

## Decoding The Biden Administration's Sweeping Executive Order on Artificial Intelligence



### Executive Summary

The field of artificial intelligence (AI) is evolving at an unprecedented pace, with far-reaching implications for national security, privacy, equity, innovation, and global leadership. Recognizing the multifaceted challenges and opportunities posed by AI, on October 30, 2023, President Joe Biden issued a landmark Executive Order (EO) aimed at shaping the future of AI in the United States.

As discussed in detail below, the EO strives to promote responsible innovation, competition, and collaboration to position the U.S. as a leader in AI and leverage its potential to address economic, national security and social challenges. It aims to protect consumers, patients, students and workers, safeguard Americans from the privacy risks associated with AI, ensure that AI systems respect equity and civil rights, and manage the risks tied to the federal government's use of AI while enhancing its capacity for regulating and supporting responsible AI use. The EO further seeks to leverage AI's capabilities to drive sustainability, increase energy efficiency, and mitigate climate change risks.

At its core, this ambitious executive action aims to strike the right balance between harnessing the power of AI to spur innovation and mitigating the significant risks associated with the technology, while positioning the U.S. as a global leader in societal, economic, and technological progress through responsible AI stewardship.

As AI emerges as a pivotal force shaping the next industrial revolution, business leaders aspiring to navigate this transformative landscape should familiarize themselves with the legal framework set forth in the EO, and stay tuned for the groundswell of regulatory action that is sure to follow. Aligning business operations and corporate governance models to the EO's principles, policies and directives is imperative,

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as the order serves as a strategic guide for those seeking to leverage AI’s potential for unprecedented business growth in a safe, ethical and responsible manner.

### **Establishing New Safety and Security Standards**

The EO lays the foundation for AI development by prioritizing safety and security standards. Key initiatives under the EO related to such standards include:

- **Mandatory Safety Testing:** Developers of “dual-use foundation models”<sup>1</sup>—that is, AI models deemed to pose a serious threat to national security, national economic security, or national public health and safety—are required to notify the federal government when training such models and to share results of all “red-team” safety tests<sup>2</sup>. (Re-teaming is the use of ethical hackers to test an organization’s system, allowing them to identify and fix any vulnerabilities.)
- **National Institute of Standards and Technology (NIST):** The NIST is tasked with establishing consensus industry standards for developing and deploying safe, secure and trustworthy AI systems, including standards for red-team testing before the public release of AI systems.
- **Critical Infrastructure and Cybersecurity:** The Departments of Homeland Security (DHS) and Energy (DOE) are directed to address AI systems’ threats to critical infrastructure from physical and cyber-attacks. Furthermore, to safeguard against the risk of using AI to engineer dangerous biological materials, standards for biological synthesis screening are to be established by agencies that fund life-science projects as a condition of federal funding.
- **Content Authentication and Labeling:** The Department of Commerce (DOC) plays a pivotal role in protecting Americans from AI-enabled fraud and deception. It is tasked with developing guidance for content authentication and watermarking to clearly label AI-generated content. This ensures that consumers can distinguish between synthetic<sup>3</sup> and human-generated content.
- **National Security Memorandum:** The National Security Council and White House Chief of Staff will develop a National Security Memorandum to ensure that AI is safely, ethically, and effectively used within the U.S. military and intelligence community.

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<sup>1</sup> The term “dual-use foundation model” is defined as “an AI model that is trained on broad data; generally uses self-supervision; contains at least tens of billions of parameters; is applicable across a wide range of contexts; and that exhibits, or could be easily modified to exhibit, high levels of performance at tasks that pose a serious risk to security, national economic security, national public health or safety, or any combination of those matters ...” EO, Section 3(k).

<sup>2</sup> “AI red-teaming” is defined as “structured testing effort to find flaws and vulnerabilities in an AI system, often in a controlled environment and in collaboration with developers of AI.” EO, Section 3(d).

<sup>3</sup> The term “synthetic content” is defined as “information, such as images, videos, audio clips, and text, that has been significantly modified or generated by algorithms, including by AI.” EO, Section 3(ee).

