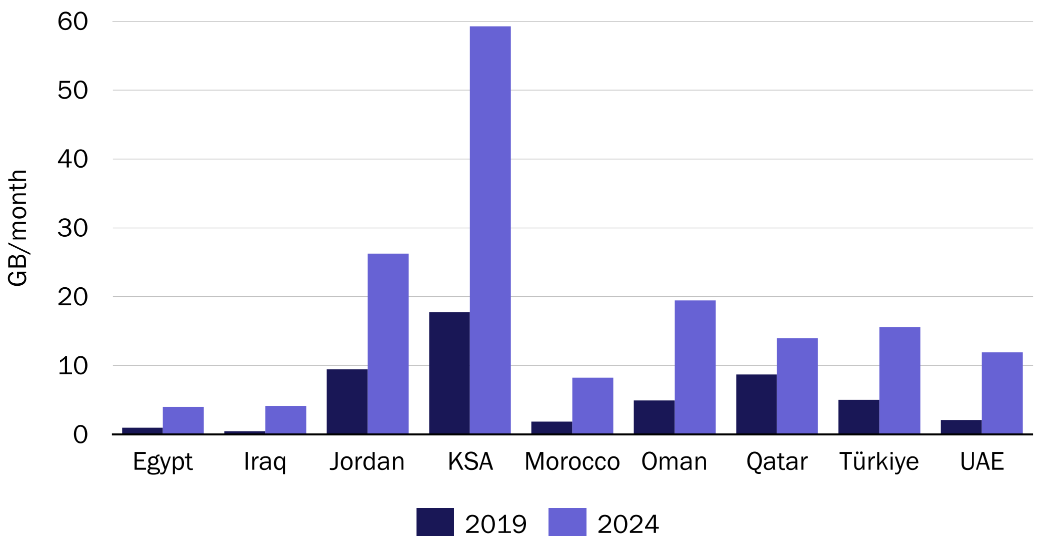
15 Based on data from *GSMA Intelligence*.

consumers in KSA use mobile connections for home broadband.[16] In total, fixed broadband household penetration has increased by ~10–20% across these countries between 2019 to 2024.

KSA, Qatar, and UAE exhibit some of the highest average internet speeds in the world (particularly for mobile),[17] while speeds in the other countries under focus are closer to the global average.[18] On the back of increased internet adoption and faster speeds, matched by richer content and services, data traffic is growing in all nine countries for both mobile and fixed internet, though absolute usage levels vary between countries.

Typically, mobile data traffic per subscription is significantly lower than fixed traffic per subscription, as fixed connections are used in the home, where people are more likely to engage in activities online that consume larger amounts of data. For example, people are more likely to watch movies or livestream video games at home (over a fixed connection) than on the move (when mobile connections are used). These differences can be seen in Figure 2.3 and Figure 2.4 below.

Figure 2.3: Mobile data usage per subscription [Source: Analysys Mason, 2025]

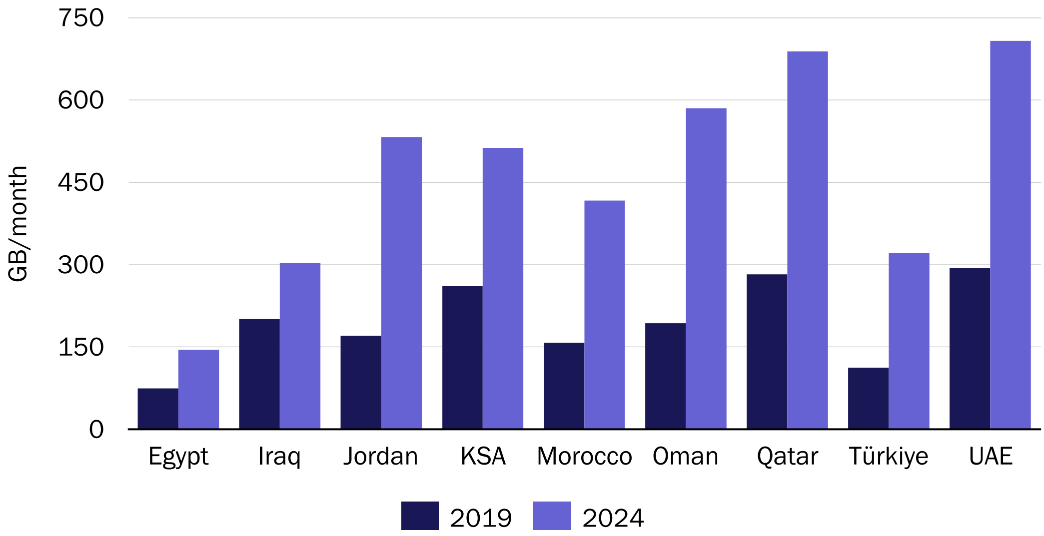


16 Analysys Mason Research, *DataHub*.

17 Speedtest (2025), *Speedtest Global Index: Saudi Arabia Median Country Speeds*; Speedtest (2025), *Speedtest Global Index: Qatar Median Country Speeds;* Speedtest (2025), *Speedtest Global Index: United Arab Emirates Median Country Speeds.*

18 Speedtest (2025), *Speedtest Global Index: Median Country Speeds*.

Figure 2.4: Fixed data usage per subscription [Source: Analysys Mason, 2025]



While the gap between mobile and fixed data usage per subscription is seen in all these countries, KSA exhibits unusually high mobile traffic, which at close to 60GB per month per subscription in 2024, is among the highest in the world, partially due to the use of mobile connections for home broadband (in light of the low fixed broadband penetration in the country).

Over time, in all countries, including the nine studied here, data consumption increases naturally due to an increasing number of users, as well as increased engagement of each user with content and services. This increase in data consumption by end users is positive for telecoms operators, as it reflects ongoing demand for their services. In the mobile sector, growth in retail revenue from data services is offsetting declines in revenue from voice services,[19] while retail revenue in the fixed sector has generally been growing over the past five years, driven mainly by growth in fixed broadband.[20]

Growth in data consumption and revenue is not only enabled by improvements in domestic (mobile and fixed) access networks, but also in the wider interconnection ecosystems that connect these countries to other parts of the world. Meta's investments in infrastructure help to support the efficient delivery of increased Meta-related data usage, which in turn also frees up international and domestic backhaul capacity and indirectly improves the delivery of data traffic that is not related to Meta platforms.[21]

19 Analysys Mason Research, *DataHub*.

20 Analysys Mason Research, *DataHub;* it should be noted that while prices for most mobile data services are linked to data consumption, the same is not usually true for fixed broadband services.

21 In Section 5 of this report, we estimate the impact of Meta's edge infrastructure investments on data usage, which in turn generates economic benefits that can be measured in terms of GDP and jobs. It should be noted that our estimates are conservative, given that we only account for the direct impact of Meta's infrastructure on Meta-related data usage, and do not assume any indirect increase in data usage associated with non-Meta services owing to Meta's infrastructure.

2.3 Increasing demand for international connectivity is served by a growing infrastructure ecosystem, including peering points, caches and submarine cables

As discussed above, ever-growing organic demand for content leads to increases in domestic data consumption, and due to the globalised nature of the internet ecosystem, demand for international bandwidth has also grown.[22]

In order for content to be sent to and received from other parts of the world, long-distance transport infrastructure, including terrestrial and submarine cable networks, is needed to facilitate international traffic flows. The number of submarine cables connected to each of the countries in this study is historically high, and has recently started to grow again after a period in which no new submarine cable connections to these countries were made (see Figure 2.5).

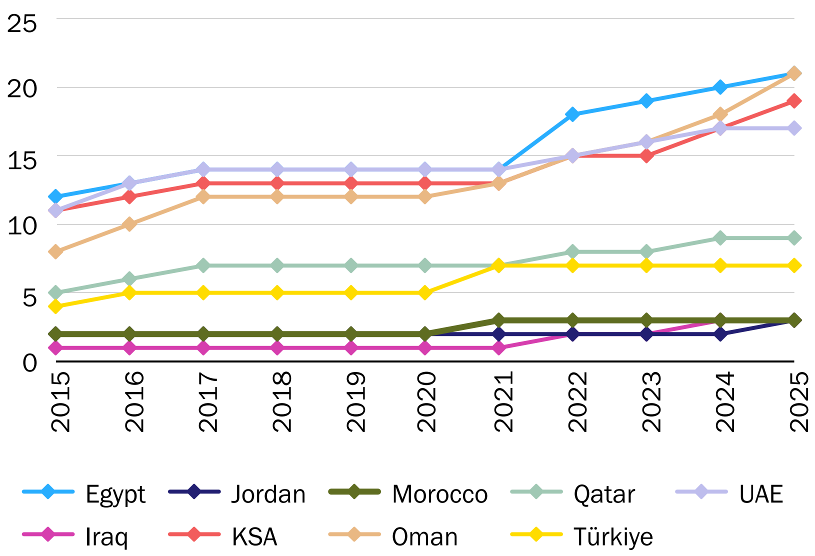


Figure 2.5: Number of submarine cables connected by country and year in which cables were or are expected to be ready for service [Source: Analysys Mason based on Analysys Mason Research submarine cable database,[23] 2025 and TeleGeography Submarine Cable Map,[24] 2025]

This recent growth is in large part due to the investments of large providers of online content and services, including Meta. Of the countries in this study, Egypt and Oman are connected to the most cables due to their strategic geographic positions, while KSA and UAE are also well connected.[25] In some cases, a given cable can land at multiple locations within the same country, and Sections 3 and 4 provide some examples of this when considering the 2Africa cable that Meta played a leading role in developing. In the next section of this report, we examine Meta's contributions to the growing connectivity infrastructure ecosystem in further detail.

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22 International bandwidth usage per internet user as measured in Kbit/s; see ITU, *Datahub*.

23 Analysys Mason Research (2024), *Submarine cable database 1H 2025.*

24 TeleGeography (2025), *Submarine Cable Map*.

25 It should be noted that the number of submarine cables landing in each country should not be seen as a direct proxy for the total amount of capacity supported by these cables. Newer cables are likely to benefit from advancements in submarine cable technology, and typically contain more fibre pairs, providing significantly more capacity; see for instance Ciena (2023), *Evolution of the submarine cable network.*

3 Meta's platforms are widely used and supported by global infrastructure investments, including in the nine countries featured in this study

Meta provides several of the most widely used online platforms globally, including in the MENAT region. To deliver a positive experience for its many users, Meta invests not only in its platforms, but also in physical infrastructure, to allow content to be served efficiently to users. Meta invests in such infrastructure across the globe, including in the nine countries of interest.

