# Chapter 5: AI Policy and Governance

## Chapter Preview

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>3</td>
</tr>
<tr>
<td>Chapter Highlights</td>
<td>4</td>
</tr>
<tr>
<td><strong>5.1 AI AND POLICYMAKING</strong></td>
<td>5</td>
</tr>
<tr>
<td>Global Legislation Records on AI</td>
<td>5</td>
</tr>
<tr>
<td>By Geographic Area</td>
<td>6</td>
</tr>
<tr>
<td>Federal AI Legislation in the United States</td>
<td>7</td>
</tr>
<tr>
<td>Highlight: A Closer Look at the Legislation</td>
<td>8</td>
</tr>
<tr>
<td>State-Level AI Legislation in the United States</td>
<td>9</td>
</tr>
<tr>
<td>By State</td>
<td>10</td>
</tr>
<tr>
<td>Sponsorship by Political Party</td>
<td>11</td>
</tr>
<tr>
<td>Mentions of AI in Legislative Records</td>
<td>12</td>
</tr>
<tr>
<td>AI Mentions in U.S. Congressional Records</td>
<td>12</td>
</tr>
<tr>
<td>AI Mentions in Global Legislative Proceedings</td>
<td>13</td>
</tr>
<tr>
<td>By Geographic Area</td>
<td>14</td>
</tr>
<tr>
<td>U.S. AI Policy Papers</td>
<td>15</td>
</tr>
<tr>
<td>By Topic</td>
<td>16</td>
</tr>
<tr>
<td><strong>5.2 U.S. PUBLIC INVESTMENT IN AI</strong></td>
<td>17</td>
</tr>
<tr>
<td>Federal Budget for Nondefense AI R&amp;D</td>
<td>17</td>
</tr>
<tr>
<td>U.S. Department of Defense Budget Request</td>
<td>18</td>
</tr>
<tr>
<td>Highlight: DOD Top Five Highest-Funded Programs</td>
<td>19</td>
</tr>
<tr>
<td>DOD AI R&amp;D Spending by Department</td>
<td>20</td>
</tr>
<tr>
<td>U.S. Government AI-Related Contract Spending</td>
<td>21</td>
</tr>
<tr>
<td>Total Contract Spending</td>
<td>21</td>
</tr>
<tr>
<td>Contract Spending by Department and Agency</td>
<td>22</td>
</tr>
<tr>
<td>Highlight: Largest Contract for Five Top-Spending Departments in 2021</td>
<td>24</td>
</tr>
</tbody>
</table>

## Appendix

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCESS THE PUBLIC DATA</td>
<td>25</td>
</tr>
</tbody>
</table>
Overview

As AI has become an increasingly ubiquitous topic in the last decade, intergovernmental, national, and regional organizations have worked to develop policies and strategies around AI governance. These actors are driven by the understanding that it is imperative to find ways to address the ethical and societal concerns surrounding AI, while maximizing its benefits. Active and informed governance of AI technologies has become a priority for many governments around the world.

This chapter examines the intersection of AI and governance, and takes a closer look at how governments in different countries, regions, and U.S. states are working to manage AI technologies. It begins by looking at AI policymaking across the globe and within the United States, exploring which countries and political actors are most keen to advance AI legislation, and what kind of AI subtopics, from privacy to ethics, are the focus of most legislative attention. Then the chapter takes a deep dive into one of the world’s top public sector investors in AI, the United States, and studies how much its various government departments have spent on AI in the past five years.
CHAPTER HIGHLIGHTS

• An AI Index analysis of legislative records on AI in 25 countries shows that the number of bills containing “artificial intelligence” that were passed into law grew from just 1 in 2016 to 18 in 2021. Spain, the United Kingdom, and the United States passed the highest number of AI-related bills in 2021, with each adopting three.

• The federal legislative record in the United States shows a sharp increase in the total number of proposed bills that relate to AI from 2015 to 2021, while the number of bills passed remains low, with only 2% ultimately becoming law.

• State legislators in the United States passed 1 out of every 50 proposed bills that contain AI provisions in 2021, while the number of such bills proposed grew from 2 in 2012 to 131 in 2021.