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- **Infrastructure-as-a-Service (IaaS) Providers and Foreign Transactions:** The EO also casts a spotlight on IaaS providers, who play a pivotal role in supporting the computational requirements of AI applications. The order instructs the Secretary of Commerce to propose regulations that require U.S. IaaS providers to report foreign transactions related to training large AI models. These transactions must be reported to the federal government, particularly when there's potential for the resulting AI capabilities to be used in malicious cyber-enabled activities.
  - **Large-Scale Computing Cluster Reporting:** The EO acknowledges the significance of large-scale computing clusters in advancing AI capabilities. It mandates that companies, individuals, and organizations acquiring, developing, or possessing potential large-scale computing clusters report these acquisitions, developments, or possessions to the relevant federal agencies. These reports should include details about the existence and location of these clusters, as well as the total computing power available in each cluster. The EO empowers federal agencies to define the specific conditions and criteria for which models and computing clusters are subject to this reporting requirement. This emphasis on large-scale computing clusters aims to enhance transparency and oversight, particularly in areas where AI systems can have far-reaching consequences, such as national security, scientific research, and critical infrastructure protection.

The focus on safety and security standards underscores the Biden Administration's commitment to fostering AI innovation while safeguarding against potential risks. By introducing a framework that mandates rigorous testing and standards, the EO seeks to balance the advancement of AI with the protection of national security interests.

### **Protecting Privacy**

The EO recognizes that privacy in the AI era is of paramount importance. It addresses the responsible use of personal data for AI systems and places an emphasis on privacy-enhancing (or privacy-preserving) technology<sup>4</sup>. It calls on Congress to pass bipartisan, nationwide data privacy legislation, and directs the following actions:

- **Federal Support for Privacy-Preserving Techniques:** The EO prioritizes federal support for accelerating the development and use of techniques that protect individuals' privacy. This includes encryption, cryptographic tools, and other methods that safeguard personal data in AI systems.
- **Strengthening Privacy-Preserving Research:** By promoting research in privacy-preserving technologies, the order encourages the development of safeguards against unwarranted intrusion into individuals' personal data. The EO calls on the Secretary of Energy to fund the creation of a Research Coordination Network focused on advancing privacy research.

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<sup>4</sup> The term "privacy-enhancing technology" is defined as "any software or hardware solution, technical process, technique, or other technological means of mitigating privacy risks arising from data processing, including by enhancing predictability, manageability, disassociability, storage, security, and confidentiality." EO, Section 3(z).

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- **Guidelines for Federal Agencies:** Federal agencies are required to develop guidelines for evaluating the effectiveness of privacy-preserving techniques in AI systems. This ensures that government use of AI respects citizens' privacy.

By emphasizing privacy-preservation in AI systems, the EO aligns with growing public concerns about data protection and surveillance, and highlights the government's commitment to balancing technological advancement with personal privacy.

### **Advancing Equity and Civil Rights**

Addressing concerns about civil rights, civil liberties, equity and justice, the EO introduces requirements aimed at preventing AI systems from perpetuating discrimination. These measures include:

- **Guidance to Prevent Algorithmic Discrimination:** Clear guidance is to be provided to landlords, federal benefits programs, and federal contractors to ensure that AI systems are not used to perpetuate or exacerbate discrimination in labor, housing and consumer financial markets. The EO specifically includes directives designed to hold those deploying and developing AI accountable to standards that protect against unlawful discrimination and abuse.
- **Coordination and Training:** The order requires coordination between the Department of Justice (DOJ) and federal civil rights offices to establish best practices for investigating and prosecuting civil rights violations related to AI.
- **Criminal Justice System:** Best practices for the use of AI in sentencing, parole, probation, pretrial release, detention, surveillance, crime forecasting<sup>5</sup> and related aspects of the criminal justice system are to be developed. This is a significant step towards ensuring fairness and equity in AI-assisted legal processes.

The EO's focus on equity and civil rights is crucial for addressing issues related to bias, discrimination, and fairness in AI systems. By preventing AI from perpetuating existing inequalities, it underscores the government's commitment to a more equitable and just society.