3.1 Meta provides several platforms that are used by billions of people across the world; these platforms help businesses reach more customers

Meta's platforms and technologies are used extensively around the world. Individuals use these platforms to interact with their direct contacts, as well as the wider global community. Businesses use these platforms to establish an online presence, to advertise to potential customers inside and outside their own countries, who they would not otherwise have been able to reach (or reach only with greater difficulty and cost), and also to engage more actively with their current and potential customers. Figure 3.1 below provides a brief overview of each of the main platforms offered by Meta.

Figure 3.1: Description of Meta's platforms [Source: Analysys Mason, 2025]

Platforms	Launch	Description	Global users / reach
Facebook	2004	A platform where users connect, share content and stay updated on news and events. Businesses, including individual creators and small and medium sized enterprises (SMEs), can create pages to interact with customers, expand their reach with targeted ads, and sell directly to consumers via Facebook shops.	The number of daily active people (DAP) using Meta's family of platforms reached 3.54 billion on average for September 2025[26]
WhatsApp	2009	A messaging platform that enables text, voice and media sharing over the internet. Enterprises can create a business profile to communicate with customers, with features including quick replies and away messages.	
Instagram	2010	A platform for sharing photos and videos with followers. Businesses can create accounts to advertise their products to a wider audience and can use Instagram Shopping to tag products for sale in people's posts.	
Messenger	2011	A messaging platform that allows users to send messages and share media over the internet. Businesses can create accounts to interact with customers, facilitated by features such as instant	

26 Meta Investor Relations (2025), *Meta reports third quarter 2025 results*

Platforms	Launch	Description	Global users / reach
		replies and away messages, and can reach out to new customers with Messenger Ads.	
Threads	2023	A platform for sharing text updates and engaging in public conversations. Businesses can use Threads to expand their visibility, reach and brand engagement.	

These platforms are used extensively across the region, as shown in Figure 3.2 below.[27]

Figure 3.2: Information regarding users of Meta services in the MENAT region [Source: Analysys Mason, 2025]

Country	Information regarding users of Meta services
Egypt	A 2022 report by Egypt's Information and Decision Support Centre (IDSC) reported that 44.7 million, 34.6 million and 16.0 million people used Facebook, Messenger and Instagram respectively, which roughly translates into 40%, 31% and 14% of the population.[28]
Iraq	The Digital Media Center (DMC) in Iraq announced that in 2025, 20 million people used Facebook, 19 million used Instagram and 15 million used Messenger,[29] which roughly translates into 43%, 41% and 32% of the population.
Jordan	The Information and Communications Technology Association of Jordan reported that as of 2025, 5.45 million people (47% of the population) used Facebook, 4.05 million (35%) used Instagram and 3.8 million (33%) used Messenger.[30]
Morocco	A 2025 report by Sunergia Groupe found that 75% of the population used WhatsApp, 62% used Facebook and 42% used Instagram.[31]
Oman	A spokesperson from the Telecoms Regulatory Authority announced at an event in 2025 that 71.4% of the population used Facebook, 48.1% of the population used Instagram and 32.3% of the population used Messenger.[32]
Qatar	According to social media agency Lumiere Advertising, 89% of the population used WhatsApp, 81% used Instagram and 59% used Facebook as of 2025,[33] with WhatsApp the most widely used platform across all age groups.
KSA	A 2024 report by the Communications, Space and Technology Commission in KSA reported that 91% of the population of the country used WhatsApp, 40% used Instagram and 22% used Facebook in 2023.[34]

27 Information is based on different sources across markets, and although the information is not directly comparable (due to the potential use of different methodologies), all show high levels of engagement with Meta's platforms.

28 Based on figures from the IDSC and population figures reported by the World Bank in 2022; see Information and Decision Support Center (2022), *Digitization in Egypt* and World Bank Group (2022), *Population, total - Egypt*.

29 The New Region (2025), *'Clear increase' in social media usage in Iraq: Digital Media Center*.

30 The Jordan Times (2025), *Internet, social media usage surges in 2025 — Int@j*.

31 Morocco World News (2025), *Social media barometer: 81% of Moroccans connected, digital divide persists*.

32 Muscat Daily (2025), *Over 3.2mn in Oman active on social media: TRA*.

33 Lumiere Advertising (2025), *Most used social media platforms in Qatar 2025: A comprehensive guide*.

34 Communications, Space & Technology Commission (2024), *Saudi Internet 2023*.

Country	Information regarding users of Meta services
Türkiye	A 2024 report by the Turkish Statistical Institute (TÜİK) found that 86.2% of individuals (aged 16–74) used WhatsApp, while 65.4% used Instagram.[35]
UAE	A 2024 report by the Telecommunications and Digital Government Regulatory Authority reported that, on a monthly basis, 80% of the population used WhatsApp, 79% used Facebook and 74% used Instagram in 2023.[36]

In order to provide a seamless experience for the many users of these platforms, Meta not only invests in service updates and innovations, but also in physical infrastructure that helps to deliver content requested by end users in an efficient way.

3.2 To support its operations around the world, Meta deploys edge facilities, long-distance cables and other infrastructure

Meta invests in several parts of the connectivity value chain, including in edge, transport and hosting infrastructure:

- Meta's investments in edge infrastructure include Meta-deployed PoPs, which enable either public or private peering to exchange Meta traffic with ISPs, as well as caches, which allow content from Meta's platforms to be served more efficiently. The cache devices are provided for free by Meta to network operators serving a large enough volume of Meta traffic on their networks. These investments provide direct cost savings for ISPs, as they decrease the amount of long-distance traffic they need to carry.

- Meta invests in transport infrastructure including new long-distance (submarine and terrestrial) cables, typically as part of a consortium of partners (including telecoms operators). While some capacity on these systems is reserved for Meta services, these new long-distance cables increase total international data transit capacity between the countries connected to the cables, reducing international bandwidth prices for ISPs.

- Meta has also built a number of large data centres in order to host content on its platforms and to provide the computing power needed to enable its services. These are located in the USA, Europe and Singapore, and leverage the long-distance cable and edge investments to optimise the delivery of content and services. It should be noted that unlike some other technology companies that offer third-party hosting, all of Meta's data centres are used only for its own services.

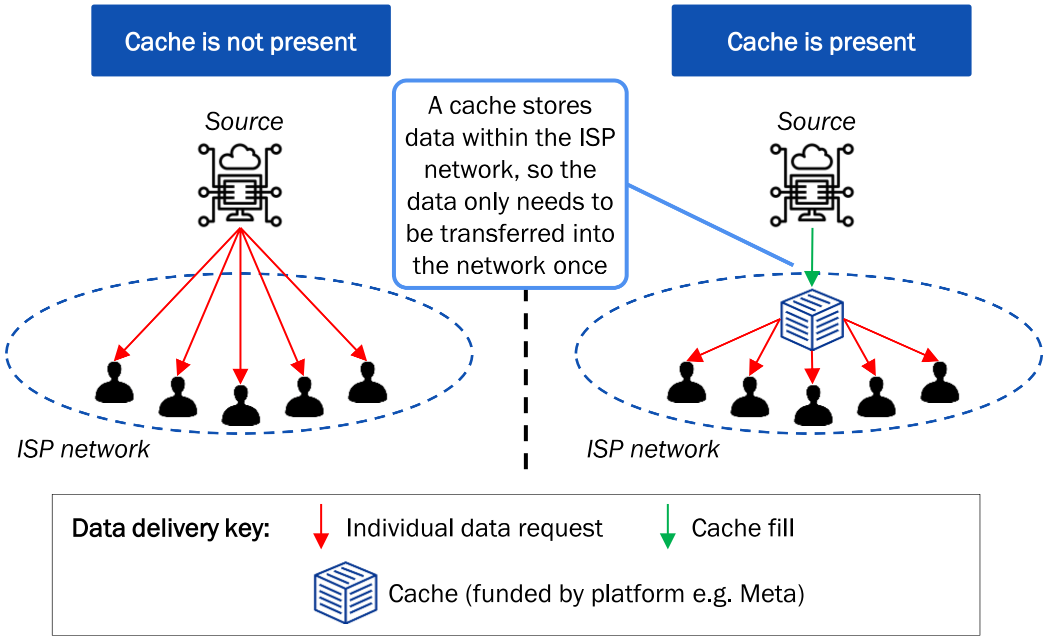
Meta uses cache devices to store popular static content close to, or within an ISP's network. With a cache, the data must only be brought into the ISP's network once in the case of user demand for that particular content, which is mainly photos and videos. The data is then hosted in the cache temporarily and can be sent to all other users from there. This significantly shortens the pathway required for data to get to end users, which speeds up their experience on Meta platforms. It also

35 Turkish Statistical Institute (2024), *Survey on information and communication technology (ICT) usage in households and by individuals*.

