

YOUR REFERENCE: 21/3398 Consultation - Proposal for a purchasing scheme to ensure functional access to the Internet and telephone service for all

1. INTRODUCTION

Space Exploration Technologies Corp. ("SpaceX") hereby comments in response to the consultation paper proposing end user financing for access to functional broadband connections and voice services published on 14 June 2021.

As contemplated by the Kommunal- og moderniseringsdepartementet (the "Ministry"), the draft regulation advocates for end user financing for access to functional broadband connections and voice services to those who do not yet have available service. The Ministry asks specifically for input on affordable pricing for data volume and speed, as well as Service Level Agreements (SLAs) and customer service requirements.

To maximize the benefits of the proposed legislation on Norwegian consumers and businesses - especially those in rural areas - the Ministry should ensure efficient and effective deployment of broadband services by (1) modifying the draft regulation to apply the proposed benefit to all 11,300 buildings with full technology neutrality, (2) considering stricter requirements and standards for satellite connectivity providers, and (3) requiring a pro-customer approach for providers, such as broadening customer support requirements and requiring providers to offer flexible contract terms. By taking these actions, the Ministry can increase universal access to broadband while providing flexibility to realign priorities as necessary to reflect market developments.

2. BACKGROUND

SpaceX's mission is to make humanity multi-planetary and bring human life to Mars. SpaceX was founded in the United States in 2002 with the goal of dramatically improving the reliability, safety, and affordability of space transportation. Today, SpaceX has grown to over 10,000 employees in headquarters, launch, and development facilities. SpaceX's Falcon family of launch vehicles regularly provides dependable and affordable launch services to NASA and satellite manufacturers and operators from around the world.

SpaceX is now using its launch capacity and manufacturing efficiency to create, deploy and operate the Starlink network: a constellation consisting of over 4,400 NGSO satellites when fully deployed, capable of providing broadband at competitive speeds and latencies anywhere on the planet. Starlink will provide fast, reliable internet to populations with little or no connectivity. Starlink targets those in rural communities and places where existing services are too expensive or unreliable. Starlink's satellites operate far closer to Earth than traditional satellite operators and as a result, are able to provide low latencies of less than 30 milliseconds. SpaceX provides Starlink services with complete and transparent pricing: no long-term contract, no early termination fees, no hidden fees, no installation fees, Wi-Fi included, no cancellation charges. Starlink is currently operational in twelve countries and has over 65,000 customers worldwide.

SpaceX recognizes the significant role the Norwegian government can play in the deployment of broadband services to rural and remote communities. In light of these considerations, SpaceX makes the following proposals in the spirit of improving financial access to functional broadband connections in rural areas to best serve consumers and businesses and account for developing technologies and the changing market landscape.

3. TECHNOLOGY NEUTRALITY

SpaceX recommends further instilling technology neutrality in the regulation and making satellite coverage available under the program as an alternative for all buildings and regions without sufficient connectivity. Consumers and SMEs should have the ability to choose the best option for their needs and preferences. Starlink's network requires minimal terrestrial ground infrastructure, which would enable fast and efficient deployment and services to remote areas.

Although there may be the possibility of coverage to the 9,900 buildings via outdoor antennas for receiving terrestrial mobile network signals, this is not guaranteed. Especially in rural areas, constraining certain buildings to rely on terrestrial network availability and performance may not satisfy the objectives of the program. Broadband connections are today almost exclusively offered through terrestrial infrastructure: ground lines and through the 4G mobile networks. With its limited range, and high cost of deployment, use of the 5G network will likely be economically unfeasible in rural areas and timelines for deployment are uncertain. The regulation should be structured in such a manner that the customers and authorities have flexibility to select alternative solutions to the extent such other technologies better meet the objectives of the ecom act. Expensive ground-based terrestrial solutions should not be the default solution or otherwise be prioritized.

4. SPEED AND DATA PACKAGES

SpaceX applauds the explicit inclusion of low latency, low earth orbit satellite connectivity as a satisfactory technical solution. SpaceX recommends that the Ministry specifically consider including a characteristic that defines low latency, so there is certainty regarding the satellite connectivity providers that qualify under the scheme. Such a definition is especially critical as low-latency connections are required for many broadband applications. Further, SpaceX encourages the Ministry to consider and adopt a more aggressive stance on speed requirements to encourage the best connectivity for areas of Norway with limited options. For consideration, the United States Federal Communications Commission standard for broadband is 100 Mbps download and 20 Mbps upload, and low latency is defined as <100 ms.

SpaceX has no concerns with the availability requirement. Regarding the two alternatives proposed for SLA, for SpaceX the correction period model seems to be the simplest to administer, monitor and communicate to providers and customers alike.

5. REASONABLE PRICING

The Ministry asks specifically for input on pricing. SpaceX suggests that reasonableness of pricing is best determined by the end user, who can best factor in the overall service offered and received for the price charged against all other available options. SpaceX notes that providing up to NOK 400.000 per end user would guarantee equal access to broadband across Norway – regardless of location, i.e. whether citizens live in a rural or urban area. Of note, the equipment SpaceX provides to its customers includes a Wi-Fi router (there is currently not an option to purchase the network equipment alone). We encourage the Ministry to ensure regulations would not prohibit end users from using the support to purchase network equipment which includes a router.

6. FAULT CORRECTION AND COMPENSATION FOR NON-AVAILABILITY

SpaceX recommends modifying the customer support characteristics to focus on the provider's ability to offer timely support in Norwegian, rather than the specific method or time frame. Customer support needs do not occur solely during working hours. Options for customer support outside of working hours may be more convenient for customers to address issues. SpaceX also recommends that the Ministry consider prohibiting providers from locking end users into long-term contracts so that end users have flexibility to select service options from the latest technology, best services and best support possibilities available.

7. FINANCING MECHANISM

SpaceX supports the Ministry's construct that the support of NOK 400,000 is paid directly to the applicant (end customer) and not to the provider.

SpaceX recommends further clarity on how providers qualify or are selected. SpaceX agrees that end users and small businesses know best what solutions work for them and that they should have the maximum flexibility via the NOK 400,000 quantity.

8. CONCLUSION

SpaceX appreciates the opportunity to review and provide input on the draft regulation for end user financing of access to functional broadband connections. For the foregoing reasons, SpaceX recommends that the Ministry should (1) modify the draft regulation to apply the proposed benefit to all 11,300 buildings with full technology neutrality, (2) consider a more aggressive approach regarding characteristics required of satellite connectivity providers, and (3) modify requirements to encourage providers to be even more pro-customer, such as broadening customer support requirements and requiring providers to offer flexible contract terms. By taking these actions, the Ministry can increase universal access to broadband while providing flexibility to realign priorities as necessary to reflect market developments.