Meta

Public Consultation BoR (22) 87 Draft BEREC Report on the Internet Ecosystem

Meta Response

Introduction and Executive Summary

Meta welcomes the opportunity to engage with and support BEREC as it seeks to understand how users' internet experience is affected by the different elements of the ecosystem. Meta believes that BEREC plays an important role in helping to ensure the harmonised and evidence-based application of regulation in communications markets in the EU.

Meta builds technologies that help people connect, find communities and grow businesses. As part of the move towards the metaverse, Meta will collaborate with policymakers, experts and industry partners to bring this vision to life. Connectivity is therefore an integral part of Meta's mission to bring people closer together. More broadly, while operators were able to cope with the additional capacity placed on their networks during the COVID-19 pandemic, it showed the heightened demand from consumers for good quality digital connection.[1]

Meta also invests in digital infrastructure which is crucial to the delivery of services to consumers and businesses around the world. Meta contributes to enhancing global connectivity and internet infrastructure by bringing content closer to users and alleviating global data transport costs for operators, for example, by making investments in submarine cables, data centres, edge network infrastructure, terrestrial fibre, and driving open industry standards in telecoms.[2]

However it is important to understand that Meta is only a small part of a wider highly dynamic, fragmented and differentiated ecosystem that includes other content and application providers (CAPs) of all sizes, telecoms providers, device manufacturers, software developers, application stores and others. Meta's connectivity infrastructure is intended to ensure that Meta's users (who are also the paying customers of telecommunications providers) can access the content and services they want as quickly and efficiently as possible. Meta's infrastructure therefore **complements rather than competes with the infrastructure of telecommunications providers**.

This submission provides a brief overview of the following points raised in the draft report:

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[1] See for example the series of articles from Deutsche Telekom highlighting its ability to cope with increased connectivity demands during the Covid pandemic: https://www.telekom.com/en/careers/work-in-action/inhouse-consulting/trafo-talk/impact-of-covid-19-how-does-deutsche-telekom-react-part-1-600466.

[2] See, for example, the Telecom Infra Project (TIP) which is a global community of companies and organizations working together to accelerate the development and deployment of open, disaggregated, and standards-based technology solutions that deliver the high quality connectivity that the world needs – now and in the decades to come.

1. The importance of connectivity and an open internet;
2. Meta's infrastructure investments and their role in supporting the internet ecosystem;
3. IP interconnection as a vital gateway to providing high quality content and services to users; and
4. The intense, dynamic competition facing Meta's services.

1. The importance of connectivity and an open internet

Access to the internet is increasingly important throughout the world as a means for people to communicate, learn, work, trade and participate fully in everyday life. People use the internet to access content and services that can be provided from anywhere in the world, allowing connections between friends, businesses and customers that were unimaginable a generation ago. These connections are achieved through an interconnected web of networks that enable information to be exchanged easily and efficiently between a shopkeeper in Ljubljana, a supplier in Krakow and a customer in Dublin.

As noted by BEREC, telecommunications providers play a substantial role in the internet ecosystem as providers of internet access services (IAS), which act as the vital gateway between end users and business users such as CAPs. Meta is a strong supporter of net neutrality and believes it is critical for keeping the internet open for everyone. Maintaining strong net neutrality principles ensures consumer choice while preserving the ability of the entire internet ecosystem to innovate. Meta therefore strongly agrees with BEREC's view that net neutrality represents a vital "*building block in the EU telecom rules*".[3]

2. Meta's infrastructure investments help support the wider internet ecosystem

In order to deliver on its mission to help over 3 billion users connect, find communities and grow businesses around the world, Meta invests in global connectivity infrastructure. Meta's infrastructure investments are summarised below.

<u>Data Centres</u>

Meta's fleet of data centres power Meta's apps and services, making it possible to connect billions of people worldwide. Meta opened its first owned and operated data centre in the US in 2011. Today, Meta has a total of 21 data centre locations around the world, including 3 in Europe (Ireland, Denmark and Sweden).[4]

Meta builds and operates some of the world's most sustainable data centres and adds new renewable energy to each data centre's local grid. Meta data centres have achieved net zero carbon emissions, are LEED® Gold level certified, and are supported by 100% renewable

[3] BEREC Work Programme 2022, BoR (21) 175, Chapter 2.
[4] For more information on Meta's data centres, see https://datacenters.fb.com/

energy. They use 32% less energy, are 80% more water-efficient on average than industry standard, and we are committed to restoring more water than we consume by 2030.[5]