36 Telecommunications and Digital Government Regulatory Authority (2024), *Digital UAE 2023 Factsheet*.

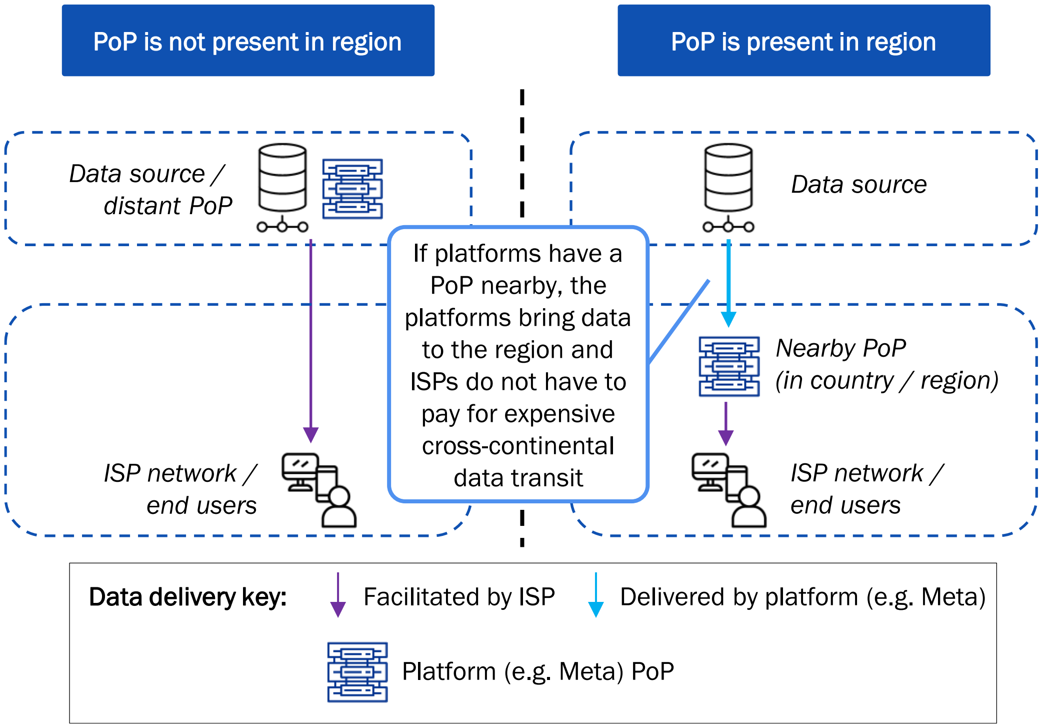
saves ISPs from buying much of the transit and connectivity capacity that they otherwise would need to deliver popular content, because they only have to deliver it once to the cache, and from there can serve it multiple times to end users. This is illustrated in Figure 3.3.

Figure 3.3: Illustration of how caches support cost effective data transit for ISPs [Source: Analysys Mason, 2024]



Meta-deployed PoPs deliver content (hosted in Meta's data centres) closer to ISPs' networks. Meta-deployed PoPs are interconnection points that allow ISPs to pick up Meta traffic in multiple accessible locations. If there are no Meta-deployed PoPs in the same country in which the ISP operates, then ISPs must collect user-requested content from the nearest available Meta-deployed PoP. Meta invests in the infrastructure that enables data transit from its data centres to Meta-deployed PoPs, meaning that the presence of local or regional PoPs create large cost efficiencies for local ISPs that no longer have to pay for a choice of long-distance links and IP transit to reach one or more Meta-deployed PoPs abroad. Meta-deployed PoPs can also benefit ISPs in neighbouring countries that do not contain Meta-deployed PoPs, as ISPs can access traffic from a nearby PoP to reduce the distance to the content and store it in a local cache if it is static. These dynamics are illustrated in Figure 3.4 below.

Figure 3.4: Illustration of how PoPs support cost effective international data transit for ISPs [Source: Analysys Mason, 2024]



3.3 Meta has already deployed infrastructure within the nine countries of interest, with further investment planned in the coming years

Existing infrastructure investments that are relevant to the nine countries of interest include PoPs, caches and long-distance cables. In terms of edge infrastructure, Meta has existing Meta-deployed PoPs in some of the countries covered in this study, which are also used to serve different countries in the region.[37] Meanwhile, Meta also has caches embedded in partner networks within each of the nine countries.[38] Importantly, Meta has also played a leading role in driving the development of submarine cables such as 2Africa, which will connect to many of these countries.

Cables such as 2Africa will increase the amount of submarine cable capacity available to these countries and the surrounding region, which will improve network performance, generate economic benefits and also help countries connected to these cables to further develop their domestic and international connectivity ecosystems, as described in the case study below.

37 Along with other Meta-deployed PoPs also located in the region.

38 Netify.ai (2024), *Meta CDN*.

Case study: Meta played a leading role in developing the 2Africa submarine cable

Once complete, the 2Africa cable will be the longest to be deployed up to that point,[39] reaching over 45 000km in length, connecting countries in Africa, Asia and Europe, and serving approximately 3 billion people, or over a third of the global population.[40] The cable will run with a design capacity of up to 180Tbit/s,[41] or more than three times the combined total capacity of all submarine cables serving Africa as of the relevant announcement in 2021.[42]

The cable is owned by a consortium of eight members, led by Meta, and according to the 2Africa website, third-party service providers are able to obtain capacity in carrier-neutral data centres or open-access cable landing stations on a "fair and equitable basis".[43,44] The added capacity will help to improve resilience and performance throughout the region. According to a study conducted by RTI International, 2Africa is expected to generate an economic impact (at purchasing power parity) of between USD26.4 and USD36.9 billion across Africa within 2 to 3 years of operation.[45]

2Africa is expected to impact many of the countries of interest in the MENAT region. In Egypt, two new landing stations (Port Said and Ras Ghareb) were built,[46] while other locations that will connect to 2Africa include Al-Faw in Iraq, Barka and Salalah in Oman, Doha in Qatar, Al Khobar in KSA, as well as Abu Dhabi and Kalba in UAE.[47]

The impact of Meta's services and infrastructure investments, on businesses, ISPs and connectivity ecosystems in the MENAT region, are described further in the next sections.

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39 Meta has since announced Project Waterworth, which will reach 50 000km in length, but will be completed after 2Africa.

40 2Africa, *Updates*.

41 2Africa, *About.*

42 Engineering at Meta (2021), *2Africa Pearls subsea cable connects Africa, Europe, and Asia to bring affordable, high-speed internet to 3 billion people*.

43 2Africa, *Introducing 2Africa*.

44 Consortium members that are telecoms network operators will typically either need a licence to land the cable and offer capacity in the country, or will sell capacity to a licenced operator in that country, to pick up at the landing station.

45 RTI International (2020), *Economic Impact of 2Africa*.

46 Submarine Cable Networks, *Egypt*.

47 2Africa, *Updates*; Telegeography, *Submarine Cable Map*.

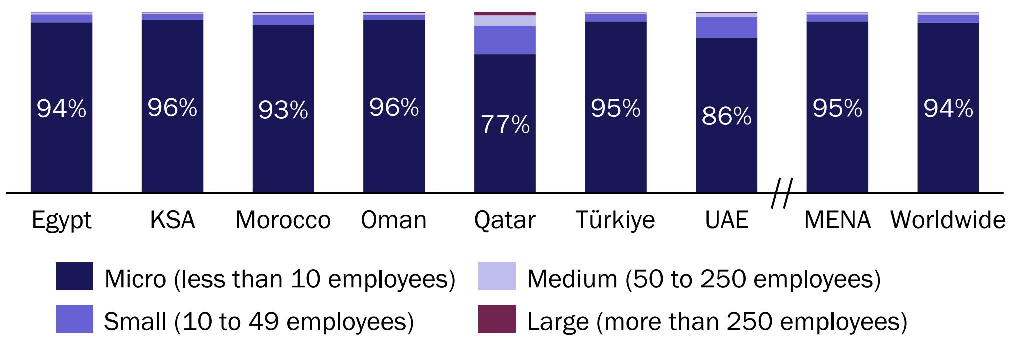
4 Meta's services and infrastructure investments benefit businesses, ISPs and wider connectivity ecosystems

This section will highlight the multiple benefits of Meta's infrastructure investments, which collectively support GDP growth and job creation in the nine countries of interest.

4.1 Small businesses in MENAT benefit from digitalisation and use Meta's services to improve business results

Globally, including in the nine countries of interest, small businesses make up the majority of enterprises and account for the majority of GDP and jobs. As shown in Figure 4.1, a vast majority of businesses in each of the nine countries employ fewer than ten employees.[48] Increasing the revenue and productivity of small businesses can therefore have broad economic impacts on the GDP and employment levels of a country.

Figure 4.1: Split of enterprises by employee count in 2024 [Source: Analysys Mason Research,[49] 2025]



Small businesses benefit significantly from digital tools because they help them to find new customers and markets, interact with customers and suppliers, and lower costs. A study by the OECD identified four main small business functions that benefit from digitalisation, including marketing and communication, strategic planning, general administration and production and logistics.[50] The OECD study highlights that "online platforms are central in the development of digital economies and societies."[51] In particular, the study notes that "greater uptake of online platforms is especially important

48 Enterprises accounted for by Analysys Mason Research include private and public sector organisations that employ a paid workforce, including self-employed staff and sole traders. An estimate of the number of unregistered businesses is included where relevant (e.g. in countries with high thresholds for business registration), but informal workers such as smallholders and casual labourers are generally excluded.

49 Analysys Mason Research, *DataHub*.

50 OECD (2021), *The Digital Transformation of SMEs*.

51 Idem, page 113.

for SMEs",[52] helping them to overcome limits in financial resources and skills in order to access new markets and provide scope for efficiencies that can boost competitiveness and productivity.

The Meta services described in Figure 3.1 are all platforms that act as intermediaries that can help connect small businesses with customers and vendors. There is no charge to use many of Meta's services, and these services enable small businesses to create brand awareness (Facebook, Instagram, Threads), and interact directly with customers and suppliers (Messenger, WhatsApp). Other services, notably advertising, are paid for, but provide an efficient way to target and segment potential customers in domestic and international markets. In addition to the standard services for all users, Meta has services targeted at businesses, such as the Meta Business Suite, to help them take full advantage of the platforms.

Case study: Meta Business Suite

The Meta Business Suite is a free online tool that allows companies to manage their Facebook and Instagram activities (including marketing, messaging and posting) in one place. Combining notifications and inboxes makes social media use more efficient for companies. Furthermore, it allows firms to monitor ad campaigns and review engagement and audience demographics in one place, allowing for a more holistic understanding of their marketing position. The Meta Business Suite also allows for post scheduling and automatic replies for inboxes, improving the efficiency of business communications as well as marketing.[53]

Case studies of the use of Meta services show the benefits for small businesses in terms of increased sales and revenue, geographic expansion and greater employment.

Figure 4.2: Case studies of businesses that have grown successfully using Meta services in the countries of interest [Source: Meta, 2025]

Country	Business name	Use case	Results
Egypt	Made in Egypt	Facebook and Instagram ads	60% of monthly sales attributed to Facebook[54]
Egypt and UAE	talabat	Meta Advantage+ catalogue campaign and use of Advantage+ creative[55]	11% lower cost per first order[56]
KSA	Hungerstation	Optimisation for value (by targeting high-value customers) on Meta	41% lower cost per first order achieved by optimising for value

52 Idem, page 113.

53 Meta (2024), *Meta business suite*.

54 Meta, *Made in Egypt*.

55 The 'Advantage+' suite is a set of Meta tools that use artificial intelligence to optimise advertising campaigns; see Meta (2022), *Introducing New Automation Tools to Increase Sales and Drive Growth*.

