

**PREPARED REMARKS OF FCC CHAIRMAN JULIUS GENACHOWSKI  
PRESIDENT’S COUNCIL OF ADVISORS ON SCIENCE & TECHNOLOGY  
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It truly is an honor to appear in connection with this esteemed— and that's not an understatement – Presidential panel whose roots go all the way back to FDR’s administration.

More important, thank you PCAST for this profoundly important report on spectrum, in particular thanks to Mark Gorenberg, who I know has worked so hard on this project, and John Leibovitz of my team at the FCC for his commitment and creativity.

For this prestigious committee to issue a major report on spectrum is a big deal, and it says a lot about the PCAST’s, and ultimately, the President’s commitment to seizing the opportunities of mobile broadband.

The President has said, “We want to invest in the next generation of high-speed wireless coverage for 98 % of Americans. This isn’t just about faster Internet or being able to find a friend on Facebook. It’s about connecting every corner of America to the digital age.”

And there is mounting evidence that the wireless agenda President Obama has advanced – with the help of this committee – is working.

Across the mobile sector, we see good news: Innovation is up. Investment is up. Job creation is up. Consider these facts:

We are leading the world in deploying 4G mobile broadband at scale, with 69% of the world’s LTE subscribers, and Deloitte estimates 4G investment and innovation will create 770,000 new jobs by 2016.

The U.S. apps economy, which barely existed at the start of 2009, is the envy of the world and has created nearly 500,000 new jobs.

Since 2009, the percentage of smartphones globally with American-created operating systems has grown from 25% to more than 80%.

In 2011, venture investment in Internet start-ups reached its highest levels since 2001.

And annual private investment in our wired and wireless broadband networks - in our innovation infrastructure - is up 30% since 2009.

U.S. innovators and entrepreneurs have made this progress possible and smart government broadband Policies have facilitated their success.

If everything is so great, why are we all here?

We’re here because our success around mobile is creating enormous new challenges.

Demand for spectrum is increasing exponentially.

As a consequence, American networks are running at the highest utilization rate of any in the world.

And increase in demand will go up as time rolls out, not down, creating even more of a spectrum crunch.

We need more spectrum capacity and more spectrum efficiency, and we need it soon. It's a very real challenge.

But it's the kind of challenge we want to have, because it comes from too much demand.

Believe me, this is much better than the opposite problem.

As the wireless world had changed so dramatically and so quickly, we all know that the old ways of unleashing spectrum for broadband are not enough.

Historically, our basic strategy has been to clear spectrum and reallocate it.

This is a strategy that has delivered tremendous benefits for America.

With new spectrum we not only add capacity, we enable innovation - new technologies, new architectures, new network concepts.

The original 800 MHz bands brought us analog cellular, PCS brought digital, and the DTV transition has brought us 4G.

Landmark changes to the FCC's Part 15 rules enabled WiFi and Bluetooth.

It's hard to even imagine modern life without these innovations.

Whenever possible, we must continue to clear and reallocate - to clear inefficiently used spectrum for flexible broadband use.

Sometimes this may be a matter of will. Sometimes it may require new approaches.

Incentive auctions – proposed in our National Broadband Plan – is one new way to reallocate commercial spectrum to flexible use.

And I look forward to working with many of you to implement the recently passed incentive auction legislation.

But in order to keep pace with our nation's broadband demands, we *also* need to develop new tools to supplement the old ones.

Spectrum sharing is one such tool.

That's why PCAST's efforts are so valuable.

Just as incentive auctions are a big new idea and new tool for freeing up spectrum for commercial use, PCAST's recommendations on government/commercial sharing are a big idea on freeing up spectrum for commercial use. Both ideas can help drive our economy and job creation.

I'm pleased to report that at the FCC we have been working hard on various spectrum sharing initiatives.

Let's take a moment to reflect on what exactly spectrum sharing means.

In a sense, spectrum has been shared since the Commerce Department began issuing radio licenses 100 years ago, in 1912.

Our system of licensing and allocations is a way of dividing spectrum up in frequency and geography to allow multiple uses and users.

Of course, most current approaches tend to be very static in nature.

So what's new and exciting is the prospect that technology can turbocharge sharing not only in frequency and space but also in time.

In fact, cutting-edge wireless technologies like LTE and the latest flavors of Wi-Fi do just this.

They provide mechanisms for finite amounts of spectrum to be shared among millions and millions of users.

Sharing between commercial and federal users can pay major dividends for everyone involved.

I mentioned the ways it can drive our economy and job creation.

From the perspective of government spectrum users, it can also help narrow the growing gap between functionality and cost of military and other government communications equipment and commercial communications equipment.

It can do this by allowing federal agencies in shared bands to tap into the massive \$300 billion global supply chain for commercial wireless equipment.

This enormous scale is improving the price/performance equation every day in the commercial sector, and can do the same for federal spectrum users.

Looking into the future, we'll increasingly see different sharing approaches for different circumstances in different bands.

I expect we'll see greater use of the Dynamic Frequency Selection methods, which allow unlicensed networks to coexist with radar systems in the 5 GHz band.

And we may see licensed terrestrial mobile networks coexist with airborne systems, taking advantage of some of the interference management features built in to standards like LTE.

That's why the new tests in the 1.7 GHz band are so important.

Thank you to the administration for your support on this.

And while the FCC has pioneered the development of White Spaces sharing in the TV band, I think we'll see this concept extend, as the PCAST report recommends, to other bands too.

And Today, I'm pleased to announce our plan to begin a proceeding to move forward on small cell use in the 3.5 GHz band..

I'll work with my FCC colleagues to issue a notice of proposed rule making later this year. I expect it will consider some of the amazing ideas contained in the PCAST report, among others.

Let's all work together to maximize the usefulness and availability of the 3.5 GHz band.

This can become an important proving ground for technologies to help solve some of the thorniest spectrum management challenges – not only from the perspective of increasing capacity for new commercial uses, but also protecting government missions vitally important to national security.

Working together, we can unleash the full potential of wireless to drive a bright future for all Americans.

Thank you.