• In the United States, the current congressional session (the 117th) is on track to record the greatest number of AI-related mentions since 2001, with 295 mentions by the end of 2021, half way through the session, compared to 506 in the previous (116th) session.
Discussions around AI governance regulation have accelerated over the past decade, resulting in policy proposals across various legislative bodies. This section first examines AI-related legislation that has either been proposed or passed into law across different countries and regions, followed by a focused analysis of state-level legislation in the United States. It then takes a closer look at congressional and parliamentary records on AI across the world and concludes with data on the number of policy papers published in the United States.

## 5.1 AI AND POLICYMAKING

### GLOBAL LEGISLATION RECORDS ON AI

Governments and legislative bodies across the globe are increasingly seeking to pass laws to provide funding for AI development and innovation, while also promoting the integration of human-centered values. The AI Index has conducted an analysis of laws passed in 25 countries by their legislative bodies that contain the words “artificial intelligence” from 2016 to 2021.

Taken together, the 25 countries analyzed have passed a total of 55 AI-related bills. Figure 5.2.1 demonstrates that in the past six years, there has been a sharp increase in terms of the total number of AI-related bills passed into law.¹

¹ Note that the analysis only includes laws passed by national legislative bodies (e.g. congress, parliament) with the keyword “artificial intelligence” in various languages in the title or body of the bill text. See the appendix for the methodology. Countries included: Australia, Belgium, Brazil, Canada, China, Denmark, Finland, France, Germany, India, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Russia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, the United Kingdom, and the United States.
By Geographic Area
Figure 5.1.2a shows the number of laws containing mentions of AI that were enacted in 2021. Spain, the United Kingdom, and the United States led, each passing three. Figure 5.1.2b shows the total number of legislation passed in the past six years. The United States dominated the list with 13 bills, starting in 2017 with 3 new laws passed each subsequent year, followed by Russia, Belgium, Spain, and the United Kingdom.

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Federal AI Legislation in the United States
A closer look at the federal legislative record in the United States shows a sharp increase in the total number of proposed bills that relate to AI (Figure 5.1.3). In 2015, just one federal bill was proposed, while in 2021, there were 130. Although this jump is significant, the number of bills related to AI being passed has not kept pace with the growing volume of proposed AI-related bills. This gap was most evident in 2021, when only 2% of all federal-level AI-related bills were ultimately passed into law.
A Closer Look at the Legislation

The following subsection delves into some of the AI-related legislation passed into law since 2016. Table 5.1.1 demonstrates the wide range of AI-related issues that have piqued policymakers’ interest.

<table>
<thead>
<tr>
<th>Country</th>
<th>Year Passed</th>
<th>Bill Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>2017</td>
<td>Budget Implementation Act 2017, No. 1</td>
<td>A provision of this act authorized the Canadian government to make a payment of $125 million to the Canadian Institute for Advanced Research to support the development of a pan-Canadian artificial intelligence strategy.</td>
</tr>
<tr>
<td>China</td>
<td>2019</td>
<td>Law of the People's Republic of China on Basic Medical and Health Care and the Promotion of Health</td>
<td>A provision of this law aimed to promote the application and development of big data and artificial intelligence in the health and medical field while accelerating the construction of medical and healthcare information infrastructure, developing technical standards on the collection, storage, analysis, and application of medical and health data.</td>
</tr>
<tr>
<td>Russia</td>
<td>2020</td>
<td>Federal Law of 24 April 2020 No. 123-FZ on the Experiment to Establish Special Regulation in order to Create the Necessary Conditions for the Development and Implementation of Artificial Intelligence Technologies in the Region of the Russian Federation – Federal City of Moscow and Amending the Articles 6 and 10 of the Federal Law on Personal Data</td>
<td>This law established an experimental framework for the development and implementation of AI as a five-year experiment to start in Moscow in July 1, 2020, including allowing AI systems to process anonymized personal data for governmental and certain commercial business activities.</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2020</td>
<td>Supply and Appropriation (Main Estimates) Act 2020, c.13</td>
<td>A provision of this act authorized the Office of Qualifications and Examination Regulation to explore opportunities for using artificial intelligence to improve the marking and administration of high-stakes qualifications.</td>
</tr>
<tr>
<td>United States</td>
<td>2020</td>
<td>IOGAN ACT: Identifying Outputs of Generative Adversarial Networks Act</td>
<td>This act directed the National Science Foundation to support research dedicated to studying the outputs of generative adversarial networks (deepfakes) and other comparable technologies.</td>
</tr>
<tr>
<td>Belgium</td>
<td>2021</td>
<td>Decree on coaching and solution-oriented support for job seekers, N. 327</td>
<td>A provision of this act directs the government to create an advisory group called the Ethics Committee, which is responsible for submitting advice if artificial intelligence tools are to be used for digitization activities.</td>
</tr>
<tr>
<td>France</td>
<td>2021</td>
<td>Law N:2021-1485 of November 15, 2021, aimed at reducing the environmental footprint of digital technology in France</td>
<td>This act sets up a monitoring system to evaluate environmental impacts of newly emerging digital technologies, in particular, artificial intelligence.</td>
</tr>
</tbody>
</table>
STATE-LEVEL AI LEGISLATION IN THE UNITED STATES