56 Meta, *talabat.*

Country	Business name	Use case	Results
		Advantage+ app campaigns	instead of optimising for purchases[57]
KSA	Level Shoes	Meta Advantage+ shopping campaigns	92% higher return on ad spend compared to usual campaign set-up[58]
KSA, Oman, Qatar and UAE	Damas Jewellery	Damas Jewellery aimed to boost awareness and sales while optimising Facebook ads	55% decrease in cost per purchase and a 5% increase in reach[59]
Qatar	Qatar Airways	Qatar Airways teamed up with Meta to create Instagram brand films for Stories, Reels and long-form video	13-point lift in ad recall and 4.9-point lift in brand awareness[60]
Türkiye	Vodafone	Used Meta Advantage+ app campaigns to drive app installs and engagement	96 conversions, 5000 leads, 17% more revenue, 63% lower cost per lead (CPL)[61]
UAE	Bayut	Facebook and Instagram video ad campaign during the 2022 World Cup	11.1 point lift in brand awareness[62]
UAE	Marbl	Meta Advantage+ shopping campaigns	2x increase in purchases by volume after adoption[63]

While the general benefits of digital transformation for small businesses can be large, not all small businesses have undergone the transformation due to factors including a lack of resources and digital skills.[64] As a result, familiarity and reach of platforms already in common use by employees for personal purposes, such as those offered by Meta, make the transformation easier for small businesses. Larger firms, with greater resources to adopt a wider variety of digital tools impacting their entire business operations, may benefit even more from digital transformation. However, they will still use popular platforms, including those provided by Meta, to reach customers and vendors where they are already active.

57 Meta, *Hungerstation*.

58 Meta, *Level Shoes*.

59 Meta, *Damas Jewellery*.

60 Meta, *Qatar Airways*.

61 Meta, *Vodafone Turkey*.

62 Meta, *Bayut*.

63 Meta, *Marbl*.

64 OECD (2021), *The Digital Transformation of SMEs*, page 17.

4.2 Meta's infrastructure investments help ISPs to lower costs, improve network performance and may support revenue growth

Meta investments are primarily aimed at delivering Meta services, and where they are made, have lowered latency, improved the speed of access to content on Meta's platforms, and enabled more efficient delivery of any increases in Meta-related data usage, as described further below in Section 5.[65] In addition to these benefits to Meta services, Meta's investments also benefit local ISPs both directly and indirectly.

Meta's investments save significant resources for ISPs. Without Meta edge investments in regional PoPs (Figure 3.4), ISPs in MENAT would need to fulfil their subscribers' requests for Meta content and services using their own international capacity to carry content from distant data centres and Meta-deployed PoPs. Furthermore, without Meta's investment in caches (Figure 3.3), ISPs would have to deliver the same content every time it is requested, using even more international and domestic capacity. As a result, the Meta investments save significant resources for ISPs. In addition to these direct savings to ISPs from Meta's edge investments, the submarine cable capacity investments have indirect savings for the ISPs, as investments in new capacity help to increase overall supply and reduce the price of international bandwidth.

Finally, in addition to these savings for ISPs, Meta investments also have the potential to support revenue growth by increasing usage of online services. In the absence of Meta's infrastructure investments, ISPs would ordinarily be required to purchase expensive international and domestic backhaul capacity, which may result in under-provisioning by ISPs, a diminished end-user experience, reductions in usage of internet services (including Meta services) and a corresponding reduction in the consumption of data.[66] Instead, as discussed further in Section 5, the investments enable content to be delivered more efficiently, improve end-user experience, and thus increase the usage of Meta services by users, which translates into increased internet data usage for the ISPs. For any prepaid mobile contracts as well as postpaid contracts (fixed or mobile) that are priced with data caps, increased data usage can translate into selling into higher data caps, and / or faster connections, increasing ISP revenue.

4.3 The presence of edge facilities and submarine cables helps to build ecosystems and the development of international hubs

The addition of a submarine cable landing station to a new area is an important building block in the creation of a wider digital connectivity ecosystem. The presence of a submarine cable landing station can attract digital infrastructure that benefits from global connectivity (e.g. data centres to serve demand from cloud providers). These investments in turn often lead to the deployment of further cables due to economies of scale in the landing areas, creating a knock-on effect that substantially increases the country and region's overall connectivity.

65 Based on discussions with Meta.

66 Operators that we interviewed confirmed that it would be challenging to provision enough capacity via IP transit in place of the capacity efficiencies that Meta's infrastructure currently facilitates, and that this would likely result in higher latencies and a poorer experience for end users, which would result in less data being consumed.

Marseille, in France, offers an example of how a new landing station can be the first stepping stone in the creation of a digital infrastructure hub. Over ten further cables have followed the first submarine cable that landed in Marseille in 2005,[67] helping to develop the area into an interconnection hub connecting Europe, the Middle East and North Africa, with four internet exchange points (IXPs) and 14 data centres as of 2025.[68] Likewise, Spain has recently begun to use its position between North Africa, Europe and North America to become a centre of connectivity, which is attracting a boom in data-centre builds, with installed capacity projected to increase sixfold in the next 2 years.[69] Portugal is also rapidly becoming a central player in global data interconnection, partly due to investments in submarine landing points and corresponding connectivity infrastructure in the country.[70]

Many cities in MENAT can already tell similar stories:

- In UAE, Dubai's status as a landing station for numerous cables contributed to Equinix's decision to partner with du to create the Datamena data centre in Dubai – Datamena advertises its access to proximity to submarine cables as a key strength of its offering.[71] As a result, Datamena now hosts the largest IXP in the Middle East – UAE Internet Exchange (UAE-IX).[72]

- In KSA, Jeddah's status as an existing landing station location has attracted connections from most of the cables running through the Red Sea and it is now a landing point for more than ten active submarine cables, as well as hosting three IXPs and several data centres within the city.[73] Jeddah's "strategic location … accessing the most reliable and diverse connectivity in the region",[74] is an important factor that has helped to attract investment.

- In Türkiye, Istanbul hosts many data centres,[75] and is increasingly seen as a growing digital gateway.[76] Investors are also drawn to the prospect of increased route diversity in future, through both submarine and terrestrial routes.[77] Other locations such as Izmir are also being developed, with Vodafone and Edgnex data centres having entered into a joint venture to construct a data centre in the city, citing its proximity to landing stations that provide access to Europe, Africa and Asia.[78]

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67 Analysys Mason (2022), *Economic impact of Google's submarine cable network in Latin America and the Caribbean*.

68 Data Center Map, *Marseille Internet Exchanges* and Data Center Map, *Marseille Data Centers.*

69 Silicon (2024), *Data Centre Boom Turns Spain into a Digital Hub for Southern Europe*.

70 Xinhua (2024), *Study shows Portugal Emerging as Global Data Interconnection Hub*.

71 Datamena (2024), *Solutions - Connectivity*.

72 See *UAE-IX*.

73 Telegeography (2024), *Submarine Cable Map*; PeeringDB, *The Interconnection Database*.

74 Submarine Cable Networks (2020), *Mena Gateway (MG1).*

75 Data Center Map, *Istanbul Data Centers.*

76 Arabian Gulf Business Insight (2025), *Istanbul 'could be digital gateway between Gulf and Europe'.*

77 Equinix (2025), *From Türkiye to central Asia, new digital silk routes are forming.*

78 w.media (2024), *Edgnex-Vodafone Turkey JV to invest US$ 100 Million in Izmir DC.*

- In Oman, Barka and Salalah were selected as locations for two carrier-neutral data centres developed by Equinix and Omantel,[79] and both locations were also announced to be landing points for the 2Africa cable that Meta played a leading role in developing, with Ooredoo named as landing partner.[80] Barka, in particular, is located near several other landing station locations on the north coast of the country, which plays host to a significant number of cable systems.

- Landing stations have also seen Egypt become an important regional connectivity hub, as is detailed in the case study below.

Case study: Egypt as a regional connectivity hub

Egypt is becoming an increasingly important centre of intercontinental interconnection, in part due to its geographical position allowing terrestrial cables to link to submarine cables that transfer data between Africa, Europe and the Middle East. According to a recent estimate, 17% of the world's data traffic passes through the country.[81] The addition of cables such as 2Africa, which Meta had a leading role in developing, will only increase the amount of traffic flowing through the country.

Egypt's status as a global interconnection hub makes it an attractive place to build digital infrastructure. The Egypt Internet Exchange (EG-IX), "the country's first open access internet exchange", is now live and open to customers,[82] and is used by several global technology companies.[83] The CEO of Telecom Egypt had also highlighted how Egypt has long been positioned as an ideal transit point for submarine cable routes, given its location "at the crossroads of three continents – Africa, Asia and Europe".[84] New investments in submarine cables landing in Egypt will continue to boost its profile as a key location for local, regional and global digital infrastructure.

The 2Africa cable will land in six of the nine countries of interest (Egypt, Iraq, KSA, Oman, Qatar and UAE), not only bringing significant amounts of new capacity and connectivity, but also new cable landing stations that can be expected to act as magnets for complementary investments. For example, center3, a subsidiary of the Saudi Telecom Company, operates multiple data centres near Al Khobar (a new submarine cable station where 2Africa lands), in addition to other locations such as Jeddah and Yanbu, which contain existing landing stations to which 2Africa will also be connected.[85] The deployment of several different components of the connectivity value chain in close proximity within specific locations helps to develop these locations into connectivity hubs that in turn support economic growth.

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79 Equinix (2024), *Equinix and Omantel officially open Salalah SN1, the second carrier neutral data center in Oman*.

80 Ooredoo (2024), *Ooredoo to land world's largest subsea cable system, 2Africa comes to Oman*.

81 DCD (2024), *Telecom Egypt and SubCom complete two cable landing stations in Egypt*.

82 ITWeb (2022), *EG-IX expected to bolster Egypt's tech hub ambitions*.

83 Based in the US and elsewhere; see PeeringDB, *EG-IX*.

84 Capacity (2024), *Connecting the seas: a hub to link up the world.*

85 Telecom Review (2024), *center3's landing station expansion: broadening the horizons of global connectivity*.

5 Meta's edge infrastructure investments have generated economic benefits in the MENAT region

The benefits of Meta's edge infrastructure investments, as described in Section 4, include lower latency for users of Meta services, the use of digital platforms by small businesses, lower costs for ISPs and the development of connectivity ecosystems. These lead to increased end-user usage of fixed and mobile data, which subsequently result in economic benefits, measured by GDP and jobs.

