



October 17, 2022

International Trade Administration  
U.S. Department of Commerce  
1401 Constitution Ave NW  
Washington, DC 20230

Re: Artificial Intelligence Export Competitiveness RFC

Dear Ms. Lago,

On behalf of the Center for Data Innovation ([datainnovation.org](http://datainnovation.org)), I am pleased to submit this response to the International Trade Administration’s (ITA) request for comments (RFC) on the current global AI market and concerns regarding international AI policies, regulations, and other measures which may impact U.S. exports of AI technologies.<sup>1</sup>

The Center for Data Innovation is the leading think tank studying the intersection of data, technology, and public policy. With staff in Washington, London, and Brussels, the Center formulates and promotes pragmatic public policies designed to maximize the benefits of data-driven innovation in the public and private sectors. It educates policymakers and the public about the opportunities and challenges associated with data, as well as important data-related technology trends. The Center is a part of the nonprofit, nonpartisan Information Technology and Innovation Foundation.

## OVERVIEW

As explained in the RFC, AI is transforming economic sectors and industries, creating new areas for innovations, and making its way into global trade discussions. A strong understanding of the AI landscape will be important to ITA and the Department of Commerce to ensure policy actions effectively strengthen the international competitiveness of U.S. industry and foster economic growth by promoting trade and investment.

We support the ITA’s mission and offer comments on the questions below to inform its work.

- A. What foreign/international AI policies or regulations exist?.....3
- B. What trade barriers currently exist in the AI space? What remedies could resolve these trade barriers?.....5

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<sup>1</sup> “Request for Comments on Artificial Intelligence Export Competitiveness,” White House, April 2022, <https://www.federalregister.gov/documents/2022/08/16/2022-17576/request-for-comments-on-artificial-intelligence-export-competitiveness>.



- C. How could international AI regulations impact future product or service design and development?.....10
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Please find our responses to the relevant questions in the document below.

Sincerely,

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## A. WHAT FOREIGN/INTERNATIONAL AI POLICIES OR REGULATIONS EXIST?

Many governments, including the European Union, Japan, Singapore, South Korea, and the United Kingdom, are creating various policies around AI. Some are adopting a light-touch regulatory framework, while others are adopting a heavy-handed one. Some are adoption policies to promote AI development and adoption, while others are restricting its deployment. Moreover, as of May 2021, researchers had identified 634 “soft law” AI programs, such as standards, certifications, principles, and more, created by governments, non-profits, and private sector.<sup>2</sup>

### European Union

The European Commission has designed a horizontal regulatory framework, called the Artificial Intelligence Act (AIA), that encompasses any AI system that touches the single market, whether the provider is based in Europe or not. The AIA uses a risk-based approach and sets up a series of escalating legal and technical obligations depending on whether the AI product or service is classed as low, medium or high-risk, while a number of AI uses are banned outright.<sup>3</sup> The Act would prohibit the use of some use cases outright (including real-time biometric surveillance, subliminal manipulation, and social scoring); strictly-regulates eight use cases it deems high risk through conformity assessments, transparency requirements, and post-market monitoring (including law enforcement, critical infrastructure, and recruitment); and subjects low-risk use cases to transparency requirements (including deep fakes and chatbots). The AIA creates a European AI Board, composed of representatives of member states and the Commission to implement and enforce the Act. Overall, the Center believes that as currently structured the AIA will limit AI innovation and adoption in the EU, including by U.S. companies.<sup>4</sup>

### Japan

Japan is not likely to implement broad and restrictive EU-like rules to govern AI systems but its strict rules on data protection will hamper the ability for AI companies to innovate with data. The Ministry of Economy, Trade and Industry (METI) published a report in 2020 that outlined what it views as the ideal approach to AI governance in Japan, in which it states a preference for goals-based rather than rules-based regulation.<sup>5</sup> METI explains that the government’s role is to work with businesses to develop non-binding guidelines and standards that help them achieve their innovation goals while continuously reviewing the impacts of these guidelines, which can be achieved by encouraging

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<sup>2</sup> Carlos Ignacio Gutierrez and Gary E. Marchant, “A Global Perspective of Soft Law Programs for the Governance of Artificial Intelligence,” May 28, 2021, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3855171](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3855171).

<sup>3</sup> Benjamin Mueller, “The Artificial Intelligence Act: A Quick Explainer,” (Center for Data Innovation, May 2021), <https://datainnovation.org/2021/05/the-artificial-intelligence-act-a-quick-explainer/>.

<sup>4</sup> Benjamin Mueller, “How Much Will the Artificial Intelligence Act Cost Europe?” (Center for Data Innovation, July 2021), <https://datainnovation.org/2021/07/how-much-will-the-artificial-intelligence-act-cost-europe/>.

