

satellites to the customer user terminals in the Ku-band for both uplink and downlink frequencies, with gateway links in the Ka-band.

The events of the past two years have reminded us all of the importance of being able to connect people and businesses through high-speed Internet service, whether to complete school lessons, connect with distant family and friends, conduct business, or even to run a government. Powerful next-generation satellite systems supported by robust backhaul connectivity will enable all consumers across the continent to use the bandwidth-intensive, real-time applications that have become essential to accessing remote work, school, and public services. To meet these evolving consumer needs across the continent, SpaceX is currently building and deploying its next iteration of its Starlink commercial satellite service.

SpaceX began Starlink service in Europe in March 2021 and today serves 17 countries within the European Union. Today, Starlink customers in Europe typically experience speeds exceeding 100 Mbps with latency as low as 20ms. In most locations in Europe, reliability is nearing 100 percent. In the coming months, SpaceX will continue to expand its service throughout the continent, with a particular desire to reach those who are currently unserved or underserved by broadband.

II. Response to Consultation

To best serve consumers and advance the core goals of connectivity, competition, and consumer choice on a technology neutral basis, SpaceX recommends the following targeted changes to the revised Guidelines on State aid (“Guidelines”):

A. Clarify that ultrafast fixed-satellite services currently available throughout Europe are broadband networks eligible for State aid

The draft Guidelines inaccurately describe ultrafast satellite networks as prospective services, rather than networks that are currently operational and available in Europe for consumers and businesses to meet their connectivity needs. Specifically, paragraph 22 incorrectly states that “*in the future* satellite networks *may* also be able to provide ultrafast broadband services” (emphasis added). Similarly, footnote 22 within that same paragraph incorrectly notes that “currently available satellites in the Union *are still not able to provide* ultrafast broadband services,” and that “more advanced satellites” that deliver “ultrafast speeds are expected to become available *in the future*” (emphasis added).

In fact, satellite networks such as Starlink have been providing ultrafast broadband services to consumers and businesses in Europe since early 2021. For its part, Starlink meets the definition of an “ultrafast access network,” as it is an access network connecting end user premises with download speeds of at least 100 Mbps with network latency comparable to terrestrial networks. As its network continues to develop, Starlink download and upload speeds will only increase and network latency will continue to decrease, consistent with trends among fixed and mobile networks currently eligible for State aid. Moreover, while Starlink is unique in its ability to provide high-speed, low-latency satellite service immediately to many remote and isolated areas in Europe, it

can also offer competitive service in areas of greater population density that are nevertheless unserved or underserved by broadband.

As such, the draft Guidelines should revise paragraph 22, clarifying that fixed-satellite services are operational and currently provide ultrafast broadband service in Europe and eliminating footnote 22, which misconstrues the status and primary use of ultrafast satellite broadband networks. As explained in more detail below, recognizing that ultrafast satellite networks are currently serving customers in Europe, the draft Guidelines should ensure that State aid is made available for such networks—both directly and through vouchers—on a technology neutral basis alongside fixed and mobile networks.

B. Permit State aid to support ground equipment for ultrafast satellite networks

In order to maximize consumer benefit and achieve the goals of technology neutrality, the revised Guidelines should permit Member States to use State aid funding to support the deployment of gateway earth stations for ultrafast satellite access networks and backhaul for mobile networks, as well as user terminals for ultrafast satellite access networks.

Support for ultrafast satellite networks complies with the compatibility assessment under Article 107(3), point (c), of the Treaty. First, supporting the deployment of satellite gateway earth stations has an incentive effect, driving satellite network operators to make significant upfront investments in earth stations where costs or other factors make deployment uneconomical. This deployment in turn improves the speed and latency of the network, increasing the value of the network for consumers (including those who otherwise may not have subscribed). Supporting satellite user terminals through State aid closes the loop, ensuring that consumers have access to the last mile equipment that typically entails a separate charge from ongoing service fees. Moreover, supporting satellite ground infrastructure will entail positive effects, helping to close the digital divide, provide disaster preparedness, and enable consumers otherwise unserved by broadband to access essential services such as remote work, education, and public services. In addition, ultrafast satellite networks such as Starlink are best positioned to immediately address situations “where the market does not and is not likely to provide end-users with a connectivity of 1 Gbps download speed.”