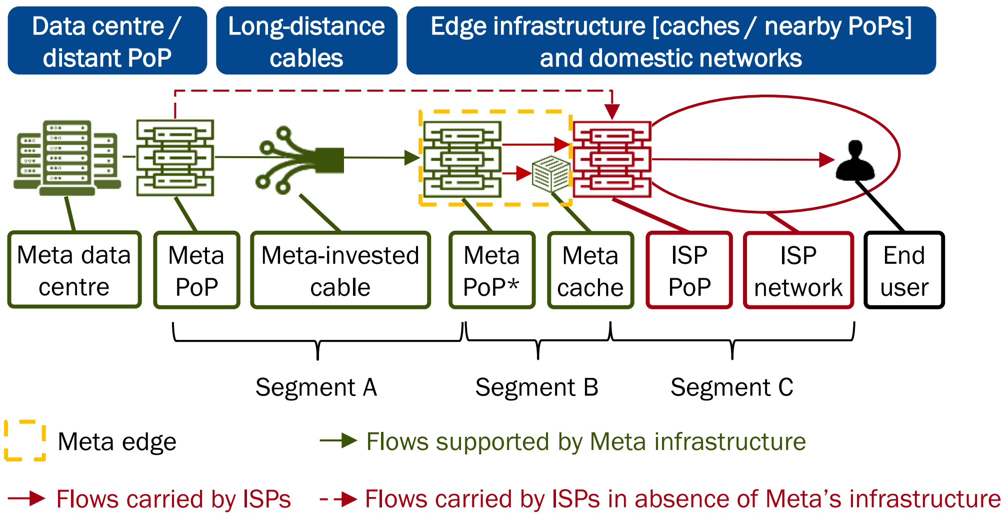
The economic impact is presented in four steps. First, we estimate the increase in data usage in each of the nine countries resulting from the Meta edge investments that lower the latency and cost of delivering content to users. Second, based on a long line of economic research, we show the impact of increased data usage on GDP growth, reflecting the increased economic activity underlying the new data usage. Third, we show the increased number of jobs resulting from the increased GDP growth. Finally, in addition to the edge investment benefits that we model directly, we also highlight several studies that show the economic benefits of submarine cable investments around the world.

5.1 Meta's edge infrastructure has enabled an increase in the amount of data traffic consumed by end users in the nine countries of interest

Meta's investment in edge infrastructure in the MENAT region has enabled end users to consume more data than if these investments had not been made. At the same time, these investments increase the efficiency of delivering content, which helps ISPs to generate significant savings on international and domestic backhaul capacity, as discussed above in Section 4.

Meta's edge infrastructure affects the flow of Meta-related traffic along three different segments, as shown in Figure 5.1 and described below:

Figure 5.1: Flows of traffic enabled by Meta's infrastructure [Source: Analysys Mason, 2024]



* Not every country connected by a Meta-invested cable will contain a Meta PoP

- Segment A: Flows from international locations to a Meta-deployed PoP – Meta delivers content to all its PoPs, from which ISPs can pick up traffic. If a Meta-deployed PoP is in the same country as the end user, then the ISP can avoid the need to use expensive international capacity. Otherwise, the ISP can pick up the traffic from a nearby Meta-deployed PoP in the region, which also helps to reduce the distance and cost of international backhaul for the ISP.

- Segment B: Flows from Meta-deployed PoPs to ISP PoPs – this volume of traffic is carried by the ISP, and if the PoP is in the same country is referred to as 'domestic backhaul'. Some traffic may go directly to the ISP PoP for delivery to the end user who requested it, while popular content is stored in a cache at the ISP PoP. While the ISP carries all of this traffic, the use of a cache significantly reduces the volume of traffic carried using backhaul, because it only needs to be delivered to the cache once and then can be delivered to end users multiple times from there.[86]

- Segment C: Flows from ISP PoP to end users – this volume is carried by the ISP, but the incremental cost for the ISP to carry a unit of traffic over the 'last mile' on its own domestic access network is small in comparison to bringing traffic from international locations, because the latter is more traffic-sensitive than the former.

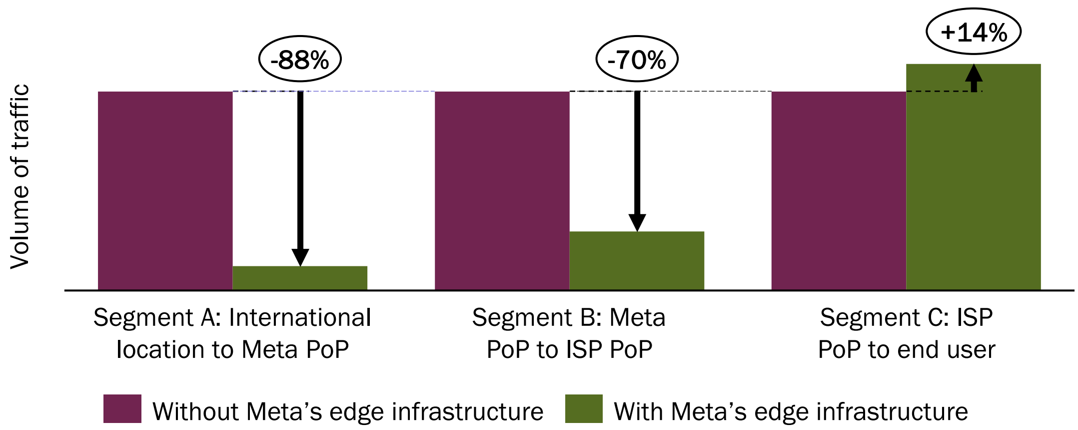
Without Meta's infrastructure in the MENAT region, not only would the ISP have to carry all the traffic from a more distant Meta-deployed PoP to the end user across all three segments, but there would be more international and backhaul traffic because it would not benefit from the efficiencies of caching. As a result, as discussed above, the user experience would be impacted by higher latency and end user data consumption would fall.

86 Internal data from Meta and interviews with ISPs suggest that the volume of data served from caches is over five times that of the volume of data entering caches, highlighting that Meta's caches help to significantly improve the efficiency of content delivery to end users.

For the nine countries of interest, Figure 5.2 below compares Meta-related traffic volumes across various network segments, firstly in a scenario without Meta's infrastructure, and then in a scenario with Meta's infrastructure.[87] The scenario without Meta's edge infrastructure shows an estimated 'middle case', which takes the average of a 'high case' and 'low case' estimate of how Meta's infrastructure affects traffic requirements.

In the absence of Meta's infrastructure, traffic volumes across all three segments are the same, and ISPs would need to pay for expensive data transit to carry traffic from distant locations (across segments A and B), but with Meta's infrastructure, traffic flows along these segments are reduced (by 88% and 70% respectively).[88] In other words, Meta's infrastructure helps ISPs avoid carrying close to eight times the amount of traffic they would need to carry along the expensive international segment (Segment A) in the absence of Meta's infrastructure. Meta's infrastructure also helps ISPs avoid carrying more than three times the amount of domestic backhaul traffic than they currently carry (in Segment B). As a result, Meta's infrastructure saves significant cost for the ISPs along those segments.

Figure 5.2: Comparing how Meta-related traffic volumes across different segments would differ in the absence of Meta's edge infrastructure investments in 2024 across the nine countries of interest, middle case [Source: Analysys Mason, 2025]



Furthermore, by reducing costs for ISPs and improving the quality of experience for users, Meta's infrastructure also results in end users increasing their usage of Meta services, resulting in an increase in Meta-related data usage (via flows along Segment C). This helps increase overall data usage, but to a smaller extent than the reduction across the first two segments. In terms of ISP costs, the reduction in international and domestic backhaul traffic results in significant savings, since these are sensitive to traffic volumes. Meanwhile, the cost of supporting small increases in overall data flows over the 'last

87 Scenarios have been calibrated based on internal data provided by Meta and interviews with ISPs.

88 Volumes across Segment A decrease more than across Segment B, as the benefit of having a Meta cache is reflected in reductions across both segments, while the additional benefit of a Meta-deployed PoP is captured under Segment A.

mile' within the ISPs own network is much less sensitive to traffic volumes, as ISPs are typically able to support significant growth in 'last mile' traffic at limited incremental cost.[89]

On balance, these dynamics mean that Meta's investments result in material cost savings for ISPs, while the increased data usage by end users generates economic benefits. Figure 5.3 shows the assumed increase in Meta-related end user data usage across the nine countries owing to Meta's edge infrastructure, starting in 2018.[90] The level of increase shown has been calibrated based on internal data provided by Meta,[91] as well as discussions with a handful of operators who have benefited from Meta's edge infrastructure in the region.[92]

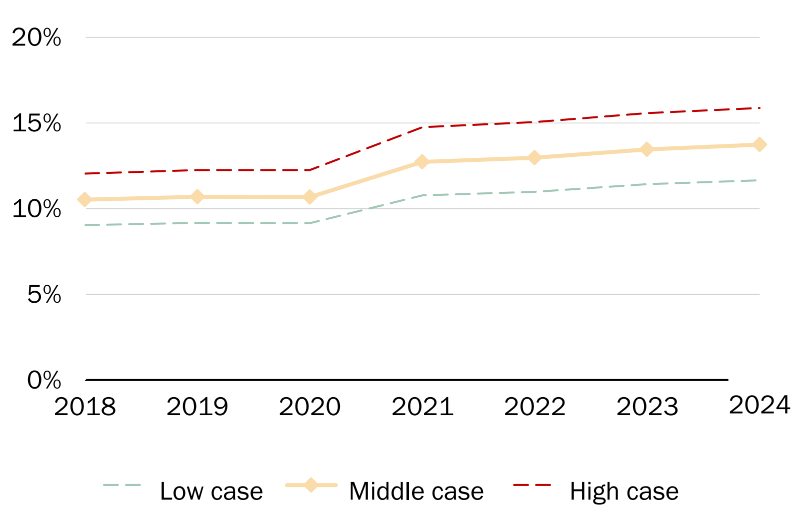


Figure 5.3: Uplift in Meta-related data usage each year as a result of Meta's edge infrastructure investments across the nine countries of interest [Source: Analysys Mason, 2025]

The increase in Meta-related end user traffic due to Meta's edge infrastructure also means that total traffic served to end users in the country also increases, and this has a material impact on economic growth and employment, as discussed below. It should be noted that our estimates on the increase in data usage are conservative, given that we only account for the direct impact of Meta's infrastructure on Meta-related data usage, and do not assume any indirect increase in data usage associated with non-Meta services owing to Meta's infrastructure (which could, by freeing up international and domestic backhaul capacity, indirectly lower the cost and improve the delivery of non-Meta services as well).

