

**REMARKS OF FCC CHAIRMAN AJIT PAI
AT THE ISRAEL BUSINESS CONFERENCE 2018**

JERUSALEM, ISRAEL

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Shalom (שלום)! Thank you to Globes for the opportunity to speak with you all this afternoon. It's an honor to be at the Globes Business Conference. And more important, it's wonderful to be in Israel. I've been here for a few days already, and it's been a remarkable and rewarding trip.

It's one thing to read about the strong bonds of friendship between the United States and Israel. It's another to experience them firsthand. I'm grateful to everyone who has made me feel so welcome. Special thanks to my Israeli government counterpart, fellow speaker, and—if I may say so—my friend, Director General Nati Cohen, for being such a gracious host.

Our two nations are connected by shared values and shared interests, and that is certainly true in the field of communications. Each of our governments is committed to connecting all of our citizens with what I like to call digital opportunity. And on Monday, the U.S. Federal Communications Commission and the Israeli Ministry of Communications put this commitment into practice. We convened the first meeting of a new Joint Working Group to exchange information and learn from each other's experiences. I'm pleased to report that the relationship between our two agencies has never been stronger, and I look forward to continuing our cooperation in the years to come.

This is the first set of formal remarks I've delivered on this trip. And as an American speaking to a largely Israeli audience, I'm reminded of a story from when Intel was growing its business in Israel. To bridge the differences between their American and Israeli employees, Intel hosted what it called "cross-cultural seminars." Shmuel Eden, who served as President of Intel Israel, ran these seminars. And he had a memorable take on our cultural differences. Eden said, "It's more complicated to manage five Israelis than 50 Americans because the Israelis will challenge you all the time—starting with 'Why are you the manager; why am I not your manager?'"

I share this quote for two reasons. One, I thought it was funny. By your laughter, I'm relieved that you agree. And, two, to lodge a complaint. When it comes to challenging authority, I'd like to think that we Americans take a back seat to nobody. I think this disruptive spirit is part of our shared DNA, something that has made our alliance indispensable for both nations. I also think this assertiveness—*chutzpah*, if you will—is a big reason why our nations are at the forefront of technological innovation.

They call Israel the "Start-up Nation." That's because you have more startups here per capita than any other country in the world. And during my trip, I have seen your innovative spirit for myself. I've visited companies like Siklu, Sckipio, and Gilat Satellite. Using a variety of technologies, they are helping to connect people around the world with high-speed Internet access.

In a similarly progressive fashion, I'm proud to say that the United States still leads the world in venture investment with no signs of slowing. Venture capital investment in the U.S. was 160% higher in 2017 than 2010, and we saw more venture investment during the first half of 2018 than we did during most full years of the previous decade.

The United States and Israel are setting the pace in the global digital economy. As shown by the subject of this session, one of the emerging battlegrounds for technological leadership will be 5G, the next generation of wireless technology.

In just the past few months, I've taken part in discussions on 5G in venues ranging from the White House to the International Institute of Communications Conference in Mexico City to the India Mobile Congress in New Delhi.

Why is everyone focusing on 5G? Well, as David Ben-Gurion used to say, “It’s not enough to be up to date. You have to be up to tomorrow.” And our wireless tomorrow is definitely 5G.

Indeed, the first wave of 5G rollouts is happening now. This fall, consumers in Houston, Indianapolis, Los Angeles, and Sacramento became the first people in the world to enjoy home Internet service that relies on commercial 5G wireless technology. Tomorrow, a U.S. carrier will begin offering 5G mobile services in 12 cities. And all four major wireless carriers in the U.S. have plans for meaningful 5G deployments by mid-2019.

These new networks could effectively remove speed, latency, and capacity as meaningful constraints on wireless innovation. Wireless networks will be 100 times faster, maybe even more. The lag time between a device’s request for data and the network’s response will be less than one-tenth of what it is today. Wireless networks that today support 1,000 connected devices per square kilometer could instead support 1 million.

These are major advancements. And they’ll open the door to new services and applications that will grow our economy and improve our standard of living. For example, smart transportation networks that link connected cars—reducing traffic, preventing accidents, and limiting pollution; ubiquitous wireless sensors that enable healthcare professionals to remotely monitor your health and transmit data to your doctor before problems become emergencies; connected devices that empower farms to apply precision agriculture. And much more, including advances which we can’t even conceive of today.

At the FCC, we certainly feel a sense of urgency around 5G, and we are acting accordingly. Let me just briefly walk you through what we are doing at the Commission to promote 5G innovation.

We call our strategy the 5G FAST plan, and it has three key components: (1) freeing up spectrum, (2) promoting wireless infrastructure, and (3) modernizing regulations. Here are some highlights in each area.

