Meta

26. januar 2023

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Sklic: **Javno posvetovanje o dodatku k Načrtu razvoja gigabitne infrastrukture do leta 2030 (381-55/2022)**

Podjetje Meta z zadovoljstvom podaja naslednje pripombe na dodatek Osnutka Načrtu razvoja gigabitne infrastrukture do leta 2030 (»Načrt«) Službe Vlade Republike Slovenije za digitalno preobrazbo. Podjetje Meta čestita slovenski vladi za usmerjanje in podporo razvoju infrastrukture, ki bo omogočila **gigabitno povezljivost vsem gospodinjstvom, podjetjem in spodbujevalcem socialno-ekonomskega razvoja** (šolam, prometnim vozliščem, digitalno intenzivnim podjetjem ter glavnim ponudnikom javnih storitev), ter hkrati **neprekinjeno pokritost z omrežjem 5G vseh urbanih in drugih naseljenih območij ter glavnih prizemnih prometnih poti**"[1].

Da bi ta pomemben cilj lahko dosegli, podjetje Meta meni, da bodo Slovenci potrebovali gigabitno Wi-Fi, ki porazdeli gigabitno povezljivost znotraj prostorov. Spekter brez licence je ključen za omogočanje tako omrežja 5G kot naslednje generacije širokopasovnega omrežja. Z razvojem mobilnih in Wi-Fi tehnologij ter njihovim nadaljnjim vključevanjem za izpolnjevanje zahtev brezžične in mobilne komunikacije se bo zahteva po spektru brez licence samo še večala. Omrežja 5G bodo kritična za mobilno povezljivost, medtem ko bo Wi-Fi ključnega pomena za povezovanje s širokopasovnim omrežjem znotraj prostorov zaradi kakovosti storitve in nižjih stroškov.

[1] Načrt za razvoj gigabitne infrastrukture do leta 2030. https://www.gov.si/assets/vladne-sluzbe/SDP/javne-objave/Nacrt-razvoja-gigabitne-infrastrukture-do-leta-2030.pdf

Kot je navedeno v Načrtu, si je Slovenija zastavila pomembne cilje in ukrepe na področju razvoja gigabitne infrastrukture, ki jo bodo uvrstili med najbolj digitalno napredne države do leta 2030. Strateški cilji za Republiko Slovenijo na področju razvoja gigabitne infrastrukture so:

1. **Gigabitna povezljivost za vse spodbujevalcev socialno-ekonomskega razvoja, kot so šole, kulturne ustanove, prometna vozlišča ter glavne ponudnike javnih storitev in digitalno intenzivna podjetja do leta 2025**;
2. Neprekinjena pokritost z omrežji 5G za vsa urbana območja ter vse glavne kopenske prevozne poti do konca leta 2025;
3. **Internetni dostop z hitrostjo vsaj 100 Mb/s do uporabnika, ki ga je možno nadgraditi v gigabitno hitrost, in sicer za vsa gospodinjstva v podeželskih območjih in mestih do konca leta 2025**;
4. **Gigabitna povezljivost za vsa gospodinjstva, podjetja in druge spodbujevalce socialno-ekonomskega razvoja v podeželskih in urbanih območjih do konca leta 2030**;
5. Pokritost vseh naseljenih območij z omrežjem 5G do konca leta 2030.

3 od 5 ciljev Slovenije obsegajo izvedbo fiksne gigabitne povezljivosti. Od gigabitne povezave Wi-Fi to zahteva zmožnost oddajanja takšne gigabitne povezljivosti v prostorih. Najboljši način za kar največji izkoristek učinka javne naložbe Slovenije je zagotoviti, da lahko končni uporabniki gigabitni Wi-Fi izkoristijo. Omrežja RLAN skupnostim in javnim akterjem omogočajo zagotavljanje lokalne povezljivosti skladno z lastnimi potrebami. To vključuje možnost avtorizacije dostopa brez potrebe po upravljanju kartic SIM (fizičnih ali virtualni), vzdrževanja nadzora nad infrastrukturo in kakovostjo storitve (QoS), omogočanja dostopa do največjega nabora naprav (vključno s prenosnimi računalniki) ter povečanja cenovne dostopnosti in nadgradljivosti.