89 Analysys Mason (2022), *The impact of tech companies' network investment on the economics of broadband ISPs*.

90 The analysis conservatively considers impact from 2018 onwards, however some of Meta's edge infrastructure deployments in these nine countries were made several years before 2018.

91 The uplift profile shown in Figure 5.3 accounts for deployment of new PoPs in the region over the period.

92 Interviewed operators have cited significant improvements to latency as a result of Meta's infrastructure and agreed with the notion that costs for international and domestic backhaul would be significantly higher in the absence of this infrastructure. Operators also considered the use of this infrastructure to be an important factor in supporting better online experiences for users and encouraging increased usage of Meta's services as a result.

5.2 The internet data traffic enabled by Meta's edge infrastructure contributes billions of dollars to GDP growth

A number of studies have linked increased broadband adoption to economic growth within a country, measured by the increase in GDP. These studies have been important in improving the understanding of the positive benefits of broadband on a country's economic development, conveying to policy makers the economic impact of infrastructure and conditions that support increased internet adoption. Key studies include pioneering work by the World Bank (2009),[93] a report by Deloitte/GSMA/Cisco (2012),[94] a study by the OECD (2012)[95] and an ITU publication (2018).[96] These studies focused on the economic impact of broadband adoption as it became widespread.

Traditionally, it was common to estimate the economic benefit of connectivity investments based on the resulting increase in broadband penetration, which was shown to increase GDP by a multiplier calculated from historical data as in the above-cited studies. However, given that broadband penetration is reaching saturation in many countries, increases in adoption are no longer a good measure of the benefit of investments. However, increased data usage by existing subscribers can correspond to increased use for business and employment, among other benefits. To address this shift, Analysys Mason conducted a study for Meta that showed the economic benefits of increased data usage by subscribers, by estimating a multiplier for GDP growth per capita resulting from the increase in data usage per connection.[97] See Annex B for a description of this study.

As a result of Meta's investments, ISPs are able to achieve savings in expensive international and domestic backhaul capacity, while end users enjoy lower latency and an improved online experience. In turn, this encourages end users to increase their use of the internet, including economic activity which contributes to higher GDP in a given year. When compounded over time, this leads to relatively substantial increases in annual GDP per capita resulting from the Meta investments that increased data usage per connection. As shown in Figure 5.4, an increase in end user data usage from Mega edge investments results in an annual real GDP impact (at 2024 prices and exchange rates) of USD10–13 billion across the nine countries in 2024 alone, and USD36–48 billion over the 7-year period from the start of 2018 to the end of 2024.

93 The World Bank (2009), *Economic impacts of Broadband*.

94 GSMA, Deloitte, Cisco (2012), *What is the impact of mobile telephony on economic growth?*

95 Organisation for Economic Co-operation and Development (2012), *The Impact of Internet in OECD Countries*.

96 ITU (2018), *The economic contribution of broadband, digitization and ICT Regulation*.

97 Including the increase in data usage was first done in the GSMA/Deloitte study of 2012 described above.

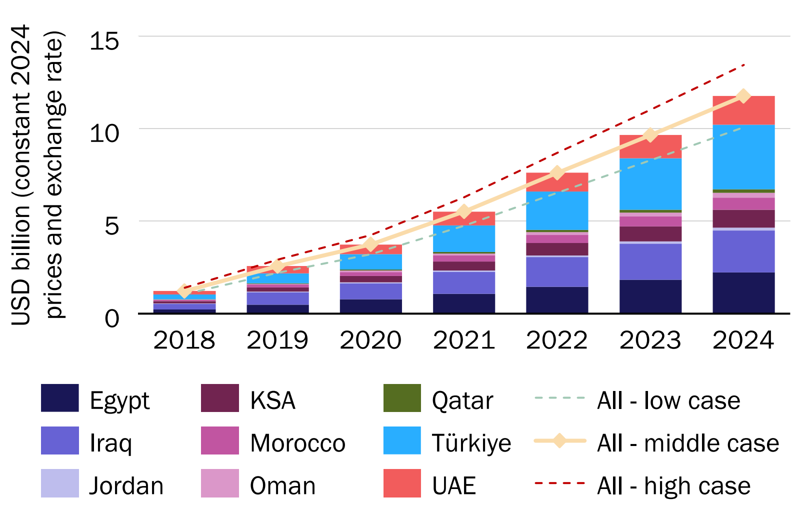


Figure 5.4: Annual real GDP impact of Meta's edge infrastructure investments in the nine countries of interest [Source: Analysys Mason, 2025]

These GDP impact results are based on conservative estimates of the increase in data usage, as noted above, given that we only account for the direct impact of Meta's infrastructure on Meta-related data usage (see Section 5.1). It is possible that Meta's infrastructure could also, by freeing up international and domestic backhaul capacity, contribute to an indirect increase in data usage associated with non-Meta services, and if so, the impact of Meta's edge infrastructure on GDP would be higher than the figures presented above.

5.3 The increase in GDP growth in each country translates into thousands of corresponding jobs

This impact on GDP can also be measured in terms of the number of corresponding additional jobs, in three steps. Following an approach used in several prior studies,[98] we first estimate the GDP impact on gross value added (GVA) using a GDP-to-GVA ratio.[99] Next, we calculate the GVA per job in the nine countries.[100] Finally, we use these ratios to calculate the number of jobs that typically correspond to the higher GVA resulting from the GDP impact calculated above. We calculate that the GDP uplift supported by Meta's edge infrastructure investments translated to 400 000–510 000 additional jobs across the nine countries as of 2024 (see Figure 5.5).

98 See Analysys Mason (2022), *Economic impact of Google's submarine cable network in Latin America and the Caribbean*; Analysys Mason (2022), *Economic impact of Google's APAC network infrastructure – 2022 update*; Analysys Mason (2021), *Economic and social impact of Meta's submarine cable investments in APAC*.

99 GVA is a measure of the contribution to GDP made by industries, and the GDP-to-GVA ratio is derived from data in Euromonitor's database.

100 This data was calculated using Euromonitor data on jobs and real GVA in the nine countries of interest.

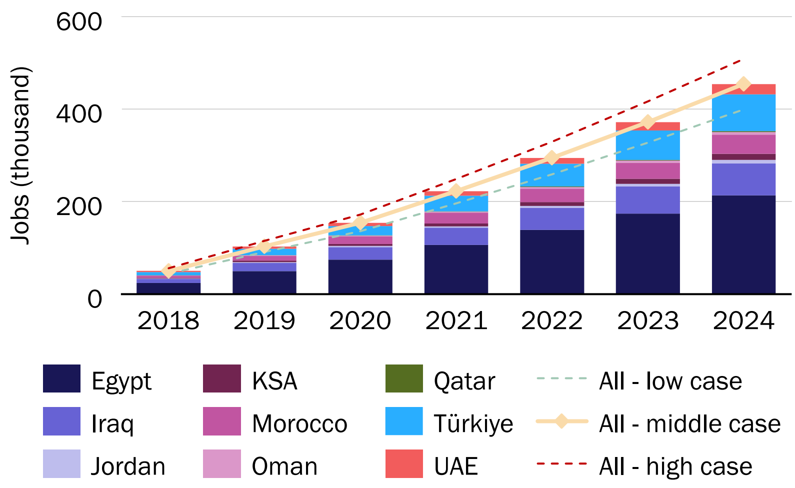


Figure 5.5: Job impact associated with the uplift in real GDP from Meta's edge infrastructure investments in the nine countries of interest [Source: Analysys Mason, 2025]

These results show that Meta's edge infrastructure investments have helped to generate tangible economic benefits for the overall economy of different countries and the individuals within them. Moving forward, this infrastructure is also expected to support consumer and business take-up of innovative services that use new artificial intelligence and immersive (e.g. virtual, augmented and mixed reality) technologies,[101] which will help to drive future economic growth.

The results shown above are conservative as they do not specifically consider the impact of Meta's submarine cable investments to deliver traffic to regional PoPs where available, however, the impact of such investments have been considered and quantified in previous reports on investments in other regions, which are summarised briefly below.

5.4 The methodological approach adopted in this study has also been used in other previous studies to study the economic impact of submarine cables

Analysys Mason and others have conducted a number of studies on the economic impact of investments by internet companies in network infrastructure in different regions. These studies show the impact of submarine cable investments on internet adoption and data usage, and then use the methodology discussed above to show the impact of increased adoption and data usage on GDP and jobs. A number of examples are shown in Figure 5.6 below.

Figure 5.6: Studies on the impact of submarine cables [Source: Analysys Mason based on various sources (links in table), 2025]

Study	Category of impact	Description
Analysys Mason study on the economic impact of Google's	Traffic; connectivity	Google's submarine cables in Latin America and the Caribbean (LAC) were forecast to drive USD178 billion in additional GDP between 2023 and 2027, supporting 740 000 additional jobs. For one country case study

101 Although the technical requirements of new services using artificial intelligence and immersive technologies could differ from that of existing use cases, edge infrastructure is expected to continue playing a role in delivering these new services.

