

**KEYNOTE ADDRESS OF FCC COMMISSIONER AJIT PAI
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I have given many speeches during my time as a Commissioner at the U.S. Federal Communications Commission, or FCC. But this one is truly special to me. I was born and brought up in the United States, but my family's roots are here in India. My mother grew up in Bangalore, and my father was raised in Hyderabad. In 1971, they came to the United States with just a radio and ten dollars in their pockets.

Now, forty-three years later, here I am, in the country of my forefathers, speaking to you as the first Indian-American to serve on the FCC. The credit for this goes to my parents, who, like many immigrants, sacrificed to give me opportunities not available to them as children. It goes to my grandparents, who instilled in my parents the value of hard work and the vision to dream big. And it represents one small aspect of an enduring link between India and the United States.

Speaking of my grandparents, I remember how difficult it was to communicate with them when I was a child. Back then, there were no cellphones, no free long-distance calls, no Skype. Instead, my grandmother had to reserve a ten-minute block at a Bangalore post office well in advance just to use a phone. These international calls were quite expensive, so my family's conversations were efficient rather than expansive. There was no email or WhatsApp, so I had to wait and hope for those occasions when my grandfather sent me an Aerogram, his stories scribbled into the margins.

The world today is nearly unrecognizable by comparison. At home, I shoot videos of my two-year old son and five-month old daughter with a smartphone, upload them onto YouTube, and within seconds, my relatives here in India can watch them on their mobile devices. And we can talk on the spur of the moment as well, often for free. Our countries might remain separated by about eight thousand miles, but my family feels a lot closer today than it did in the 1970s.

India, too, is changing fast. Over the past few days, I've had a chance to meet the entrepreneurs at Little Eye Labs, a mobile app optimization startup that was just acquired by Facebook. I've had a chance to hear from the leader of a major radio company who is bringing content to millions of listeners and encouraging Indian women in all fields to join the executive ranks. I've had a chance to learn from a technology company that last year grew by over 3,000 employees and is using the Internet to pioneer telemedicine. The company had no presence in India *at all* when I visited a decade ago.

My experience, and India's, are just two examples of what has been made possible by the digital revolution. The theme of this year's FICCI Frames is "Media and Entertainment: Transforming Lives." Over the next three days you'll hear many speakers highlight ways that content and technology are powering social change. I'm looking forward to learning from those on the cutting edge when it comes to film and broadcast, animation and gaming, visual effects and social media.

By contrast, I am not in the business of creating content. So be forewarned; my remarks today won't be as exciting as Hugh Jackman's appearance at this conference three years ago. Among other differences, there's no way I will be dancing with Shah Rukh Khan or any other legend of Indian cinema.

When it comes to content, I know what I like as a consumer. But as a regulator, I don't believe that it is my place to impose my preferences upon others. Everyone has different tastes, particularly in countries as diverse as the United States and India. So I firmly believe that the marketplace, not government, should sort out success from failure. The proper role of regulators, in my view, is to create a framework that fosters innovation and allows content to be broadly disseminated. And that means encouraging investment in the networks that connect those who create content to those who consume it.

How important are those networks? Well, half a century ago, the Chairman of the FCC, Newton Minow, proclaimed that television was a vast wasteland. But today is the golden age of video. The marketplace gives Americans more choices than ever before. Broadcast television stations (known here as terrestrial television) transmit high-definition programming and multiple programming streams. Over five hundred programming networks are available through cable and satellite providers. And almost half of Americans have digital video recorders that allow them to record programming and watch it at their convenience.

Internet video providers (known in the United States as over-the-top providers) are impacting the market in a big way. Connected devices like Roku let consumers stream Internet programming onto their own TV sets. Mobile video is exploding with more Americans viewing content on their tablets and smartphones. This freedom to watch what you want when you want and how you want has even encouraged some consumers to drop cable or satellite service altogether. Lest there be any doubt of the impact of Internet video, consider this fact: Today, the largest Internet video provider, Netflix, has more American subscribers than any single cable or satellite operator.

The ubiquity of broadband has opened up huge opportunities in Internet video. These range from original, award-winning programs featuring Hollywood movie stars to the less acclaimed, but still loved, uploaded home videos featuring our children and pets. Americans also now enjoy watching old episodes of broadcast and cable programs at their convenience over the Internet. Often, we watch numerous episodes in one sitting, a phenomenon known as "binge viewing." Our demand for Internet video is so extraordinary that just two video services—Netflix and YouTube—account for over half of all downstream traffic on our fixed broadband networks, and video makes up 56% of mobile data traffic.