Glede na podatke, ki jih je objavilo več držav v Evropi, se največ povpraševanja po podatkih odvije v prostorih, kjer je približno 90 % prometa posredovanega prek fiksnih omrežij[2], kar pomeni, da je povezava prostorov na gigabitna omrežja ključna. Program EU »Pot v digitalno desetletje« (DDPP), ki zastavlja cilje glede gigabitnih omrežij za Evropo, določa cilje gigabitne povezljivosti na omrežni priključni točki v poskusu zastavljanja jasnih ciljev in natančne opredelitve odgovornosti. Vendar pa tudi namiguje, da so končni uporabniki odgovorni za zagotavljanje zadnjega preskoka gigabitne povezljivosti od omrežne priključne točke do terminalov. Program DDPP prinaša gigabitno povezljivost do prostora, končni uporabnik pa bo

[2] Podatki, ki jih navajata španski CNMC in nemški BNetzA, kažejo, da razmerje med fiksnim in mobilnim prometom ostaja presenetljivo stalno (2012 – 2021), kjer fiksni promet prispeva 94 % k celotnemu prometu, mobilni promet pa samo 6 % k celotnemu prometu v letu 2021. Čeprav so Italija, Romunija in Avstrija šele nedavno začele poročati o fiksnem in mobilnem prometu, pa skupna količina podatkov z Nemčijo in Španijo kaže, da je leta 2021 fiksno omrežje dostavilo 215 eksabajtov (EB), mobilna omrežja pa 23 EB, tj. več kot 90 % prometa je bilo dostavljenega preko fiksnih omrežij.

odgovoren za porazdelitev takšne povezljivosti znotraj prostora. Omogočanje Wi-Fi v polnem pasu 6 GHz bi znatno izboljšalo kakovost storitve povezljivosti v prostorih.

Z 90 % internetnega prometa v EU, dostavljenega preko fiksnih omrežij, mobilne naprave (prenosni računalniki, mobilni telefoni in tablice) običajno izkoristijo Wi-Fi za povezavo s fiksno internetno dostopno točko. Poročilo podjetja ASSIA »State of Wi-Fi«[3] za organizacijo Dynamic Spectrum Alliance navaja meritve komercialnih omrežij deleža fiksnega širokopasovnega prometa, ki se konča preko Wi-Fi v Evropi. Podjetje ASSIA poroča, da se 92,3 % fiksnega širokopasovnega prometa v EU zaključi preko Wi-Fi. Na splošno to pomeni, da se več kot **80 % internetnega prometa v EU prenaša preko Wi-Fi, medtem ko je manj kot 10 % dostavljenega preko mobilnih omrežij**, preostali promet pa se prenaša preko kablov, kot je Ethernet.

Kljub vse večji odvisnosti od tehnologij brez licence, kot je Wi-Fi, in njeni osrednji vlogi za porazdelitev gigabitne povezljivosti znotraj prostorov, pa ostaja spekter, dodeljen za Wi-Fi, enak kot je bil pred 12 do 15 leti. Radiofrekvenčni spekter v pasu od 2,4 GHz do 5 GHz hitro postaja prezaseden. Danes novejše tehnologije Wi-Fi uporabljajo veliko širšo kanalizacijo za zagotavljanje širokopasovnih potreb potrošnikov in podjetij ob sprejemu digitalnega prehoda. Na primer, najnovejša generacija tehnologije Wi-Fi, Wi-Fi 6E, lahko uporablja radijske frekvence v širini od 80 do 160 MHz. Prihodnja generacija tehnologije Wi-Fi, ki je že v končnih fazah razvoja, bo uporabljala 320 MHz kanale[4].

