Before the
Committee on Commerce, Science, and Transportation
United States Senate

Hearing on
"Removing Barriers to Wireless Broadband"

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Summary of Key Points

- At Ericsson, we believe in a 'Networked Society,' where individuals and industries are empowered to reach their full potential.
- Licensed spectrum remains the best option available today to meet insatiable consumer demand.
- Decades ago, wireless deployment served only a narrow purpose for a narrow constituency. Today, it provides nearly limitless ways to make life easier for all people through the power of mobility.
- With every innovation comes the need for more wireless infrastructure such as small cells – low-powered radio access points that mobile operators use to extend service coverage and increase network capacity.
- To help deliver the highest quality speed and service to meet ever-increasing demand, Ericsson is implementing new approaches like:
    - Using small cells and micro-facilities;
    - Upgrading existing antennas;
    - Installing high-capacity fiber;
    - Implementing new strategies for complex environments; and
    - Deploying temporary facilities to meet short-term demand.
- For its part, the federal government has made some important strides to help remove existing barriers to broadband deployment such as the Federal Communication Commission (FCC) shot clock and 'Connect America Fund' (CAF) funding.
- These efforts have been effective, but there is still plenty more that can be done, such as:
    - Streamlining access and jurisdictional processes for the installation and deployment of dark fiber and small cell technology;
    - Streamlining access to light and utility poles to standardize deployments; and
    - Standardizing the application process for the deployment of wireless infrastructure on federally-owned buildings and property, an idea incorporated into S. 1618, 'The Wireless Innovation Act.'
- Ericsson remains committed to delivering on the promise of a networked society and looks forward to working with Congress and the federal government to accomplish that goal.

Written Testimony of Bruce Morrison, Ericsson Inc.

Thank you, Mr. Chairman, and good morning to all the members of the Committee. I want to thank you for the kind invitation to be here today.

My name is Bruce Morrison and I lead the team that builds, deploys, and manages networks for Ericsson here in North America. That includes real-estate acquisition and permitting, tower construction, radio base station installation, and everything in between. Ericsson has thousands of employees and subcontractors handling the deployment of broadband networks in the United States, including the integration of tens of thousands of communication sites in the last year alone. In my fifteen years of infrastructure deployment, I have seen tremendous change and progress, and I look forward to sharing some of that experience with you here today.

At Ericsson, we believe in a 'Networked Society,' where individuals and industries are empowered to reach their full potential. Our infrastructure, services, and software enable and improve the efficiency of networks around the globe. Forty percent of the world's mobile traffic is carried over Ericsson networks.

Those metrics indicate just how far Ericsson has come since its founding 139 years ago. Back then, Senator Hannibal Hamlin, Abraham Lincoln's Vice President, walked these very halls; the Senate was made up of only 76 members; and the wonder known as Mount Rushmore wouldn't break ground for another 50 years. As you can imagine, we have learned a great deal since then.

Mr. Chairman, you understand the importance of networks driven by access to sufficient spectrum. And we would like to applaud your efforts, and those of this entire committee, to identify spectrum for licensed use. Licensed spectrum remains the best option available today to meet insatiable consumer demand. It also ensures that the networks we build and operate handle traffic as efficiently as possible. For example, underserved communities will benefit from the Federal Communications Commission's (FCC) upcoming 600Mhz auction, spectrum ideally suited for rural communities. That's where the importance of unfettered infrastructure deployment, the subject of today's hearing, comes into play.

Decades ago, wireless deployment served only a narrow purpose for a narrow constituency. Today, it provides nearly limitless ways to make life easier for all people through the power of mobility. As we enter the next generation of 5G technology, we know that mobility encompasses more than telecommunications. It includes enhanced user experience through the 'Internet of Things' and enterprise applications such as utility smart grids. The key to all of this, however, is connectivity through both access and coverage.

Now, more than ever, we must think beyond the coverage bars on our phones to bandwidth capable of streaming video, supporting wireless applications, and connecting smart appliances. With every innovation comes the need for more wireless infrastructure and not simply the 300-foot-towers-along-the-highway variety.

