

TALKING POINTS ON THE DEVELOPMENT OF A NATIONAL SPECTRUM

STRATEGY

1. The US commercial satellite industry provides critical services.

The satellite industry – from operators to manufacturers to launch service providers -- is crucial to the U.S. economy, national security, and global leadership. As of 2022, the satellite industry generated \$281 billion in revenue, making up 73% of the global space economy. U.S. Firms built about 87% of commercially procured satellites launched in 2022. The industry supported and continues to support the transportation, emergency response, public safety, military, and agriculture sectors, among others.

While the U.S. has long led the space sector, China trails close behind, with similar investments in space technologies that not only will be transformative in times of conflict, but also undermine international democracy. China is investing in navigation, communications, and remote sensing systems to rival the U.S. As these services are offered below market rate or free of charge globally, with them will come backdoor security risks for the China to exploit as exist with Huawei. A healthy U.S. satellite industry with access to sufficient spectrum to continue to grow is key to combatting this threat.

2. Satellite spectrum allocations and access are important.

Adequate spectrum allocations and viable rules for access are both essential for the growth and sustainability of the satellite, and broader space, industry. It enables the industry to provide a wide range of services such as 5G/6G non-terrestrial connectivity, broadband services, direct-to-device, IoT, video service, remote sensing and imaging, GPS and navigation, in-space servicing, assembly, manufacturing, and emergency response and disaster services. Further, commercial satellites are best suited for connecting underserved, rural communities in all 50 states.

3. Protect existing satellite spectrum and provide additional allocations.

The National Spectrum Strategy should both prioritize protecting existing satellite spectrum from interference and allocate additional harmonized spectrum to satellite services to meet growing demand. Doing so will ensure continued, uninterrupted services, while enabling innovations,

including the development of new services such as direct-to-device (D2D) and multi-beam satellites.

Satellites, and space users, have a long history of being able to share with like services – whether commercial, civil, or national security. Therefore, if harmonized, federal satellite bands are to be studied for sharing, commercial satellites, and commercial space innovations, should be prioritized for sharing consideration.

4. Long term U.S. spectrum planning must extend to national and international standards efforts, to ensure effective access to space capabilities.

Satellite operations will be a vital part of the future of 5G and, to an even greater extent, 6G. 3GPP recently published Release-17, which supports 5G New Radio for non-terrestrial networks. Not only do satellite systems provide the coverage necessary for ubiquitous 5G, but are also inherently resilient in the face of natural disasters. And due to the density of deployment required by 5G and future generations, coverage for more remote locations will be best and most cost-efficiently addressed by satellite networks. Moreover, satellite systems are perfectly positioned to support Internet of Things and Machine-to-Machine devices and systems, given their flexibility and the pervasive coverage that they offer in remote locations.

The U.S. must exercise leadership in multilateral organizations like the ITU and other global standards-setting bodies to address the increasing competition from China and Russia in the space economy. Failure to do so will result in increasing dominance by such countries in selecting standards and associated spectrum to be identified, without consideration of impact to US national interests. The strong presence of autocratic nations, as demonstrated at the CPM23-2, necessitates active U.S. engagement on World Radiocommunications Conference agenda items, such as intensifying usage of existing satellite spectrum, gaining access to new spectrum, and setting the agenda for future WRCs. Given the four-year cycle of these conferences and the pace of international standards setting, U.S. agencies, including the Department of State, Commerce, and FCC, should approach these conferences and meetings to sustain U.S. leadership in the long run.

5. Prioritizing satellite, and space, access to the spectrum pipeline will ensure future innovations consistent with NTIA's long term strategy and the Administration's priorities.

The RFC highlights the importance of innovation and the pursuit of technologies that increase the capacity or usability of the radiofrequency spectrum. Notably, satellite technologies, which have



seen remarkable bandwidth innovations recently, are ideally positioned to meet this demand as the world moves into increasingly congested spectral environments.

Innovations in satellite technologies have enabled far-reaching, highly efficient, and high-capacity systems. For example, high-throughput satellites, employing frequency reuse and spot beam technology, have significantly increased capacity access - over twenty times more than before. Operators deploying dynamic spectrum capabilities also facilitate spectrum reassignments to geographic areas with the highest needs. Additionally, satellites enable Mobile Network Operators to offer continuous, uninterrupted service to users via cellular backhaul and, increasingly, Device-to-Device (D2D) services. These innovative developments pave the way for more efficient, long-term use and spectrum sharing, reinforcing the need for prioritizing satellite technologies.

Finally, beyond broadband communications, satellite technologies are key to enabling many of this Administration's priorities – whether next generation weather prediction, remote sensing, space weather, climate monitoring, space exploration, or national security – the US satellite industry manufacturers and launches these capabilities – which also depend on continued and expanded access to space.