Finally, because deployment of gateway earth stations is less time and cost intensive than deployment of fixed networks to end user premises, use of State aid to support ultrafast satellite network gateway earth stations can also be a more efficient use of limited funds than costly terrestrial network build-out. Similarly, State aid support for user terminals is another immediate and tangible way to provide high-speed connectivity directly to European customers who need it the most. The rapidly deployable nature of Starlink’s terminals allow for a cost-effective solution instead of, or in complement to, build-out of terrestrial networks such as fiber.

C. *Allow consumers to use connectivity and social vouchers for ultrafast satellite networks*

SpaceX strongly supports the inclusion of demand-side measures to help close the digital divide and ensure that all people and businesses can realize the benefits of high-speed, low-latency broadband services. The 2021 Digital Economy and Society Index (“DESI”) found that only a minority of homes in Europe—34%—have taken up ultrafast broadband, and several countries have take-up rates below 10%.² The lack of fixed broadband take-up is particularly acute in rural areas, where over 20% of homes in Europe have not taken up fixed broadband at all.³ Moreover, the DESI report has noted that geographic fragmentation of broadband markets suggests that “a large number of households are served by only one provider,”⁴ and those providers may not offer ultrafast service.⁵ Together, the lack of uptake and competition—particularly in rural areas—justify robust demand-side actions built on the principles of technology neutrality and supporting consumer choice between a variety of ultrafast broadband networks, including ultrafast satellite networks.

Because satellite access networks such as Starlink play an important role in closing the digital divide, meet the definition of ultrafast broadband networks, and can serve consumers wherever they are without costly build-out directly to customer premises, the draft Guidelines should explicitly note that end users have the ability to use vouchers to procure such ultrafast satellite services. Enabling consumers to apply their vouchers to ultrafast satellite services complies with the technology neutrality principle described in paragraph 184—“ensur[ing] equal treatment of all possible service providers” and offering “the widest possible choice of suppliers,” “irrespective of the technology used for providing the service.” To that end, ultrafast satellite broadband network providers should be included in any online registry of eligible service providers (or equivalent alternative). In addition, because ultrafast satellite broadband networks can provide essential services to both consumers and businesses—such as SMEs—the draft Guidelines should clarify that ultrafast satellite networks may be procured with either social vouchers or connectivity vouchers. To maximize the success of voucher programs, the Guidelines should encourage Member States to make qualification and program information transparent and readily accessible, and ensure that processes for obtaining vouchers are straightforward and rapid.

D. *Exempt ultrafast satellite networks from certain obligations*

Satellite networks—which include an integrated space network, gateway infrastructure, and end-user terminals—are unlike traditional fixed and backhaul networks and not readily designed for wholesale access. And yet, they can play a critical role in closing the digital divide and providing significant economic and social benefits to consumers, including in rural and remote

² European Commission, “Digital Economy and Society Index 2021: Digital infrastructures,” 4, 13 (2021), available at <https://digital-strategy.ec.europa.eu/en/policies/desi-connectivity>.

³ See *id.* at 12.

⁴ See *id.* at 15.

⁵ See *id.* at 6 (40% of rural households in Europe do not have access to a provider offering at least 30 Mbps service).

areas where terrestrial networks have not been deployed or are not likely to be deployed. In order to strike the appropriate balance between supporting these essential ultrafast satellite broadband networks while accommodating their unique technical characteristics, the draft Guidelines should clarify that wholesale access obligations do not apply to ultrafast satellite networks that receive State aid, whether directly or indirectly through voucher programs.

III. Conclusion

SpaceX appreciates this opportunity to comment and on this important modernization of the EU State aid for broadband networks guidelines, and the European Union's commitment to driving rapid deployment of much-needed connectivity to people and businesses across the continent. By taking concrete steps to ensure technology neutrality and update its programs by explicitly incorporating ultrafast satellite networks, the EU can best promote rapid deployment of innovative, fast, competitive broadband services on a technology neutral basis to consumers across its Member Countries.

Respectfully submitted,