### **Protecting Consumers, Patients, Students and Workers**

The EO acknowledges that AI can have unique impacts on consumers, patients, students, and workers. It outlines specific actions to safeguard their interests:

- **Healthcare:** The Department of Health and Human Services (HHS) is tasked with establishing a safety program to monitor and address unsafe health care practices stemming from AI, including in the development of lifesaving drugs. This ensures that AI technologies in healthcare are used responsibly and safely.

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<sup>5</sup> "Crime forecasting" is defined as "the use of analytical techniques to attempt to predict future crimes or crime-related information. It can include machine-generated predictions that use algorithms to analyze large volumes of data, as well as other forecasts that are generated without machines and based on statistics, such as historical crime statistics." EO, Section 3(g).

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- **Education:** The order calls for the creation of resources to support educators deploying AI-enabled tools. This helps ensure that AI is effectively integrated into the educational system for the benefit of students.
  - **Workers:** The order requires the development of principles and best practices to mitigate AI's potential harms to workers. This includes addressing job displacement, labor standards, workplace equity, health and safety, and data collection. The EO also directs the Department of Labor (DOL) to develop rules prohibiting the use of AI in surveilling employees in the workplace.
  - **Labor-Market Impact Report:** A report on the potential labor-market impacts of AI is mandated, providing insights into how AI may affect the workforce.

By focusing on the impact of AI on consumers, patients, students, and workers, the EO seeks to safeguard the well-being and rights of these groups and ensure that AI is harnessed for their benefit.

### **Driving Innovation and Competition**

Promoting innovation and maintaining competitiveness in the AI sector is essential for the U.S. The EO introduces several initiatives to achieve these goals:

- **National AI Research Resource:** The order calls for the creation of a National AI Research Resource, a tool that will provide AI researchers and students with essential AI resources and data.
- **Modernizing Immigration Processes:** The order discusses updates to the immigration process for individuals with expertise in critical AI areas to study, stay and work in the U.S. In particular, it seeks to streamline the student visa process, enabling remote interviews and expanding opportunities for attending international conferences. It also seeks to simplify the acquisition of professional visas for AI experts and ease the path to obtaining green cards. The order also encourages regulatory changes to enhance the attractiveness of the U.S. for AI talent and calls for the creation of a global AI Talent Attraction Program. Additionally, it highlights the need for modernizing the H-1B program and updating immigration criteria to accommodate critical AI areas.
- **Promoting Competition:** The Federal Trade Commission (FTC) is directed to exercise its legal authority to encourage a competitive AI ecosystem, by targeting collusion, monopolization, price discrimination, and unfair methods of competition. The FTC is also asked to provide small developers and entrepreneurs access to technical assistance and resources. This ensures a level playing field for businesses and innovators.

### **Strengthening American Leadership Abroad**

AI is a global phenomenon, and international cooperation is essential for fostering the development and responsible use of AI on a global scale. Recognizing that AI's challenges and opportunities transcend

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national borders, the EO emphasizes the need for international cooperation to facilitate the safe, secure, and reliable use of AI worldwide. This includes taking the following steps:

- **Strengthening Diplomatic and Commercial Alliances:** The Department of State (DOS) and DOC will expand bilateral, multilateral, and multistakeholder engagements with foreign nations to collaborate on AI. These efforts will aim to establish robust international frameworks that harness the benefits of AI while effectively managing its risks and ensuring safety.
- **Global AI Standardization:** The EO calls for an accelerated development and implementation of crucial AI standards in collaboration with international partners and standards organizations. This initiative seeks to guarantee that AI technology is both safe and secure, while remaining trustworthy and interoperable on a global scale.
- **Promoting Responsible AI Worldwide:** The EO encourages the promotion of safe, responsible, and rights-affirming AI development and deployment on the global stage. This entails addressing global challenges such as advancing sustainable development and mitigating threats to critical infrastructure through the responsible application of AI technology.

