THE PRESIDENT'S EXPORT COUNCIL
WASHINGTON, D.C. 20230

December 10, 2024

The Honorable Joseph R. Biden
President of the United States of America
The White House
Washington, DC 20500

Dear Mr. President,

On behalf of the President's Export Council (PEC), we are pleased to present recommendations to advance U.S. leadership in the development and regulation of artificial intelligence (AI). Building on the significant progress made under both the Biden and Trump administrations, including initiatives such as the National AI Initiative Act and the National Institute of Standards and Technology's (NIST) AI Risk Management Framework, these recommendations aim to further harness AI's transformative potential for innovation, economic growth, and international competitiveness.

Our recommendations are organized around key priority areas, including fostering ethical AI practices, advancing growth and innovation, enhancing workforce development, ensuring the protection of intellectual property and addressing governance challenges and reducing the environmental impact of AI infrastructure. These recommendations provide a roadmap for aligning U.S. trade and domestic policies with the dynamic opportunities and challenges presented by AI, ensuring that American businesses remain resilient, inclusive, and globally competitive.

I. Fostering Growth and Innovation

In light of the fast-paced development of AI, it is crucial to establish policies and support structures that foster both responsible growth and innovation in Al. By embracing opportunities in the innovation cycle, the U.S. can strategically invest to enhance its technical superiority in AI, promote responsible global AI development and improve its competitiveness in a rapidly evolving landscape. The below recommendations focus on fostering responsible growth and innovation to secure U.S. leadership in AI.

Innovation in the Private Sector and Support for Small Businesses

- **AI Guidelines and Resources**: To facilitate AI development, the public and private sectors have an opportunity to help SMEs, civil society and other small organizations integrate AI for practical applications, such as analyzing customer databases, inventory management, and employee training. This may also include expanding access to

government grants for AI implementation in various industries, and support for training and upskilling programs that are focused on helping SMEs, civil society and other small organizations transition to AI-enabled tools using their existing workforce. Further recommendations are elaborated in the workforce section below.

- **Access to Computing Resources**: Programs that provide affordable or subsidized access to the computational power required for AI development and data storage must be established. This will help reduce barriers to entry and enable more widespread adoption of AI technologies among SMEs.

- **Sector-Specific Data Sharing**: Industry-wide, cross-sectoral data-sharing frameworks should be promoted to facilitate the creation of specialized AI tools. In particular, AI differs from other technologies through the critical role of data, which makes access to massive amounts of data essential in order to maintain competitiveness in any industry sector. Establishing consortia and data sharing forums to support SMEs, civil society organizations and other social impact organizations in collecting, cleaning, storing and utilizing large datasets, while respecting the intellectual property rights of those whose data is sought to be included in such datasets, will enhance their ability to develop and implement sector-specific AI solutions. The U.S. government can help establish frameworks that enable SME participation in these consortia.

- **Safeguarding AI Systems and Protecting Assets:** Regulations that safeguard the source code and algorithms of AI systems need to be implemented to secure digital trade while promoting innovation and the protection of intellectual property (IP) rights. Additionally, AI should be leveraged to track and manage copyrights and patents, such as, for example, using AI tools to identify and inventory IP used in exportable technology.

Strategic Investments at the Forefront of AI

- **Interdisciplinary Research and Development:** Invest in AI applications that intersect with other scientific fields, advancing breakthroughs in biology, chemistry, medicine, agriculture, materials science and beyond. Support programs that facilitate collaboration between universities, research institutions, and industry partners to harness AI for scientific inquiry and technological innovation within a framework of open publication and data.

- **Next-Generation AI and Low-Power Technology**: Focus on developing efficient, low-power, accessible AI systems that can be widely adopted without the need for significant infrastructure upgrades, enhancing analytical capability and scalability for SMEs and enabling more sustainable AI adoption. Additional recommendations to reduce the infrastructure impact of AI are highlighted in the environmental recommendations below.

- **Investment in Early-Stage Research:** Increase funding for foundational AI research, supporting early-stage projects that promise to deliver the next wave of advancements. This includes investment in sustainable, energy-efficient AI development.

