

**REMARKS OF FCC CHAIRMAN AJIT PAI
AT THE NATIONAL SPECTRUM CONSORTIUM
5G COLLABORATION EVENT**

ARLINGTON, VA

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Good morning. Thank you to the National Spectrum Consortium and the Office of the Undersecretary of Defense for Research and Engineering for convening this forum and inviting me to participate. You've heard keynotes this morning from Dr. Michael Griffin, Under Secretary of Defense and Chief Technology Officer, and NTIA's David Redl, so you've already covered a lot of ground. I appreciate this opportunity to share the FCC's perspectives and detail some of our activities with regards to 5G.

I often like to ease into my remarks with a timely pop culture reference. Unfortunately, all anybody is talking about right now is Game of Thrones and The Avengers, and the prospect of revealing any spoilers before an audience familiar with advanced weaponry seemed too risky for my tastes. Not today. So, I'm just going to get straight to the substance.

As most of you know, a few weeks ago, I was at the White House for an event with President Trump to highlight our government's efforts to promote U.S. leadership in 5G.

To me, there were three key takeaways from this event.

First: 5G is critical to our economy, security, and quality of life, as evidenced by the personal engagement of the President.

Second: Having such an event hosted at the White House, as well the 5G Summit convened last year by the White House National Economic Council, reminds us that U.S. leadership in 5G will require an all-hands-on-deck effort across multiple agencies.

And third: Although 5G success will require a government-wide effort, we are pursuing a market-based strategy to promote 5G development and deployment. As the President said at the 5G event, "In the United States, our approach is private-sector driven and private-sector led."

I'd like to expound briefly on each of these points, starting with the importance of 5G.

We've all seen the projections of 5G's economic potential. An Accenture study pegs 5G's potential at 3 million new jobs, \$275 billion in private investment, and \$500 billion in new economic growth. When you hear numbers like that being thrown around, there's good reason for skepticism. But the closer you look at the history of wireless innovation in the U.S., you realize these projections are within reach.

The U.S. was the first country to deploy 4G LTE networks at scale. This made us the haven for 4G innovation and the birthplace of the mobile app economy, adding hundreds of billions to GDP, creating numerous jobs, and enabling countless benefits for American consumers.

Now consider that 5G will be even more transformative than 4G. Networks will be 100 times faster. They will carry a lot more data. Lag times will be one-tenth of what they are today.

5G will power smart transportation networks that reduce traffic, prevent accidents, and limit pollution. 5G will enable healthcare professionals to remotely monitor your health and transmit data to your doctor before problems become emergencies. 5G will empower farms to apply precision agriculture. And, of course, 5G will unlock innovations that are yet to be imagined.

I'm particularly excited about 5G's potential for rural America. As a native of Parsons, Kansas, I'm well aware of the speculation that 5G will do more to widen the digital divide, rather than close it, in places like my hometown. But I don't share that skepticism. Last year, I met an NYU professor named Ted Rappaport. Some of you may know Professor Rappaport as the man who did a lot of the foundational research beneath the use of millimeter wave spectrum for 5G. I remember asking him point-blank if he thought 5G would have any real applications for rural America. He sat up straight in his chair and shot back that 5G would absolutely make a difference. For as long as we can remember, broadband providers have wrestled with the how to economically provide last-mile service to low-density, low-income communities. He sees 5G as a technological solution to these persistent problems.

So when we talk about seizing the opportunities of 5G, we are not just talking about boosting the established technology hubs like Silicon Valley. We are talking about unleashing benefits for all Americans.

This brings me to my second point from about the need for collaboration to maximize the potential of 5G.

At the FCC, we call our strategy for U.S. leadership in fifth-generation wireless technology the 5G FAST plan. It consists of three central components: freeing up much more spectrum for the commercial marketplace, promoting wireless infrastructure deployment, and modernizing our regulations to promote more fiber deployment.

Each of these elements require engagement with external partners. Obviously, the most relevant for today's discussion is our work to repurpose spectrum for 5G.

