Organisation (if applicable):

O3b Limited

Additional comments:

O3b Limited ("O3b") would like to thank Ofcom for giving us the opportunity to comment on this important consultation. We commend Ofcom for its efforts to keep up to date with the ever-changing telecommunications needs of its constituents. O3b submit their views on this "Mobile Data Strategy" Consultation as a member of the U.K. satellite and telecommunications industry, registered and headquartered in Jersey. O3b operate a non-geostationary satellite system ("NGSO") using a medium-Earth orbit ("MEO") to provide fiber-like broadband connectivity to unserved and underserved regions around the world, including U.K. territories in the Ka band. O3b launched the first four satellites in their constellation in June 2013, under U.K. Outer Space Act ("OSA") licences from the U.K. Space Agency. The next four satellites will be launched in 2014.

Question 1: Have we correctly identified the future characteristics of mobile data demand?:

O3b are pleased that this Consultation is attempting to assess the demand for mobile data over the long term, looking forward even to 2030. Recognizing the strategic importance of allocating spectrum, O3b believe that a long-term perspective is imperative when considering where the spectrum needs of one service fall within the larger picture of all services. We note that most commercial communications satellites need to judge demand on a 30-to-40 year timeframe (since satellites have a time horizon of at least 20 years (from construction through end-of-life), and then the satellite systems are designed to operate under those original parameters for at least one more replacement cycle, which leads to a 30 to 40 year timeframe).

Question 2: Do you agree that there is a prospect of significant continuing growth in demand for mobile data services?:

No comment.

Question 3: Have we identified all the challenges in realising future growth in citizen and consumer benefits from use of mobile data services and do you have any comments on the nature or the scale of the challenges we have identified?:

No comment.

Question 4: Have we correctly identified all the areas where Ofcom has a role in addressing the challenges of growing demand for mobile data services?:

No comment.

Question 5: Do you agree that the main additional area that our mobile data strategy needs to address is in relation to potential future spectrum options?:

No comment.

Question 6: Is Ofcom doing all that it needs to do in other areas identified as being relevant to the mobile data challenge?:

No comment.

Question 7: Do you agree with our high-level assessment of likely technology and topology trends and their implications for future spectrum use? We are particularly interested in views on: a) the potential demand for spectrum above 10 GHz, b) the potential impact of integrating broadcast capability into mobile networks, c) whether the technical and commercial challenges of supporting additional frequency bands in mobile devices drives interest towards bands close in frequency to existing bands, d) the relative importance of large contiguous blocks of spectrum versus aggregation of smaller blocks:

Re: a) the potential demand for spectrum above 10 GHz:

O3b note that in the recently held "spectrum management strategy" consultation, the 18-55 GHz band was identified as a "medium" priority for the potential migration of additional fixed wireless services. We strongly oppose any consideration by Ofcom of the relocation or migration of commercial communications satellite services or of other space services currently using, or under construction to use, this band. We point out that the higher frequency bands (generally 3-50 GHz) are of the utmost importance and value for satellite communications. Many UK-authorized satellites have already been launched and have operated in these bands for decades, and others like O3b, Inmarsat and Avanti have recently launched spacecraft operating in these bands. These UK satellite operators have invested billions already in space segment and associated ground segment. Mid-life migration of frequencies is not possible.

The UK satellite industry has invested a tremendous amount of time and effort in developing satellites and ground segment equipment that can operate in certain frequency bands. As such, it is not technically or economically feasible for the satellite industry to be simply "relocated" from one frequency band to another. Ofcom must remain cognizant of the practical and real limitations when considering any "repurposing" of frequency allocations. The time horizon for the satellite industry is very long, so certainty about the availability of spectrum is paramount to the very existence of the industry.

We respectfully ask Ofcom to keep in mind the importance of all industry sectors in the telecommunication industry, and that prioritizing one sector at the expense of others does not serve the public interest. Any demand by one sector for use of the higher frequency spectrum must be compatible with the proven needs of the satellite industry.

Re: d) the relative importance of large contiguous blocks of spectrum versus aggregation of smaller blocks:

To the extent that this question applies to satellite systems, O3b's UK-authorized satellite system operates with and requires large contiguous blocks of Ka-band spectrum on either a ubiquitous (uncoordinated) or coordinated basis with terrestrial services. It would be impossible for O3b to offer its high-speed, low latency broadband services via smaller blocks - to its customers in the UK or overseas.

Question 8: Are there any additional technology or topology trends that we need to consider that could have an effect on spectrum use?:

No comment.

Question 9: Do you agree with the short list of bands we have identified for more detailed consideration?:

Although the Ka band is not on Ofcom's current short list, O3b are particularly concerned since that band did appear on the "medium-term" list for the recently concluded "spectrum management strategy" consultation. As we stated in our answer to Question 7, we strongly oppose any consideration by Ofcom of the migration of commercial communications satellite services using the Ka band, as the higher frequency bands are of the utmost importance and value for satellite communications. UK satellite operators have already built and launched many satellites that will operate in Ka band for decades. Billions of pounds have been invested in the development of these satellites and the associated ground segment. Creating uncertainty about spectrum allocations for satellite communications will have far-reaching effects on the vibrant space industry in the UK. Furthermore, it is well-documented that terrestrial mobile services are not compatible with satellite communications.

Question 10: Do you agree with our methodology for prioritising potential bands for mobile data use?:

Prioritisation of spectrum allocation is a strategic decision of the highest importance. There is no doubt that the latest developments in the wireless technology have had a profound impact on peoples' lives. However, exuberance and excitement may sometimes cloud sound judgment on matters related to spectrum allocations. Therefore, regulators must maintain a balanced and measured outlook in order not to hastily and prematurely reallocate spectrum based on transient impulses. The satellite industry has always played a crucial and vital role in the telecommunications infrastructure, nationally and internationally.

In many ways, the satellite industry is an enabler to terrestrial communications providers through the creation of demand in unserved and under-served areas. Additionally, the UK space industry is renowned for its vibrancy and technical edge. Ofcom must not lose sight of this fact and should adopt policies that would ensure that the UK space industry continues to thrive and lead others. O3b is a UK satellite operator that demonstrates the ingenuity of the UK space industry through the use of innovative and flexible design. O3b will provide much needed connectivity to many countries around the globe, including the UK and its territories. The success and survival of O3b hinges on the certainty of availability of Ka-band spectrum, and on satellite-friendly policies in the UK. Therefore, changes to existing spectrum allocations will be detrimental to the space industry, including O3b.

Question 11: Do you agree with our provisional assessment and the results of our band prioritisation?:

No comment.

Question 12: Do you agree with the possible timelines we have identified in this section?:

No comment.

Question 13: Do you have any comments on the capacity implications outlined in this section?:

No comment.

Question 14: Do you agree with the next steps we have identified for further domestic work based on the proposed prioritie?:

O3b are concerned that Ofcom are being asked to be responsive to the terrestrial mobile industry's asserted short-term needs, while at the same time also being responsible for balancing those spectrum requests against the very long-term spectrum requirements and market cycles for other services (such as the satellite industry).
It would not be appropriate for Ofcom to bow to the pressure to provide more spectrum for IMT services without a fully transparent and public debate.

Question 15: How do you think we should adjust our support for international harmonisation based on our proposed priorities?:

International harmonization is particularly important for technologies and services that cross borders. The space-based satellite industry is a prime example of a technology that crosses borders, and thus it is of the highest importance that UK spectrum allocations for satellite services are harmonized with the rest of the region and the world.