The Backbone of Innovation: Building Broadband for America's Al Future

Artificial intelligence is the engine driving the next era of global innovation and economic leadership—but without powerful, future-ready broadband infrastructure, that engine cannot run. From training complex AI models to deploying real-time applications in healthcare, education, defense and beyond, every facet of the AI ecosystem depends on high-capacity, low-latency connectivity.

Broadband is the foundation upon which U.S. competitiveness in AI will be built. Success will hinge on an infrastructure strong enough to support AI's rapid growth, and a private sector capable of unleashing its creative and innovative potential. Leveraging the insights of the connectivity industry's technology experts and business leaders, USTelecom presents the following framework to more fully integrate broadband into the emerging U.S. strategy to win the race, already well underway, to global AI leadership:

- 1. Strengthen and Expand America's AI Infrastructure
- 2. Lead with a Smart, National, AI Policy Framework
- 3. Deepen the American Market-Driven Approach to Standards Development

I. STRENGTHEN AND EXPAND AMERICA'S AI INFRASTRUCTURE

Al is transforming everything from national security to the economy, but its future depends on something more fundamental: the strength of America's fiber broadband infrastructure. Without high-capacity fiber networks, Al tools cannot communicate the data they need to improve and grow, and the U.S. risks losing its competitive edge. Policymakers must recognize that investing in next-generation fiber networks is as critical as advancing Al itself.

Broadband and fiber connectivity are essential to the AI data center transformation, and expanding those data centers means increasing their access to high-speed, fiber broadband that can handle the quantity of data they require without sacrificing quality. It is estimated that data centers running AI large language models will require *5x more optical connectivity* than traditional data centers. AI applications depend heavily on symmetrical bandwidth, which allows massive amounts of data in and out of a network simultaneously. Fiber provides the *symmetrical, ultra-low latency, and scalability* that AI workloads require to scale exponentially. While the United States has significant backhaul fiber infrastructure for broadband, AI infrastructure demands much higher bandwidth, signaling a need for major network upgrades.

Building broadband for America's AI future begins with two simple principles:

- Reduce barriers to deployment and unlock funds for rural broadband expansion. To avoid a shortfall of broadband and fiber infrastructure to support AI, the United States should address barriers that slow deployment and add costs. A regulatory environment that prioritizes **streamlined permitting, and investment-friendly policies** for broadband and data centers will accelerate AI adoption and maintain U.S. competitiveness in the global AI race. As AI increasingly is integrated into devices used by consumers and businesses, robust broadband connectivity also is needed at the edge points.
- Provide more licensed spectrum for broadband providers. Spectrum availability fuels next-gen AI connectivity and supports the seamless, high-speed wireless connectivity AI needs to function in our homes or in the palm of our hands, particularly for edge computing, IoT, and 5G-powered AI applications.

By eliminating the barriers to fiber broadband expansion, policymakers can ensure the United States leads the AI revolution. The future of AI is not just about smarter machines—it will rely heavily on smarter infrastructure decisions made today.

II. LEAD WITH A SMART, NATIONAL AI POLICY FRAMEWORK

We are locked in a geopolitical AI arms race with numerous rivals including—though not limited to—the Chinese Communist Party. While they are able to control and direct the resources of a nation, we have the most creative, innovative, and experienced private sector in the world. We need a regulatory framework that supports the private sector's work, not one that stands in the way.

The rapid expansion of AI tools today marks a new frontier of human ingenuity, reminiscent of the early days of consumer internet access. From the earliest days of the internet, America's global tech supremacy was propelled by a light-touch regulatory framework that recognized the immutable fact that command-and-control regulations have no hope of keeping pace with technology-fueled innovation. Our nation needs a similar balanced, constructive and, above all, national framework for AI today.