The United States is at a point where broadband and video have joined to form a virtuous cycle. Consumers' appetite for Internet video is placing new demands on broadband providers to expand the highways that carry that traffic. Providers are doing just that. Cable operators are spending billions of dollars upgrading their technology using a new technical standard that transmits data much more quickly. Telephone companies are deploying more fiber. Wireless providers are expanding 4G LTE networks. And a new entrant, Google, is activating gigabit fiber in cities across the country.

One might ask: How has this all happened? Well, it wasn't government fiat. The government didn't invent the iPhone. It didn't launch Netflix. It didn't install fiber to the home.

It was private enterprise, taking risks to innovate and build, and competing for consumers in the free market, that brought about the digital revolution. It was our private sector that spent over one trillion dollars over the past fifteen years to upgrade cable systems, launch satellites, lay fiber, build towers, and deploy our broadband infrastructure.

Rather than owning companies or directing capital spending, the United States Government has sought to create a regulatory framework that gives companies the right incentives to make these investments. And this morning, I'd like to briefly highlight three successful strategies we have employed in this regard.

First, we have removed regulatory barriers to infrastructure investment. Second, we have created a free market for spectrum. And third, we have embraced free trade and foreign direct investment as a way to promote capital formation. Each has played an important role in fostering the innovation we see in America today. And I believe each serves as a valuable lesson for regulators going forward.

For the last twenty years, it has been the policy of the United States that the Internet be unfettered by government regulation. In other words, instead of micromanaging networks or the content that rides over those networks, we have focused on removing obstacles to infrastructure investment wherever we find them. That ultimately gives consumers easy access to the content they want, when and how they want it.

This was a conscious decision by regulators. At the beginning of this century, the United States faced a fundamental choice. Would we apply to the Internet the heavy-handed economic regulations designed for telephone monopolies? Or instead, would we adopt a modern approach that would give the private sector more flexibility to innovate? Thankfully, we chose the latter path. In 2002, the FCC applied a light-touch regulatory model to cable operators offering Internet service. In 2005, we did the same for telephone companies. And in 2007, we made clear that this deregulatory model also applied to wireless broadband.

These decisions yielded major results. From 2001 to 2009, the number of Americans with broadband at home skyrocketed from six percent to sixty-three percent. And during those same eight years, the price of wireline broadband fell by more than fifty percent.

We have also removed regulatory barriers in the video marketplace. Entry into that marketplace was often a challenge as we entered the twenty-first century. Cable companies had to get permission from local governments to offer cable service, and that was often quite difficult. This caused a problem for broadband deployment because building out is generally profitable only if a provider is able to offer a competitive bundle of services: Internet, telephone, and video. In the words of the FCC, broadband deployment and entry into the video market are "inextricably linked."

To fix this problem, the FCC, joined by many state governments, made it easier for competitors to offer video services. This produced big benefits for consumers as telephone companies, in particular, entered the video market, expanded their fiber networks, and accelerated the deployment of high-speed broadband.

Even today, the United States is breaking down regulatory barriers to infrastructure investment. The big question we face is how to fully transition from the analog world to a digital one based on the Internet Protocol, or IP. Right now, our regulations require telephone companies to maintain two networks: a legacy network based on copper lines and a new, IP-

based network. This is inefficient, and it deters high-speed broadband deployment. For every dollar spent to maintain the infrastructure of the past is a dollar that can't be used to build and expand the networks of the future.

That's why the FCC recently decided to move forward with local experiments in which companies can move customers from old networks to IP networks. We are going to see what happens when aging infrastructure is turned off. These tests will give us valuable data. And we will then use that data to make a successful national transition to all-IP networks. Once that happens, companies will be able to focus their investments exclusively on high-speed networks.

The federal government isn't the only one looking to make it easier for the private sector to build and improve networks. Back home, we have an expression: "Not in my backyard." Its abbreviation is NIMBY, and it refers to a common attitude throughout the world. Everyone wants the benefits that come with progress, but few want to have something built right next to their house. For example, people want high-speed mobile broadband but they don't want a tower they can see from their kitchen window.

