Prepared Remarks of Chairman Julius Genachowski
Federal Communications Commission

"Innovation in a Broadband World"

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Thank you, Walter for that introduction, and congratulations on your well-deserved nomination as Chairman of the Broadcasting Board of Governors. I don't know what's tougher, being the first speaker after Jeff Immelt and Paul Otellini or the last speaker before lunch. Regardless, I'm honored to be here.

I'd like to thank our hosts the Aspen Institute, Intel, the *News Hour with Jim Lehrer*, and Democracy for inviting me to participate in this important conference on innovation at this critical time.

And I'd like to thank President Obama for nominating me earlier this year on the anniversary of the birth of one of our greatest innovators: Alexander Graham Bell. As the President has said, "The United States led the world's economies in the 20th century because we led the world in innovation."

Innovation is essential to economic growth, job creation, and our global competitiveness. It's essential to developing solutions to major national challenges like education, health care, and energy. But as you've heard repeatedly throughout the conference, our position as the world's leader in innovation is being challenged like never before.

In today's global innovation economy, to stand still is to fall back.

Earlier this month, I met in Beirut with leaders of communications agencies from around the world, and I can tell you that other countries are not standing still. They are focused on the deployment and adoption of 21st century information and communications technologies. Twenty-two countries have already developed and are executing national broadband plans. The United States, by contrast, didn't commit to developing a broadband plan until last February when the Recovery Act directed the FCC to do so.

The new survey commissioned by Intel and *Newsweek* reveals that only one-third of Americans believe the United States will lead the world in technology innovation over the next 30 years. One of the dangers we face is the possibility that we convince ourselves that for some reason America's most innovative days are behind us.
I don't agree with that. While we are at a crossroads, I believe that if we make the right choices we will continue to lead the world in innovation.

My optimism flows in part from my vantage point at the Federal Communications Commission, where our work every day involves a sector of the economy that continues to show extraordinary promise.

Information and communications technologies and networks have become essential to virtually every aspect of American life, from how we conduct business, to how we get medical information, to how our kids do their homework.

The Information and Communications Technology (ICT) sector accounts for roughly one-sixth of our economy and an even greater share of GDP growth. Even in the vicious economic crisis we've been experiencing, the ICT sector has been launching new services, building new products, and creating new jobs -- and it has the potential to do even more.

In the U.S., we have a single agency with jurisdiction reaching across this vibrant sector. I imagine Herbert Hoover didn't anticipate digital convergence when he and others drove the creation of the FCC as a single commission dealing with telephone wires, spectrum-related communication, and media.

But in this age of convergence there are real benefits to having a "converged" agency, in contrast to the common arrangement in the rest of the world where two or three agencies handle these areas. It gives us at the FCC the opportunity to look at the full landscape and try to make decisions that promote innovation over the long-term across the entire ecosystem.

The staff at the FCC has long brought extraordinary talent to these topics, with a breadth of experience and disciplines: economists who pioneered the use of auctions to allocate spectrum, spurring competition and driving investment; engineers who drove new uses of what once was called "junk spectrum," leading to innovations like Wi-Fi; lawyers and academics who developed the thinking behind path-breaking global agreements on telecommunications services, opening markets around the world.

That excellence -- that exceptional diversity -- is growing daily among the FCC staff as amazing new people make the leap to public service: people who've run multi-billion dollar P&Ls and successful startups; who've commanded Navy fleets; and who've headed important state agencies. The FCC team includes investors, entrepreneurs, doctors, teachers, authors, consumer advocates, and PhDs in theoretical physics. We even have an alumnus of Yale Law and McKinsey who won the million-dollar first prize on Survivor.

As I see it, the FCC is at its best -- at its most innovative -- when talent of this kind is unleashed to think boldly and creatively about the strategic challenges and opportunities that lie ahead; when FCC staff is empowered to act for the long-term interests of our country; when we engage the public through open, participatory processes; when we are making decisions based on facts and data; and when we use new media and technologies to do our jobs better.

In this sense, the FCC reflects the process of innovation more generally. What I saw in the private sector I see in government. It takes a breadth of talents and an openness to new thinking, new ideas, and new ways of doing things to produce real innovation. And as I dive into some thoughts about how the FCC can promote innovation, I'd like to start by prying apart the concept of innovation just a bit to provide some framework for tackling the subject.