Growing policy interest in AI can also be seen in the large number of AI-related bills recently proposed at the state level in the United States, based on data provided by Bloomberg Government since 2012. Bloomberg Government classified a bill as relating to AI if it contained AI-related keywords such as artificial intelligence, machine learning, or algorithmic bias.

As is the case on the federal level, there has been a significant increase in the number of AI bills proposed at the state level in the last decade (Figure 5.1.4). In 2012, the first two pieces of AI-related legislation were proposed when New Jersey assembly member Annette Quijano directed the New Jersey Motor Vehicle Commission to establish driver’s license endorsements for autonomous vehicles. In the past 10 years, the increase has been substantial, from 2 bills in 2012 to 131 in 2021.

A notable difference between AI-related lawmaking in the United States on the federal versus the state level is that a greater proportion of proposed state-level AI bills have actually passed. In 2021, of the 131 proposed state bills, 26 were passed into law (20%), or 1 out of 5 proposed bills became law. This ratio is significantly higher when compared to the federal level, where 1 out of every 50 proposed bills became law in 2021.

A notable difference between AI-related lawmaking in the United States on the federal versus the state level is that a greater proportion of proposed state-level AI bills have actually passed.
By State

In the United States, AI lawmaking has been relatively widespread across all states. As of 2021, 41 out of 50 states have proposed at least one AI-related bill, but certain states have been particularly active in generating AI legislation. Figure 5.1.5 shows that Massachusetts has proposed the most AI bills, with 40 since 2012, followed by Hawaii (35) and New Jersey (32). Focusing on just 2021 in Figure 5.1.6, Massachusetts was the state that proposed the most AI-related bills, with 20, followed by Illinois (15) and Alabama (12).
Sponsorship by Political Party
State-level AI legislation data reveals that there is a partisan dynamic to AI lawmaking. Figure 5.1.7 plots the number of AI-related bills sponsored at the state level by Democratic and Republican lawmakers. Although there has been an increase in AI bills proposed by members of both parties since 2012, in the past four years, the data suggests Democrats were more likely to sponsor AI-related legislation. Whereas Democrats sponsored only two more AI bills than Republicans in 2018, they sponsored 39 more in 2021.
MENTIONS OF AI IN LEGISLATIVE RECORDS

Another barometer of legislative interest in AI is the number of mentions of “artificial intelligence” in governmental and parliamentary proceedings. This subsection considers data on mentions of AI both in U.S. congressional records and the parliamentary proceedings of other countries based on AI Index and Bloomberg Government data.

AI Mentions in U.S. Congressional Records

In the last five years, and especially in 2021, U.S. congressional sessions have devoted increasing amounts of time to discussions of AI. This section presents data from Bloomberg Government concerning mentions of AI-related keywords in congressional proceedings, broken down by legislation, congressional committee reports, and congressional research service reports.

