

**REMARKS OF
CHAIRWOMAN JESSICA ROSENWORCEL
MOBILE WORLD CONGRESS
“NEW FRONTIER OF PARTNERSHIPS”
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Hello, Mobile World Congress! It’s great to be with you. And it’s great to be back in Barcelona. Because of the pandemic, it’s been some time since this community has been able to come together in this city. Naturally, that has many of us reflecting and looking back. But the fact that we are here together sends a powerful statement that we are moving forward. We also meet at a time when it is essential to come together and renew our commitment to build and sustain peace.

The last three years have been unlike anything we have seen before. As a global community, I am proud to say that we’ve come a long way in that time. Only a few years ago just a handful of countries had launched fifth-generation mobile networks, and only in a few of the world’s largest cities. Today, Ookla reports that 5G commercial networks are up and running in 112 countries around the world. That is more than 95,000 5G deployments, from more than 190 operators—and more are on the way.

Already we see how 5G is changing the way we connect. We have fresh competition in the broadband market, increasing the number of ways households can get online. We have new possibilities for smart grid and new opportunities to manage industrial equipment and warehouses. And healthcare experts are exploring all kinds of medical technologies that rely on the high speed and low latency of 5G service.

These connections have the power to transform so much in our day-to-day lives. But the way I see it, we are only beginning to scratch the surface of next-generation wireless potential.

Today’s session is about how we go deeper and further. It’s titled “New Frontier of Partnerships.” I don’t know how much thought went into picking that name. But in the United States, the New Frontier has historic significance.

So travel back in time with me more than six decades. Imagine 1960. Technology looked a little bit different. We typed on bulky, heavy typewriters and marveled at the invention of the photocopier. But in the United States we also set our sights on putting a man on the moon and we planted the seeds for the early internet in a new government agency for advanced research.

In 1960, John F. Kennedy received the Democratic nomination for President in the United States. In his acceptance speech, he told the crowd that “I believe the times demand new invention, innovation, imagination, decision.” And he challenged a generation of Americans to be pioneers on that New Frontier. It was a call to action. It was a statement of belief that we can create opportunities when we push the boundaries of science and technology to address the challenges we have in the world around us.

I think this idea was true then. I think it's true now. So in that spirit, I would like to offer three ideas for a brighter wireless future—defined by invention, innovation, and imagination.

First up: Invention. To support the next-generation of wireless connectivity, we must work together to free up more spectrum—and especially mid-band airwaves.

One of my first actions as Chairwoman of the Federal Communications Commission was to pivot the United States to mid-band spectrum for 5G. Because it offers an ideal blend of capacity and coverage, this spectrum is key to delivering on the promise of 5G services and ensuring that it reaches as many people as possible. The bottom line is we need mid-band deployment at scale to foster invention in the new 5G spectrum frontier.

On the mid-band front, I'm pleased to report we are making real progress. In October, the United States kicked off an auction of 100 megahertz of prime mid-band spectrum in the 3.45-3.55 GHz band. It was one of the most successful auctions in FCC history. And it's a testament to the power of partnership. Because to make this auction possible, the FCC worked with unprecedented speed and collaboration with its federal partners, including the White House Office of Science and Technology Policy, the National Economic Council, the National Telecommunications and Information Administration, and the Department of Defense.

But that's not all. We recently granted more than 5,600 mid-band licenses in C-band airwaves. Today these licenses are bringing 5G to life for more than 100 million consumers across the country. We are also looking to mid-band spectrum to expand service in our Tribal communities, where we have already issued more than 270 licenses in the 2.5 GHz band. On top of that, we are taking a close look at the 4.9 GHz band and considering how it can be used for 5G services for public safety.

Now for the big reveal. I'm excited to announce today that the United States will hold another mid-band spectrum auction. This July we will kick off our auction of the 2.5 GHz band. This is the single largest swath of contiguous mid-band spectrum we have below 3 gigahertz and the airwaves available in this auction are going to help extend 5G service beyond our most populated areas. Then, no rest for the weary, we will turn our sights to working with our federal partners to open up the next tranche of mid-band spectrum in the 3.1-3.45 GHz band.