High Capacity Fibre Networks

Meta's fibre investments are usually made in collaboration with telecommunication provider partners and cover subsea cable systems and terrestrial fibre networks:

- **Subsea cable systems:** Submarine cables are designed to transport data over long distances, using international fibre links laid along the seabed between and around continents. Meta is an investor and developer of new submarine cable systems as part of consortia with telecommunication providers and other investors on an open access basis. Meta is also a purchaser of capacity on existing cable systems around the globe.[6]

- **Terrestrial fibre networks:** Meta transports data over short and long distances using national and international terrestrial fibre. These networks link Meta's data centres, Points of Presence (PoPs), cable landing stations and other critical sites to create a global network.

These investments provide important benefits to the internet ecosystem:

- They **lower telecommunications service providers' costs** by reducing the need for providers to invest in national and international connectivity because Meta has built and paid for long-distance transportation networks to carry its own traffic. IAS providers only need to connect to Meta's local PoP - usually in the nearest major metropolitan area - to receive and deliver the data services requested by users of Meta's applications. IAS providers do not therefore need to pay for international data transport in any country that has a Meta PoP.

- Meta's investments in international capacity also **create new cables and new routes** which provide opportunities for telecommunications service providers to enhance or expand their own networks. In many cases, these opportunities would not exist but for Meta's investment, risk taking and development leadership. For example, development of the 2Africa submarine cable system was initiated and led by Meta. The system connects 3 continents, including Europe, and lands in 33 countries. The first European landing took place in Genoa, Italy in April 2022; with other landings in Spain and France to follow[7]. 2Africa would not exist without Meta's financial commitment and leadership, and when seeded in this way, it has created the opportunity for many telecommunication

[5] https://sustainability.fb.com/data-centers/
[6] See for example Anderson, B. J., Merker, J., Wagstaff, J., Brower, A. O., Lakhani, R., & O'Connor, A. C. (2021), *Economic impact of Meta's subsea cable investments in Europe,* RTI International, available at https://www.rti.org/publication/economic-impact-metas-subsea-cable-investments-europe
[7] https://about.fb.com/news/2022/04/2africa-subsea-cable-makes-first-landing-in-genoa-italy/

service providers to purchase capacity on the system and improve their own international connectivity.

- Because of the **shared and open access ownership model**, telecommunications partners can make smaller investments for smaller capacity units that better meet their needs, rather than having to fund an entire system, or a disproportionate part of a system. By increasing the supply of submarine capacity available at multiple landing points, and by investing at a scale that can achieve significant scale economies, Meta's investments such as 2Africa reduce the unit cost of capacity for telecommunications service providers, which results in a combination of better broadband services and lower prices for end users, increasing the quality and affordability of broadband services over time. In addition, in all 2Africa cable landings, capacity will be available to service providers on a fair and equitable basis, encouraging and supporting the development of a healthy internet ecosystem.[8] These benefits are not unique to the 2Africa system. Meta is a significant or lead investor in a number of submarine systems landing in Europe, with more planned, all of which use a similar shared ownership and open access model. Crucially this open access model offers telecommunication service providers the chance to enhance or expand their networks on systems that would not exist but for Meta's investment leadership.

- Investment in new terrestrial and submarine cables also creates benefits in terms of **increased resilience and reduced latency**. New routes can be used to improve the number and diversity of paths used to carry traffic within a region, and to and from other regions. This network diversification enhances service reliability when a cable experiences faults and reduces the cost and the latency of links to newly connected locations compared to existing routes.

Edge Networks

In order to receive content from Meta and provide it to requesting users, an IAS provider needs to establish a connection to Meta's internal private network. Meta's investments across a variety of edge network elements, including PoPs, caches and IXPs, allow IAS providers and telecom service providers to access content on Meta's platform at locations closer to their own networks.

In greater detail:

- **Meta's PoPs** enable the exchange of all types of traffic, including dynamic content such as a users' instant messages and video calls. Meta's private network transports content from its major data centres to its PoPs where it exchanges traffic with local networks. This allows parties that interconnect with Meta at a PoP to reduce their international connectivity and transit costs, because they no longer have to pay to bring the content into the region. As well as making it more economical for IAS providers to serve Meta traffic, the PoPs allow Meta to improve the performance, reliability, security and

[8] https://about.fb.com/news/2022/04/2africa-subsea-cable-makes-first-landing-in-genoa-italy/

resilience of its service delivery. These benefits are experienced by the customers of IAS providers as better quality connectivity.