According to Figure 5.1.8, the current congressional session (the 117th) is on track (as of the end of 2021) to record the greatest number of AI-related mentions since 2001. The most recently completed congressional session, the 116th (2019-2020), saw 506 AI mentions, nearly 3.4 times as many mentions as there were during the 115th session (2017–2018), and 30 times as many as the 114th session (2015–2016).
**AI Mentions in Global Legislative Proceedings**

AI mentions in governmental proceedings are on the rise not only in the United States but also in many other countries across the world. The AI Index conducted an analysis on the minutes or proceedings of legislative sessions in 25 countries that contain the keyword “artificial intelligence” from 2016 to 2021. Figure 5.1.9 shows that the mentions of AI in legislative proceedings in 25 select countries grew 7.7 times in the past six years.²

2 See the appendix for the methodology. Countries included: Australia, Belgium, Brazil, Canada, China, Denmark, Finland, France, Germany, India, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Russia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, the United Kingdom, and the United States.
By Geographic Area
Figure 5.1.10a shows the number of legislative proceedings containing mentions of AI that were enacted in 2021. Similar to the trend in the number of AI mentions in bills passed into laws, Spain, the United Kingdom, and the United States topped the list. Figure 5.1.10b shows the total number of AI mentions in the past six years. The United Kingdom dominated the list with 939 mentions, followed by Spain, Japan, the United States, and Australia.
U.S. AI POLICY PAPERS
To estimate activities outside national governments that are also informing AI-related rulemaking, the AI Index tracks 55 U.S.-based organizations that published policy papers in the past four years. Those organizations include: think tanks and policy institutes (19); university institutes and research programs (14); civil society organizations, associations, and consortiums (9); industry and consultancy organizations (9); and government agencies (4). A policy paper in this section is defined as a research paper, research report, brief, or blog post that addresses issues related to AI and makes specific recommendations to policymakers. Topics of those papers are divided into primary and secondary categories: A primary topic is the main focus of the paper, while a secondary topic is a subtopic of the paper or an issue that was briefly explored.

Figure 5.1.11 plots the total number of U.S.-based AI-related policy papers that have been published from 2018 to 2021, which can proxy the general interest in AI within the U.S. policymaking space. The total number of policy papers has tripled since 2018, peaking in 2020 with 273, and decreasing slightly in 2021, with 210.

Figure 5.1.11 plots the number of U.S.-based AI-related policy papers published from 2018 to 2021.

3 The complete list of organizations the Index followed can be found in the Appendix.
By Topic

In 2021, the leading primary topics were Privacy, Safety, and Security; Innovation and Technology; and Ethics (Figure 5.1.12). Certain topics, such as government and public administration, education and skills, as well as democracy, did not feature prominently as primary topics, but they were reported on more frequently as secondary topics. Among the AI topics to receive comparatively little attention from tracked organizations are those that relate to energy and the environment, humanities, physical sciences, and social and behavioral sciences.
5.2 U.S. PUBLIC INVESTMENT IN AI

FEDERAL BUDGET FOR NONDEFENSE AI R&D

In December 2021, the National Science and Technology Council published a report on the public-sector AI R&D budget across departments and agencies participating in the Networking and Information Technology Research and Development (NITRD) program and the National Artificial Intelligence Initiative. The report does not include information on classified AI R&D investment by the defense and intelligence agencies.

In fiscal year (FY) 2021, nondefense U.S. government agencies allocated a total of $1.53 billion to AI R&D spending, approximately 2.7 times what was spent in FY 2018 (Figure 5.2.1). This figure is projected to rise 8.8% for FY 2022, with a total of $1.67 billion requested. The increasing amount spent on AI R&D by nondefense departments indicates the U.S. government’s continued strong interest in public sector funding for AI research and development spanning a wide range of federal agencies.

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U.S. FEDERAL BUDGET for NONDEFENSE AI R&D, FY 2018–22


4 See NITRD website for details on AI R&D investment FY 2018-22 with the breakdown of core AI vs AI crosscut. Note that AI crosscutting budget data is not available for FY 2018.
U.S. DEPARTMENT OF DEFENSE BUDGET REQUEST

Spending on AI by the U.S. Department of Defense (DOD) can be proxied by looking at the publicly available requests made by the DOD for research, development, test, and evaluation (RDT&E) relating to AI. In FY 2021, DOD allocated $9.26 billion across 500 AI R&D programs (Figure 5.2.2), a 6.68% increase from the $8.68 billion spent in 2020. For FY 2022, the department has requested $10 billion so far, which is likely to grow once additional requests and congressional appropriations are taken into account.