We're talking about small cells – low-powered radio access points that mobile operators use to extend service coverage and increase network capacity – on light and power poles, building facades, and even bus stops, all to provide connectivity on each city block. With spectrum being so scarce, it is small-cell technology that will allow you to launch your favorite application or stream a video in downtown Washington in the year 2020.

Today, Ericsson's focus is centered on delivering the highest quality speed and service to meet ever-increasing demand. Ericsson's own statistics, released in August, cited a 55% growth in data traffic year-over-year between the second quarters of 2014 and 2015 alone. To help satisfy that need, we are implementing new approaches like:

- Using small cells and micro-facilities installed on light and utility poles;
- Upgrading existing antennas with better capacity and the ability to use multiple frequency ranges;
- Replacing older T1 backhaul with higher-capacity fiber;
- Implementing new strategies for complex environments like stadiums; and
- Deploying temporary facilities for festivals, parades, and sporting events to meet short term demand.

For its part, the federal government has made some important strides to help remove existing barriers to broadband deployment. For example, the FCC's shot clock has reduced to months, a zoning and permitting approval process that often dragged on for years. In addition, federal efforts to assist local jurisdictions to expedite the deployment of equipment for facilities that meet certain criteria have been very helpful. And of course, federal programs such as the 'Connect America Fund' or 'CAF,' provide badly needed resources for broadband services in our rural communities.

In addition, the Telecommunications Act of 1996 allowed jurisdictions to rewrite relevant rules which have allowed for cell site facilities. Many jurisdictions have also allowed a hierarchy for siting priority that streamlines deployment for facilities. Examples include:

- Collocations on existing structures/buildings/water tanks that were exempt from zoning requirements;
- Exemption from public hearing and public notice requirements for facilities that meet certain requirements;
- Exemption or administrative review process for facilities in commercial or industry zoning classifications;
- Exemption or administrative review process for facilities designed with stealth technology;
- Expansion of new locations and designated contacts established for cell site facilities available on federal and state land, on city and county parks, in utility districts (water tanks, power poles, transmission towers, etc.), and on right of ways.

These efforts have been effective, but there is still plenty more that can be done by Congress and the federal government to help removing barriers to deployment. They include:

- Streamlining access and jurisdictional processes for the installation and deployment of dark fiber and small cell technology;
- Standardizing the application process for the deployment of wireless infrastructure on federally owned buildings and property, an idea incorporated into S. 1618, The Wireless Innovation Act;
- Streamlining access to light and utility poles to standardize deployments;
- Distinguishing process requirements so that the installation of equipment on a flag pole isn't considered the same as doing so at a stadium or a hospital;
- Assisting jurisdictions to process the use of small cells;
- Providing relief from onerous federal requirements that lack technical descriptions;
- Advancing a regulatory approach that allows the quick deployment of small cells in metropolitan jurisdictions;
- Updating the current rules surrounding 'Local Exchange Carriers' support and deployment requirements for backhaul;
- Improving the 'Mobility Fund' by targeting infrastructure funding to truly unserved areas. Senator Joe Manchin recently sent a letter to the FCC supporting this idea;
- Improving the 'Spectrum Relocation Fund' to increase its flexibility and to provide for new allowable uses of funds to facilitate improved spectrum planning and relocation while improving spectrum utilization. These reforms would hasten the transition of government spectrum for commercial use which we strongly endorse. Senators Jerry Moran and Mark Udall recently sent a letter to the Office of Management and Budget outlining areas where improvements can be made;
- Developing requirements or support for shared infrastructure and hardening. For example, at a typical cellular tower, each wireless carrier has its own generator. Shared infrastructure would mean that only one generator is required per site; and
- Implementing a requirement to incorporate dark fiber or green field (empty) conduit attached to all federally-funded roadway projects.

Mr. Chairman, these are just a few areas where Congress could assist infrastructure companies like Ericsson in carrying out your vision to "reduce the cost of deploying wireless broadband services."

Looking ahead, the future is exciting and our mission remains clear – to transform networks which will in turn transform businesses and communities, nations and governments, and most importantly, lives. Ericsson remains committed to delivering on the promise of a networked society and looks forward to working with Congress and the federal government to accomplish that goal.

Thank you again, Mr. Chairman, for the opportunity to be here today and I look forward to answering any questions the committee has.