Pas 6 GHz je edinstveno primeren za zmanjševanje prezasedenosti in podporo prihodnji rasti Wi-Fi zaradi svojih lastnosti širjenja in bližine obstoječim postavitvam Wi-Fi v pasu 5 GHz. Še pomembneje, celotni pas 6 GHz ponuja sosednje bloke spektra za zagotovitev sedmih kanalov 160 MHz, ki so potrebni za aplikacije z veliko pasovno širino, kot je pretočno predvajanje videoposnetkov v visoki ločljivosti ter aplikacije z manjšo zakasnitvijo, kot je razširjena resničnost/virtualna resničnost (AR/VR). Na mednarodni ravni so ekosistemi Wi-Fi 6E in 7 zasnovani s predpostavko dostopa do celotnega pasu od 5945 do 7125 MHz, saj so ZDA, Kanada, Brazilija, Koreja, Savdska Arabija in mnoge druge zahodne države[5] odprle ali nameravajo odpreti pas za Wi-Fi.

AR/VR je kritična uporaba naslednje generacije, ki se zanaša na spekter brez licence za primere uporabe v prostorih in kot povezavo med napravami, ki jih nosimo (kot so AR-očala), in

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[3] State of Wi-fi Reporting https://dynamicspectrumalliance.org/wp-content/uploads/2021/06/ASSIA-DSA-Summit-Presentation-v7.8.pdf

[4] "Wi-Fi 6 Certified, Capacity, efficiency, and performance for advanced connectivity," Wi-Fi Alliance, https://www.wi-fi.org/discover-wi-fi/wi-fi-certified-6. There are a number of technological improvements contained in Wi-Fi 6 that make this generation of technology the most spectrally efficient version of Wi-Fi in history, including multi-user MIMO, beamforming and "target wake time" to improve network efficiency and device battery life. When deployed in 6 GHz, Wi-Fi 6 will be calledWi-Fi 6E.

[5] More recently, Colombia and the Dominican Republic opened the full 6 GHz for license-exempt devices.

pametnim telefonom. V nasprotju s tem, kar je določeno v Načrtu, za virtualno in razširjeno resničnost ni pričakovati zahteve po znatni razširitvi kapacitete javnih mobilnih omrežij, saj je uvedba takšnih omrežij draga in ne zagotavlja ustrezne izvedbe za podporo porastu takšnih storitev. Čakanje, da bi mobilno omrežje lahko podprlo takšne aplikacije, bi povzročilo desetletja dolge zamike, te storitve pa bi postale cenovno nedostopne. Nasprotno pa se pričakuje, da bo povezljivost z optičnimi vlakni podprla veliko večino takšnih aplikacij, mobilna širokopasovna povezava pa bo v pomoč, kadar optična vlakna in Wi-Fi nista na voljo. AR/VR bosta verjetno sloneli na fiksni in mobilni infrastrukturi, popolnoma enako, kot je to pri trenutnih internetnih aplikacijah, tj. 90 % prek fiksne infrastrukture (in Wi-Fi) ter manj kot 10 % prek mobilne.

Fiksni brezžični dostop (FWA) lahko prispeva k ciljem Načrta razvoja gigabitne infrastrukture do leta 2030, da oddaljene prostore poveže z gigabitnimi omrežji. Takšen gigabitni FWA je najlažje doseči z milimetrskimi valovi, zahvaljujoč veliki pasovni širini kanala in majhni širini snopa antene. Na enak način gigabitni FWA potrebuje gigabitni Wi-Fi za porazdelitev povezljivosti različnim napravam znotraj prostorov.

