

**REMARKS OF FCC CHAIRMAN AJIT PAI
AT THE SATELLITE INDUSTRY ASSOCIATION'S
21ST ANNUAL LEADERSHIP DINNER**

WASHINGTON, DC

MARCH 12, 2018

Thank you for that warm welcome and for inviting me to speak with you this evening. Thank you to Tom Stroup for your outstanding leadership of the Satellite Industry Association (SIA). Thank you to SIA for having the good sense to name Jose Albuquerque, the Chief of our International Bureau's Satellite Division, as the recipient of your Government Leadership Award. Thank you, Jose, for doing such an outstanding job over the years and earning that recognition. And so long as I'm expressing appreciation, thank you to the NCAA Tournament selection committee for allowing my beloved Kansas Jayhawks to start March Madness in Wichita.

On a more serious note, I want to thank the satellite industry for your contributions to our economy and quality of life, which sometimes go underappreciated. Allow me to elaborate. Last week, I traveled to both Puerto Rico and the U.S. Virgin Islands to assess the recovery from last year's hurricanes. The resilience and resolve of the people who I met there were truly inspiring. The devastation caused by Irma and Maria surpassed anything these islands have ever seen. But they have endured the worst and are coming back stronger than ever.

Many people don't recognize the important role that the satellite industry played in the aftermath of last year's storms. When land-based radar was knocked out by Maria, weather satellites provided forecasters with real-time imagery from above. Before-and-after comparison imagery from satellites helped assess damage and target relief efforts. And with cell networks in Puerto Rico and the U.S. Virgin Islands essentially knocked out, satellite phones were a lifeline for FEMA and other first responders as well as numerous residents.

Consider, for example, the story of Guayama, Puerto Rico. Guayama is a city of about 45,000 people along Puerto Rico's southern coast. After Maria hit, it didn't have any cellphone service or power. But there was one phone in Guayama that worked. That's because a local pharmacy had a satellite link for transmitting prescriptions, and the owner of the pharmacy was able to patch her cellphone into that link. Residents of Guayama lined up to use that phone to connect with their families and stay in touch with the outside world. That was only possible because of satellites.

Of course, satellite services have been an important aspect of emergency response for decades. But the satellite industry's contributions don't always get the attention they deserve. So tonight, I want to express my appreciation for all that you do when disaster strikes.

Beyond your emergency preparedness and recovery work, the U.S. satellite industry sets the pace for a \$260 billion global industry, generating 44% of worldwide revenue. Your companies invest billions each year and support over 200,000 American jobs, many of them in manufacturing. Satellites enable countless services that improve our quality of life every day. Last week, for example, a new survey was released showing that 84% of Americans use navigation apps.

The satellite industry is undoubtedly thriving. But it feels to me like you've reached a moment at which you're poised for a breakout. Late last year, for example, Morgan Stanley projected that the space industry, which is overwhelmingly comprised of the satellite industry, is projected to triple in size by 2040. While not the only business opportunity for satellites, according to Morgan Stanley's analysis, "[t]he largest opportunity comes from providing Internet access to under- and unserved parts of the world." Specifically, Morgan Stanley estimates that satellite broadband will make up 50% of the

projected growth in the global space economy between now and 2040. That translates to a revenue opportunity of over \$400 billion a year.

But you don't need a 20-year industry forecast to figure out that we're at an inflection point for satellite broadband. Breakthroughs are already happening.

Just two weeks ago, Viasat began offering 100 Mbps broadband service in the United States with unlimited data. This was made possible by high-throughput satellites that use spot-beam technology and frequency re-use to dramatically increase capacity. Other companies have applications before the FCC for similar high-throughput satellite service.

But we're not only seeing dramatic changes in satellites' capabilities; we're also witnessing a sea change in the economics of their deployment. Re-usable rockets are dramatically reducing the cost to access space. How much? Well, the price tag of launching a large satellite has already dropped from \$200 million to \$60 million and could go much lower.

So we now stand at a moment of tremendous promise for your industry—and ultimately for American consumers, who stand to benefit from your efforts. I want the FCC to help you, and with you the public, seize the opportunities that are in front of you.

My top priority as Chairman of the FCC is closing the digital divide. I've often said that in order to bring digital opportunity to all Americans, we need to use all of the tools in the toolbox. Satellite broadband service is one of those tools.

Next-generation satellites are bringing new competition to the broadband marketplace and new opportunities for rural Americans who have had no access to high-speed Internet access for far too long. That's why the FCC under my leadership has moved quickly to give a green light to satellite innovators.

We've already approved the plans of OneWeb, Telesat, and Space Norway to move forward with non-geostationary satellites in Low-Earth, Medium-Earth, and Highly Elliptical Earth Orbits. These architectures promise fast, targeted Internet service. And we're continuing to work through similar applications from other NGSO operators. Just last month, for example, I proposed to approve SpaceX's application. I hope the rest of my FCC colleagues will soon cast their votes as well.