This poses a dilemma for governments at all levels. That's why we are looking for ways to promote the physical infrastructure needed for broadband while still preserving environmental and cultural interests. One idea is to tailor government oversight to the size of the deployment. Under this approach, what are called small cells—equipment for wireless networks that in some cases is the size of a Parle-G biscuit—wouldn't need the same level of regulatory review as the construction of thousand-foot towers. Another idea is for government to streamline requirements for permits and provide cheaper and easier access to the rights-of-way, poles, and underground ducts necessary to build and upgrade wired networks.

So that's our first strategy: infrastructure. Our second strategy is a free market for spectrum. Here, the United States made some key decisions that set the stage for explosive growth in mobile broadband. For one thing, we adopted what we call a flexible use policy. Instead of prescribing how wireless carriers must use spectrum, we left those choices to the private sector, which is much more attuned to consumer demand. That has enabled networks to evolve with technology without the need for government sign-off at each step.

Second, the United States pioneered the use of competitive auctions to distribute spectrum licenses. This market mechanism has allowed us to put spectrum to its highest value use. Between 2006 and 2008, for example, the United States successfully pushed 142 MHz of spectrum into the commercial marketplace. These auctions raised over \$30 billion for the United States Government. And this spectrum is now being used to provide tens of millions of Americans with 4G LTE service and is the main reason that the United States is currently home to almost half of the world's 4G subscribers.

Today, we continue to make more spectrum available for mobile broadband. Last month, we raised over \$1.5 billion in our first spectrum auction since 2008, and we intend to hold another auction later this year. Then, in 2015, we aim to hold the world's first broadcast incentive auction. This will be a two-sided auction where broadcast television stations will have the option of selling their spectrum and wireless carriers will have the opportunity to buy it. The television stations that decide to keep their spectrum rights will need to be relocated to different channel assignments. It's complicated to structure a spectrum auction when you don't know what the supply and demand is going to be. Indeed, it will be more difficult to pull off than a

Bollywood dance number. But given the need to free up more spectrum for commercial use, we have no choice but to be bold.

I believe that our experience with auctions, which now spans about two decades, offers valuable insights to the rest of the world. For example, auctions are more successful when they are kept simple, transparent, and market-driven. That means setting clear rules in advance and sticking with them. That means avoiding onerous conditions on particular spectrum. That means giving everyone a fair opportunity to bid. These are the best ways to promote network construction, to raise money for the treasury, and to give consumers the benefits of innovative new services. In short, the government should establish a level playing field when it comes to auction rules rather than trying to micromanage who wins and who loses.

Our last strategy has been to send a loud and clear message that we welcome investment in our telecommunications sector from around the globe. The FCC has found that “foreign investment has been . . . an important source of financing for U.S. telecommunications companies, fostering technical innovation, economic growth and job creation.” If foreign companies want to spend capital building and upgrading networks in the United States, we think that’s a good thing for American consumers. That’s why last year we approved a Japanese company’s purchase of over 70 percent of Sprint, our nation’s third-largest wireless carrier. And now, two of our four national wireless carriers are run by foreign corporations.

Historically, however, the United States has been more cautious when it comes to foreign investment in broadcast stations. In fact, it had been virtually impossible for foreign companies to own more than 25 percent of a U.S. broadcaster. That policy was outdated and harmful to our country’s television and radio broadcast industry. As a result, the FCC last November voted to change that approach.

I hope that other nations too will liberalize their own foreign investment policies. Restrictions on investment in communications ultimately limit cultural interaction. After all, one of the great things about the digital era is that there is “*ek technology, ek duniya*.” Technology means connection across countries and cultures. It transforms lives everywhere. So just as my kids’ YouTube videos link my family near and far, an open communications sector can maintain and deepen the relationship between two of the world’s largest and most diverse democracies, two allies, two friends.

In conclusion, I am deeply grateful for the invitation to speak this morning. And my commitment to a strong relationship between the United States and India isn’t just professional. It is personal. So consider this a return invitation: stay in touch. My office has an open door policy, both literally and figuratively, so if you are ever in Washington, DC, stop by. You can also reach me on e-mail, ajit.pai@fcc.gov, and even on Twitter, [@ajitpaifcc](https://twitter.com/ajitpaifcc). I look forward to hearing from you.

Thank you and best wishes for a successful conference.