<sup>5</sup> Ministry of Economy, Trade and Industry (METI), “AI Governance in Japan Ver. 1.0: Interim Report,” (Tokyo: METI, 2021), <https://www.meti.go.jp/press/2020/01/20210115003/20210115003-3.pdf>.



businesses to “focus on accountability for their activities...[through] various forms of assurance depending on the risk, such as self-check, peer review, internal audit, agreed procedures, third-party review and external audit.”<sup>6</sup> METI cements this view in a 2021 report in which it states “legally-binding horizontal requirements for AI systems is deemed unnecessary at the moment.”<sup>7</sup> However, Japan is the only country in Asia that the EU has exchanged joint adequacy findings with, meaning Japan’s data protection laws are roughly comparable to the EU in how they limit the collection and use of data to make automated decisions. Japan has recently moved toward aligning its data protection law, the Act on Protection of Personal Information (APPI), even closer with the EU’s GDPR, echoing the EU’s call to limit the transfer of data to other countries that which do not emulate their laws. It is therefore likely that Japan will continue to follow in the EU’s footsteps, enacting stricter rules on data protection.<sup>8</sup>

### Singapore

Singapore’s approach to AI policy promotes data-driven innovation. Singapore’s Personal Data Protection Commission (PDPC), the country’s data protection agency, has developed an AI governance framework that encapsulates the country’s innovation-promoting approach to AI. Much like the United States to date Singapore has taken a light-touch approach to AI governance, recognizing that market forces, existing laws and regulations, and targeted interventions can manage the risks AI systems pose. The voluntary framework is intended to act as a guide for organizations on the issues they should consider and the measures they should implement when using AI systems.<sup>9</sup> The framework states that harm is context specific and will differ across sectors, and guides organizations to adopt mitigating measures, such as human oversight, that are commensurate with the size and nature of the risk.<sup>10</sup> The country is promoting AI through AI Singapore (AISG), the national research and innovation program pushing for global advantage in AI for the country’s 64 districts. AISG is funding high-quality research, promoting innovative AI solutions, encouraging small- and medium-sized enterprises to use AI, and continuously developing local AI talent. For instance, to accelerate AI adoption in industry AISG has launched AI Makerspace, a national AI platform that provides start-ups and small- and medium-sized companies with access to plug-and-play AI resources they can experiment with, such as tools that predict customer churn based on user profiles and behavior, as well as access to other open-source tools, including one for natural language processing.

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<sup>6</sup> Ibid, pg 5.

<sup>7</sup> Ibid, pg 28.

<sup>8</sup> Andrada Coos, “Data Protection in Japan: All You Need to Know about APPI,” *Endpoint Protector blog*, April 5, 2022, <https://www.endpointprotector.com/blog/data-protection-in-japan-appi/>.

<sup>9</sup> “Singapore’s Approach to AI Governance,” accessed March 12, 2021, <https://www.pdpc.gov.sg/Help-and-Resources/2020/01/Model-AI-Governance-Framework>.

<sup>10</sup> Personal Data Protection Commission, “Model Artificial Intelligence Governance Framework Second Edition,” (Singapore: PDPC, 2020), pg 31, <https://www.pdpc.gov.sg/-/media/files/pdpc/pdf-files/resource-for-organisation/ai/smodelaigovframework2.pdf>.



### South Korea

South Korea is moving toward deregulation of AI. In February 2021, South Korea's president Moon Jae-in vowed to introduce deregulatory measures to support the growth of AI in the country.<sup>11</sup> South Korea has an ambitious AI strategy introduced in 2019 with the goal to become a world leader in the development and use of AI. Under President Moon, the government is charged with creating a favorable policy environment to support significant investments in the private sector, including by repealing policies already in place that would inhibit growth.<sup>12</sup>

### The United Kingdom

The UK's approach to AI policy is at a crossroads post-Brexit. Recent reports from the UK suggest that it will diverge from the EU's approach of broad AI regulation and take a more sector-specific approach. The House of Lords committee published a report on UK AI policy in December 2020 that said:

"The challenges posed by the development and deployment of AI cannot currently be tackled by cross-cutting regulation. The understanding by users and policymakers needs to be developed through a better understanding of risk and how it can be assessed and mitigated. Sector-specific regulators are better placed to identify gaps in regulation, and to learn about AI and apply it to their sectors. The CDEI and Office for AI can play a cross-cutting role, along with the ICO, to provide that understanding of risk and the necessary training and upskilling for sector specific regulators."<sup>13</sup>

The UK is still working out what position it will take on regulating AI systems but if it follows up on what the report suggests, then it will likely fall somewhere between the stricter European regulatory approach and the lighter-touch U.S. approach.

## **B. WHAT TRADE BARRIERS CURRENTLY EXIST IN THE AI SPACE? WHAT REMEDIES COULD RESOLVE THESE TRADE BARRIERS?**

### Data Flows and Data Localization

One of the most important trade barriers that exist in the AI space are barriers to cross-border data flows because they limit the quality and quantity of the data that is a key input to AI.

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<sup>11</sup> Yonhap, "Moon vows speedier deregulation for AI sector," *The Korea Herald*, February 4, 2021, <http://www.koreaherald.com/view.php?ud=20210204000506>.

<sup>12</sup> Kim Eun-jin, "Korean Government to Repeal Regulations in AI Industry," *Business Korea*, December 18, 2019, <http://www.businesskorea.co.kr/news/articleView.html?idxno=39324>.

<sup>13</sup> House of Lords Liaison Committee, *AI in the UK: No Room for Complacency* (London: December 2020), 17, <https://publications.parliament.uk/pa/ld5801/ldselect/ldliaison/196/196.pdf>.