As I see it, there are three, mutually reinforcing types of innovation -- technological innovation, business innovation, and social innovation -- each important to achieving the maximum benefits for society of what we put under the umbrella of "innovation."

Technological innovation is probably what most people think about when they hear the word innovation. It stems from research and development that gives us new discoveries and inventions, and feeds the pipeline of new products and services. It is the work of brilliant engineers and scientists who gave us, for example, the telephone, the radio, the TV, and the Internet.

It's what made it possible in 1983 for Ameritech Mobile president Bob Barnett to place the first commercial cell phone call from Soldier's Field in Chicago to Alexander Graham Bell's grandson -- using a $4,000 Motorola analog cell phone that was the size of his head and weighed two pounds. It's also the ingenuity and breakthroughs in digital signal processors and energy efficient batteries that have allowed those brick phones to evolve into the mini-computer smartphones many of us have in our pockets right now.

Technological innovation is often what we don't see, but can't live without and shouldn't take for granted. For example, there is extraordinary and growing intelligence inside wired and wireless networks that takes indescribably large amounts of text, voice, and video, translates them into digital 1s and 0s, zips them instantly around the world, and reassembles them into something you can read, hear or watch -- all faster than you can say: "Sorry, stuck at work, won't make it home for dinner."

Technological innovation is essential, but it's not enough by itself to create the jobs, economic growth, and consumer benefits we seek. For society to translate technological innovation into tangible economic benefits, we need a second type of innovation -- a vision for how to create economic value out of new inventions or the reconceptualization of old ones. Call it business innovation.

Again and again, our leading wired and wireless telephone, television, cable, satellite, computer, Internet, and other information and communications technology companies have developed new business models for new technologies. These business models have allowed them, in turn, to support further innovation and investment in devices and services, in the network, and on the edge of the network. Google's search algorithm, for example, was a powerful technological innovation, but we might not be talking about the company now without business innovations like AdSense and AdWords that generate the revenue to support its search operations.

Today -- and not entirely unrelated -- we face new challenges in business innovation, such as how to finance news-gathering operations in the Internet age. It's hard to think of a topic more important to the health of our democracy. It's why the FCC is taking up the call of the Knight Commission and others to explore measures to ensure a vibrant news and media landscape in the digital age.

The third aspect of innovation is social innovation. These are the ways in which social entrepreneurs apply technological and business innovation to help solve our greatest challenges in new ways. What's noteworthy is that these innovations, often nonprofit, are frequently built on tools, technologies and techniques developed in the commercial setting. You could think of them as "social spinoffs."

The business executives who participated in the first commercial cell phone call at Soldier Field in 1983 were probably focused on the profit and ROI potential of this new technology. The college students who developed Facebook in a college dorm room… well, heaven knows what they were aiming for at the time. But safe to say these pioneers weren't focused on the possibility that one day the Healthy Babies Project in Northeast D.C., which my colleague Michael Copps visited, would be using mobile texting and Facebook messages to help at-risk mothers stick to a healthy pre-natal care regimen.

Consider YouTube. Yesterday's videos of cats playing piano are today's streaming lectures and video tutoring. The existence of eBay and Match.com helped spawn a variety of successful nonprofits, like DonorsChoose, which connects public school teachers who need classroom supplies with people who want to contribute funds to support them.

There are many examples. The point is that technological and business innovation not only generates economic growth and job creation, but also lowers the cost and increases the reach of social entrepreneurs.

The history of the communications sector has been wave after wave of innovation, technological, business, and social -- involving the telephone, radio and television, satellites, computers, the birth of the Internet.

Each wave has reshaped the communications industry and has had ripple effects throughout our nation's economic and civic life -- creating jobs, increasing productivity, contributing to economic growth, and empowering entrepreneurs, consumers, and citizens.
What should be the role of government -- and, more specifically, the FCC -- to enable continued waves of innovation in communications that will benefit our economy and the American people?

As a recent report from the National Economic Council and the Office of Science and Technology Policy pointed out, "The true choice in innovation is not between

government and no government, but about the right type of government involvement in support of innovation."

