KEYNOTE REMARKS OF FCC COMMISSIONER OLIVIA TRUSTY

AT THE ISAC STRATEGY SUMMIT

THE FUSE, ARLINGTON, VA

GEORGE MASON UNIVERSITY

"GETTING AFTER IT: SEIZING AMERICA'S MOMENT ON ISAC AND SPECTRUM LEADERSHIP"

AUGUST 14, 2025, 9:00AM

Good morning, everyone.

It is an honor to be here today at the inaugural ISAC Strategy Summit, surrounded by leaders across government, industry, and academia. You are truly the vanguard of a national effort that fuses cutting-edge communications technology with the imperative of national defense. So, thank you for the work you are doing, and for letting me join you as we chart the next phase of U.S. spectrum leadership. Today's summit is where policy meets possibility, and where we collectively shape the future of our nation's technological edge.

I also want to give a special thanks to Dr. Tom Rondeau for the invitation to speak and recognize the FutureG Office within the Department of Defense for its leadership in this space. By launching an initiative dedicated to ISAC in 2023, the FutureG Office has brought much needed attention and resources to a capability that could shape the future of military operations and commercial innovation. I commend the FutureG Office's thought leadership, which is helping to elevate ISAC from a promising concept to a strategic imperative, and I applaud the Office for pushing this conversation forward.

Now, I want to start with a bit of a confession.

I have spent most of my career working on telecommunications policy. When I briefly stepped out of that world to take on a national security portfolio while working on the Senate Armed Services Committee (SASC), I was very excited. Motivated. Ready to dive into the defense world. What I wasn't ready for…was the language. I found myself facing a language barrier almost immediately – like I'd entered a foreign country, but no one had given me a Rosetta Stone for "Defense Speak."

You see, I didn't realize that I was stepping into a world that operates in acronyms, metaphors, and euphemisms. Initially, I recall hearing phrases like "battle rhythms," when discussing the timing for the National Defense Authorization Act markup. I also heard about people "foot stomping" things, and my personal favorite "getting after it." I remember thinking: *What exactly are we getting after? And is it classified?*

Well, I quickly learned that the military not only operates on a different tempo, it operates on a different frequency. Quite literally, in fact.

But humor aside, those early months on SASC were eye-opening. One of the most important lessons I learned in that time was this: **access to spectrum is not just a commercial telecommunications issue, it is a national security issue**. It is foundational to modern warfare and our ability to project power, superiority, and resilience in a rapidly changing world.

I.   Lessons from the National Security Space

During my time on the Senate Armed Services Committee, I worked closely with colleagues across the Department of Defense, the Intelligence Community, and the private sector. The following core truths came to define my time on the Committee:

First, **access to spectrum is critical**, not just for economic growth, but for defense readiness. From precision-guided munitions and satellite uplinks to logistics tracking and intelligence fusion, warfighters rely on wireless technologies to conduct their missions effectively in every warfighting domain: land, air, sea, space, and cyberspace.

Second, **the military doesn't just need spectrum, it needs modern, adaptable, and secure 5G and next-generation networks**. Legacy platforms simply won't cut it in an era where threats are digital, asymmetric, and fast-moving.

Third, **spectrum must be used efficiently and innovatively**. We can't afford to treat it like an infinite resource. In fact, the more we ask of spectrum, the more we must rethink how we share it, secure it, and scale it.

And fourth, **our global adversaries are not slowing down**. They are investing heavily in technologies that will define the future of warfare and commerce. To maintain our edge, we need to challenge our assumptions and move with urgency. We can no longer rely on legacy structures when the next conflict, or breakthrough, may hinge on digital superiority.

II.   The Current State of Play

That brings me to where we are now. Today, we are seeing meaningful momentum when it comes to making more spectrum available for next-generation technologies.

With the recent passage of the **"One Big Beautiful Bill,"** President Trump and Congress have restored the Federal Communications Commission's (FCC) general spectrum auction authority and established a long-term spectrum pipeline. This wasn't just a regulatory fix, it was a strategic move to ensure we have the tools to compete globally and plan proactively.