Data will naturally flow across borders unless governments enact restrictions. While some countries ensure that data can flow easily around the world (so that legal protections accompany the data), many more have enacted new barriers to data transfers that make it more expensive and time-consuming, if not illegal, to transfer data overseas. Forced local data-residency requirements that confine data within a country's borders, a concept known as "data localization," have evolved and spread in the four years since ITIF's last major report on data flows and localization.<sup>14</sup> Data localization targets a growing range of specific data types and broad categories of data deemed "important" or "sensitive" or related to national security. The justifications policymakers use has also evolved. Misguided data privacy and cybersecurity concerns remain common, but data and cyber sovereignty and censorship are newer, and in many ways, more troubling motivations given they are broader and more ideologically driven. Some policymakers—especially in Europe and India—openly call for data localization as part of digital protectionism, while others disguise localization and protectionism by burying it in technical regulations.

The total number of data localization policies (both explicit and de facto) has more than doubled from 67 in 2017 to 144 in 2021. Another 38 data localization policies have been proposed or considered in countries around the world. China (29), India (12), Russia (9), and Turkey (7) are world leaders in requiring forced data localization.<sup>15</sup>

There are three main kinds of data localization. First, some governments restrict the transfer of particular types of data outside their borders. These include personal data; health and genomic data; mapping and geospatial data; government data; banking, credit reporting, financial, payment, tax, insurance, and accounting data; the internal company data of publicly listed companies; data related to user-generated content on social media and Internet service platforms; subscriber data and communications content and metadata for traditional telecommunications and Internet-based communication services; and e-commerce operator data.

Second, countries are increasingly restricting data in broad and vague categories involving data deemed "sensitive," "important," "core," or related to national security, which often impacts a wide range of commercial data.<sup>16</sup> Similarly, the EU and India are moving toward extending restrictions to a broad framework targeting nonpersonal data.<sup>17</sup>

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<sup>14</sup> Nigel Cory, "Cross-Border Data Flows: Where Are the Barriers, and What Do They Cost?" (ITIF, May 1, 2017), <https://itif.org/publications/2017/05/01/cross-border-data-flows-where-are-barriers-and-what-do-they-cost>

<sup>15</sup> Ibid.

<sup>16</sup> Hosuk Lee-Makiyama, "Data Free Flow with Trust (DFFT): Paths towards Free and Trusted Data Flows" (World Economic Forum, May, 2020), [http://www3.weforum.org/docs/WEF\\_Paths\\_Towards\\_Free\\_and\\_Trusted\\_Data%20Flows\\_2020.pdf](http://www3.weforum.org/docs/WEF_Paths_Towards_Free_and_Trusted_Data%20Flows_2020.pdf).

<sup>17</sup> "Guidance on the Regulation on a framework for the free flow of non-personal data in the European Union," European Commission website, 2019, <https://digital-strategy.ec.europa.eu/en/library/guidance-regulation-framework-free-flow-non-personal-data-european-union>.



Third, de facto localization is also growing. By making data transfers so complicated, costly, and uncertain, firms basically have no other option but to store the data locally, especially in the face of massive fines. For example, the European Union’s removal of data transfer mechanisms, failure to add new certifications and other new legal tools for data transfers, and ever-ratcheting up of restrictions and conditions for those remaining mechanisms (such as standard contractual clauses) have the potential to make the General Data Protection Regime (GDPR) the world’s largest de facto localization framework.<sup>18</sup> Other examples include explicit consent requirements for personal data transfers and the need to submit data transfers for opaque and ad hoc authorization.

Unfortunately, the United States has had limited and mixed success in protecting cross-border data flows in past trade agreements as the Center for Data Innovation explains in its 2022 report *U.S. AI Policy Report Card*.<sup>19</sup> In 2018, the United States withdrew from the Trans-Pacific Partnership (TPP), now the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), which was the first international trade agreement with explicit language governing the flow of data across borders. The CPTPP includes prohibitions against localization requirements that would force businesses to build data storage centers or use local computing facilities when providing digital services; protections for proprietary software source code; and a commitment to cooperate on cybersecurity through coordinated national computer emergency response teams. The remaining 11 nations in the agreement—Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam—forged ahead with a deal that concluded in 2018.

However, the United States secured protections for cross-border data flows in the United States-Mexico-Canada Agreement (USMCA), which came into force in July 2020. In addition to preventing parties from enacting protectionist data localization requirements, the USMCA includes protections for algorithmic source code and promotes the publication of open government data. Regarding the latter, the deal does not require parties to publish open government data but instead supports the availability of valuable open data as a public resource that can spur AI development. These sorts of data-related provisions are important for AI development and should serve as a model for future trade negotiations.

The United States should foster the development of AI through more trade agreements that protect cross-border data flows and ensure fair, transparent, and open rules regarding the regulation of AI. Building an open, rules-based, and innovative global digital economy will depend on a small group of

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<sup>18</sup> Nigel Cory, Ellysse Dick, and Daniel Castro, “The Role and Value of Standard Contractual Clauses in EU-U.S. Digital Trade” (ITIF, December 17, 2020), <https://itif.org/publications/2020/12/17/role-and-value-standard-contractual-clauses-eu-us-digital-trade>.

