

**REMARKS OF FEDERAL COMMUNICATIONS COMMISSION  
CHAIRMAN AJIT PAI AT THE MOBILE WORLD CONGRESS**

**BARCELONA, SPAIN**

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It is an honor to be in Barcelona for the Mobile World Congress. And it's a privilege to address this session on "Building the 5G Economy" along with such distinguished speakers—Andrus Ansip of the European Commission, Mike Fries of Liberty Global, and Stephane Richard of Orange.

We gather at a pivotal moment in the formation of communications policy around the globe. In Europe, for example, you are implementing the Digital Single Market and establishing a new Electronic Communications Code. In the United States, as well, we are taking a fresh look at our regulatory approach.

Now, to be honest, I've only been on the job as Chairman of the Federal Communications Commission for five weeks. If there were a club of chief telecommunications regulators, I'm fairly sure that I'd be the junior member. And so I've come across the Atlantic Ocean more in the spirit of listening than talking.

But I would like to use this opportunity to share a few thoughts on how we plan to promote digital empowerment for all of our citizens.

I joined the FCC nearly five years ago. And in that time, I've met innovators and entrepreneurs across the United States and around the world, from Birmingham, Alabama to Barrio de España in Cartagena, Colombia, from Bozeman, Montana to Bangalore.

And I've seen broadband networks being deployed in the lowlands of Louisiana, in the high desert of Nevada, and in the frozen tundra of Barrow, Alaska—the northernmost city in the United States.

The stories are different. The cultures are distinct. And the challenges are varied.

But there's a common thread that runs through these experiences: Broadband means economic opportunity. Not long ago, if you were an entrepreneur with a good idea, the odds were strongly against you reaching success at scale unless you worked in a large organization, had strong personal connections, or otherwise won the lottery. For example, my paternal grandfather ran a small spare auto parts store in Hyderabad, India. His prospects were in large part defined by who his family was and where they lived.

But the Internet has changed all of this. It has enabled what I call the democratization of entrepreneurship. Today, with a powerful plan and a broadband connection, you can raise capital, start a business, immediately reach customers worldwide, and disrupt entire industries. Never before in history has there been such opportunity for entrepreneurs with drive and determination to transcend their individual circumstances and transform their world.

And achieving this success does not require you to move to Silicon Valley or Stockholm or Seoul any other tech hub around the world. There are opportunities in

every city in every corner of the world, *if*—and this is a big if—you have high-speed access to the Internet.

That’s why, as Chairman of the FCC, I will pursue policies that promote infrastructure investment, foster innovation, and expand next-generation networks across the United States. And I’m optimistic about the progress we will make over the next few years in bringing faster and cheaper broadband to all Americans.

One reason for this optimism is the technology you see on display at this conference. Within living memory, it was thought that spectrum above 3 GHz could not be used for mobile communications. Today, one can use millimeter wave spectrum to produce multi-gigabit speeds. That means 5G could transform the wireless world. And when you add the potential of new satellite and fixed broadband technologies, as well as further innovation in 4G LTE, we stand on the cusp of exciting advances that will bring unparalleled choice and competition to consumers.

But it’s not a forgone conclusion that we will fully realize this technological potential. After all, building, maintaining, and upgrading broadband networks is expensive. And our 5G future will require a lot of infrastructure, given the “densification” of 5G networks. In my country alone, operators will have to deploy millions of small cells, and many more miles of fiber and other connections to carry all this traffic. Doing all this will command massive capital expenditures.

From my perspective, then, the key to realizing our 5G future is to set rules that will maximize investment in broadband. For if we don’t, the price could be steep. After all, networks don’t have to be built. Risks don’t have to be taken. Capital doesn’t have to be spent in the communications sector. And the more difficult government makes the business case for deployment, the less likely it is that broadband providers big and small will invest the billions of dollars needed to connect consumers with digital opportunity.