So, why does this matter? It matters because **spectrum is infrastructure**. Just like roads and bridges, it is the invisible foundation on which our digital economy runs. Without access to it, the wireless future we all envision of 5G and 6G, or innovations in unlicensed spectrum like Wi-Fi 7 and Wi-Fi 8, or IoT, and autonomous systems, just doesn't happen.

Now, when it comes to 5G, we've made real progress. But let's be honest: some international metrics show the United States trailing key competitors in both coverage and adoption. Countries like China have moved aggressively to deploy infrastructure, streamline siting policies, and link wireless buildout with industrial strategy.

Meanwhile, we're seeing the early contours of the 6G landscape come into view. Research is underway. Standards bodies are meeting. Testbeds are being developed, and countries are already competing to shape the rules of the road.

6G promises to take us far beyond the capabilities of 5G, not just with faster speeds and lower latency, but with entirely new functions that redefine what a network can do. We're talking about terahertz spectrum for ultra-high-capacity links, native AI integration so the network can learn, adapt, and optimize in real time, and holographic communications that make today's video calls feel quaint. Moreover, 6G will enable massive digital twins, real-time, hyper-accurate virtual models of physical systems, allowing us to simulate entire cities, factories, or battlefields before acting in the real world. It will support ubiquitous connectivity, extending the reach of high-speed wireless services to remote areas, across oceans, and even into deep space missions.

At the same time, innovations in unlicensed spectrum are surging forward. Wi-Fi 7 is now rolling out, offering multi-gigabit speeds, ultra-low latency, and the

capacity to power bandwidth intensive applications like augmented and virtual reality, advanced telepresence, and next-generation industrial automation. Wi-Fi 7 will complement 5G and, eventually 6G, together forming a seamless, high performance wireless ecosystem that serves both consumers and enterprises.

At the heart of this vision is Integrated Sensing and Communications, or ISAC. With ISAC, 6G won't just connect devices, it will give the network the ability to perceive its environment, much like how Wi-Fi 7 is pushing the limits of high-speed, low-latency connections today, but with an added layer of environmental awareness and sensing that transforms what networks can do.

ISAC means that the same network carrying your data can also detect objects, measure distances, track movements, and provide critical situational awareness without relying on separate radar or sensor systems. In other words, 6G or Wi-Fi 7 with ISAC doesn't just transmit information, it understands the world around it. This makes ISAC a foundational capability for everything from autonomous vehicles to military operations in contested environments.

All of this brings me to the core of today's discussion about ISAC.

III. What is ISAC, and Why It Matters

ISAC represents a fundamental shift in how we think about spectrum use.

Traditionally, **sensing and communications** have been two separate functions. You had radar systems designed to detect and track objects, and you had communications systems designed to transmit data. They lived in different spectral lanes, were managed by different agencies, and developed along different paths.

ISAC breaks that mold.

In an ISAC world, sensing and communications co-exist in a single, harmonized system. The same infrastructure that supports your cell phone call or data stream might also detect a drone, track a vehicle, or monitor environmental conditions in real time.

This kind of dual-use capability is a force multiplier. It unlocks:

- **Military applications**, like persistent surveillance and threat detection in contested domains.
- It advances the sophistication of **smart infrastructure**, like bridges that monitor their own structural health or highways that can detect accidents in real time.
- It enhances **public safety systems**, where first responders gain full situational awareness over secure wireless links.
- It promotes **commercial innovations**, from autonomous vehicles to industrial robotics to augmented reality.

Let me emphasize: **ISAC is not just a technical evolution, it is a strategic leap.** It gives us a chance to fuse our economic and national security goals into a common platform.

But this opportunity is only valuable if we seize it.

IV.   How Do We Win on ISAC?

So, how do we get there?

First, it's going to take everyone – government, industry, academia, the military, and civil society.

If ISAC is the future, then building it means forging deep partnerships. The United States cannot afford to work in silos. Coordination must be strategic, not reactive.

