

**REMARKS OF FCC CHAIRMAN AJIT PAI
AT THE INTERNATIONAL INSTITUTE OF COMMUNICATIONS
TELECOMMUNICATIONS AND MEDIA FORUM**

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Good morning. Thanks to IIC for hosting this event and for giving me the opportunity to be with you today. It feels like I was just with many of you, because I was. This past October, I joined many of you in Mexico City for IIC's annual conference. With the temperatures dipping below freezing tonight, I wouldn't mind being south of the border right now.

As you know, today's gathering comes at a unique time for my country. Tomorrow will be a National Day of Mourning as we mark the passing and celebrate the life of our former president, George H.W. Bush. Like many of you, I've been thinking of President Bush the past few days. Some of those thoughts speak to this gathering—to this moment.

One of the things that endeared President Bush to the American people was that he could still laugh at himself, as best evidenced by his embrace of comedian Dana Carvey's impression of him on Saturday Night Live. Because of this caricature, there's one quote that immediately comes to mind when many Americans think of President Bush: "Not gonna do it. Wouldn't be prudent."

One of my favorite remembrances of President Bush actually centered on how this laugh-line wasn't in fact a joke. A columnist recently argued that what made this phrase stick, what made it so distinctly Bushian, was the word "prudent." He suggested that this two-syllable word was our 41st president's defining and finest trait. He wrote that, "Judged by Aristotle and Aquinas to be among the highest virtues, prudence is the disciplined use of wise and careful foresight. In modern usage, it is often confused with over-caution, even cowardice. But true prudence is not afraid of risk; it respects risk enough to calculate it."

When talking about my regulatory philosophy, I often stress the importance of regulatory humility. Another way to say that is that I value prudence—wise and careful foresight in the face of risk.

President Bush served during one of the most disruptive and uncertain moments in modern history, precipitated by the fall of the Berlin Wall and fall of the Soviet empire. We too find ourselves in revolutionary times, sparked by digital technologies that are transforming almost every aspect of our daily lives.

In my view, regulators in the communications space would be well-served by President Bush's prudence. That means being skeptical toward preemptive regulation of new technologies—rules that try to predict market failures before they occur. Not gonna do it.

Given how rapidly the communications sector is changing, the FCC should do everything it can to ensure that its rules reflect marketplace realities and basic principles of economics. The public interest is best served when the private sector has the incentives and freedom to invest and create. Instead of micromanaging markets, government should eliminate unnecessary barriers that can stifle new discoveries and services. And, in particular, the government should aim to minimize regulatory uncertainty, which can deter long-term investment decisions.

Let me talk briefly about what this prudent approach to regulation looks like in practice.

When we last met in October, I focused on the Commission's strategy to seize the opportunities of 5G wireless technologies. We continue to move full-steam-ahead on our 5G agenda.

Last month, for example, we launched the first of two auctions of high-band spectrum that was previously thought to be useless for mobile services, but can now be used for 5G thanks to advances in technology. This is our 28 GHz auction, which will be quickly followed by our 24 GHz auction. And we're on track to auction off three more millimeter-wave spectrum bands next year: the upper 37 GHz, 39 GHz, and 47 GHz bands.

But having spoken to IIC so recently about these efforts, I thought I would highlight other initiatives. In particular, I'd like to talk about the Commission's recent work to promote the space industry.

The global space economy generated about \$350 billion in revenue in 2017. The biggest share of this sector, by far, is the satellite industry, which accounts for 75% to 80%. In separate reports, Morgan Stanley and Goldman Sachs predict that this industry will grow to be a trillion-dollar sector by 2040. That's a big market opportunity for the United States.

The FCC regulates the communications services that are provided in outer space, including the use of spectrum. I talk a lot about the need for the FCC to constantly update its rules to reflect changes in the marketplace. Well, it occurred to me that it had been almost a generation since the FCC had taken a fresh look at some of its regulations surrounding space policy. Add the huge growth potential, and you find a ripe opportunity to reform our regulations and to promote investment and innovation in the American space industry.

Those reports I mentioned also identified satellite-delivered Internet access as the biggest growth opportunity. The big potential breakthrough is a new technology that involves launching a constellation of hundreds of smaller satellites into low-earth orbit—so, not deep into space—which will beam Internet access back to earth. Our hope is they'll create enough of a mesh network of smaller satellites that the Internet service will be efficient, at a much better price point, and at speeds and latency that would be comparable to services you could get from a company operating here on earth.