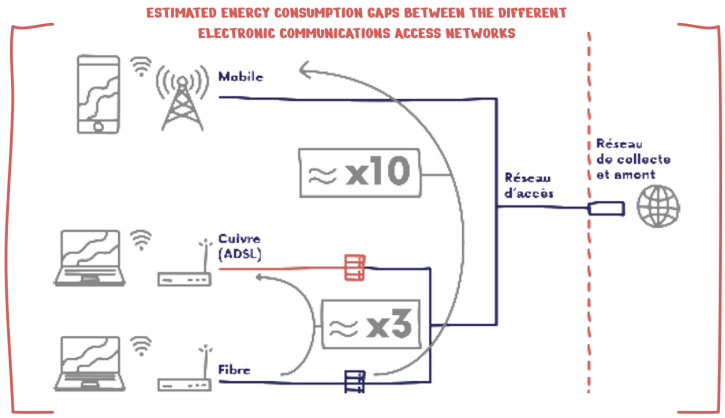
Mobilna omrežja 5G so izjemno pomembna za mobilno povezljivost, saj omogočajo aplikacije, ki zahtevajo povezanost uporabnika kjer koli. Kot je bilo pravilno določeno v programu EU DDPP in slovenskem Načrtu 2030, je najpomembnejši način za izboljšanje mobilne infrastrukture razširiti pokritost omrežij 5G, natančneje zagotavljanje vsenavzoče povezljivosti. Trenutni pasovi 5G, po definiciji, niso uporabljeni na območjih, ki niso pokrita z omrežji 5G. Pas 6 Ghz ne bo prispeval k pokritosti s 5G, saj so obstoječi pasovi 5G veliko naprednejši za zagotavljanje pokritosti in še vedno malo uporabljeni.[6] Slovenija bi morala operaterje mobilnih omrežij spodbujati k usmerjanju naložb v razširitev pokritosti mobilnih omrežij, namesto da naložbe za 5G preusmerjajo k konkurenci s fiksno infrastrukturo v urbanih območjih.

Treba je poudariti, da Wi-Fi končnim uporabnikom ne zagotavlja samo obilne in visoke kakovosti storitve, cenovno ugodne in zanesljive komunikacije, ampak je tudi okoljsko vzdržen, še posebno, ker izkorišča lastnosti nizke porabe energije omrežij iz optičnih vlaken ter brezžično komunikacijo na kratkih razdaljah. Sam digitalni sektor ima vse večji ogljični odtis, kar zastavlja vprašanje kako omogočiti digitalni prehod z kar najmanjšim vplivom na okolje. Na to temo je ARCEP izvedel temeljito analizo[7] različnih prispevkov elementov digitalne vrednostne verige. Največja poraba energije se odvije v dostopovnem omrežju. Na to temo ARCEP izpostavi, da je najboljši način za zmanjšanje okoljskega odtisa ohraniti promet na optičnem omrežju kar najdlje

[6] According to the 5G Spectrum Observatory, only 7% of 5G base stations use 3.6 GHz. The most common type of 5G base station makes use of 4G bands in a Dynamic Spectrum Sharing (DSS) configuration. See 5G Observatory at: https://5gobservatory.eu/wp-content/uploads/2022/10/QR-17-Final-v3-CLEAN.pdf

[7] ARCEP. Achieving Digital Sustainability. https://en.arcep.fr/uploads/tx_gspublication/achieving-digital-sustainability-report-dec2020.pdf

ter, v idealnih razmerah, vse do dostopnih točk Wi-Fi. ARCEP tudi izpostavlja, da optično in Wi-Fi omrežje potrebuje 10x manj energije na bit, kot mobilna omrežja; kot je prikazano spodaj.



Slika 1. Razlike v ocenjeni porabi energije med dostopovnimi omrežji elektronskih komunikacij

Zato je za Slovenijo najboljši način za podporo digitalnemu in zelenemu prehodu gospodarstva in družbe prav podpora sredstev povezljivosti, ki ustrezajo potrebam skupnosti, javnim akterjem in MSP, torej povezljivosti znotraj njihovih prostorov za veliko število uporabnikov, tj. Wi-Fi. Slovenija bi morala zagotoviti gigabitno povezljivost vsem gospodinjstvom in uporabnikom omogočiti porazdelitev te povezljivosti prek gigabitne Wi-Fi. Slovenija bi morala svojo podporo 5G usmeriti v svoj najpomembnejši cilj, to je povečati pokritost mobilnega omrežja 5G v obstoječih frekvenčnih pasovih 5G.

Zato podjetje Meta vlado vljudno prosi naj:

1. Razmisli o sprejetju pozicije »BREZ SPREMEMBE« za zgornji pas 6 GHz pri WRC-23 ter tako ustvari podlago za razpoložljivost celotnega pasu 6 GHz za postopke brez licence.
2. Razmisli o odprtju pasu 5945 – 7125 MHz za uporabo brez licence v podporo svojim ciljem načrta za širokopasovne povezave, kar bo Slovenijo uvrstilo med vodilne gigabitne države v Evropi.