<sup>19</sup> Hodan Omaar, “U.S. AI Policy Report Card,” (Center for Data Innovation, July 2022), <https://datainnovation.org/2022/07/ai-policy-report-card>.





proactive and ambitious countries working together. Countries like the United States that support this goal will need to work together to develop new norms, rules, cooperation mechanisms, and agreements to address legitimate concerns raised by cross-border data flows while supporting the free flow of data. These initiatives can then form the foundation for broader debate, adaptation, and adoption to expand to more issues and countries.

Unfortunately, the United States has not done as much as some of its digital trading partners like Australia and Singapore. It lags behind and is trying to catch up via the Indo-Pacific Economic Framework (IPEF). While IPEF will not be a trade agreement, it will include trade commitments and is therefore an opportunity for the United States and its trading partners to identify, develop, and support data-sharing models organizations in many sectors will not develop on their own.<sup>20</sup>

But IPEF is not enough. The United States should pursue new Digital Economy Agreements. Digital economy agreements combine legally binding and enforceable commitments on well-known digital trade issues (such as data localization) and soft commitments to cooperate on emerging regulatory issues (via memorandums of understanding (MOUs)). They can adjust to the changing nature of digital trade, technology, and regulation. This involves proactively bringing domestic regulatory agencies into trade discussions when they are only just starting to think about new rules for digital issues. The nonbinding nature of the cooperation enables experimentation and allows partners to address new problems quickly without getting distracted by the horse trading involved in traditional trade negotiations.

Digital economy agreements represent a flexible and accessible approach to building interoperability between digital economies at varying levels of development. In particular, the Chile-New Zealand-Singapore Digital Economy Partnership Agreement (DEPA) and its modular structure for its various issue areas (AI, e-identities, data flows, open data, fintech, e-invoicing, etc.) are open to all who can meet its ambitions.<sup>21</sup> Canada and South Korea have expressed interest in joining. Just as Asia-Pacific Economic Cooperation's early and ongoing digital economy discussions built the foundation for the ambitious digital rules in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), so too can these digital economy modules provide the basis for new norms and rules.

For the EU, cooperation on AI will be harder given they take a fundamentally different approach to AI regulation. Genuine transatlantic cooperation on AI can only take place if data is allowed to flow.

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<sup>20</sup> Nigel Cory, "Comments to the U.S. Commerce Department on the Indo-Pacific Economic Framework" (ITIF, March 2022), <https://www2.itif.org/2022-indopacific-economic-framework.pdf>.

<sup>21</sup> "Digital Economy Partnership Agreement modules," accessed October 11, 2022, <https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-trade-agreements-in-force/digital-economy-partnership-agreement-depa/depa-modules>





Thankfully, President Biden signed an executive order to implement new measures to safeguard transatlantic data flows as part of its commitments under the EU-U.S. Data Privacy Framework (EU-U.S. DPF).<sup>22</sup> The EU-U.S. DPF is the successor to the now defunct EU-U.S. Privacy Shield framework, which the European Court of Justice invalidated in 2020, to guarantee the free flow of data across the two jurisdictions. The EU-U.S. DPF includes three components: commercial data protection principles to which U.S. organizations wishing to participate in the framework can self-certify, a presidential executive order requiring U.S. intelligence authorities to limit U.S. signals intelligence activities to what is necessary and proportionate, and Department of Justice regulations that create a redress mechanism, including a new Data Protection Review Court, to process complaints from individuals in “qualifying states” if they believe U.S. signals intelligence collected or handled their personal information in a way that violates applicable U.S. law.<sup>23</sup> Without such an agreement, the entire transatlantic digital economy risks fracturing in the coming years as courts strike down ever-greater numbers of data flow arrangements.

### **Discriminatory and Onerous Conformity Assessment Tests for AI**

Conformity assessment tests of AI are another potential emerging barrier to data flows and the cross-border use of AI. The EU’s proposed AI Act includes an ex-ante conformity assessment framework for AI. Using AI on a global basis would become much more difficult if every country and region enacted a similarly onerous and discriminatory regime for ex ante testing of AI systems.

The proposal reinforces the EU’s regional approach to standards and conformity assessments in that it advantages its own intra-regional regulatory standards and a select, designated group of European standards bodies, with a secondary, more limited and onerous lane for firms and products that use a body or standard from outside Europe.<sup>24</sup> In addition, for those AI products that require a third-party test, the EU legal framework limits these to designated bodies (“notified bodies”) located in the territory of an EU member state. With respect to localization requirements for testing bodies (i.e., non-recognition of testing reports from international conformity assessment bodies), this is precisely the kind of localization barrier to trade that the European Commission advocates against in forums like the WTO. Its application to new technology stands to exacerbate its negative impact on trade and interoperability.

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<sup>22</sup> “FACT SHEET: President Biden Signs Executive Order to Implement the European Union-U.S. Data Privacy Framework,” White House, October 7, 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/10/07/fact-sheet-president-biden-signs-executive-order-to-implement-the-european-union-u-s-data-privacy-framework/>.

<sup>23</sup> Caitlin Fennessy, “The EU-US Data Privacy Framework: A new era for data transfers?” IAPP, October 7, 2022, <https://iapp.org/news/a/the-eu-u-s-data-privacy-framework-a-new-era-for-data-transfers>.

<sup>24</sup> Nigel Cory, “Response to the Public Consultation for the European Commission’s White Paper on a European Approach to Artificial Intelligence,” (ITIF, June 2020), <https://itif.org/publications/2020/06/12/response-public-consultation-european-commissions-white-paper-european>.