- **Encourage Open and Proprietary Innovation**: Explore initiatives similar to open-source AI projects like AlphaFold to balance open access with proprietary innovations, ensuring that global societal benefits are realized while protecting U.S. competitiveness. The U.S. government should consider making more data public or available to share with researchers.

AI-Enabled Government Services and Efficiencies

- **Modernization/Moonshot Fund for AI**: Allocate additional funding to initiatives like the Technology Modernization Fund to integrate AI into federal operations within Commerce and beyond, ensuring improved efficiency and transparency across government services. For example, AI can be leveraged to streamline trade processes such as customs procedures and supply chain visibility, reducing barriers to international commerce and enhancing U.S. export capabilities. There is also an opportunity to identify specific areas within other agencies such as the State Department, Veterans Affairs, and Medicare/Medicaid where AI can be used to enhance the processing of applications and expedite services.

Aligning on the Value of Export Promotion

- **AI Export Initiative for Emerging Markets**: Exporting scalable, accessible AI technologies positions the U.S. as a trusted partner in their growth and we recommend a strategic and comprehensive approach to promoting U.S. AI technologies in emerging markets, as these regions are rapidly adopting digital infrastructure and represent a significant growth opportunity. By exporting U.S.-developed AI solutions, the United States can set global standards, embed democratic values in AI applications, and foster trust in secure, ethical AI systems. Export promotion not only strengthens bilateral trade relationships but also establishes enduring AI partnerships, ensuring that U.S. companies are preferred collaborators in these markets as their AI ecosystems mature. To capitalize on this opportunity, Commerce could advance an AI Export Initiative specifically for emerging markets, providing targeted support – e.g., trade missions, capacity-building programs, and financing incentives – to help U.S. AI firms penetrate high-growth markets while aligning with international development goals.

Leveraging International Security Partnerships

- **AUKUS and Co-production:** The U.S. has strong regional and global networks of alliances and partnerships that serve as diplomatic and military operational centers of gravity in national deterrence. In particular, the AUKUS trilateral security partnership with Australia, the United Kingdom, and the United States as well as co-production efforts with other friendly nations offer tremendous opportunities for small, innovative companies to advance AI technologies with our closest allies and partners. According to the U.S. Department of Defense, the number of small businesses participating in the U.S. defense industrial base has declined by over 40 percent in the last decade. As we work to modernize our international technology cooperation with AI, we should leverage these

opportunities for innovative U.S. companies, including small and medium-sized enterprises.

Ensuring Broad Representation in AI Policymaking Bodies & Governance Frameworks

To ensure equitable access to AI and resource opportunities for small businesses owned by underrepresented groups, such as Minority-owned, Women-owned, and Native American-owned enterprises, as well as other minority business owners who face unique challenges in the private sector, consider the following inclusive measures:

- **Inclusive Policymaking and Representation:** Facilitate the inclusion of business owners from underrepresented groups in AI policy-making bodies, governance structures and policy and product development processes, addressing their unique challenges and perspectives at every step of iterative AI policy and initiative development.

- **Equitable Funding Initiatives:** Increase unrestricted funding for foundational and early-stage AI projects led by minority and women entrepreneurs and explore initiatives that ensure open access to AI technologies while supporting proprietary innovation for these business owners.

- **Inclusivity of Diverse Stakeholder Groups:** Ensure diverse representation in AI development teams to mitigate biases and furthermore conduct regular AI system audits to identify and correct potential biases.

- **Public-Private Partnerships:** Public, private, and nonprofit partnerships can be leveraged to create inclusive AI policies, and to establish platforms for sharing best practices and successful inclusivity models in AI.

II. AI Ethics, Regulation, and Standardization

Building on the foundational work led by NIST, part of the Department of Commerce, the U.S. has made substantial progress in shaping AI standards that address critical issues such as risk management, ethics, and interoperability. In particular, NIST's development of the AI Risk Management Framework (RMF) has established a flexible and robust foundation for managing AI risks and setting a high standard for U.S. AI policy. To further foster a competitive advantage for American businesses and promote resilience and transparency in trade, it is essential to amplify this progress with focused efforts on standardization, ethical guidelines, and regulatory consistency. The Department of Commerce is well-positioned to drive this coordinated, inter-agency approach, especially in managing data flows, ensuring interoperability, and reinforcing ethical standards across sectors, including in agriculture, which is a critical infrastructure and requires cybersecurity standards and best practices. It is critical to ensure that the perspectives of diverse stakeholder groups, including business owners and enterprises from underrepresented groups, are incorporated into the development and implementation of AI policies and regulations.