On spectrum, the first part of our plan, the FCC has moved aggressively to make more airwaves available for the commercial marketplace because the services and applications of tomorrow will require much more bandwidth. That’s why we are currently in the process of auctioning the 28 GHz band and will follow that up with an auction of the 24 GHz band. And that’s why we will be auctioning three more spectrum bands in the second half of 2019: the Upper 37, 39, and 47 GHz bands. Altogether, we will release almost 5 GHz of spectrum into the commercial marketplace by the end of next year. That’s more than all wireless carriers in the United States are currently using for mobile broadband.

We’re also working to make many other spectrum bands available for commercial use, including for unlicensed. In particular, we believe that the 6 GHz band can help drive the next generation of Wi-Fi, and I am optimistic that we will be able to make it available for unlicensed use in 2019.

Turning from spectrum to physical infrastructure, the second part of our 5G FAST plan, analysts project that deploying 5G in the United States will require an estimated 800,000 new cell sites by 2025. This is because 5G will require densified networks of small cells rather than just a few large towers dotting the landscape. For context, there are roughly 300,000 cell sites in the U.S. today. So we have work to do.

To further illustrate our infrastructure challenges, consider this: In the United States, it takes about one or two hours to install a small cell on a utility pole. But it can routinely take more than two *years* to get the approval to install it. Another problem is excessive fees imposed by short-sighted local governments. Siting fees per small cell can be as low as \$50 in an investment-friendly place like Phoenix, but as high as \$5,000 elsewhere.

We cannot and will not let today’s red tape strangle the 5G future. That’s why the FCC has reformed our wireless infrastructure rules, and why we’ll keep doing so. Earlier this year, we reformed our historic preservation and environmental regulations so that small cells don’t have to jump through the

same regulatory hoops as a 200-foot tower. And this fall, we approved an important order promoting 5G infrastructure. It sets a reasonable shot clock for cities to rule on small-cell siting applications. And it sets reasonable limits on siting fees, limits that allow localities to cover their costs.

The third part of our 5G FAST plan is modernizing regulations. In that regard, the FCC is revising or repealing outdated rules to promote investment in the wired backbone of 5G networks. We recognize that 5G isn't just about wireless. To make 5G networks a success, you also need a lot of fiber for backhaul. So that's one of the reasons why we decided to move away from utility-style regulation of broadband networks and toward a light-touch, market-based regulatory framework.

And that's why we are making it cheaper and easier to string fiber lines on utility poles with what we call "one-touch make-ready." This policy would allow a single entity to do the advance work to make space for broadband infrastructure on a utility pole. It will substantially lower the cost and shorten the time to deploy broadband on utility poles, and thereby promote more deployment and competition.

Now, that's 5G. Hand-in-hand with our work on that, the FCC is looking at the ways other emerging technologies, such as artificial intelligence, quantum computing, blockchain, and the like, are changing the communications marketplace and could potentially benefit consumers.

Three weeks ago, the Commission hosted a forum on AI and machine learning. I hope this will be one of many on emerging technologies. It's important to note that this event was about discussion and demonstration, not preemptive regulation. For example, one of the topics discussed was how AI could make it cheaper to operate communications networks and improve network resiliency. I do not intend for the FCC to pursue regulation in this area. History tells us that new technologies will evolve in ways that people don't or can'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.

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Early in my remarks, I briefly touched on why the FCC is focused on next-generation technologies like 5G. I'd like to close by extending this point. Earlier this year, the American author Avi Jorisch released a book called *Thou Shalt Innovate*, which examines how Israel became a tech powerhouse. His central thesis is that previous explorations of this topic, which identify factors like world-class universities, government investment in R&D, and a talent pool that draws immigrants from around the world, overlook a key element—the Jewish tradition of *Tikkun Olam*, or "healing the world." Jorisch writes that a disproportionate share of the innovations that come out of Israel also wind up making the world a better place—from modern drip irrigation to the first firewall to protect data online to United Hatzalah, a smartphone app that deploys highly trained EMTs on retrofitted motorcycles to high-traffic areas in a fraction of the time of traditional ambulances.

Jorisch argues that your commitment to improve the lives of others across the globe, to be a "light unto the nations" was integral to these breakthroughs. As a government official charged with advancing the public interest, I find this argument to be both appealing and inspiring. Digital innovations like 5G are not ends in themselves; they are the means to improve people's lives around the globe. That is why our work matters here. That is why our friendship and collaboration will make a difference. And that's why I look forward to working with all of you to promote digital opportunity in the United States, in Israel, and throughout the world. Thank you—*toda* (תודה).