The EU's conformity testing framework will reduce trade both in the extensive margin (the decision by exporters to enter a market) and the intensive margin (the quantitative decision of how much to export). Trade policy research shows how different and incompatible regulations across jurisdictions, however slight, can impede trade in goods and services.<sup>25</sup> The time and money firms invest in abiding by differential testing processes can be significant, especially for small and medium-sized firms. Differential regulatory requirements have proven costly with traditional trade in physical goods. Expanding this to digital economic activity (where the distinction between goods, services, and even processes is unclear in the EU's proposal) creates a whole other realm of potential trade disputes given it involves far more dynamic and complex technologies and assessments. The EU's conformity testing framework will likely favor EU firms, hurting foreign competitors, including those in the United States.

The proposed institutional framework for administering this framework is equally problematic in how it outlines a new horizontal regulatory framework will lie on top of respective sectoral regulations and enforcement agencies at the EU level and in each member country. Creating or designating completely new agencies or offices, competencies, and coordination mechanisms is costly and complicated. It also presumes the competency and appropriateness of notified bodies—many of which are private sector entities that have been formally designated by competent member state authorities and the European Commission—to carry out the assessment of high-risk applications of AI (however this is ultimately defined and applied that looks like).

For further details about the proposal for an AI conformity assessment framework, we suggest reading ITIF's submission to the European Commission's White Paper on a European Approach to Artificial Intelligence.<sup>26</sup>

### **C. HOW COULD INTERNATIONAL AI REGULATIONS IMPACT FUTURE PRODUCT OR SERVICE DESIGN AND DEVELOPMENT?**

There are broadly two types of international AI regulations that can impact how companies develop AI.

First, are AI-specific regulations that can impact how companies design and deploy AI systems, including bans on particular products. These AI-specific regulations also include laws impacting access to key inputs to AI such as data protection laws and regulations about how organizations collect, share, and store the data that AI systems train on, and the types of access consumers can have to their data when used in these systems. For example, laws on data minimization or laws restricting text data mining can impact the ability of companies to develop and deploy AI products

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<sup>25</sup> Ibid.

<sup>26</sup> Ibid.



and services. AI specific regulations can also include policies about explainability and transparency requirements on AI systems or policies allowing individuals to opt-out of automated decisions. There are also soft law approaches to responsible AI, such as standards development and self-regulation. Finally, there are proposals for algorithmic oversight, such as with third-party auditing requirements or review boards.

Overly strict AI regulations in other countries can inhibit the ability for U.S. firms to provide products and services to those countries. For example, many of the best-known companies providing AI products and services for workforce decisions are U.S. companies. HireVue, for instance, is a Utah-based AI hiring platform that more than 700 companies use, including Goldman Sachs, Oracle, PwC, Unilever, and Vodafone. The European Commission (EC)'s proposal for an ex-ante conformity assessment framework as part of the AI Act could require firms like HireVue to validate that their AI products and services adhere to certain EU-specific requirements before they enter the EU market, even if their products are deemed safe and effective in the United States and other jurisdictions. The potential for the EU to require foreign AI systems to be retrained locally using certain EU-approved data adds another potential barrier. Such rules disincentivize foreign AI companies from introducing their workforce-related products in the EU market because of the additional costs they would incur. Similarly, restrictions and uncertainty on cross-border data flows in the EU's General Data Protection Regulation (GDPR), especially after the *Schrems II* decision, prevent many businesses from transferring data outside the EU, which limits their ability to use AI tools.

Moreover, the risk to the world—and to the United States in particular—is if EU-style regulations become the new de facto standard.<sup>27</sup> If countries follow in the EU's footsteps and apply the "precautionary principle" to AI, which says it's better to be safe than sorry, they will hinder U.S. firms from accessing these markets by slowing and making the development of AI more expensive.

Second, there are non-AI specific regulations, such as nondiscrimination laws, which provide an important legal context for companies that want to use AI systems. For example, an AI system making workforce decisions in the United States must comply with U.S. federal laws, which prohibit discrimination against workers who are pregnant or nursing but do not prohibit discrimination based on an individual's status as a parent. By contrast, an AI system in the UK must abide by the country's Equality Act of 2010, which prohibits employers from discriminating in hiring or recruitment on the basis of motherhood (but not on the basis of fatherhood), and a system in Australia must comply

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<sup>27</sup> Robert D. Atkinson, "Resisting Europe's Regulatory Imperialism," *Latin Trade Magazine*, May 13, 2020, <https://latintrade.com/2020/05/13/resisting-europes-regulatory-imperialism-robert-d-atkinson-president-information-technology-and-innovation-foundation/>.



with the Fair Work Act of 2009, which prohibits discrimination against workers on the grounds of motherhood or fatherhood.<sup>28</sup>

Existing laws may not always be fit for purpose in an AI-driven world, but before rushing to implement new, AI-specific regulations, policymakers should review and clarify how existing laws apply to AI systems to ensure protections apply equally to digital and non-digital risks.