Podjetje Meta je hvaležno, da je lahko prispevalo te pripombe ter pozdravlja možnost dodatnih pripomb v prihodnosti, kot odgovor na nadaljnja posvetovanja glede te zadeve ali drugih povezanih zadev.

S spoštovanjem,

Guillaume Lebrun
Global Connectivity Policy
Podjetje Meta Platforms

Meta

January 26, 2023

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Reference: **Public consultation on the Addendum to the 2030 Gigabit Infrastructure Development Plan (381-55/2022)**

Meta is pleased to submit the following comments on the Draft addendum of the Plan for the Development of Gigabit Infrastructure until 2030 ("the Plan") by the Office of the Government of the Republic of Slovenia for Digital Transformation. Meta congratulates the Slovenian government for directing and supporting the development of an infrastructure that will enable **gigabit connectivity for all Slovenian households, companies and the main promoters of socio-economic development** (school, transport hubs, digitally intensive companies and the main providers of public services), at the same time, **continuous coverage with the 5G network of all urban and other populated areas as well as the main ground traffic routes**"[8].

To be able to achieve those important goals, Meta is of the view that Slovenians will need gigabit Wi-Fi, to distribute gigabit connectivity within premises. License-exempt spectrum is a crucial enabler of both 5G and next-generation broadband. As mobile and Wi-Fi technologies evolve and continue to be integrated to meet wireless and mobile communications needs, demand for license-exempt spectrum will continue to grow. 5G networks will be critical for mobile connectivity, while Wi-Fi will be essential for connecting to broadband within premises due to the quality of service and lower costs.

As noted in the Plan, Slovenia is setting important goals and measures in the field of gigabit infrastructure development that will place Slovenia among the most digitally advanced

[8] Plan for the development of gigabit infrastructure until 2030. https://www.gov.si/assets/vladne-sluzbe/SDP/javne-objave/Nacrt-razvoja-gigabitne-infrastrukture-do-leta-2030.pdf

countries by 2030. The strategic goals of the Republic of Slovenia in the development of gigabit infrastructure are:

1. **Gigabit connectivity for all main drivers of socio-economic development, such as schools, cultural institutions, transport hubs and main providers of public services and digitally intensive companies, by the end of 2025**;
2. Uninterrupted coverage with 5G networks for all urban areas and all major ground transport routes until the end of 2025;
3. **Internet access with a speed of at least 100 Mb/s to the user, which can be upgraded to a gigabit speed, namely for all households in rural areas and cities by the end of 2025**;
4. **Gigabit connectivity for all households, businesses and other promoters of socioeconomic development in rural and urban areas by the end of 2030**;
5. Coverage of all populated areas with a 5G network by the end of 2030.

3 out of 5 Slovenia's goals are to deliver fixed gigabit connectivity. This requires gigabit Wi-Fi to distribute such gigabit connectivity indoors. The best way to maximize the impact of Slovenia's public investment is to ensure that end users can leverage gigabit Wi-Fi. RLANs empower communities and public actors to provide local connectivity according to their own needs. This includes the ability to authorize access without having to manage SIM-cards (whether physical or virtual), maintaining control of infrastructure and quality of service (QoS), enabling access to the widest range of devices (including laptops) and maximizing affordability and scalability.

According to the data published by several countries in Europe, the vast majority of data demand occurs indoors with around 90% of traffic delivered over fixed networks[9], being critical for premises to be connected to gigabit networks. The EU's Digital Decade Policy Programme (DDPP) which sets the goals for Europe on gigabit networks, establishes gigabit connectivity targets at the network termination point, in an attempt to set clear objectives and clarify responsibilities. However, it also implies that end users are responsible for providing the last hop gigabit connectivity from the network termination point to the terminals. The DDPP brings gigabit connectivity to the premise, but the end user will be responsible to distribute such connectivity within the premise. Enabling Wi-Fi in the full 6GHz band would significantly improve the quality of service of indoors connectivity.