Currently, there is no federal law in the United States that preempts state-level regulation of AI. As such, there is a substantial risk that AI innovation could be hampered by a patchwork of inconsistent state regulations. Dozens of state AI laws have been enacted and hundreds of AI bills have been introduced in recent years. Avoiding this fractured future is dependent on national action that harmonizes the U.S. approach to this critical technology. Investing in nextgeneration fiber networks is just as critical as advancing Al itself. Fundamentally, a national AI policy framework should consider the following:

 Overcome a fractured regulatory environment with a light-touch national AI policy. In pursuing trustworthy AI guardrails, policymakers should avoid a prescriptive regulatory approach that could stifle innovation while failing to keep pace with the dynamic nature of a technology that continues to rapidly evolve. While ethical and responsible deployment are critical, striking the right balance that keeps the United States from falling behind other countries that invest heavily in AI innovation, including foreign adversaries, is essential. This balance should be rooted, where feasible, in existing legal frameworks that focus on potential harms, rather than the specific technology used. Such an approach would be most flexible and adaptable to new technologies and contexts as they rapidly emerge and evolve.

Clearly define roles and responsibilities based on expertise, not convenience – let broadband providers focus on connecting communities to Al's potential. Broadband providers play a fundamental role in enabling America's digital economy, providing the high-speed connectivity that fuels innovation, commerce, and communication. However, while these companies are often developers or deployers of Al technology in their own right, their core function remains providing infrastructure—not monitoring or regulating the vast array of applications and services that run over their networks. Placing them in the role of Al enforcers or internet gatekeepers would be a misalignment of responsibility that undermines both technological progress and fundamental principles of an open internet. The result would be a slower, more cumbersome digital infrastructure at precisely the time when global competitiveness depends on accelerating America's technological leadership.

III. DEEPEN THE AMERICAN MARKET-DRIVEN APPROACH TO STANDARDS DEVELOPMENT

Standards development activities for AI and other emerging technologies provide the foundation for transforming innovation into products and services that change the world. The American approach to standards, which is led by the private sector, has been extremely successful in establishing the United States as a global technology leader. This approach succeeds because it is market-driven and generally ensures a level playing field where technologies can rise and fall on their own merits. In contrast, China's approach to standardization is shaped by party-state influence and lends itself more easily to political influence overtaking market and technologically driven interests. Put simply, where governments get a formal vote on standards, it enables national self-interest or one country's influence over others to outweigh market-based criteria. With this approach, governments are less able to put their thumbs on the scale at the expense of integrity and national security.

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Even in the government-driven International Telecommunication Union Telecommunication Standardization Sector (ITU-T), where membership is open to industry, the specter of government, rather than market consensus or technical expertise, often forms the basis of policy proposals.

With government-led standards organizations, the insight of industry experts who can provide meaningful perspectives from the companies developing and deploying emerging technologies is often diminished. This can result in standards that are divorced from or not optimized for the operational, economic, or security realties that industry experts are familiar with because of their direct experience.

Given the massive importance of American AI leadership to our economy and national security, the U.S. government should actively promote and continue to support the marketdriven, voluntary approach to standards development. Here's how:

- Ensure standards are developed through an industry-led model. This market-driven approach encourages users of AI platforms to choose their preferred systems without political influence, fostering innovation and supporting growth. It allows the industry to develop AI models that benefit the user community while utilizing existing intellectual property protections. This is a crucial factor in the successful development and incubation of AI technology. With many years of close partnership with industry and established, trusted relationships, NIST is the agency most suited to coordinate U.S. government efforts to support this model.
- Create financial incentives to help offset the costs of participating in standards bodies and increase U.S. participation. One of the biggest barriers to U.S. company participation in standards-setting is cost. On average, it costs companies hundreds of thousands of dollars annually to engage in standards development, with the process of developing a single standard often spanning multiple years and costing millions.

Broadband providers are fully committed to advancing America's global AI leadership. But achieving this vision requires a shared recognition that the transformative progress AI promises—across industries, communities, and national defense—rests squarely on the strength of the networks that carry it. Sustained investment, forward-looking policy, and cross-sector collaboration are essential to ensure that America's broadband infrastructure is as ambitious and dynamic as the AI revolution it enables. The U.S. government should actively promote and continue to support the marketdriven, voluntary approach to standards development.