#### **D. WHAT CAN THE U.S. GOVERNMENT DO TO BEST FOSTER AND PROTECT IP RIGHTS FOR U.S. AI TECHNOLOGIES IN OVERSEAS DEALINGS?**

One of the best ways to protect IP rights in overseas dealings is by including robust IP protection and enforcement provisions in free trade agreements (FTAs). Harmony across international laws offers global businesses certain assurances, whereas significant discrepancies across international jurisdictions encourage forum shopping in litigation, discourage innovation ecosystems, and open the door to economic espionage and IP theft. Localization and forced technology transfer requirements also hinder innovation and place U.S. IP, including AI technologies, at high risk of theft and misappropriation. Therefore, FTAs should include a provision stating no member of the agreement will institute such requirements. When allies formally agree to place equivalent value and protections on IP—and they take adequate and appropriate measures to enforce those protections—innovation can (and frequently does) flourish in their respective countries.

#### **E. HOW IS U.S. COMPETITIVENESS (TALENT, RESEARCH AND DEVELOPMENT, AND COMMERCIAL EXPORTS) IN AI COMPARED TO OTHER COUNTRIES?**

Regarding competitiveness in AI talent, the United States currently has more high-quality AI talent than the EU and China because U.S. industry attracts more AI talent from other nations than European and Chinese industries.<sup>29</sup> However, the United States is not effectively leveraging this comparative advantage and its position is not safe. While many competitor nations, including the United Kingdom, China, Canada, France, and Australia, have adopted flexible immigration policies to attract foreign talent in AI and other technical fields, the U.S. immigration system has remained largely the same for the last 50 years. These outmoded visa laws, as well as recent anti-immigrant rhetoric and international competition for AI talent from other countries, are causing many international AI scientists and engineers to look outside the United States for education and employment. The United States needs policies to strengthen and expand the immigration pipeline that allows highly trained AI talent to innovate in the United States, including foreign STEM (science, technology, engineering, and mathematics) graduates of U.S. colleges and universities. This should

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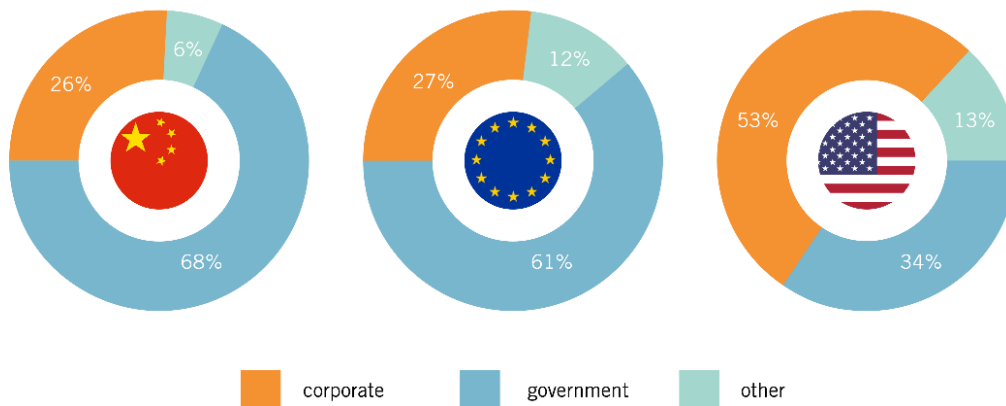
<sup>28</sup> Hodan Omaar, “Principles to Promote Responsible Use of AI for Workforce Decisions,” (Center for Data Innovation, August 2021), <https://www2.datainnovation.org/2021-ai-workforce-decisions.pdf>.

<sup>29</sup> Daniel Castro and Michael McLaughlin, “Who Is Winning the AI Race: China, the EU, or the United States? — 2021 Update” (Center for Data Innovation, January 2021), <https://datainnovation.org/2021/01/who-is-winning-the-airace-china-the-eu-or-the-united-states-2021-update>.

include better enabling immigrants holding AI-relevant graduate degrees to apply for and receive a green card, with preference given to those with degrees from U.S. universities and piloting a visa program for AI entrepreneurs.<sup>30</sup>

Regarding research and development (R&D), the United States is a world leader in AI research because of its immense spending on R&D and elite research organizations as well as a leader in the development of innovative AI technologies because of its world leading firms and ample funding for start-ups. However, U.S. policymakers should recognize that the private sector in the United States plays a uniquely important role in conducting AI R&D and stimulating private investment in AI R&D is crucial to cementing U.S. leadership in AI. Consider the findings from Stanford University’s 2021 AI Index report on R&D activities around the world. The report finds that the highest proportion of peer-reviewed AI papers in every major nation come from academic institutions, but the United States is distinct in that the second most important originators come from industry, with corporate-affiliated research representing 19.2 percent of the total publications (figure 1).<sup>31</sup> By contrast, government is the second most important in China (15.6 percent) and the European Union (17.2 percent).

**Figure 1: The biggest AI R&D originators, excluding academia, in China, the EU, and the United States.**



Unfortunately, tax incentives in the United States for R&D are quite minimal. The country ranks 32nd out of 34 comparable Organization for Economic Cooperation and Development (OECD) and BRIC

<sup>30</sup> Hodan Omaar, “U.S. AI Policy Report Card,” (Center for Data Innovation, July 2022)

<sup>31</sup> Daniel Zhang et al., “The AI Index 2021 Annual Report” (AI Index Steer Committee, Stanford Institute for Human-Centered AI, Stanford University, March 2021), [https://aiindex.stanford.edu/wpcontent/uploads/2022/03/2022-AI-Index-Report\\_Master.pdf](https://aiindex.stanford.edu/wpcontent/uploads/2022/03/2022-AI-Index-Report_Master.pdf).