- **Cache servers** are intelligent storage appliances (a type of computer server) which are deployed close to end users and replicate static content (e.g. photos, videos, thumbnails, text, ads) that would otherwise be stored in large data centres. They store popular content that is requested by end users, so that it can be served efficiently to other users at a later time. The effect of local caching is to reduce overall traffic delivery, reduce costs and improve user experience by reducing latency.

- While of lesser importance, Meta also deploys equipment at **IXPs** operated by third parties, which enable multiple operators to exchange traffic with one another and access content from a common Meta cache. This can eliminate infrastructure duplication, as well as the need to use international transit to exchange traffic in other countries, thus reducing the costs and latency involved in delivering content requested by end users.

Meta operates PoPs and/or caches in virtually every country in Europe (including EU and non-EU countries). This results in substantial reductions in data transport costs for IAS providers in Europe.

Impact on the internet ecosystem

Meta's investments in high capacity transport networks and edge networks free up capacity for telecom service and IAS providers' networks to carry more traffic from other online service and content providers, while also reducing the need to upgrade networks. Overall, Meta's investments make data cheaper and more affordable for end users, which drives growth in overall Internet usage. Similarly, as the lead developer and investor in a number of subsea cable systems, Meta's investments make subsea cable projects economically viable for other network providers. Meta's investments thus expand broadband capacity for a vast array of uses.

It is important to note that Meta's high capacity transport networks and edge network are not deployed in order to supply services to third parties. All of these facilities are used exclusively by Meta to transport data between its data centres and edge network as efficiently as possible. In contrast to telecommunications and IAS service providers, as well as other parties active in the internet ecosystem, Meta's private network is used solely for internal purposes. Meta does not provide virtual network, CDN, cloud computing services or IAS to end users or other third parties. **Meta therefore acts as a complement and not a competitor to telecommunications service and IAS providers** for those services.

Finally, it is important to recognise that Meta is present in only a relatively small number of elements in the internet ecosystem. As recognised by BEREC in its analysis in Chapter 5, Meta is only present in 4 of the 20 elements analysed. This contrasts with 9 elements for Apple (including, crucially, a very strong presence in the App Store, OS and Device elements), 13 for Amazon, 15 for Microsoft and 17 for Google. As such, Meta would strongly disagree with

BEREC's assertion that it should be grouped together with other "Big Tech" companies or labelled as being "*present across practically all of the elements in the internet ecosystem*".

3. IP interconnection is a vital gateway to providing high quality content and services to users

When an end user requests access to a piece of content or a service online via their IAS provider, their request and the response often pass through multiple separate networks. These networks must be able to communicate with one another, either directly or indirectly through other networks.

The exchange of traffic between these interconnected networks relies on arrangements that fall broadly into two categories: (1) **transit** provides access to all internet destinations and is generally charged based on data volumes, while (2) **peering** only provides reciprocal and mutually beneficial access between two networks, usually on a settlement free basis. Generally, interconnection is established either through a bilateral arrangement to exchange traffic at a dedicated PoP, or through a multilateral arrangement where multiple networks connect into an IXP.

As the data volumes requested by users of a particular CAP increase, direct peering is generally preferred to transit due to cost and quality factors. Peering is therefore the way in which Meta interconnects with most telecommunications providers in order to provide its traffic to end users as efficiently as possible at the user's request. Crucially it is in Meta's interests (and those of third party networks) to connect with as wide a variety of networks as possible in order to ensure the optimum balance of cost and efficiency. For example, Meta currently connects with thousands of networks across 36 peering sites in 28 cities in Europe.[9]

Despite recent calls from some incumbent telco providers for some form of regulatory intervention in this space, Meta has consistently taken the view that there is no general market failure in peering and transit, and hence no EU-wide regulatory intervention is required. This is because the relationship between IAS providers and CAPs is fundamentally mutually beneficial and symbiotic. In particular:

- CAPs provide traffic to IAS providers **at the request of their users**, with those users in turn paying IAS providers for access to content from CAPs. Users generally pay IAS providers more the greater the speed and bandwidth of their internet connection.

- As a result of these mutual benefits, **settlement free peering is customary in the market**. This can be contrasted with transit where a fee is usually charged given it provides connectivity to other third party networks anywhere on the internet and is not reciprocal in the same way as peering.

