



BEREC 2024 Work Programme consultation – Amazon Project Kuiper's commentsOctober 2023

We appreciate the opportunity to provide feedback on BEREC's Work Programme (WP) for 2024. The breadth and variety of topics that BEREC is envisaging to cover is a testament to the important role that your organization will play in the next year and we look forward to engaging with you over the coming months.

At Amazon Project Kuiper we share BEREC's and the European Union's (EU) ambitious goal of achieving universal connectivity everywhere. With Project Kuiper, we are building a constellation of over 3,000 satellites in low Earth orbit (LEO) to provide fast, reliable and affordable internet to unserved and underserved places around the world, including in the EU.ⁱ Just over a year ago, we announced that we had secured up to 83 new launches to deploy our satellites, including with our European partner Arianespace.ⁱⁱ Today, we are excited to have placed our first two satellites into orbit since our successful protoflight mission launch on October 6.ⁱⁱⁱ

During the protoflight mission we will be testing our systems, in advance of the launch in 2024 of the first satellites that will be part of our constellation. By the end of that year, when we expect to begin demonstrations of our commercial services, we'll be able to provide broadband speeds of up to 1Gbps.^{iv} We will deliver our services to end users and we are also planning on partnering with other telecommunications providers to provide satellite backhaul. In fact, in September we announced a partnership agreement with Vodafone and Vodacom to enhance reliability and extend the reach of their mobile networks.^v

At Amazon, we see Project Kuiper as part and parcel of the EU's Digital Decade Policy Programme (DDPP)^{vi} connectivity ambitions and we share the European Commission's (EC) concern that many countries in the EU are lagging on their path towards the 2030 targets.^{vii} It is increasingly clear that we are at a crossroads and that a successful outcome will require employing all broadband technologies available. Amongst these, the EC has recognized the ability of Low Earth Orbit (LEO) satellite communications to provide high speed Internet in areas where networks are still unsuitable or unavailable.^{viii}

Given the challenges ahead of us, we welcome BEREC's work on the Connectivity Indicators for the DDPP and its update of criterion 3 of the BEREC Guidelines on Very High Capacity Networks (VHCN). Amazon Project Kuiper believes that LEO satellite communications should be part of the DDPP's fixed broadband connectivity technologies. Furthermore, we support BEREC's view that there should be consistency between BEREC's VHCN Guidelines and the EC's DDPP connectivity KPIs for fixed and mobile technologies, and that both should ensure technology neutrality.

On the BEREC VHCN Guidelines work, we note that the tests currently used to define VHCNs do not account for the actual speeds that are experienced by customers. As new technologies with a different topology than that of the traditional fixed and mobile networks become available to customers, we encourage BEREC to explore whether the current design of the network performance tests is appropriate and comparable across different technologies. As a business that has customer obsession as one of its tenets, we think it is worth exploring whether the focus of the performance tests should be on the actual quality of service experienced by end users, which is what ultimately matters most for citizens and regulators. On this, publicly available information from websites such as www.speedtest.net show that median speeds experienced by customers using fibre-to-the-home (FTTH) or DOCSIS 3.1 are not significantly higher than those experienced by customers of LEO constellations.^{ix}

Finally, we welcome BEREC's interest in satellite technologies in the context of mobile communications and remain at your disposal to participate in BEREC's workshop on the topic.

ⁱ To learn more about Project Kuiper, please visit: <https://www.aboutamazon.com/what-we-do/devices-services/project-kuiper>

ⁱⁱ For more information on our launches, please visit: <https://www.aboutamazon.eu/news/innovation/project-kuiper-secures-up-to-83-new-launches-to-deploy-satellites>

ⁱⁱⁱ For the latest information on Project Kuiper, please visit: <https://www.aboutamazon.com/news/innovation-at-amazon/amazon-project-kuiper-latest-updates>. For the latest published update, please visit: <https://www.aboutamazon.com/news/innovation-at-amazon/amazon-project-kuiper-test-satellites-space-launch-october-2023-update>

^{iv} <https://www.aboutamazon.com/news/innovation-at-amazon/heres-your-first-look-at-project-kuipers-low-cost-customer-terminals>

^v For information on our partnership with Vodafone and Vodacom, please visit: <https://www.aboutamazon.eu/news/innovation/heres-how-project-kuipers-satellite-network-can-help-telecom-partners-like-vodafone-and-vodacom-enhance-reliability-and-extend-reach>

^{vi} <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022D2481>

^{vii} In the Communication from the Commission establishing Union-level projected trajectories for the digital targets (available [here](#)), the EC finds that “*according to estimates along the baseline trajectory, FTTP is projected to reach 87% of households in the EU by 2030*”, considerably below the 100% coverage target in the DDPP.

^{viii} In the [Summary Report](#) on the results of the exploratory consultation on the future of the electronic communications sector and its infrastructure, the EC describes new technologies impacting the connectivity sector, noting that stakeholders highlighted how low Earth orbit satellite communications “*will provide high speed internet in areas where the network is still unstable or not available*”. During the [press conference](#) following the informal ministerial meeting on telecommunications in León on the 23-24 October, Commissioner Breton noted that “*not all areas will be covered by fiber, and for this reason we have proposed a new satellite infrastructure, including low, medium and geostationary orbit to encompass the entire territory*”.

^{ix} According to the EC’s [report](#) “Broadband coverage in Europe 2022”, Malta is the coverage leader in Europe with 100% Overall FTTP & DOCSIS 3.1 coverage (see page 34 of the report). According to www.speedtest.net, the median fixed broadband download speed in [Malta](#) in September 2023 was 105.2 Mbps (upload speed 23.96 Mbps). Taking the example of [Luxembourg](#) (with more than 90% coverage), the median fixed broadband download speed in September 2023 was 106.85 Mbps (upload speed 82.98 Mbps). The median download speed of Starlink (a LEO constellation) in [Canada](#) was 93.97 Mbps (upload speed 9.6 Mbps) in Q1 2023.