We've been working cooperatively with the Department of Defense on many fronts. Earlier this month, for example, we saw a good example of what we can accomplish when we work together. This coming December, the FCC will auction spectrum in the upper 37 GHz, 39 GHz, and 47 GHz bands. By making available 3,400 megahertz in three different bands, this will be the largest spectrum auction in our nation's history. But before holding it, we first needed to resolve pending issues regarding the Pentagon's ability to use the upper 37 GHz band in limited circumstances. Two weeks ago, the FCC adopted an order that does just that. We established a process that protects the interests of non-Federal licensees in the band while accommodating the Department's needs. That's a win for American leadership in 5G *and* a win for our country's military.

I want to take this opportunity to thank our counterparts at the Pentagon for their collaboration. The issues here are quite complex, and I appreciate their working in good faith to reach a mutually agreeable resolution. Reaching a compromise that worked for both sides wasn't easy, but it was well worth it. And I hope that those efforts will serve as a model for future collaboration between the FCC and federal agencies. I believe that the main reason we were able to find a solution was the spirit in which the FCC and Pentagon approached our discussions. We recognized that at the end of the day, we are all on the same team working towards the same goal: advancing the national interest of the United States. And as long as we remember that our most important job is to further that objective, instead of protecting agency turf, I'm optimistic about what we can to accomplish together in the future, in both millimeter-wave and mid-band spectrum.

It's also in our interest as government leaders to collaborate with industry and academia, as we are doing today. And finally, it's in our interest to collaborate with allied nations to promote commercial and military 5G applications. Later this week, I will be traveling to Prague for a 5G event that's being hosted by the Czech Republic. There will be government counterparts from many nations, including several of our NATO allies, along with private companies, all focused primarily on network security issues. I look forward to these important discussions because secure 5G networks will be important to our national defense, our economy, and our quality of life.

The third point I wanted to discuss is our commitment to a private-sector driven strategy for 5G.

Like a recurring bad dream, there have been repeated calls for government control of America's 5G networks. Let me be clear: I oppose any proposal for the government to build, own, or operate a commercial next-generation wireless network. The history of 4G has proven that the market, not government, is best-positioned to drive investment and innovation in the wireless space. This is especially the case considering that 5G will be more capital-intensive than 4G. The best way forward is for the government to lay the foundation for 5G innovation and then let the private sector take the lead. That means getting the spectrum out there and cutting bureaucratic red tape to allow for wireless infrastructure to be deployed at scale, which is what we've been doing with our 5G FAST plan.

The early private-sector results from these efforts are encouraging. In the past few months, multiple reports have found that America is well-positioned to lead the world in 5G investment and innovation. Cisco predicted 5G will be twice as prevalent in North America compared to Asia by 2022. ABI Research stated flatly that "it is the United States who will win the 5G race in the short term," specifically crediting the FCC's policies as a reason why. More recently, an analysis by CTIA found that "America leads the world with the most commercial 5G deployments of any nation." And about a month ago, it was reported that 5G-related job listings increased 12% in the *previous three weeks*.

But that's no excuse to rest on our laurels. We know that maintaining leadership in commercial 5G deployments requires a steady pipeline of spectrum. That's why the FCC for the past two years has moved aggressively to ensure America's lead when it comes to low-, mid-, and high-band spectrum. For example, we have ongoing rulemakings to free up spectrum in the 2.5 GHz, 3.7 GHz, 4.9 GHz, and 6 GHz bands, an upcoming auction in the 3.5 GHz band, and ongoing work with our federal partners to share the 3.1 GHz, 3.45 GHz, and 5.9 GHz bands. Altogether that's over 2,500 megahertz of prime, mid-band spectrum on the table for high-speed wireless broadband.

In short, we have a proven winning strategy. We have the President's leadership. We have world's best innovators and entrepreneurs. And we want to work together with the world's best military to build on these successes and create a 5G future that will benefit us all. Together, we can seize the opportunities of 5G for the American people.

With that, I look forward to taking your questions.