The materials for this conference point to four key pillars of innovation policy: people, ideas, investment, and leadership. Agree, agree, agree, agree. But I would add two more pillars. I feel comfortable doing so because the four pillars already violate the rule I learned from my friends in consulting that all strategies must come in threes.
The two additional pillars of innovation policy I'd suggest are competition and infrastructure.

First, competition. Our work at the FCC is guided by the firm belief that promoting competition is one of government's most powerful tools for spurring innovation because competition is the mother of invention. Throughout its history, the agency has done best for the country when it has encouraged free and open markets, when its rules have empowered consumers to pick winners and losers, and when it has enabled innovators to innovate without permission.

Some of the largest and most successful companies in the communications landscape started as small entrepreneurial ventures, knocking at the FCC's door, asking for a chance to compete.

The lesson of the FCC's experience across its landscape is that, even when some established entities might understandably prefer otherwise, the right long-term answer for the country, and for the broadest array of businesses and consumers, is to favor freedom, openness and competition. It was the right answer, for example, when the FCC adopted rules to promote cable and satellite as competition to broadcasting; when it took steps to promote the entry of telephone companies into video and vice versa; and when it introduced new entrants to mobile and adopted rules to ensure they had a fair chance to compete.

The success of the Internet is powerful evidence of the lesson of open competition -- both in the marketplace of ideas, furthering vital First Amendment interests, and in the marketplace of products and services. That's why we launched a proceeding to adopt fair rules of the road to preserve a free and open Internet.

Of course, there are real congestion and network management issues that operators must address, particularly around wireless networks, and we must allow reasonable network management, and ensure we have a climate and a set of policies that encourage investment and the development of successful business models.

As the next generation of the Internet unfolds, we should not unlearn the lessons of history. To further our goal of U.S. leadership in innovation, the Internet should not close on our watch.

The second pillar of innovation policy that I would add: infrastructure.

And the great infrastructure challenge of our time is the deployment and adoption of robust broadband networks that deliver the promise of high-speed Internet to all Americans.

Broadband is reshaping our economy and our country more fundamentally than any technology since electricity. Indeed, there are echoes in the current moment of the era when electricity became widely available in America, unleashing a torrent of innovation. Ubiquitous electricity extended the day into the night. It brought us refrigerators and washing machines; radios and televisions; phones, wired and wireless; data processors, then computers. These and other electricity-driven appliances transformed virtually everything about how we live and how we work.

Our electric grid was the platform for innovation that, as much as anything, helped propel the United States to global economic leadership in the 20th century. Our broadband grid has the potential to play the same role for the 21st century. Where we once had electricity-driven appliances, we now have information-fueled applications.
An "app for that" could have been the motto for America in the 20th century too, if Madison Avenue had predated electricity.

Ubiquitous high-speed broadband, like other transformative general purpose technologies, can spark innovation of every kind -- many we can imagine, and even more we can't. Indeed, broadband offers particularly powerful opportunities for accelerated innovation through the broad and fast collaboration and information-sharing it enables.

Because of its power to propel innovation, broadband can be our platform for economic prosperity and opportunity for all Americans. It can be our engine for enduring job creation and economic growth. Our Internet ecosystem has already created millions of jobs, and universal broadband can accelerate that. Studies show that increases in broadband penetration translate into increases in GDP.

Broadband-based innovation is also an essential part of the solution to almost every major challenge our country faces: including education, health care, energy, and public safety. And it can drive robust democratic engagement for decades to come.

This is why I think infrastructure is a key pillar for innovation. It's in this context that we at the FCC are developing a National Broadband Plan. In large measure, we see it as a national innovation plan.

And our goal is clear -- to ensure that 21st century communications networks are our nation's platform for technological, business and social innovation. The FCC's broadband plan is due in less than three months. We've been running a vibrant, open process, and the door is still very much open for input and ideas.

Let me mention a couple of areas of current focus. First, maximizing deployment and adoption of broadband.

I attended a Commission hearing yesterday at MIT on broadband and energy. One theme that was universally shared among the panelists: the importance of universal broadband deployment and adoption to realizing the benefits of smart grid and a clean energy future.