[9] For further information, see https://www.peeringdb.com/asn/32934

- In any event, as described above, **substantial network investments by CAPs have reduced IAS provider costs**. Meta and other CAPs deliver the data requested by IAS providers' end customers to local interconnection points in the EU and exchange it there. IAS providers benefit directly from these investments, since they no longer have to transport the data of their end customers to data centres located outside of Europe and back again.

There is therefore no reason for additional funding to be provided by CAPs to IAS providers; end users have already paid the relevant IAS provider for the use of and costs related to their infrastructure. Requiring CAPs to make additional contributions would result in double payment: IAS providers would in effect be selling (and recovering the costs of) the same service twice.

This position is supported by evidence in terms of market outcomes and numerous investigations, including by BEREC (2017)[10], Analysys Mason (2020)[11] and WIK-Consult (2022)[12].

Notwithstanding Meta's overall view that interconnection generally functions well, there may be rare cases where issues arise - for both large and small CAPs. These problems generally arise as a result of restrictive peering practices adopted by certain providers and the fact that IAS providers each have a termination monopoly in respect of their own users. For example, the 2022 WIK-Consult study for BNetzA describes a practice in which some IAS providers refuse settlement free peering and instead demand the conclusion of paid IP transit agreements as "*exploitation of the termination monopoly to levy network charges*":

> "*Often ISPs control all routes into their network and determine capacity and price for all routes. When content is re-routed, for example, the transit capacities at the network gateways may not be sufficient to accommodate the newly induced (large) volumes of traffic. The result would be congestion and a drastic drop in quality for the end customer. Thus, the way for ISPs to get a CAP to pay network charges would be to 'congest' (i.e. leave undersized) all alternative routes (by transit ISPs) into the ISP's network. Such restrictive interconnection policies would result in poorer end-user quality for all CAPs not directly connected. Secondly, CAPs would be faced with the alternative of either paying network charges or accepting network congestion and quality degradation*." (Section 2.2)

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[10] BEREC Report on IP-Interconnection practices in the Context of Net Neutrality, 2017. https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/7298-berecreport-of-the-public-consultation-on-berec-report-on-ip-interconnection-practices-in-the-context-of-net-neutrality

[11] Analysys Mason, IP interconnection on the internet: a white paper, May 2020. https://www.analysysmason.com/consulting-redirect/reports/ip-interconnection-korea-white-paper

[12] WIK, Peering and transit markets, 2022. https://www.bundesnetzagentur.de/EN/Areas/Telecommunications/Companies/Digitisation/Peering/start.html. Concerns around the position expressed by incumbent telco providers have also been set out by 34 civil society organisations from 17 countries. See: https://edri.org/our-work/the-european-commission-threatens-to-undermine-the-core-values-of-the-free-and-open-internet/

The WIK-Consult study also summarises the Dutch regulator ACM's conclusions when investigating interconnection disputes follows:

> "*The capacity of Tier 1 peering interconnections has been (artificially) scarce in order to prevent the use of (partial) transit over these networks from becoming a substitute for direct interconnection with DT. Transit competition was disturbed in order to impose excessive prices for direct interconnection.*" (Section 5.1)

Meta therefore agrees with BEREC that there may be a relatively small number of instances where the market does not function as well as it should, despite the mutual benefits provided by interconnection described above. This can be the case notwithstanding the size or perceived bargaining power of the relevant CAPs.

4. Meta's services face intense, dynamic competition

While BEREC recognises that there are many different applications that are designed to capture consumers' attention for long periods of time, the draft report focuses only on a very small selection of them, namely social networks and video-sharing platforms. A much deeper analysis would be required to understand the competitive dynamics at play.

In reality, Meta competes vigorously against many other services across the world for people's time and attention, as well as for advertising spend. As the internet has grown over the last 25 years, the ways in which people share and communicate have exploded thanks to dynamic competition and low barriers to entry and expansion. In particular:

- Meta competes with a wide and ever-increasing range of apps for sharing, discovery, connection, and communication. For example, two million apps were released in 2021, bringing the total ever released to 21 million across both the Apple App Store and Google Play.[13]

- Additionally, apps do not necessarily compete only against apps with similar functionality. As Reed Hastings noted when explaining why Netflix's engagement increased 14% during Facebook's October 4, 2021 outage, apps like Facebook and Netflix compete "*with a staggeringly large set of activities for consumers' time and attention*."[14]