(Brazil, Russia, India, and China) nations, having slipped from 24th place in 2020.<sup>32</sup> As of 2022, a provision in the 2017 Tax Cuts and Jobs Act (TCJA) no longer allows companies to expense current R&D costs in the first year (to deduct the costs of R&D from their taxable income in the year they incur those costs) and instead requires costs to be amortized over a period of five years, effectively reducing the R&D subsidy by about 5 percentage points, from around 9 percent to 4 percent.<sup>33</sup>

Regarding commercial AI exports, the United States is still the world leader in producing AI chips, which are necessary to ensure AI developers and users can remain competitive in AI R&D and deployment. The Center for Data Innovation’s 2021 report found that at least 62 firms in the United States are developing AI chips, compared with 29 firms in China and 14 in the European Union.<sup>34</sup> The United States has many advantages for AI chip production, including high-quality infrastructure and logistics, innovation clusters, leading universities, and a history of leadership in the field. Moreover, Chinese AI chip firms are reliant on U.S. electronic design automation software, which is the category of software tools for designing electronic systems such as integrated circuits.<sup>35</sup> However, continued leadership is not promised. China has targeted the industry for a global competitive advantage, as detailed in a number of government plans, including “Made in China 2025,” and while some of its policy actions are fair and legitimate, many seek to unfairly benefit Chinese firms at the expense of more-innovative foreign firms.<sup>36</sup> Even though some argue it should not matter where AI chips are fabricated so long as U.S. companies have access to the ones they need, it matters for a multitude of economic and national security reasons, including that the industry supports hundreds of thousands of U.S. jobs, both directly and indirectly.

#### **F. WHAT CAN THE INTERNATIONAL TRADE ADMINISTRATION DO TO CREATE MORE OPPORTUNITIES FOR U.S. AI TECHNOLOGIES IN THE GLOBAL MARKETPLACE? WHAT IMPACTFUL ACTIONS CAN ITA TAKE TO REDUCE OR REMOVE CHALLENGES, RISKS, AND BARRIERS TO HELP U.S. AI TECHNOLOGIES COMPETE IN THE GLOBAL MARKETPLACE?**

One of the most impactful actions ITA can take to reduce barriers to market access in global markets is better engage in international standards setting to promote the voluntary, industry-led approach to

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<sup>32</sup> John Lester and Jacek Warda, “Enhanced Tax Incentives for R&D Would Make Americans Richer” (ITIF, September 2020), <https://itif.org/publications/2020/09/08/enhanced-tax-incentives-rdwould-make-americans-richer>.

<sup>33</sup> Robert D. Atkinson, “The Case for Repealing the R&D Amortization Provision in the 2017 Tax Cuts and Jobs Act” (ITIF, September 2021), <https://itif.org/publications/2021/09/07/case-repealing-rd-amortizationprovision-2017-tax-cuts-and-jobs-act>.

<sup>34</sup> Daniel Castro and Michael McLaughlin, “Who Is Winning the AI Race: China, the EU, or the United States? – 2021 Update” (Center for Data Innovation, January 2021),

<sup>35</sup> Saif M. Khan and Alexander Mann, “AI Chips: What They Are and Why They Matter” (CSET, April 2020), <https://cset.georgetown.edu/publication/aichips-what-they-are-and-why-they-matter>.

<sup>36</sup> Stephen Ezell, “Moore’s Law Under Attack: The Impact of China’s Policies on Global Semiconductor Innovation” (ITIF, February 2021), <https://itif.org/publications/2021/02/18/moores-law-under-attack-impactchinas-policies-global-semiconductor>.





standards that has been successful at bolstering AI innovation in the United States. Divergent AI standards make it more difficult and costly for global firms to sell their AI products because it means they have to reconfigure preexisting design and production processes to suit the specific standards in different markets and pay royalty fees for providing products using the local standard. Even worse, divergent standards can impede the development and deployment of AI systems if stakeholders don't coalesce around one widely agreed upon approach. For example, AI firms (and investors) may choose to reduce or hedge their investments as they wait and see which standard prevails.

The Department Of Commerce, National Institute of Standards and Technology (NIST), the American National Standards Institute (ANSI), and other agencies are rightly involved in developing international standards for AI—the United States plays a leading role in the international standards committee responsible for developing AI standards (ISO/IEC JTC 1/SC 42)—but ITA's Office of Standards and Intellectual Property should work to more actively counter state-directed, restrictive, and discriminatory approaches to standards setting from other countries. The European Union's AI Act, for example, would mandate firms developing or implementing high-risk AI systems use standards developed and published by two regional organizations: CEN and the European Committee for Electrotechnical Standardization (CENELEC). While mirror agreements between CEN and the International Organization for Standardization (ISO) and CENELEC and the International Electrotechnical Commission (IEC), respectively, give priority to the adoption of international standards as harmonized European standards, Article 41 of the EU's AI Act creates legal channels for the EU to develop and apply region-specific technical specifications where it is determined that relevant standards are insufficient or do not exist.<sup>37</sup> This presents a clear risk of the EU developing specifications outside transparent, consensus-based, and industry-driven international standards development organizations that hurt U.S. firms.