The following recommendations support the Department's strategic efforts to advance AI policy and infrastructure that align with international trade and U.S. competitiveness objectives, while

also highlighting the importance of incorporating diverse perspectives into AI policymaking and governance frameworks.

- **Strengthen the Role of AI RMF as the Risk Management Interoperability Standard**: Position the NIST AI Risk Management Framework as the primary interoperability standard, with specific profiles tailored to different use cases. This will provide consistency across sectors while enabling flexible adoption of best practices.

- **Drive Sectoral AI Standards Consistent with NIST's AI RMF**: Enable sectors to adopt sector-specific AI standards consistent with NIST's AI RMF to meet the unique requirements of industries like healthcare, finance, and manufacturing. This approach will reinforce sectoral resilience and streamline regulatory compliance for businesses.

- **Develop a Network of AI SERT Centers to Promote Resilient Supply Chains**: Establish a network of AI Ethics, Regulation, and Transparency (ERT) centers to foster real-time information sharing and collaboration. These centers would serve as hubs to support businesses in managing data flows and optimizing AI-driven supply chains with built-in resilience, as well as offer guidance to trade partners on compliance, best practices, and innovation-friendly approaches. These ERTs could also serve as hubs for sharing information and risk associated with AI vulnerabilities that are identified so that developers and deployers can release "patches" to mitigate their impact, much like the role that Computer Emergency Response Teams play for cybersecurity.

- **Advance AI Standards Globally**: Incorporate AI standardization efforts into trade agreements to ensure the U.S. maintains a strong influence in global AI policy. Working closely with international bodies, such as the International Organization for Standardization and the Institute of Electrical and Electronics Engineers, will ensure that standards that meet U.S. stakeholder needs are adopted widely, bolstering American competitiveness. Furthermore, early adoption of U.S.-based standards in partner nations reduces fragmentation in AI regulation and builds trust in American technologies.

- **Promote and Support AI Safety Benchmarks:** Advocate for AI safety benchmarks such as set by ML Commons that prevent AI systems from malfunctioning or being misused in harmful ways. Technology benchmarks for several decades have been helping drive innovation across computing systems. AI safety benchmarks will not only improve the safety of an AI model but improve its performance and efficiency as well. Maintaining AI safety benchmarks will require involvement of academia, industry, and policymakers globally.

- **Promote Ethical AI Through Transparent Guidelines and Reporting Requirements:** Advocate for clear guidelines on ethical AI deployment, focusing on transparency and accountability. Emphasizing these values in both domestic and international contexts will bolster trust in AI technologies and support the responsible growth of U.S.-based AI enterprises.

- **Invest in AI Evaluation and Compliance Sandboxes:** Establish AI evaluation programs and sandbox environments that allow companies to test regulatory compliance before deployment. These initiatives will provide clear thresholds and benchmarks, helping businesses align with evolving regulatory requirements and fostering a robust ecosystem of compliant AI applications.

- **Ensuring Indigenous Representation in AI Policymaking Bodies and Governance Frameworks:** Indigenous communities have faced historical marginalization and socioeconomic challenges. However, recent federal initiatives and partnerships provide opportunities to integrate cutting-edge technologies, including AI, into tribal infrastructures. Ensuring Indigenous representation in AI policymaking bodies and governance frameworks through reserved positions is crucial to creating equitable opportunities for Indigenous members to actively shape policies and standards. These policies and standards affect market access, digital inclusion, and economic development, significantly influencing Indigenous communities' technological, economic, and social futures, including their ability to participate in international markets.

  We propose the following inclusive measures and commitments as policy priorities for the adoption of AI:

  - **Implementation of Reserved Seats:** Mandate a specific percentage of seats for Indigenous representatives on all relevant AI councils and governance bodies.