[9] Numbers reported by Spain's CNMC and Germany's BNetzA show that the ratio between fixed and mobile traffic remains remarkably constant (2012-2021), with fixed traffic contributing 94% of the total traffic and mobile traffic only 6% of the total traffic in 2021. Although Italy, Romania and Austria have just recently started reporting both fixed and mobile traffic, the combined data volumes with Germany and Spain showed that in 2021 fixed networks delivered 215 Exabytes (EB), while mobile networks delivered 23 EB, i.e. 90+% of the traffic was delivered over fixed networks.

With 90% of the EU internet traffic delivered by fixed networks, mobile devices (laptops, mobile phones and tablets) typically leverage Wi-Fi to connect to a fixed internet access point. ASSIA's State of Wi-Fi Report[10] for the Dynamic Spectrum Alliance provides measurement of commercial networks of the proportion of fixed broadband traffic terminating over Wi-Fi in Europe. ASSIA reports that 92.3% of the EU's fixed broadband traffic terminates over Wi-Fi. Overall, this means that more than **80% of the EU internet traffic is delivered over Wi-Fi, while less than 10% is delivered over mobile networks**, with the remaining traffic being delivered over cables such as Ethernet.

Despite the increasing reliance on license-exempt technology such as Wi-Fi and its central role to distribute gigabit connectivity within premises, the spectrum allocated to Wi-Fi use remains as it was 12-15 years ago. Radio spectrum in the 2.4 GHz and 5 GHz band is rapidly congesting. Today, newer Wi-Fi technology uses much wider channelization to meet consumers' and businesses' broadband needs, as they embrace the digital transition. For example, the latest generation of Wi-Fi technology, Wi-Fi 6E, can utilize radio channels as broad as 80 or 160 megahertz. A future generation of Wi-Fi technology already in the final stage of development will use channels of 320 megahertz[11].

The 6 GHz band is uniquely suited to alleviate congestion and support the future growth of Wi-Fi due to its propagation characteristics and proximity to existing Wi-Fi deployments in the 5 GHz band. Critically, the entire 6 GHz band offers contiguous spectrum blocks to accommodate seven 160 MHz channels, which are required for high-bandwidth applications, such as high-definition video streaming and lower latency applications like augmented reality/virtual reality (AR/VR). Internationally, the Wi-Fi 6E and 7 ecosystems are designed assuming access to the entire 5945-7125 MHz as the USA, Canada, Brazil, Korea, Saudi Arabia and many other western countries[12] have opened or are planning to open the band to Wi-Fi.

AR/VR is a critical next-generation application that relies on licensed exempt spectrum for indoor use cases and as a link between wearables (such as AR glasses) and a smartphone. Contrary to what is established in the Plan, virtual and augmented reality are not expected to require significant expansion of public mobile networks' capacity, as such networks are expensive to be deployed and do not deliver the adequate performance to support the rise of such services. Waiting for mobile networks to support such applications would create decade

[10] State of Wi-fi Reporting https://dynamicspectrumalliance.org/wp-content/uploads/2021/06/ASSIA-DSA-Summit-Presentation-v7.8.pdf

[11] "Wi-Fi 6 Certified, Capacity, efficiency, and performance for advanced connectivity," Wi-Fi Alliance, https://www.wi-fi.org/discover-wi-fi/wi-fi-certified-6. There are a number of technological improvements contained in Wi-Fi 6 that make this generation of technology the most spectrally efficient version of Wi-Fi in history, including multi-user MIMO, beamforming and "target wake time" to improve network efficiency and device battery life. When deployed in 6 GHz, Wi-Fi 6 will be calledWi-Fi 6E.

[12] More recently, Colombia and the Dominican Republic opened the full 6 GHz for license-exempt devices.

long delays and render these services unaffordable. On the contrary, it is expected that fiber connectivity will support the vast majority of such applications, with mobile broadband helping in cases where fiber+Wi-Fi is not available. AR/VR is likely to rely on fixed and mobile infrastructure, exactly in the same way as current internet applications do, i.e. 90% over fixed infra (and Wi-Fi) and less than 10% over mobile.

Fixed Wireless Access (FWA) may contribute to Slovenia's 2030 Gigabit Infrastructure Development Plan (GIDP) goals, in order to connect remote premises to gigabit networks. Such gigabit FWA is best achieved in millimeter waves, thanks to large channel bandwidth and small antenna beamwidth. Gigabit FWA in the same way requires gigabit Wi-Fi to distribute the connectivity within the premises to multiple devices.