As we move towards 5G, regulators also must recognize something many people often don’t: Innovation is not limited to the so-called “edge” of networks. Innovation within networks is also critical, especially in the mobile space. To realize the 5G future, we need smart infrastructure, not dumb pipes. And we need to make sure our rules recognize this reality.

Here, too, I’m hopeful. In the United States, we are in the process of returning to the light-touch approach to regulation that produced tremendous investment and innovation throughout our entire Internet ecosystem—from the core of our networks to providers at the edge.

I would like to highlight a few parts of that framework because I believe they will provide the right foundation for 5G. And make no mistake: when it comes to 5G, the United States is committed to moving full speed ahead.

*First*, during the Clinton Administration in the 1990s, American policymakers forged a historic consensus across party lines that the Internet should be free from heavy-handed regulation. Instead of government telling broadband operators where to invest, how much to invest, or how to run their networks, we let market forces guide these decisions. Regulators made a conscious choice not to apply to the Internet the outdated rules crafted in the 1930s for a telephone monopoly. After all, complex rules designed to

regulate a monopoly will inevitably push the market toward a monopoly. Instead, our policy was a modern one that gave the private sector the flexibility it needed to innovate.

*Second*, we encouraged facilities-based competition. In the early 2000s, the U.S. rejected the notion that the broadband market was a natural monopoly. We encouraged broadband providers to build their own networks rather than using their competitors' infrastructure. We eliminated network-sharing obligations, which depressed investment and deterred network construction.

*Third*, we embraced a flexible use policy for wireless spectrum. Instead of mandating that a specific type of wireless technology be used in a particular spectrum band, the government left that choice to the private sector, which is better able to calibrate use to meet consumer demand. This enabled our wireless networks to evolve with technology, including the rollout of 4G LTE on a timeline that matched consumer demand.

*Fourth and finally*, we continually freed up spectrum for mobile broadband. We auctioned AWS-1 spectrum in 2006, 700 MHz spectrum in 2008, and 65 MHz of mid-band spectrum in 2015. And we are now completing our incentive auction, which will reallocate 70 MHz of spectrum from television broadcasters to wireless providers. Our auctions raised nearly \$100 billion for the U.S. government, and they have also enabled operators to meet consumers' insatiable demand for mobile connectivity.

We also moved quickly to open up nearly 11 GHz of spectrum in the bands above 24 GHz for mobile use. This gives operators a clear path to launching 5G and other innovative millimeter wave services in the United States. Moreover, we designated portions of these spectrum bands for both licensed commercial wireless use and for unlicensed or short-range devices, recognizing that there is a synergy between them that makes possible new applications, including the Internet of Things.

But our efforts to facilitate 5G deployments have not stopped there.

For one, the FCC authorized operators to launch 5G trials at cell sites across America. And they will be starting those trials by the middle of this year.

For another, we are currently considering whether to open up even more spectrum in the millimeter wave bands for 5G and other uses.

Together, these policies—light-touch regulation, facilities-based competition, flexible use policy, and freeing up spectrum—have produced impressive results in the U.S. market. Our private sector has spent \$1.5 trillion since 1996 to deploy broadband infrastructure. And consumers reaped the rewards of all this investment. On the wireless side, for example, 98% of Americans now have access to three or more facilities-based providers. And the United States has led the world in the deployment of 4G LTE.

Those are the facts and figures. But think too about how these policies have enabled wireless connections to dramatically change our world. Not long ago, cars, appliances, and other “things” were analog islands unto themselves. Today, we are at the dawn of the Internet of Things, with 15 billion Internet-connected devices and over 50 billion expected by 2020.

Likewise, a generation ago, a cellphone was a big, clunky piece of equipment that enabled scratchy voice calls, if you were lucky. Today, there are nearly 250 million smartphones in the United States alone that consumers use for everything from uploading live-stream videos to playing games—and even placing the occasional phone call. In all seriousness, though, we would not have seen such innovation if, in the 1990s, the government had treated broadband like a railroad or water utility.