  - **Inclusiveness in Decision-Making:** Incorporating Indigenous perspectives into discussions that directly affect their technological development and socioeconomic welfare through contractual obligations to bridge the technological gap and foster dialogue.

  - **Safeguarding cultural and intellectual property rights:** Drawing on federal protections like the Native American Graves Protection and Repatriation Act, Al policies should safeguard Indigenous cultural heritage, ensuring representation in governance bodies by reserving positions for Indigenous leaders. Continuous collaboration with Indigenous communities should also be prioritized as AI evolves.

  - **Capacity Building Programs:** Invest in training and development initiatives to equip Indigenous individuals with the necessary skills for effective participation in AI governance. This includes workshops, mentorship opportunities, and resources to enhance their AI policymaking and advocacy abilities, with benefits extending to other sectors. Furthermore, advocate for federal initiatives to fund AI integration projects within tribal communities. This funding could include grants for infrastructure development and training programs to enhance technological capabilities, ensuring that Indigenous communities are well-positioned to leverage AI technologies for their advancement.

  - **Equitable Distribution of Resources:** Establish mechanisms or platforms to ensure that Indigenous communities receive equivalent or enhanced technological support

compared to non-tribal areas. The goal is not merely to achieve parity but to provide greater technological support to Indigenous communities to bridge the existing technological divide.

III. Intellectual Property

Developing AI models and systems often involves collaboration between multiple entities, including private and public-private partnerships and implicates the IP rights of a variety of parties. Determining ownership, sharing IP rights, understanding the protectability of AI-enabled outputs and protecting the rights of copyright, patent owner, and trade secrets in collaborative AI projects and in the AI space generally is highly complex, and many of the statutory, regulatory, and legal questions around these issues are largely unsettled in the U.S. and internationally.

Domestically, the relevant agencies are in the early stages of adopting positions, policies, and regulations that will ultimately determine how those questions are handled in the U.S. As an example, the Copyright Office released a notice of inquiry in 2023 to assess whether legislative or regulatory steps are warranted for copyright law and policy issues raised by AI, including those involved in the use of copyrighted works to train AI models, the appropriate levels of transparency and disclosure concerning the use of copyrighted works, and the legal status of AI-generated outputs. The Office received over 10,000 comments and has since published Part 1 of the Report on July 31, 2024, with additional Parts to be published as they are completed.

Many of these issues are currently being litigated in U.S. courts. Congress has also begun evaluating and debating potential legislative frameworks around AI. Internationally, we have seen regulatory frameworks move ahead of the U.S., including the European Union's AI Act, which includes several provisions related to IP.

As the U.S. considers trade policy over the next several years, it will be important to closely monitor the latest U.S. developments in AI related to IP to ensure any potential trade agreements or actions do not conflict with how the U.S. may ultimately treat these issues. It will be important that U.S. companies are able to continue to make technological advancements with AI while maintaining protection for IP in domestic and international markets to maintain global competitiveness.

Among the specific issues related to the unsettled legal questions for AI and trade that we recommend closely monitoring as they continue to develop are:

- **Ownership of Models:** Standards for the ownership of a trained artificial intelligence/machine learning (AI/ML) model, under what regime (copyright, trade secret), and the exportability of those models. Standards for licensing and otherwise respecting the IP rights in source materials used for training an AI/ML model as well as guidelines for assessing how potential learning scenarios (e.g., restricted data, infrastructure, applications, etc.) could trigger export concerns.

- **AI as a Tool for Inventorship and Authorship:** Uniform standards for when an inventor's use of AI/ML models as a tool creates obstacles to the patentability of an

invention. This will be needed to help avoid inadvertent barriers in international trade resulting from disparate patentability standards. Similar standards will be helpful to guide determinations of when an expressive work created using AI as a tool is protectable under copyright, reflecting the legitimate use of AI as a tool to enable human creativity and informing international standards under the Berne Convention. For instance, if a software provider prompts an AI model to create code and combines this newly generated code with human-authored code to create a software upgrade, reliable standards would help inform the software provider of the copyrightability of this new upgrade in a manner that reliably transcends borders.