- Competition among app developers is robust. In 2021, the most downloaded app was TikTok, a social networking and messaging app which also was the leading app in data.ai's "Social" category by time spent in the United States and worldwide. Other global top-10 apps by downloads in 2021 included messaging services such as Telegram, Snapchat and Zoom.[15]

[13] Data.ai State of Mobile 2022 at 9, available at https://www.data.ai/en/go/state-of-mobile-2022
[14] Netflix, Inc., Q3 '21 Shareholder Letter at 6 (Oct. 19, 2021), https://s22.q4cdn.com/959853165/files/doc_financials/2021/q3/FINAL-Q3-21-Shareholder-Letter.pdf
[15] Data.ai State of Mobile 2022, available at https://www.data.ai/en/go/state-of-mobile-2022

- Consumers switch and multi-home between multiple apps and websites. A 2021 survey by the German Bundesnetzagentur (BNetzA) showed that 73% of users of a messaging service use at least two different services in parallel, while on average users use three different messaging services.[16] Similarly, a report from data.ai notes that "*In H2 2020, the average consumer had 110 apps installed, an increase from 87 apps during the same period 2 years ago. [...] Of the 10 communication apps downloaded, 5 are actively used monthly to stay connected.*"[17]

It is also important to recognise that, despite having some of the most popular apps in the world, Meta's ability to innovate on its products and services and even reach its customers is determined, and in some cases, significantly limited, by the most popular mobile operating systems, such as Apple's iOS. For example, Apple's App Tracking Transparency (ATT) framework degrades the free, ad-supported app ecosystem by impairing developers' ability to personalize ads and to measure ads' effectiveness, thereby restricting third-party apps in ways that reduce consumer choice and market competition.

In relation to messaging services specifically, BEREC alleges that "*lack of competition may also result by way of inefficiencies through imposed terms and conditions, exacerbated collection of data or little security and reliability*". The basis for BEREC's view is unclear. Indeed, Meta respectfully notes that there is very limited connection between alleged levels of concentration or competitiveness of a market and levels of privacy, security or reliability[18]. Moreover, this fails to recognise that number-independent interpersonal communications services (NI-ICS) must comply with GDPR and have also been recently subject to increased levels of regulation in this space. In particular, the European Electronic Communications Code (EECC) imposes requirements - not just on traditional communications services but also on NI-ICS - in terms of consumer transparency obligations, management of risks and disclosure obligations related to security of service, and protection of communications confidentiality.

Many of BEREC's potential concerns in relation to these markets are therefore already being addressed through a combination of existing regulations, such as GDPR and EECC, and new regulations, such as the Digital Markets Act (DMA) and others. Given BEREC's valuable regulatory experience, Meta welcomes its role in ensuring the objective and harmonised application of these regulatory instruments.

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16 https://www.bundesnetzagentur.de/SharedDocs/Pressemitteilungen/EN/2022/20220127_Komunikationsdienste.html

17 Data.ai Consumers Increasingly Choose to Use Similar Apps for their Mobile Needs, https://www.data.ai/en/insights/market-data/similar-apps-report/

18 ee, e.g. FTI "Corporate Data Privacy Today: A Look at the Current State of Readiness, Perception and Compliance"; Akman, Pinar, A Web of Paradoxes: Empirical Evidence on Online Platform Users and Implications for Competition and Regulation in Digital Markets (March 29, 2021); Iansiti, Marco. "The Value of Data and Its Impact on Competition." Harvard Business School Working Paper, No. 22-002, July 2021.

Meta

Conclusions

In conclusion, Meta welcomes the opportunity to engage with and support BEREC as it seeks to understand how users' internet experience is affected by the different elements of the ecosystem and would highlight the following:

- Meta is a **strong supporter of net neutrality** and believes it is critical for keeping the internet open for everyone.

- Meta's **investments in high capacity and edge networks act as a complement to those of telecommunications providers and are highly beneficial to the ecosystem**.

- Given its **relatively limited presence in the ecosystem** compared to other parties, Meta strongly disagrees with BEREC's assertion that it is active across "*practically all of the elements*" of the ecosystem or that it should be grouped together with other "Big Tech" companies.

- **IP interconnection generally works well due to mutual benefits**, although there may be a relatively small number of instances where it does not function as well as it should.

- **Meta's services are increasingly regulated and face vigorous and dynamic competition** for people's time and attention, as well as for advertising spend.

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