### **Ensuring Responsible and Effective Government Use of AI**

The EO acknowledges the potential of AI to enhance the delivery of government services to citizens. It mandates actions to ensure the responsible deployment of AI by government entities. This includes the development of guidelines for agency use of AI, improvements in the process for government acquisition of AI, and the recruitment of AI talent by governments.

### **Safeguarding the Environment and Mitigating Climate Change Risk**

The EO also addresses the critical intersections of AI with energy, the environment, and climate change mitigation. The order's provisions underscore the administration's commitment to harnessing AI's capabilities to drive sustainability, enhance energy efficiency, and mitigate climate change risks. Key elements of the EO relevant to these areas are summarized below:

- **Collaboration for Climate Change Mitigation:** In recognition of the profound implications of climate change, the Secretary of Energy is directed to foster partnerships with private-sector organizations and academia. These collaborations aim to support the development of AI tools that can effectively mitigate climate change risks. By leveraging AI's data analysis and predictive capabilities, the development of tools to address climate change-related challenges becomes a priority within the DOE.
- **Utilizing DOE's Computing Capabilities:** The EO emphasizes the utilization of the DOE's substantial computing capabilities and AI testbeds. These resources are to be harnessed through partnerships with the private sector to create foundation models that support applications in science, energy, and national security. Importantly, a key focus is placed on preparedness for climate change risks, thus making AI an integral part of the strategy to combat climate change.

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- **Advancing Clean Energy Deployment:** An essential aspect of the EO’s environmental agenda is to facilitate the deployment of clean energy technologies. This includes addressing delays in environmental permitting processes, which can often impede the transition to cleaner energy sources. By streamlining and expediting these permitting procedures through AI-enabled processes, the order aims to promote clean energy deployment.
  - **Enhancing Grid Reliability and Resilience:** Ensuring the reliability and resilience of energy grids is crucial, especially in the face of climate change-induced extreme weather events. The EO highlights the role of AI in achieving this goal. By integrating AI into grid management and control systems, the order seeks to enhance the resilience of energy grids, making them better prepared to withstand climate-related disruptions.
  - **Coordinated AI Development:** To achieve these objectives, the Secretary of Energy is instructed to establish an office within the DOE. This office will serve as a coordination hub for AI development across various programs and the National Laboratories. This coordination is pivotal in ensuring that AI initiatives across the energy, environment, and climate change mitigation domains align with the broader national strategy.

The EO recognizes that AI is a powerful tool that can play a pivotal role in mitigating climate change risks, advancing clean energy deployment, and enhancing grid reliability and resilience. By fostering collaborations, harnessing computing capabilities, and streamlining processes, the order underscores the government’s commitment to leveraging AI for the benefit of the environment and in support of climate change mitigation efforts.

### Next Steps

The Biden Administration’s EO on AI is a comprehensive and far-reaching initiative that is expected to have a significant impact on various sectors, including government, technology, finance, healthcare, education, and more. Its broad scope reflects the U.S. government’s commitment to shaping the future of AI while addressing associated risks and challenges.

Companies and organizations involved in AI development and deployment, whether through large AI models, IaaS services, or government contracts, should closely monitor the requirements, programs, and reports issued under this EO. The EO’s directives to develop AI principles, best practices, and safety standards will likely shape future regulatory standards and norms in AI, affecting entities across all industries.

While the EO sets timelines for agencies to implement its directives (generally from three to twelve months), its impact is expected to be a catalyst for further legislative efforts in Congress to create a comprehensive framework for AI governance. As the AI landscape continues to evolve, businesses should prioritize safety, security, transparency, privacy, and fairness in their AI strategies. Adhering to these principles not only ensures compliance with the evolving regulatory environment but also contributes to the responsible and ethical deployment of AI technologies.

Stakeholders in the AI industry should engage actively and proactively as the government implements the EO directives, as there may be opportunities to provide input and shape the evolving regulatory

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landscape. Furthermore, companies and organizations should be prepared to adapt their AI standards and practices to align with the mandates of the EO and stay tuned for developments in the ever-changing field of AI regulation. As the AI journey continues to unfold, vigilance and proactive engagement will be crucial for those seeking to harness the potential of AI while ensuring its ethical and responsible use.

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