And, second, we need a regulatory environment that promotes innovation. At the FCC, here's how we are contributing to this initiative under the leadership of FCC Chairman Carr and the Commission's Build America Agenda:

1. **Auction Authority and a Spectrum Pipeline**

With our general spectrum auction authority restored, we're getting back to business. We're working on a transparent, predictable pipeline of spectrum auctions that reflect both commercial needs and national security priorities.

As part of this effort, ISAC capabilities can help drive the FCC's ability to maximize spectral efficiency and put spectrum to its highest and best use.

The FCC can also leverage its Special Temporary Authority to experiment with ISAC capabilities in real-world conditions.

2. **IP Transition and Network Modernization**

The FCC is pushing forward with efforts to transition away from outdated systems and technologies and toward an all-IP world. This means simplifying FCC rules and modernizing the networks that underpin our digital society to support new applications and technologies, like artificial intelligence, that will enhance ISAC's performance.

3. **Accelerating Infrastructure Builds**

We're working to streamline permitting, remove regulatory bottlenecks, and speed up deployment of high-speed, secure infrastructure. From fiber to fixed wireless to satellite constellations, the FCC is focused on clearing the path for innovation.

4. **Enhancing Public Safety and Promoting National Security by Design**

We are undertaking a top-to-bottom review of the nation's emergency alert communications platforms with the goal of modernizing these critical systems. The

future addition of ISAC capabilities into our emergency response, disaster monitoring, and infrastructure protection promises to save more lives.

We're also making national security a built-in part of the FCC's processes, not an afterthought. This includes:

- Reviewing transactions for foreign influence or control;

- Prioritizing supply chain integrity; and

- Encouraging private-sector compliance with global security norms.

5. Public and Private Sector Collaboration

We're actively engaging with the private sector, because innovation doesn't happen by reducing regulation alone. It requires experimentation, risk-taking, and investment from companies that understand how to bring a vision into life.

We're also working closely with our counterparts at the State Department and NTIA to ensure the United States is leading on the international stage, especially when it comes to shaping global standards for spectrum use and next-generation communications technologies. These standards-setting conversations are where the technical architecture of the future is decided, and if we want to capture first-mover advantages, both economically and strategically, we need to be at the table, speaking with a clear, unified U.S. voice.

V.   What's at Stake

Let me take a step back.

If the U.S. fails to lead on ISAC, we risk more than just technological obsolescence. We risk losing:

- The ability to define global standards;

- The agility to respond to emerging threats; and
- The credibility to defend our digital sovereignty

Make no mistake, other nations are not waiting for us to catch up. China has made ISAC research a priority in its 6G strategy, investing heavily in university research labs, defense applications, and commercial pilot projects that blur the line between civilian and military uses. The European Union, through its flagship Hexa-X program, is also exploring ISAC as a core 6G capability, aiming to build early testbeds and influence global standards. Our adversaries are pursuing dual-use ISAC applications that could enhance their surveillance, targeting, and electronic warfare capabilities, potentially giving them the ability to sense and respond faster than we can in contested environments.

The bottom line is that the race for ISAC leadership is already underway. Just as with 5G, those who move first will shape the technical rules, secure the supply chains, and capture the economic benefits. The question is not whether ISAC will be deployed, it is who will deploy it first, at scale, and on their own terms.

Other nations are watching what we do, *or don't do*. Our allies are looking for signals of strength, direction, and alignment. If we lead well, we don't just secure our networks, we strengthen our alliances, our economy, and our republic.

VI. Closing: The Future is Now

I'll close where I began.

When I first heard the phrase "get after it," I didn't quite know what it meant. But today I do.

It means showing urgency. It means owning the mission. It means choosing to lead when the stakes are high.

ISAC is the future, and the future is now.

We have the tools, the talent, and the bipartisan momentum to move forward. So, let's not wait. Let's not let bureaucracy or inertia slow us down.

Let's get after it.

Thank you again for the opportunity to speak, and I look forward to partnering with you in the months and years ahead on this important initiative.