January 10, 2023

Net Neutrality Team
Networks and Communications Group
Ofcom
Riverside House
2A Southwark Bridge Road
London
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VIA EMAIL: netneutrality2021@ofcom.org.uk

RE: Written comments from Inmarsat to Ofcom Net Neutrality Review Consultation

Dear Ladies and Gentlemen:

Pursuant to the aforementioned public consultation, Inmarsat submits written comments on the Ofcom Net Neutrality Review Consultation. Assessing the effectiveness of the net neutrality framework is an important political priority, and Inmarsat welcomes the opportunity to comment on this matter.

Inmarsat is a leader in global mobile satellite communications, operating a system of 14 geostationary satellites that provide communications solutions to customers on land, in the air, and at sea. For over 40 years, the company has operated reliable global mobile satellite communications networks, sustaining business applications and mission-critical safety and operational applications globally. Inmarsat recently announced the rollout of Orchestra—a unique, global, multi-dimensional, dynamic mesh network that will support the growing demand for mobility worldwide with high average speeds and low average latency. In the largest-ever transformation of Inmarsat's market-leading services, Orchestra will provide a seamless integration of Inmarsat's ELERA (L-band) and Global Xpress (GX, Ka-band) networks with terrestrial 5G, targeted low earth orbit capacity, and dynamic mesh technologies, to create a single advanced solution for global mobility.

As an industry leader and pioneer of mobile satellite communications, Inmarsat has been enabling global connectivity for nearly four decades. We strive to make a difference to our customers by making their businesses more efficient and effective and by helping them to remain safe and more connected.

Our four business units provide first-class global, mobile connectivity to our customers:

a) Aviation: Inmarsat has been providing connectivity services to the aircraft owner/airlines in both the cockpit and the cabin for many years including over the UK. We provide cabin connectivity to the Business and General Aviation ("BGA") sectors and more recently to the Commercial Aviation sector, including through in-flight connectivity based on our GX satellite technology. Our connectivity products in the Safety and Operational Services sector ensure safe and secure communications between the cockpit and air traffic control.

b) Maritime: Inmarsat offers reliable and resilient communications solutions to the maritime industry. From the largest commercial fleets to coastal vessels, our services are based on our long record of accomplishment in managing global satellite networks and, consequently, a unique understanding of the challenges of living and working in a maritime environment.

c) Government: Inmarsat remains a key partner to many governments around the world. We provide communications networks ensuring that, wherever they need to be, our secure, reliable and powerful mobile satellite networks are always available.

d) Enterprise: Inmarsat provides a wide portfolio of global voice, data, M2M and value-added services. We see significant growth opportunities in the medium-term from emerging new IoT markets in sectors such as mining, smart cities, smart agriculture, logistics and transportation.

Against this background, Inmarsat is pleased to answer ***Question 14: Do you agree with our assessment of internet access services provided on aeroplanes, trains, buses and coaches and our proposed approach?***

We agree with the Ofcom's views that *"on some types of transport, without some form of traffic management, there might be material consumer detriment. This could occur because of the ongoing risk that a few passengers could use up most of the available bandwidth, meaning many passengers would not be able to use viable internet services. We also recognise that if those*

providing these services are unable to manage their services effectively, they could decide to stop providing these services at all. In both cases, consumers would lose out through reduced choice, and there may be negative implications for both innovation and network build."[1]

We fully support Ofcom's view that "*there are clear benefits from enabling more consumers to access internet services on transport, and an inflexible approach to assessing how traffic management is used may have the unintended consequence of reducing consumers' ability to do so."*[2] We appreciate Ofcom's understanding that "*allowing scope for exceptions, for example in cases where there are significant network capacity constraints, such as in relation to certain types of transport, could be beneficial"*[3].

For wireless networks, including satellite networks, there are capacity constraints to meet demands for service on airplanes, trains, etc. from consumers and competing mobile platforms. For example, satellite data connectivity is supported by a network of satellites providing coverage in a series of non-overlapping areas. Each area (approximately the combined size of France and Germany) supports capacity which is to be shared between all aviation end-users in that area at any moment in time. Furthermore, technical constraints are introduced on the airplane side because the shape of the plane and other environment conditions surrounding it (e.g. speed, rain and ice) limit the design of the signal receiver on the aircraft (which needs to be as flat as possible). The provisioning of services in wireless networks on mobile platforms must also deal with challenging environment conditions, such as atmospheric influences and connectivity issues arising from the speed and movement of the platform itself.

Moreover, passenger devices are constantly being provided with updates in the background. A typical website contains many embedded objects such as images, fonts, scripts, etc. Downloading each of these objects requires multiple packet round-trips. As a result, the wireless network becomes congested by automatic background traffic generated by end user devices when the user tries to access the internet on the aircraft (e.g. software updates, cloud backing, etc.).

As such, Inmarsat's preference would be for Ofcom to exempt or exclude communications services provided on transport from the application of Net Neutrality rules.

[1] See 9.46
[2] See 9.49
[3] See 9.51

Finally, we support Ofcom's proposal to "*not prioritise enforcement action against traffic management on Wi-Fi services provided on board aeroplanes, trains, buses and coaches in relation to the current net neutrality rules."*[4]

Inmarsat appreciates this opportunity to contribute to Ofcom Net Neutrality Review Consultation and appreciates Ofcom's proposal to adopt a more flexible approach when comes to Wi-Fi services provided on transports.

Respectfully submitted,

INMARSAT, INC.

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[4] See 9.50 and 10.4