In the summer of 2017, the FCC approved the first of these new constellations of non-geostationary orbit satellites, or NGSOs. Some of them are from some companies you might know, like SpaceX and OneWeb. Last month, the Commission approved four separate requests from companies seeking to initiate or expand services that rely on these low-earth-orbit satellite constellations systems. This may be a game-changer for unserved or underserved rural areas, which could soon enjoy new options for high-speed broadband service.

Now this dramatic increase in the number of satellites raises a serious problem: how to address orbital debris. In space, a small piece of debris can cause catastrophic damage. That's why the Commission last month opened a new rulemaking to mitigate the threat posed by orbital debris. Indeed, we're exploring six ways to address this problem, including changes in satellite design, better disposal procedures, and active collision avoidance. In other words, we're making sure that those launching new constellations are planning ahead so others can do the same. It's just prudent.

On some issues, like spectrum for both terrestrial and space-based services, we simply cannot do it alone. In this regard, I'm pleased to note that the Americas region continues to work hard and steadily advance regional proposals for the 2019 ITU World Radio Conference. We are deeply focused on the WRC-19. We'll need to work together to set the course for the future of 5G, as we seek to promote a dynamic, global communications marketplace.

And speaking of working together, last month the FCC took a big step towards increased international cooperation by letting American consumers use Galileo, the European Union's radionavigation satellite service. This was no small feat; this work started almost a decade and a half ago, and required countless hours of coordination on both sides of the Atlantic. But this breakthrough will produce, among other things, public safety benefits by reducing risks of accidents and disaster, aiding emergency response, and synchronizing power grids and critical infrastructure.

The other topic I'd like to briefly highlight is artificial intelligence and machine learning. Just four days ago, the Commission hosted the first of what will hopefully be many forums where our agency will showcase and learn about the ways different emerging technologies, such as AI, quantum computing, blockchain, and the like, are benefiting consumers, transforming our economy, and impacting the communications marketplace.

It's important to note that this event was about discussion and demonstration. It was not about the FCC dipping its toes in the regulatory waters. History tells us that new technologies will evolve in ways that people don't anticipate and that early intervention can forestall or even foreclose certain paths to innovation. This makes it foolish and counterproductive for government to micromanage—or more accurately, try to micromanage—the evolution of these technologies. Some might say that wouldn't be prudent.

But it is important for agencies like the Commission to be aware of and informed about what's on the horizon and potential impacts on the marketplace that we regulate. For example, our current rules for antennas are framed in terms of maximum power. This reflects an era when radios transmitted on a fixed frequency in a fixed direction at a fixed power. But today's radios are agile in terms of power, frequency, and even modulation. They are software-defined. And we are seeing more and more AI capabilities incorporated into these devices. We want to understand how AI can enable individual radios to make much more efficient use of spectrum—all without human intervention.

AI also holds the potential to help bridge the digital divide, which is the FCC's top priority. We heard last Friday about efforts to use AI to more efficiently build and operate communications networks and manage spectrum, which should result in more access for more people at lower cost. Bridging the digital divide through AI, machine learning, and other emerging technologies will help all Americans benefit from the digital revolution, regardless of who they are or where they live. That is something every citizen can appreciate.

Let me close by bringing it back to President Bush. One of the features that defines his legacy is body of accomplishments on foreign policy. He had a deep appreciation for international collaboration as a means to advance U.S. interests at home and abroad.

That model applies to our work as well. That's why I am committed to listening to and learning from all stakeholders, especially my counterparts around the world. I want to share our experiences and hear about theirs. In the past year, I have met with regulators and policymakers from Brazil to Belgium, Israel to India in venues like the ITU's Global Symposium for Regulators, the ITU's Plenipotentiary Conference, the Mobile World Congress, other IIC events, and elsewhere. I can promise you that those relationships will continue, and those friendships will endure.

And going forward, I'm very excited that all of us will be able to collaborate with Doreen Bogdan Martin, the newly-elected Director of the ITU's Development Bureau. The capacity-building work of the Development Sector is critical for developing countries, and I am pleased and proud that someone as extraordinarily capable as Doreen will be spearheading that work for the next four years.

President Bush once said, "America is never wholly herself unless she is engaged in high moral principle. We as a people have such a purpose today. It is to make kinder the face of this nation and gentler the face of this world." I believe that digital opportunity holds just such potential in our time. It has the promise of bringing us together as family, as friends, as colleagues in a shared journey. That's why I am so committed to closing the digital divide in America and abroad. I look forward to working with all you to harness the power of communications technology to promote a more peaceful and prosperous future for all humanity.