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Submitter Information

Organization: Ericsson

General Comment

Please accept Ericsson's comments to the RFI on the Development of a 2025 National Artificial Intelligence (AI) Research and Development (R&D) Strategic Plan, thank you.

Attachments

Ericsson Comments to OSTP AI RandD Plan RFI - NSF-2025-OGC-0001

2025 National Artificial Intelligence (AI) Research and Development (R&D) Strategic Plan

Ericsson Response to OSTP/NITRD RFI

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Introduction

Ericsson welcomes the solicitation of comments for revising the National Artificial Intelligence (AI) Research and Development Strategic Plan (the "Plan") to ensure the US' global leadership in AI. In our submission, we focus on recommendations related to four pillars of AI research and development— (1) applied research with nationwide AI testbeds, (2) trustworthy and Resilient Infrastructure to support AI applications and workloads, (3) workforce development, and (4) open, secure interoperable AI systems. Given Ericsson's long and extensive research in AI, we have a unique perspective that can help the Administration as it explores R&D initiatives and policies to ensure the US is at the leading edge of AI innovation.

Ericsson's AI Leadership

Ericsson is a global leader in communications technology and services. With a heritage of innovation spanning nearly 150 years, Ericsson has been at the forefront of every generation of mobile innovation—from 1G to 5G—and is now shaping the future of AI-native 6G networks. Ericsson has been investing significantly in AI research and innovation for the past fifteen years, with a specific focus on telecom applications of cutting-edge AI technologies such as language models, agentic systems, and graphs neural networks. We have been integrating AI solutions throughout our 4G and 5G products and services to help operators improve network capacity planning and optimization as well as automate network management and resource allocation. Ericsson, through the deployment of our global 5G networks, is enabling the intelligent connectivity needed to power AI—supporting massive IoT, collecting real-time data at scale, and delivering the low-latency infrastructure required for AI-driven applications across industries.

At Ericsson, we are committed to enabling the next wave of intelligent network evolution—building on decades of leadership in automation, optimization, and orchestration. As networks grow in complexity, the shift toward autonomous networks is vital to achieving the levels of agility, efficiency, and service assurance that the future demands. These self-managing networks harness AI to deliver predictive analytics, minimize manual intervention, and improve operational resilience. Agentic AI, in particular, plays a foundational role in this transformation, allowing distributed intelligent agents to collaborate and adapt in real time. Ericsson is actively evolving its portfolio to support these capabilities, aligning with emerging agentic protocols and contributing to open standards that enable scalable and interoperable autonomous networks.

Ericsson has a long-standing history of collaboration with U.S. federal agencies and the broader American research ecosystem. In AI research, we are a founding member of RISE Labs at UC Berkeley, a participant in the SystemX Alliance at Stanford, and a key collaborator with universities such as Purdue and UT Austin. We have also partnered with the National Science Foundation (NSF) on multiple public-private initiatives—including the

flagship NSF VINES program—and actively collaborate with NTIA, DoD, and NIST to advance secure, resilient, and open wireless infrastructure for the nation.

Finally, Ericsson is a founding member of the AI-RAN Alliance, which is dedicated to advancing the role of AI in future mobile networks, and of the ATIS Next G Alliance, which convenes North American industry, academia, and government around the development of 6G and beyond. Our contributions to AI/ML standardization include participation in ITU-R submissions and support for cross-sector collaboration that ensures a trustworthy, scalable, and future-ready AI ecosystem in telecom.

I. Anchor AI Research in Real-World Industrial and Infrastructure Challenges

The US Government's (USG) revised AI R&D Strategy Plan should prioritize AI research that addresses concrete, high-impact industry use cases (e.g., real-time control in smart manufacturing, network automation, energy-efficient systems), not theoretical constructs detached from deployment needs. This will help accelerate the "lab-to-market" pipeline to develop and deploy U.S. commercially viable AI products and services quicker.

The Plan should also encourage academia-industry collaboration models where research agendas are shaped in dialogue with operational constraints, regulatory realities, and clear paths to commercialization. Doing so will facilitate filling research gaps and better resource utilization. In addition, the Plan should advance domain-specific, telecom-enabled AI applications through public-private testbeds co-developed with infrastructure operators (e.g., smart grids, manufacturing sites, 5G corridors). More specifically, the USG should expand National AI testbeds for applied research including expansion of testbed infrastructure under the National AI Research Resource (NAIRR) and NSF TIP to include telecom-integrated environments for validating latency-sensitive, safety-critical AI systems. Also, it is recommended to prioritize multi-sector testbeds that reflect real-world connectivity scenarios, including wireless spectrum constraints, network slicing, and multi-access edge computing.