Study	Category of impact	Description
submarine cable network in LAC[102] (2023)	quality; GDP; jobs	(Uruguay), between 2023 and 2027 the cables were forecast to decrease latency by 9.7% and IP transit prices by up to 33.4%, and forecast to increase mobile internet users by 9%, mobile data traffic by 241%, and bandwidth per user by 93.8%.
Analysys Mason study on the economic and social impact of Meta's submarine cables in APAC[103] (2022)	Traffic; internet users; GDP; jobs	The submarine cables in which Meta has invested in Asia–Pacific (APAC) were forecast to drive USD422 billion in additional GDP between 2021 and 2025, supporting up to 3.7 million additional jobs. The cables were forecast to increase the region's total predicted traffic in 2025 from 2.1ZB to 3.4ZB,[104] and one case study country (the Philippines) was forecast to see internet users rise by 7.1% over this period due to the investments.
Analysys Mason study on the economic impact of Google's APAC network infrastructure - 2022 update (2022)	Users; connectivity quality; GDP; jobs	Google's submarine cables in APAC were forecast to drive USD627 billion of additional GDP between 2022 and 2026, supporting 3.5 million additional jobs. The cables were forecast to enable 15–36% of additional internet usage, a 16–37% reduction in end user latency, a 4–37% reduction in IP transit prices, and a 6–38% increase in internet bandwidth.
Copenhagen Economics study on the economic impact of the forthcoming Equiano submarine cable in Portugal (2021)	GDP	The addition of the Equiano submarine cable to Portugal was forecast to increase Portugal's GDP by up to EUR500 million per year.
RTI International analysis of the economic impact of submarine internet cables in sub-Saharan Africa (2020)	GDP; jobs	The 2Africa submarine cable, led by Meta, was forecast to increase GDP in Africa by a total of USD26.2 billion to USD36.9 billion within 2 to 3 years of becoming operational. Looking backward, this study by RTI also included country-level case studies on historic submarine cable impacts, and found that a submarine cable landing in the Democratic Republic of Congo (DRC) from 2012 had led to a 19% increase in GDP per capita nationally and an 8.2% increase in employment in fibre-connected areas, and the landing of cables in South Africa in 2009 boosted its GDP per capita by 6.1% by 2014.

It is worth noting, however, that many of these studies dealt with countries or regions where the new submarine cables in focus were among the first to be deployed to those locations. This meant that the marginal benefit of these new cables would be higher than to locations which are already served

102 Latin America and the Caribbean (LAC).

103 Asia–Pacific (APAC).

104 A zettabyte (ZB) is equivalent to one trillion gigabytes (GB) and represents a significant amount of data. One zettabyte could holed 250 billion DVDs worth of data.

by a larger number of cables, including a few of the countries featured in this report. That said, Meta’s investment in submarine cables contribute to the benefits modelled above, as they help to deliver traffic to Meta-deployed PoPs and caches in these areas and also help to drive reductions in the price of international bandwidth.

Meta’s edge investments lead to improvements in internet infrastructure, supporting efficiencies for any increased data usage for individuals and businesses, while also helping ISPs to manage costs. The result is a significant increase in GDP and jobs, for investments (edge-related capital and operating expenditures by Meta) that cost a fraction of the benefits.

Annex A Methodology

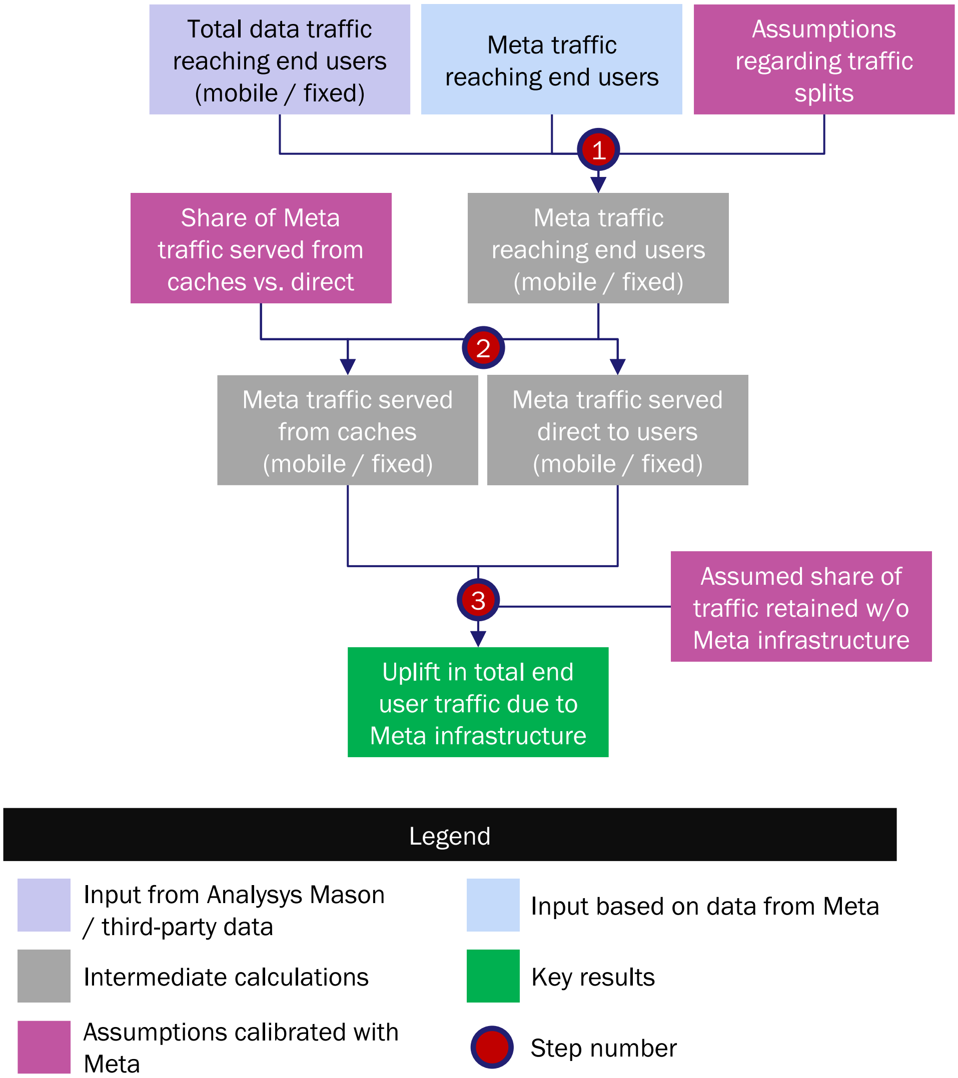
This annex details the methodology used to estimate the impact of Meta's investments in edge infrastructure.

The first half of this annex describes the process used to estimate the uplift in total end user traffic due to Meta's edge infrastructure. This traffic uplift is then converted to an uplift in usage (traffic per connection per month), which is then used in the second half of this annex to estimate the uplift in GDP, and also represent this GDP uplift in terms of the number of jobs that is typically associated with the corresponding amount of GDP.

A.1 Traffic uplift due to Meta's edge infrastructure investments

The following steps are taken to estimate the uplift in total end user traffic due to Meta's edge infrastructure (as illustrated in Figure A.1).

Figure A.1: Flowchart showing the methodology for estimating the uplift in total end user traffic [Source: Analysys Mason, 2025]



Descriptions of the key steps taken to estimate the traffic enabled by Meta's investments in edge infrastructure are as follows:

- **Step 1:** Data from third-party sources on total mobile and fixed data traffic in each country, as well as proprietary inputs from Meta regarding the amount of Meta-related traffic reaching end users in each country, are used to estimate Meta-related mobile and fixed traffic served to end users.

- **Step 2:** Meta traffic reaching end users is then split into traffic served from caches and traffic served directly to users, based on proprietary inputs from Meta. Understanding the amount of traffic that is served to end users from caches, as opposed to direct via PoPs, is important to estimating the amount of Meta-related traffic that would be retained in a scenario in which Meta had not deployed any infrastructure (see next step).

- **Step 3:** We estimate that traffic that is currently served directly to end users would continue to be served directly to end users in a scenario in which Meta had not deployed any infrastructure, as this volume of traffic largely relates to personalised content such as messages that users will always access directly through their ISP. For traffic that is currently served to end users via caches upon request (this accounts for the majority of traffic reaching end users, and reflects choices that users make to see videos and other static content), we have estimated that most, but not all of this traffic will continue to be served, given the popularity of Meta's content. In this scenario (without Meta infrastructure) ISPs will need to use more international bandwidth in order to facilitate the delivery of this content, and end users will experience higher latencies, resulting in a reduction in traffic given the general relationship between latency and user experience and willingness to use services and view content (in particular, video content).[105]

We have validated and supplemented these discussions with ISPs in the countries in this study who use the PoP and have their own caches.

A.2 GDP uplift and jobs enabled due Meta's edge infrastructure

Increased data usage per connection in a country is associated with increased GDP per capita. The uplift in data traffic due to Meta edge infrastructure, as estimated in the previous sub-section can then be converted into an uplift in overall data usage (i.e. traffic per connection per month). Based on economic research looking into the relationship between data usage and GDP per capita, this uplift in data usage can then be used to estimate the GDP per capita uplift and multiplying this by population data results in an increase in total GDP.

It is also possible to represent this increase in total GDP as a result of Meta's infrastructure in terms of the number of jobs that would typically be supported by the corresponding amount of additional GDP. This would be done by estimating the increase in GVA associated with the increase in GDP, and then using data on the typical GVA per job to calculate the corresponding number of jobs that is typically supported by the associated GVA.

The following steps are taken to estimate the GDP per capita uplift, total GDP increase, and corresponding jobs supported (via a GDP-to-GVA ratio and a ratio on GVA per job) due the Meta's edge infrastructure investments (as illustrated in Figure A.2).