IV. AI and the Workforce

The current generation of AI has broad applicability across industries, offering significant potential to enhance productivity but it also requires complementary investments in skills and organizational changes outlined in the recently released report by the National Academies of Science, Engineering and Medicine, "Artificial Intelligence and the Future of Work (2024)." AI-driven productivity gains can enhance the competitiveness of U.S. industries in global markets, ensuring leadership in high-value technology sectors. It is essential for the U.S. to proactively address workforce development to harness the full potential of AI, ensuring economic resilience, inclusive growth and international competitiveness. The Department of Commerce, through strategic initiatives and policy support, can catalyze robust workforce development models that meet current and future demands. Our specific recommendations include:

Enhance Real-Time Workforce Data Analysis and Dissemination

- **Public-Private Data Partnerships and Advanced Reporting Tools**: The PEC believes there is strategic value in establishing collaborations between government, industry, and academia to create a comprehensive, anonymized data-sharing platform that captures real-time trends in workforce supply and demand. This system would integrate data from sources like job boards, professional networks, and payroll services, enabling a dynamic understanding of the skills landscape and future job market needs. There is also an opportunity to support the development of AI-powered tools for analyzing and disseminating these insights to workers, educational institutions, and policymakers, ensuring timely and relevant data reach those who can act on it.

Support National Apprenticeship Programs for AI-Related Skills

- **National Apprenticeship Strategy:** Design a national apprenticeship strategy that matches skilled workers with opportunities in AI-driven sectors across the nation, promoting cross-sectoral partnerships that include both large corporations and small businesses and bring talent into markets with demand. Such efforts could build on existing initiatives like the NIST Manufacturing Extension Program and the Tech Hubs program to foster and embed a culture of AI education and workforce readiness in local and regional economies.

Promote Inclusive AI Education from Elementary School Onward

- **Scaling Up Efforts for a STEM-Ready Workforce**: Expand and enhance initiatives to prepare a STEM-ready workforce, emphasizing AI and data literacy, as well as foundational math skills crucial to national competitiveness. This includes scaling programs that advance proficiency in essential subjects, particularly as U.S. students have shown declining performance in data and statistics over the past decade. Notably, U.S. 4th, 8th, and 12th graders have experienced a decade-long decline in their performance on data and statistics concepts as measured by the National Assessment of Educational Progress. Where possible, the United States should also invest in developing guidance and scalable support to provide AI tools that can enhance educational delivery, personalizing learning experiences to improve outcomes and better prepare the next generation for a future shaped by AI.

Engage Small Business and Workers

- **Employee Engagement and Training Incentives**: Encourage the creation of tax incentives for companies that incorporate employee feedback in the design and implementation of AI tools, ensuring these tools are developed to augment, not replace, human work. The federal government can consider tax incentives for companies that invest in upskilling their workforce for AI integration, emphasizing pathways that encourage the development of skills in current and future AI.

- **Ethical Design and Human-Centric Implementation**: Advocate for AI solutions that are designed with input from their users, promoting human-centric development that enhances productivity while safeguarding jobs.

Ensure Broad Access to AI Training Across All Economic Sectors and Demographic Groups

- **Public Funding for Retraining Programs**: Establish funding similar to the Trade Adjustment Assistance (TAA) program for workers at risk of displacement due to AI advancements, focusing on facilitating transitions into roles where AI augments human capabilities. It will be particularly important to provide targeted funding and support for SMEs to implement continuing education programs, enabling them to stay internationally competitive and leverage AI effectively. By encouraging multi-sector collaboration, ecosystems can pool resources and expertise, helping industries with limited access to advanced training benefit from state-of-the-art AI education programs.

- **Collaborative Training Initiatives**: Facilitate partnerships among tech companies, universities, and trade schools to co-develop AI-related courses and certification programs that align with industry needs.

- **Inclusive Mindset**: Provide targeted upskilling and reskilling programs for underrepresented groups, including Indigenous communities, to prepare them for AI-driven job changes.