5G mobile networks are extremely important for mobile connectivity, enabling applications which require the user to be connected anywhere. As correctly identified by both the EU DDPP and Slovenia's 2030 GIDP, the most critical way to improve the mobile infrastructure is to extend the coverage of 5G networks, precisely to deliver ubiquitous connectivity. By definition, current 5G frequency bands are not used in areas that are not covered by 5G networks. The 6 GHz band will not contribute to 5G coverage, as existing 5G bands are far superior to provide coverage and still very lightly used[13]. Slovenia should encourage MNOs to focus investment on extending coverage of mobile networks, instead of diverting 5G investment towards competition with fixed infrastructure in urban areas.

It is worth noting that Wi-Fi not only delivers abundant, high QoS, affordable and reliable communication to end users, but it is also environmentally sustainable, in particular by leveraging the low energy consumption properties of fiber networks and communicating wirelessly over short distances. The digital sector itself has a growing carbon footprint, raising the question of how to enable the digital transition with minimum environmental impact. On this topic, ARCEP conducted a thorough analysis[14] of the various contributions of elements of the digital value chain. Most of the energy consumption occurs in the access network. On this topic, ARCEP highlights that the best way to reduce the environmental footprint is to keep the traffic on the fiber network as long as possible, and ideally up to the Wi-Fi access points. ARCEP highlights that fiber+Wi-Fi requires 10x less energy per bit than mobile networks, as illustrated below.

[13] According to the 5G Spectrum Observatory, only 7% of 5G base stations use 3.6 GHz. The most common type of 5G base station makes use of 4G bands in a Dynamic Spectrum Sharing (DSS) configuration. See 5G Observatory at: https://5gobservatory.eu/wp-content/uploads/2022/10/QR-17-Final-v3-CLEAN.pdf

[14] ARCEP. Achieving Digital Sustainability. https://en.arcep.fr/uploads/tx_gspublication/achieving-digital-sustainability-report-dec2020.pdf

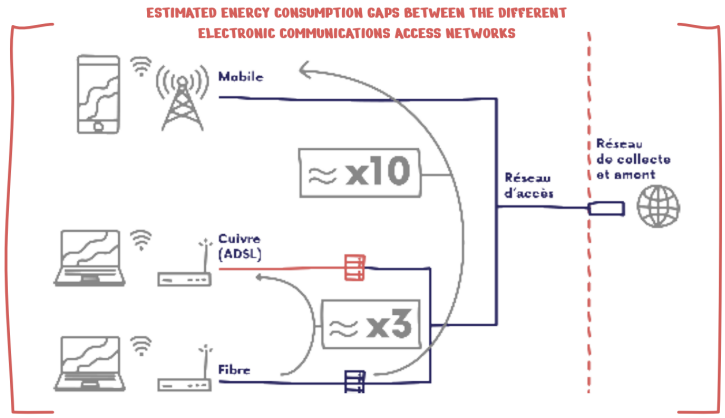

Figure 1. Estimated energy consumption gaps between electronic communications access networks

Thus, the best way for Slovenia to support the digital and green transition of the economy and society is through the support of the connectivity means that corresponds to the needs of communities, public actors and SMEs, connectivity within their premises for a large number of users, i.e. Wi-Fi. Slovenia should enable gigabit connectivity to all households and empower the users to distribute this connectivity through gigabit Wi-Fi. Slovenia should focus its 5G support on its most important goal, i.e. increasing 5G mobile network coverage in existing 5G frequency bands.

For those reasons, Meta respectfully requests the government to:

1. Consider adopting a "NO CHANGE" position for the upper 6 GHz band at WRC-23, hence establishing the groundwork for making the entire 6 GHz band available for license-exempt operations.
2. Consider opening the 5945-7125 MHz band for license exempt use to support its broadband plan objectives, making Slovenia one of the leading gigabit countries in Europe.

Meta is grateful for the opportunity to provide these comments, and welcomes the opportunity to provide additional comments in the future in response to further consultation on this issue or any other related matter.

Respectfully submitted,

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Meta Platforms