



Written Testimony of Tom Stroup
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Before the
National Space Council

Panel Discussion on Entrepreneurship and Economic Expansion on the Next Space Frontier

Mr. Vice President and Distinguished Members of the Council, I am honored to be here today in this extraordinary venue. I am Tom Stroup, President of the Satellite Industry Association (SIA). SIA is a U.S.-based trade association representing the leading satellite operators, manufacturers, launch providers, and ground equipment suppliers who serve commercial, civil, and military markets. SIA is the unified voice of the U.S. satellite industry on policy, regulatory, and legislative issues.

I would like to take this opportunity to focus on three areas: Innovation, spectrum certainty, and sustainable space operations.

Today, the satellite industry supports over 211,000 U.S. jobs, including tens of thousands of well-paying manufacturing jobs. The satellite industry's 2017 estimated revenue was \$260.5 billion, which does not reflect revenues from businesses made possible by our services, services which, like satellites themselves, are not always apparent. But satellites are constantly operating in the background of space, enabling the American economy in ways consumers might not be aware, such as supporting smartphone app transactions. Beyond strictly financial metrics, our way of life depends on the benefits we receive from satellite-based services and applications. Satellites – communications, earth observation, and position, navigation, and timing – have transformed how we communicate, how we map, navigate, and see our world, how we produce food and energy, conduct banking, predict the weather, perform disaster relief, ensure national security, and so much more.

The ubiquity of satellite coverage provides access to areas across the globe that are otherwise unreachable. Satellites provide telecommunications services to U.S. citizens, from those in rural regions without terrestrial internet access, to scientists at the south pole, and have proven critical in areas of natural disasters, such as the hurricane-stricken territories of Puerto Rico and the Virgin Islands. Satellite imagery is also critical for disaster response, allowing for the surveying of damage, not just by emergency management officials, but by average citizens from across the globe via web interfaces.

Advances in information technology and communications continue to spur economic growth in the United States, but they also highlight a growing disparity between the haves and have-nots. Satellite broadband, a high-quality and cost-effective solution for broadband services, is playing an increasingly important part in addressing the digital divide across the United States, including in the most rural and remote areas of the country where it remains uneconomical for terrestrial services to build.

The satellite industry is continuously investing tens of billions of dollars to innovate and increase connectivity in the U.S. and across the globe. High throughput satellites, for example, rely on frequency re-use and spot beam technology to produce increased output factors upward of 20 times that of traditional satellites, meeting FCC benchmark broadband speeds. In addition, hundreds of high-throughput (non-geostationary) satellite will soon join existing operators in Low and Medium-Earth orbits to provide terabits of capacity at low latency levels. As a result of these innovations, satellites are poised to play a critical role in the new 5G infrastructure, which will revolutionize the Internet of Things by providing greater interconnectivity between devices and the ability to quickly download massive amounts of data, such as updates to self-driving car systems.

Of course, all of the breakthroughs we've seen because of satellite technologies should not be taken for granted. They depend upon our industry's ability to access spectrum. In order for our industry to sustain and meet the growing demand for satellite services, we encourage regulators to continue to allocate sufficient spectrum for satellite use, both domestically and via U.S. support at the upcoming World Radiocommunications Conference.

Regulatory streamlining and certainty is critical for the advancement of new technologies in the industry. With plans to launch satellite constellations of hundreds, if not thousands, of satellites over the next decade, it is crucial that regulation be adaptable to new technologies. As the time between design and launch of a satellite may only take two years, the indefinite timeline for regulatory approval may substantially hinder the availability of these new technologies.

Finally, sustainable development must also be at the heart of the innovations and advancements of the satellite industry. As a shared natural resource, it is our responsibility to ensure we protect space and ensure its availability for use by future generations. This means space safety and safeguarding against orbital debris must be on the agenda for both the private sector but also for our government. We look forward to working together to apply thoughtful and common-sense rules for how we can continue innovating and developing life changing services while also acting responsibly.

In closing, leadership of the National Space Council can help support the advancement of the satellite industry in three ways: by creating a regulatory environment that fosters the continued innovation and leadership of U.S. satellite companies, supporting access to spectrum to promote the continued growth of the industry, and ensuring a sustainable space environment.