II. Recognize Network as Foundational to Scalable, Trustworthy AI

To fully realize the transformative potential of artificial intelligence, it is imperative that the U.S. Government (USG) integrate advanced connectivity infrastructure—particularly differentiated, real-time, and secure communications—as a foundational enabler in national AI research and development agendas. To this end, we recommend that USG prioritize joint research initiatives on networks-for-AI, addressing critical areas such as edge orchestration, latency-sensitive AI workloads, and secure cross-domain data exchange.

Equally important is the need to account for network-aware AI. National AI initiatives should explicitly consider network parameters—latency, jitter, and bandwidth—as intrinsic to the performance and reliability of distributed inference and decision-making systems.

Without these considerations, AI deployments risk inefficiency and inaccessibility at the edge and across constrained environments.

Moreover, the National AI R&D Strategic Plan should align with broader federal efforts to modernize U.S. wired and wireless infrastructure, including backhaul networks. Doing so will help ensure equitable access to AI capabilities and foster data interoperability across geographic regions and research institutions—advancing both innovation and inclusion.

Finally, dual priorities of AI for security and securing AI must be elevated in future R&D investments. Artificial intelligence can significantly enhance cybersecurity through rapid threat detection, real-time situational awareness, and automated incident response. Simultaneously, the protection of AI systems themselves, especially in critical sectors such as first-responders, finance, and healthcare—is essential to ensuring trust, resilience, and operational integrity. Addressing both dimensions is key to deploying AI responsibly and securely at scale.

III. Accelerate Research on AI-Native Network Architectures (5G→6G)

Given the importance of infrastructure for AI, it is necessary for USG to treat telecommunications infrastructure as a strategic AI-native platform with intelligence embedded in RAN, core, and edge. To achieve this, the Plan should promote joint research programs in AI-for-networks—such as network optimization, zero-touch management, resilience—and invest in long-term R&D for next-generation connectivity systems (e.g., AI-native 6G), including intent-based networking, self-optimizing systems, and cross-layer intelligence integration.

Also, it is critical to recognize the mutual acceleration between AI and next-generation networks (5G/6G) by supporting AI models optimized for telecom environments and telecom systems designed to host distributed AI workloads. The Plan should position AI-native networks as a dual-use innovation priority for both economic resilience and national security, as well as promote integration of AI into software-defined telecom layers to enable real-time optimization and zero-touch operation.

IV. Promote Interdisciplinary Research That Connects Compute, Connectivity, Control and Sensing

Ericsson recommends that the U.S. Government prioritize AI research that integrates advancements across computing architectures (cloud, edge, and device), intelligent networking systems, real-time control, and sensing. These domains must be co-designed to meet the requirements of distributed, latency-sensitive, and infrastructure-critical AI applications. The Plan should promote interdisciplinary collaboration among experts in telecommunications, machine learning, distributed systems, and systems engineering to drive scalable and robust AI innovation. In particular, co-development of AI-driven protocols for real-time sensing, data exchange, and control will be vital to unlocking the next generation of resilient and intelligent systems.

V. Foster Cross-Sector AI Innovation with Telecom as a Horizontal Enabler

Telecommunications is a foundational layer that supports AI breakthroughs across sectors: manufacturing, energy, mobility, and healthcare. For this reason, Ericsson recommends the Plan to include initiatives that embed telecom (particularly 5G SA and beyond) and connectivity into AI innovation clusters and strategic R&D funding envelopes as well as incorporate telecom-integrated AI projects as focal points in NSF's regional innovation strategies to support sectors like mobility, energy, and public health.

VI. Enhance Interdisciplinary Workforce Development Programs

For the US to solidify its global leadership in AI, it will require a robust AI workforce. To achieve this, Ericsson recommends USG expand workforce programs to train telecom engineers in AI/ML systems and vice versa, creating cross-domain technical fluency. The Plan should also enhance existing workforce programs to support experiential learning in AI plus domain specific (e.g. telecom) environments, especially in underrepresented regions.

VII. AI standards, Interoperability

Ericsson recommends the promotion of co-development of AI and telecom interoperability standards, including edge orchestration, semantic data layers, and network APIs that expose and control key telecom capabilities. Additionally, the Plan should support testbed-based evaluation frameworks for AI assurance and interoperability within telecom networks.