ITA should use the U.S.-EU Trade and Technology Council (TTC) discussions to counter EU proposals to pursue regional AI standards. It should advocate for the Biden administration to use the TTC working group on tech standards to establish commitments on AI standards that ensure those that are developed are based on industry-driven, consensus-built standards.<sup>38</sup> Moreover, ITA should work with relevant partners from NIST as well as the United States Trade Representative (USTR) to strengthen the U.S. relationship with the Indo-Pacific region and better connect standards-making bodies and related government agencies (and relevant industry experts) on the development and use of standards for AI, especially given that China's national strategy for technical standards calls for more alignment within countries that are participating in the Belt and Road Initiative and standards-related dialogues with members of BRIC and the Asia-Pacific Economic Cooperation

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<sup>37</sup> European Commission, Artificial Intelligence Act, Article 41.

<sup>38</sup> Nigel Cory, "How the EU Is Using Technology Standards as a Protectionist Tool In Its Quest for Cybersovereignty,"





forum.<sup>39</sup> Finally, the United States should follow the lead of the United Kingdom in creating an AI standards hub, intended to “create practical tools for business, bring the UK’s AI community together... and develop education materials to help organizations develop and benefit from global standards.”<sup>40</sup> Not only should the United States pilot its own hub to better enable organizations to engage in creating technical standards for AI, but ITA should help push for collaboration with the United Kingdom and bolster information sharing. The United States should use this hub to provide technical assistance to other nations, particularly those that are smaller and have less resources or less developed, and demonstrate the benefits of a pluralistic, demand-driven, market-led approach to standardization.

### **G. HOW CAN AI BE INCORPORATED INTO EXISTING AND FUTURE TRADE AGREEMENTS TO ENSURE THE COMPETITIVENESS OF U.S. INDUSTRY?**

AI and trade are a new and still rare feature of modern trade negotiations. However, the role of AI in trade is growing. The World Economic Forum conducted a global survey in 2020 that aimed to understand how firms are using technologies in trade and to assess which technologies will have the most impact on global trade going forward. It found that 45 percent of businesses see AI as a transformative technology for trade.<sup>41</sup>

Some countries have worked on incorporating AI into trade agreements, such as the Australia-Singapore Digital Economy Agreement, which includes a memorandum of understanding on AI to allow the sharing of best practice regulations for AI, to facilitate access to AI technologies, and to build linkages between AI-focused research and industry centers.<sup>42</sup> Another is the Chile-New Zealand-Singapore Digital Economy Partnership Agreement (DEPA), which contains similar commitments for the parties to work together on AI governance and AI-driven trade. These countries are using these agreements to build early cooperation and compatibility between their respective AI regulations, so they do not become a barrier to AI-based trade.<sup>43</sup>

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<sup>39</sup> Matt Sheehan et al., “Three Takeaways From China’s New Standards Strategy” (Carnegie Endowment for International Peace, October 2021), <https://carnegieendowment.org/2021/10/28/three-takeaways-from-chinas-new-standards-strategy-pub-85678>.

<sup>40</sup> United Kingdom government, “New UK initiative to shape global standards for Artificial Intelligence,” press release, January 12, 2022, <https://www.gov.uk/government/news/new-uk-initiative-to-shape-globalstandards-for-artificial-intelligence>.

<sup>41</sup> World Economic Forum, “Mapping TradeTech: Trade in the Fourth Industrial Revolution,” December 2020, [https://www3.weforum.org/docs/WEF\\_Mapping\\_TradeTech\\_2020.pdf](https://www3.weforum.org/docs/WEF_Mapping_TradeTech_2020.pdf).

<sup>42</sup> Australian Government, Department of Foreign Affairs and Trade, “Memorandum of Understanding between the Government of Australia and the Government of the Republic of Singapore on Cooperation on Artificial Intelligence”, 23 March 2020, <https://www.dfat.gov.au/sites/default/files/australia-singapore-mou-artificial-intelligence.pdf>.

<sup>43</sup> New Zealand Foreign Affairs & Trade, “Digital Economy Partnership Agreement”, 11 June 2020, [https://www.subrei.govt.nz/docs/default-source/default-document-library/depa-signing-text-11-june-2020-gmt.pdf?sfvrsn=43d86653\\_2](https://www.subrei.govt.nz/docs/default-source/default-document-library/depa-signing-text-11-june-2020-gmt.pdf?sfvrsn=43d86653_2).



ITA should use these examples to consider how the U.S. might benefit from incorporating AI into trade agreements.

Beyond trade law provisions on data flows and IP that relate to AI, ITA should ensure trading partners take the time to carefully consider the technical, governance, trade, and international cooperation and coordination aspects of their proposals relating to AI regulation and any consideration of conformity testing for AI. Rather than jump ahead with a precautionary principle-based regime that will reduce AI innovation and distort trade, ITA should ensure trading partners carefully monitor private sector action and enact AI-specific regulation only when it is necessary and addresses specific harms in specific application areas or sectors. ITA should also promote NIST's AI Risk Management Framework, which is a voluntary framework that organizations can use to manage the risks to individuals, organizations, and society from AI systems, as an innovation-friendly model other countries should adopt to address harms from AI systems.