There's a common thread connecting all of this work. Our ability to be successful in this mid-band mission is as much about finding partners as it is about finding spectrum. That's why earlier this month I announced a new Spectrum Coordination Initiative with my colleague Assistant Secretary Alan Davidson at the National Telecommunications and Information Administration. This initiative means our agencies will be working together closely to build a whole-of-government approach to spectrum policy. I believe it will help us pursue more coordinated and more harmonized spectrum policies both at home and abroad.

Next up: Innovation. The convergence of next-generation wireless service, network virtualization, and cloud computing, along with the emergence of new data analytics is a big deal for communications. We are poised to move lightyears beyond just the smartphone, with

wireless sensors multiplying and all these connections changing our understanding of the world around us.

This future is not that far off. But the innovative opportunities it offers will depend on—you guessed it—access to spectrum. And in this future, we face a hard truth. Greenfield spectrum—open and cleared for use—will not be as simple or easy to find. We will have to invest in new technologies to promote efficiency and use a range of spectrum policy tools, including shared access, priority and preemption, lightweight leasing, and dynamic database coordination to ensure access to our airwaves.

But going forward I think we also need a change in orientation. In the past, our discussions of spectrum efficiency have been a one-way effort. They have focused almost exclusively on transmitters. We've put a lot of rules in place about how and when transmitters can operate in order to control interference levels. But here's the thing: Wireless communications only exists when transmitters are connected to receivers. Both are vital. Both matter. And going forward policymakers need to consider both transmitting and receiving. Not just the former at the expense of the latter.

That's because minimally performing receivers can make it more difficult to introduce new services in the same or nearby frequencies. They can diminish broader opportunities with radiofrequency and put constraints on what is possible in the new wireless world.

So I believe it is time to take the next step in innovative spectrum management. Next month I will propose to my colleagues at the FCC that we launch a new inquiry to explore receiver performance and standards. This inquiry would ask how receiver improvements could provide greater opportunities for access to spectrum. It would explore how these specifications could come in the form of incentives, guidelines, or regulatory requirements—in specific frequency bands or across all bands. And it would seek comment on legal authority and market-based mechanisms that could help create a more transparent and predictable radiofrequency environment for all spectrum users—new and old.

I especially want to thank my colleague Commissioner Simington for his leadership on these issues and his willingness to work with me on a path forward.

Third and finally: Imagination. We have to start planning for the next-next-generation of wireless technology—or 6G.

I know, I know—it's still early days. But if we have learned anything from our experience rolling out 5G, it's that wireless policy matters for economic and national security. That's true in the United States and true globally. So let's acknowledge that it is time to start thinking seriously about what 6G means and this community is the perfect place to do it.

Let me offer some early contributions to this cause.

While the 6G standard doesn't exist just yet, a lot of research around it right now is about transmitting data in ultra-high frequencies. We're talking hundreds-of-GHz or even the terahertz

range. That's exciting—but let's not forget the lessons we've learned about millimeter wave spectrum and 5G. These waves are fragile. While there's a lot of this spectrum available for wireless use, it doesn't travel very far and right now it is awfully costly to deploy.

So we need to figure this all out. But at the same time we need to bring mid-band airwaves along, too. In fact, I believe for 6G we need to start planning now to identify spectrum in the 7-15 GHz range that can support faster speeds and wider coverage. I also believe it's not too early to harmonize these efforts across the world. That's how we will help ensure this next-generation effort can reach everyone, everywhere.

I also think we need to anticipate the needs of 6G beyond spectrum. In those early days of 5G, there were signals that needed our attention, from the vulnerabilities of supply chains to the changing dynamics of global standards development to the need for more security. We should learn from what came before and recognize that emerging technology benefits from advanced thought and planning. That's why in July, at the FCC I set up a Technological Advisory Council charged with looking beyond 5G and imagining 6G—to set the stage for our success. This effort will help the United States stay on top of new developments and ensure that we can turn the latest scientific research into the communications technologies of the future.

There's an old saying in the United States. We campaign in poetry, but we govern in prose. Back in that seminal 1960 speech John F. Kennedy eloquently asked us to consider how the choices we make in the present shape our future. He told us this is how we reach the New Frontier. I believe it. I also believe invention, innovation, and imagination are the forces that power this effort. We see them in abundance in the wireless world. Now let's seize them for good so that these communications technologies not only reach all but provide opportunity for all. I look forward to working with you to do it.

Thank you.