In our FCC process, we've heard similar points about health care and about education. And we've heard similar points about job searching and job training. Increasingly, job postings are online only; if you can't get online, you can't find a job. And increasingly, jobs require basic familiarity with digital tools and services; if our kids aren't digitally literate, they won't succeed in a digital economy.

We've learned that one new frontier for innovation will be the home. Broadband is about much more than desktop computers -- it's about connecting a new generation of intelligent home devices around energy, health care, education, and TVs. And it's about a new wave of innovation in home appliances to rival the one brought about by electricity.

In our proceedings at the FCC, we've learned that the costs of digital exclusion are growing, and that too many of our fellow citizens still aren't on the information grid. Millions of Americans live in areas where there is no broadband service. Thirty-five percent of Americans aren't subscribers to broadband, even where it's available; and that figure is much higher -- almost double in some cases -- for certain communities, including low-income and rural Americans, minorities, and the elderly.

In connection with our broadband strategy we'll lay out a game plan on these issues, looking at a broad-range of ideas, including examples of successful public-private partnerships. Our work will include a plan to reform the biggest pool of money that the FCC administers – the Universal Service Fund.

I won't test this audience's patience with detail on the USF. The key points for today are these: USF is a multi-billion dollar annual fund that continues to support yesterday's communications infrastructure. The goal of universality is as important as ever -- and to meet our country's innovation goals, we need to reorient the fund to support broadband communications. This is a thorny issue, with no shortage of practical and statutory challenges. We need to wring savings out of the system, protect consumers, avoid flashcuts, while ultimately moving USF in the direction it needs to go to support our 21st century platform for innovation.

Second, we see huge opportunities -- and real risks -- around mobile broadband. Much of what we see suggests that mobile broadband can be the preeminent platform for innovation in the next decade. To be the global leader in innovation 10 years from now, we need to lead the world in wireless broadband.

Right now, we are in the early innings of a mobile communications revolution. After years of anticipation, new and faster wireless networks -- known as 4G or fourth generation -- are finally coming online. These will provide wireless broadband speeds potentially as fast as the wired broadband we experience now.

In my time as an investor and executive I saw mobile go from a futurist fantasy, to a nice-to-have part of a company's gameplan, to a must-have strategic priority. Today every company in America -- entertainment, commerce, manufacturing, news, you name it – knows it needs to have a mobile strategy. And in the fast-growing apps economy, we see early glimpses of what the future can bring. From 0 to 100,000 apps in just over a year.

The good news is that the U.S. is in many ways at the forefront of this explosion in technological, business, and social innovation. The bad news is that this explosion is also placing unsustainable strains on our wireless communications networks.

While invisible, spectrum is the lifeblood of our wireless networks and a critical part of our innovation infrastructure. In recent years, the FCC has authorized a three-fold increase in commercial spectrum. But experts anticipate a 30-fold increase in wireless traffic. Given that spectrum can take many years to reallocate and build out, if we don't start the process now, we'll pay a steep price in innovation down the road.

To meet this spectrum challenge, the FCC will have to encourage more efficient uses of spectrum and devices through innovative spectrum policies. We'll look at increasing spectrum flexibility and opening secondary markets for licensed use. And we'll look to unlicensed spectrum as well, so that entrepreneurs and inventors have some open space in which to dream up the next miracle wireless technology.

In order to support the full flowering of innovation, and to keep the U.S. globally competitive, we will need to find ways to free up new spectrum for mobile broadband. This will require examining old allocation decisions -- often decades old -- and evaluating them against current technologies and consumer demand.

This won't be simple. There are no easy pickings on the spectrum chart. It will be a test for our commitment to long-term innovation policy for the U.S. -- but we have to meet the challenge.

We'll tackle this in the same spirit that we are tackling other issues as we all work hard at the FCC to move the agency into the 21st century -- focusing on facts and data, working through open and participatory processes, and using technology to tap the best ideas from the broadest array of sources.

We have no shortage of challenges now at the FCC -- but that's because there is no limit to the opportunities that information and communications technology presents for our country. Indeed, the great joy of being at the FCC right now is participating in the process of laying the groundwork for a future we cannot yet imagine, both in the communications landscape and in the agency itself. A process that involves an increasingly broad array of talented innovators and stakeholders.

The mantle of innovation is there for us to seize. Together, we must reach for it.