Moreover, last September, the FCC updated the framework that will govern NGSO satellite systems. These rules better reflect current technology and offer more operational flexibility. And these actions advanced another agency-wide priority of mine: streamlining regulations and cutting red tape to facilitate innovation and investment.

We've also made satellite broadband providers eligible for our upcoming Connect America Fund Phase II reverse auction, which will provide up to \$2 billion over ten years to expand broadband deployment in rural America. To be sure, I understand that the satellite industry disagreed with some of the decisions that the FCC made in developing rules for the reverse auction. We are forging new ground with this first-of-its-kind auction, and in doing so we had to make some hard choices. But, I nonetheless hope that satellite companies will study this opportunity closely and choose to participate in the reverse auction. Remember that the application window opens a week from today and closes on March 30. And for those companies that have questions or need more information about how to participate, we're holding a workshop this Wednesday on the auction application process.

Another topic that is of intense interest to the satellite industry is spectrum. And that's because access to spectrum is critical to the continued growth of your industry.

Since taking the helm at the FCC, I've pursued a flexible, market-based spectrum policy. By that, I mean that the FCC has sought to enable all those who connect our citizens to access the airwaves. So as we provide spectrum to unleash new terrestrial licensed and unlicensed uses—and we must move aggressively to do that—we can't neglect the critical role played by satellite service. In recent months, I think we've managed to strike the right balance. First off, we preserved the 48.2-50.2 GHz and 40-42

GHz bands for satellite use. And we also provided some additional flexibility in our earth station siting rules for the 28 GHz and 39 GHz bands.

And going forward, the FCC will continue exploring the potential for new uses of mid-band spectrum, particularly the C band (3.7-4.2 GHz). I'd like to thank satellite companies for coming to the table with innovative ideas that open the door to freeing up additional spectrum for terrestrial use. I appreciate your willingness to engage constructively about the band's future and look forward to exploring these ideas with you in the months to come.

While spectrum is an issue that's been around for a long time, newer issues are emerging on our satellite agenda.

For instance, the development of smaller satellites means a lot more of them. And more satellites mean more regulatory reviews. So as important as regulatory speed and flexibility is now, it will only become more important in the future. That's why we are committed to streamlining our regulatory processes and ensuring flexible rules that can adapt to new technologies, such as small satellites deployed at scale.

More satellites will also mean a lot more traffic, especially in the low-earth orbit. This increases our concern about space debris. Even a centimeter-wide object can wreak devastating damage to satellites. That's why we need to do what we can to help maintain the safe use of space in the future for all mankind. I'm committed to working with other agencies and the private sector to find common-sense solutions to this emerging problem.

Looking ahead, the 2019 World Radiocommunication Conference (WRC-19) is rapidly approaching. And work is already underway to promote U.S. leadership at WRC-19 on satellite Agenda Items that complement many of our domestic rulemakings. We want to develop a regulatory framework for additional NGSO operations to support future constellations. We're working to create additional opportunities for Earth Stations in Motion to provide broadband access for use cases that include in-flight and maritime operation. We're also studying the spectrum needs of short-duration or small satellites.

In addition, satellites play a critical role in supporting the safety-of-life measures provided by the planned modernization of the Global Maritime Distress Safety System and Global Aeronautical Distress and Safety System. Satellites provide distress and safety communications and flight tracking coverage for ubiquitous maritime and aeronautical operations, and we need to make sure that they have the spectrum to get the job done. We also look forward to supporting possible changes to the satellite publication, notification, and coordination procedures in an effort to facilitate the best use of the orbit.

Finally, we invite any proposals through our WRC Advisory Committee on how to improve the ITU's regulations for satellite systems. The private sector input we receive is what allows our country to decide what to advocate at WRC-19, and we know that a consensus approach is most likely to yield significant benefits for the American people. We encourage the satellite industry to work with other sectors within this framework in order to reach a U.S. position that will benefit all.

Speaking of the ITU, I have an important ask for all of you related to the United States' nomination of Doreen Bogdan-Martin for Director of the Telecommunication Development Bureau. I personally can't think of anyone better qualified to work toward our shared goal of closing the digital divide than Doreen. With more than 25 years in the telecommunications sector, including 14 years dedicated to the development work of the ITU, Doreen has a proven track record. I urge you to be active supporters of Doreen, using every opportunity to advance her candidacy and engage with governments and private sector colleagues around the world.

Let me close with this. This year marks the 60th anniversary of the first U.S. satellite to be successfully placed in orbit. And in the past six decades, we've witnessed amazing advances in satellite technology. But those advances pale in comparison to the breakthroughs that could be achieved, and the

consumer benefits that could be realized, in the next sixty years. That's why it's so important for the federal government to set rules that encourage innovation in your industry rather than regulatory roadblocks to progress. And that's what the FCC has been working to do, and will continue to do, under my leadership.