Drive Research and Innovation in Workforce Development

- **Basic Research Funding**: We also endorse the recommendation in the recent National Academies' report, Artificial Intelligence and the Future of Work (2024), which is echoed in other venues, that the United States should work to expand funding for research to identify innovative approaches to workforce training, in addition to supporting basic and applied research in better AI alignment, explainability, and safety.

- **Exploration of AI's Augmentation Potential**: Sponsor studies and pilot programs exploring the practical balance between AI augmenting versus replacing human work, providing guidance on policies that promote augmentation to support employment stability.

V. Reducing the Environmental Impact of AI

Worldwide AI spending will more than double to $632 billion by 2028, according to International Data Corporation (IDC). However, the growth of AI must be managed carefully to mitigate its substantial environmental impact. Most AI computation occurs within cloud infrastructures powered by extensive data centers. With global AI demand accelerating, data center capacity is projected to grow rapidly, leading to increased energy consumption, water use, and carbon emissions. The International Data Corporation forecasts that data center capacity dedicated to AI will experience a compound annual growth rate (CAGR) of 40.5% through 2027. Timely deployment of these data centers is critical. Delays in getting facilities operational not only reduce the efficiency gains AI can offer but also increase resource waste—keeping infrastructure idle consumes power and incurs maintenance costs without productive output.

Furthermore, data centers play a key role in resource conservation and energy optimization. The U.S. Department of Energy (DOE) has recognized the importance of optimizing data center energy use, particularly through its Center of Expertise for Energy Efficiency in Data Centers. According to DOE reports, advanced data centers can achieve up to 80% energy savings through best practices and technological advancements. Getting data centers up and running quickly ensures that these efficiencies are realized sooner, amplifying AI's positive impact on both economic and environmental fronts.

Furthermore, as much as cloud is essential, there is an emerging model of a hybrid AI ecosystem which combines cloud and edge computing. It is important for cloud and edge devices (phones, vehicles, personal computers, extended reality, internet of things) to work together using high-performance connectivity to deliver more powerful, efficient and optimized AI. Higher costs, a deluge of applications and billions of users require edge processing in addition to cloud for AI to scale.

Additionally, with global water shortages on the rise, data centers' reliance on water for cooling intensifies concerns about sustainable growth. By 2050, the world's population will increase by 2 billion, necessitating a 50% boost in food production and correspondingly, water use for agriculture. Given these pressures, we must advance AI infrastructure that conserves resources and supports both community and environmental needs, maintaining rural communities' and

farmers' access to water and electricity. AI can be beneficial in reducing environmental impact in the agriculture sector by better targeting where and when watering is needed or reducing the use of pesticides or fertilizers through more targeted applications.

The PEC recommends the following:

- **Expedite Construction and Enhance Operational Efficiency of AI infrastructure:** The U.S. is uniquely positioned to lead in sustainable AI infrastructure, offering the advanced technologies, expertise, and collaborative experience necessary for efficient, eco-friendly data center deployment. U.S. companies can provide the support needed for constructing and operationalizing data centers promptly, with minimal impact on surrounding communities. By expediting construction and deployment timelines, we can maximize resource use and prevent the waste associated with delayed operations. The U.S. should invest in R&D to identify efficiency best practices.

- **Advancing Water and Energy Solutions and Hybrid AI:** In addition to improving operational efficiency, U.S. technologies support reducing water and energy demands in data centers, which is vital for maintaining essential community resources. Furthermore, U.S. innovation in Hybrid AI—using both cloud and edge devices (such as phones, vehicles, and IoT devices)—enables AI processes to occur closer to the device, reducing dependence on centralized data centers. With AI inference, or the use of AI models in real-time applications, projected to grow at a CAGR of 40%, even moving 20% of generative AI workloads to edge devices could save an estimated $16 billion by 2028.

To fully realize AI's economic and environmental potential, policies in the U.S. and globally should prioritize the rapid, sustainable deployment of AI infrastructure. Timely development of AI-ready data centers and support for hybrid solutions can balance economic gains with reduced environmental impact, ensuring AI's benefits are both significant and sustainable and enabling U.S. companies' success in the international marketplace.

Sincerely,

Mark Ein