However, two years ago, the United States deviated from our successful, light-touch approach. The FCC decided to apply last-century, utility-style regulation to today's broadband networks. Rules developed to tame a 1930s monopoly were imported into the 21st century to regulate the Internet. This reversal wasn't necessary to solve any problem; we were not living in a digital dystopia. The policies of the Clinton Administration, the Bush Administration, and the first term of the Obama Administration had produced both a free and open Internet *and* strong incentives for private investment in broadband infrastructure.

Two years later, it has become evident that the FCC made a mistake. Our new approach injected tremendous uncertainty into the broadband market. And uncertainty is the enemy of growth. After the FCC embraced utility-style regulation, the United States experienced the first-ever decline in broadband investment outside of a recession. In fact, broadband investment remains lower today than it was when the FCC changed course in 2015. And we have seen much concern about whether the FCC would permit or ban service plans.

But today, the torch at the FCC has been passed to a new generation, dedicated to renewal as well as change. We are confident in the decades-long, cross-party consensus on light-touch Internet regulation—one that helped America's digital economy thrive. And we are on track to returning to that successful approach.

Earlier this month, for example, we ended the FCC's investigation into so-called "zero-rating," or free-data offerings. Free-data plans have proven to be popular among consumers, particularly those with low incomes, because they allow consumers to enjoy content without data limits or charges. They have also enhanced competition. Nonetheless, the FCC had put these plans under the regulatory microscope. It claimed that they were anticompetitive, would lead to the end of unlimited data plans, or otherwise limit online access. But the truth is that consumers like getting something for free, and they want their providers to compete by introducing innovative offerings. Our recent decision simply respected consumers' preference.

The best evidence of the wisdom of our new approach is what happened afterward. In the days following our decision, all four national wireless providers in the United States announced new unlimited data plans or expanded their existing ones. Consumers are now benefiting from these offers—offers made possible by a competitive marketplace. And remember: Preemptive government regulation did not produce that result. The free market did.

Going forward, the FCC will not focus on denying Americans free data or issuing heavy-handed decrees inspired by the distant past. Instead, we will seek to advance the networks of the future and the innovative new products and services that take advantage of those networks. And as we do so, we will preserve a free and open Internet. We know

from two decades of experience that utility-style regulation is not necessary to achieving that goal. As one of my predecessors, former FCC Chairman Bill Kennard, put it in 1999: “The Internet is really blossoming, but some policy-makers and politicians want to control it and regulate access to it. We should not try to intervene in this marketplace. . . . [I]n this space, it’s very difficult to mandate openness in a regulatory manner.” In my view, Chairman Kennard was not just practical, but prescient.

At the same time, however, we recognize that government does have a role to play when it comes to broadband. For example, a marketplace that isn’t competitive doesn’t serve consumers well. So our approach will be not zero regulation, but light-touch regulation—rules backed by long-standing principles of competition law.

We will also create incentives to deploy broadband in parts of our country that private investment hasn’t yet reached. Just last week, for example, the FCC announced a plan to spend \$4 billion to expand mobile broadband in rural America. We will devote these funds to bringing Americans living in the analog age into the digital one. And we will do even more in the time to come to incentivize every sector, every company to build networks and to compete.

In short, America’s approach to broadband policy will be practical, not ideological. We will embrace what works and dispense with what doesn’t.

That means removing barriers to innovation and investment instead of creating new ones. That means taking targeted action to address real problems in the marketplace instead of imposing broad, preemptive regulations. And that means respecting principles of economics, physics, and law and acting with humility as we regulate one of the most dynamic marketplaces history has ever known. This vision will unleash the massive investments that will help the United States realize its 5G future.

I’m proud to stand before you today and re-affirm my nation’s commitment to this proven formula. And I look forward to working with all of you to bring the benefits of the digital revolution to billions of people around the world.