105 See Amazon Web Services, *What is network latency?*; as well as Castr (2023), *Video latency: What is it and how does it matter in streaming?*

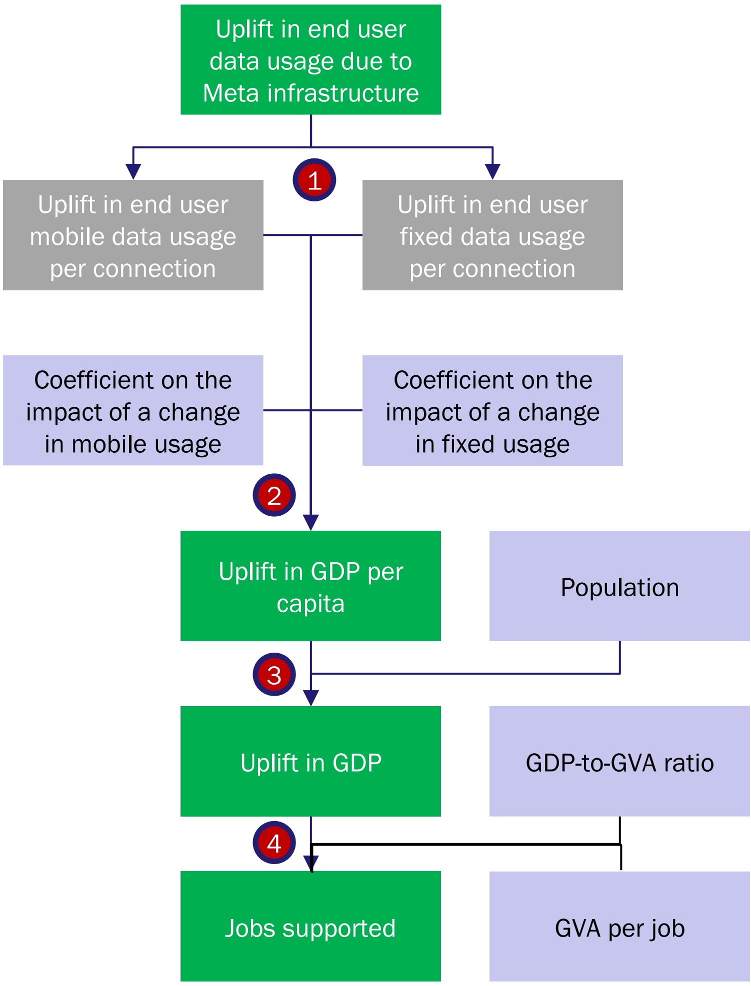


Figure A.2: Flowchart showing the methodology for estimating the impact on GDP and jobs [Source: Analysys Mason, 2025]

Descriptions of the key steps taken to estimate the GDP uplift and jobs enabled due to Meta's investments in Edge infrastructure are as follows:

- **Step 1:** The uplift in total end user usage is split between mobile and fixed data using information from traffic uplift calculations in the previous sub-section.
- **Step 2:** The uplift in GDP per capita is estimated by multiplying the uplift in total mobile and fixed end user data usage due to Meta edge infrastructure by a coefficient.[106] This is a global coefficient taken from a previous Analysys Mason study done for Meta (detailed in Annex B), and related to the link between increased data usage and GDP growth per capita, which differs for mobile and fixed data traffic.
- **Step 3:** The impact on GDP per capita is then multiplied to population data from Euromonitor to calculate the impact on total GDP in each country in each year, which compounds over time.

106 As explained further in Annex B, different coefficients are used for converting mobile and fixed data usage to GDP growth, reflecting the general differences in the usage of mobile and fixed broadband. The econometric model provides the same coefficients to be used across the nine countries.

- **Step 4:** The impact on total GDP can also be represented as the number of jobs that is typically supported by the corresponding amount of GDP. This is done by using data from Euromonitor to calculate a GDP-to-GVA ratio, as well as the typical GVA per job in each country, which are then in turn used to translate the annual uplift in GDP into the number of jobs that are typically supported by the corresponding amount of additional GDP.

These estimates of GDP uplift and jobs form this study’s view of the economic impact of Meta’s edge infrastructure in the nine countries of interest. This is a conservative estimate, as further economic benefits are brought by Meta’s investments in submarine cables and data centres around the world, but are not quantified here.

Annex B GDP growth model

The GDP growth multiplier that we used above in Section 5 comes from prior research that Analysys Mason conducted. We acknowledge funding for that study from Meta, and would like to thank Dr Robert Pepper, former Head of Global Connectivity Policy at Meta, for his support. Analysys Mason conducted this study independently, working with Professor Neil Gandal as an adviser. This annex details the results, methodology and data sources.

B.1 Overview

The economic impact of internet adoption has long been understood and analysed, with important implications for policy makers in ensuring broad access to broadband networks at affordable prices. In many countries, however, internet adoption has been slowing as markets are saturating. That does not mean, however, that the economic impact of the internet is slowing. Instead, as countries begin to saturate on internet adoption, usage may become a more important measure of connectivity, and in turn the quality of the online experience becomes critical. Increased investment in the connectivity value chain, as addressed above, can improve the online experience and drive increased data usage.

As a result, a focus on adoption as the main metric of connectivity and objective of policy is no longer sufficient, and it is increasingly important to focus on the economic impact of internet usage, to address the benefits from those who are already online. In order to address this observation, we used an econometric model to assess the impact of usage on GDP growth. We found that mobile and fixed usage have a significant impact on GDP growth, across a broad group of countries. This shows the economic benefits associated with an increased usage of the internet. These results provide an important tool for policy makers as internet connectivity increasingly becomes critical to economic growth.

We used what is known as an endogenous growth model to focus on the impact of increased data usage – fixed and mobile – on the year-on-year growth of GDP per capita. The set of countries covered in the study is made up of developed and developing countries across all world regions, with a total of 120 countries included, with data covering the period of 2014 to 2021. The countries include eight of the nine countries of interest featured in this study, along with other countries in the region.

The model indicates that data usage has a statistically significant impact on GDP growth, for both fixed and mobile usage. The results, shown below in Figure B.1 and Figure B.2 show the following coefficients: for mobile data usage 0.014 and for fixed data usage 0.016. These are elasticities, and thus multiplying the percentage increase in fixed or mobile data usage by the respective coefficient gives the percentage increase in GDP. We use these coefficients (as discussed in Annex A) to determine how the increase in data usage driven by the Meta edge investments increases GDP in the nine countries of interest across the time period.

B.2 Data sources

The data for this analysis is based on panel data from sources available to Analysys Mason as shown in Figure B.1.

Figure B.1: Key metrics [Source: Analysys Mason, 2022]

Category	Variable	Unit	Description	Source
Connectivity outcomes				
Usage	Mobile data traffic per capita	GB per month	Inward roaming data traffic originating on networks within a given country, including download and upload traffic, via handsets and other cellular network access equipment per capita.	Analysys Mason DataHub
Usage	Fixed data traffic per capita	GB per month	Average fixed internet traffic per broadband connection, at year-end – best-efforts IP data that traverses the public internet (downstream and upstream).	Analysys Mason DataHub
Economic variables				
GDP	Real current GDP per capita	USD	Real GDP per capita, based on 2020 prices and exchange rates.	Euromonitor
Macro-economics	Government expenditure	%	Government expenditure as a percentage of current GDP.	Euromonitor
Macro-economics	Total trade	%	Sum of exports and imports as a percentage of current GDP.	Euromonitor
Macro-economics	Employment rate	%	Number of employed persons as a percentage of population aged 15–64 in a country at a point in time.	Euromonitor

The set of countries covered is shown in Figure B.2.

Figure B.2: Countries covered in the study [Source: Analysys Mason, 2022]

Countries covered in the study					
Algeria	Colombia	Guatemala	Liberia	Panama	Sudan
Angola	Congo (DRC)	Guinea	Lithuania	Papua New Guinea	Sweden
Argentina	Costa Rica	Honduras	Madagascar	Paraguay	Switzerland
Australia	Côte d'Ivoire	Hong Kong	Malawi	Peru	Taiwan
Austria	Croatia	Hungary	Malaysia	Philippines	Tanzania
Azerbaijan	Cuba	India	Mali	Poland	Thailand
Bahrain	Czech Republic	Indonesia	Mexico	Portugal	Trinidad & Tobago
Bangladesh	Denmark	Iran	Mongolia	Qatar	Tunisia
Belgium	Dominican Republic	Ireland	Morocco	Romania	Türkiye

Countries covered in the study					
Benin	Ecuador	Israel	Mozambique	Russia	UAE
Botswana	Egypt	Italy	Myanmar	Rwanda	Uganda
Brazil	El Salvador	Jamaica	Namibia	Saudi Arabia	Ukraine
Bulgaria	Estonia	Japan	Nepal	Senegal	United Kingdom
Burkina Faso	Ethiopia	Jordan	Netherlands	Sierra Leone	United States
Burundi	Finland	Kazakhstan	New Zealand	Singapore	Uruguay
Cambodia	France	Kenya	Nicaragua	Slovakia	Uzbekistan
Cameroon	Gabon	Kuwait	Niger	South Africa	Venezuela
Canada	Germany	Laos	Nigeria	South Korea	Vietnam
Chile	Ghana	Latvia	Oman	Spain	Zambia
China	Greece	Lebanon	Pakistan	Sri Lanka	Zimbabwe

B.3 Methodology

The impact of the demand-side variables on GDP per capita is estimated using an endogenous growth model. The endogenous growth model uses data for the period of 2014 to 2021.

This endogenous growth model takes the form of:

- $Y\_(i,t)=\alpha+\rho Y\_(i,t-1)+\beta D\_(i,t)+\gamma Z\_(i,t)+\epsilon\_(i,t)$
  - $Y\_(i,t)$ is the GDP per capita in country i at year t;
  - $Y\_(i,t\text{-}1)$ is the GDP per capita in country i at year t-1;
  - $D\_(i,t)$ is the data usage in country i at year t;
  - $Z\_(i,t)$ are macroeconomic variables (government expenditure as a share of GDP, trade as a share of GDP and employment rate) in country i at year t and
  - $\epsilon\_(i,t)$ is the error term in country i at year t
  - α, ρ, β and γ are parameters to be estimated

The parameters were estimated through Stata's "xtabond" procedure, and we performed an Arellano-Bond test to ensure that the assumptions of the model are met. We include the macroeconomic variables in order to control for other key variables affecting economic growth.

B.4 Results

B.4.1 Endogenous growth model – mobile usage only

Figure B.3: Endogenous growth model – mobile usage only [Source: Analysys Mason, 2022]

	Results
Observations	507
Coefficient	
GDP per capita at time t-1	0.408 (6.21)***
Internet user penetration	–
Mobile data traffic per capita	0.016 (5.90)***
Fixed data traffic	–
Government expenditure (% of GDP)	–0.111 (–3.54)***
Total trade (% of GDP)	0.017 (1.51)
Employment rate	0.504 (5.79)***

Reported as coefficient (z-statistic) significance (*** 99%, ** 95%, * 90%)

B.4.2 Endogenous growth model – fixed usage only

Figure B.4: Endogenous growth model – fixed usage only [Source: Analysys Mason, 2022]

	Results
Observations	232
Coefficient	
GDP per capita at time t-1	0.747 (11.99)***
Internet user penetration	–
Mobile data traffic per capita	–
Fixed data traffic	0.014 (3.25)***
Government expenditure (% of GDP)	–0.188 (–5.94)***
Total trade (% of GDP)	0.043 (2.12)**
Employment rate	0.097 (1.79)*

Reported as coefficient (z-statistic) significance (*** 99%, ** 95%, * 90%)