Important data caveat: This chart is indicative of one of the challenges of quantifying public AI spending. Bloomberg Government’s analysis that searches AI-relevant keywords in DOD budgets shows that the department is requesting $10.0 billion for AI-specific R&D in FY 2022. However, DOD’s own measurement produces a smaller number of $874 million. The discrepancy may result from the difference in defining AI-related budget items. For example, a research project that uses AI for cyber defense may count human, hardware, and operations-related expenditures within the AI-related budget request, though the AI software component will be much smaller.
DOD Top Five Highest-Funded Programs

This section highlights offers a more qualitative look at some of the AI-related research projects the DOD prioritizes. Table 5.2.1 presents the five DOD-related AI programs that received the greatest funding in 2021. In the past year, the DOD was interested in deploying AI for a number of purposes, from geospatial monitoring to reducing the threat posed by weapons of mass destruction.

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Department</th>
<th>Funds Received (in millions)</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Rapid Capability Development and Maturation</td>
<td>Army</td>
<td>257</td>
<td>Fund the development, engineering, acquisition, and operation of various AI-related technological prototypes that could be used for military purposes.</td>
</tr>
<tr>
<td>2 Counter Weapons of Mass Destruction Advanced Technology Development</td>
<td>Defense Threat Reduction Agency</td>
<td>254</td>
<td>Develop technologies that could “deny, defeat and disrupt” weapons of mass destruction (WMD).</td>
</tr>
<tr>
<td>4 Joint Artificial Intelligence Center</td>
<td>Defense Information Systems Agency</td>
<td>137</td>
<td>Develop, test, prototype, and demonstrate various AI and machine learning capabilities with the intention of integrating these capabilities across numerous domains which include “supply chain, personal recovery, infrastructure assessment, geospatial monitoring during disaster and cyber sense making.”</td>
</tr>
<tr>
<td>5 High Performance Computing Modernization Program</td>
<td>Army</td>
<td>96</td>
<td>Investigate, demonstrate, and mature both general and special-purpose supercomputing environments that are used to satisfy wide-ranging DOD priorities.</td>
</tr>
</tbody>
</table>

Table 5.2.1
DOD AI R&D Spending by Department

DOD spending on AI R&D can also be broken down on a subdepartmental level, which reveals how individual defense agencies—the Army and the Navy, for instance—compare in their AI spending (Figure 5.2.3). The U.S. Navy was the top-spending DOD agency in FY 2021 and is poised to maintain that position in 2022. They have requested a total of $1.86 billion in FY 2022 for AI-related projects, followed by the Army ($1.77 billion), the Office of the Secretary of Defense ($1.1 billion) and the Air Force ($883 million).

U.S. DOD BUDGET for AI-SPECIFIC RESEARCH, DEVELOPMENT, TEST and EVALUATION (RDT&E) by DEPARTMENT, FY 2020–22


Figure 5.2.3
U.S. GOVERNMENT AI-RELATED CONTRACT SPENDING

Public investment in AI can also be measured by federal government spending on AI-related contracts. U.S. government agencies often award contracts to private companies for the supply of various goods and services that typically occupy the largest share of an agency’s budget. Bloomberg Government built a model to classify whether a U.S. government contract was AI-related by adding up all contracting transactions that contain a set of more than 100 AI-specific keywords in their titles or descriptions.\(^5\)

Total Contract Spending

In 2021, federal departments and agencies spent a total of $1.79 billion on AI-related contracts. Although this amount is nearly double what was spent on AI-related contracts in 2018 (roughly $920 million), it represents a slight decrease from the amount spent on AI-related contracts in 2020, which peaked at $1.97 billion (Figure 5.2.4).

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5 Note that contractors may add a number of keywords into their applications during the procurement process, so some of the projects included may have a relatively small AI component relative to other parts of technology.
Contract Spending by Department and Agency

Figures 5.2.5 and 5.2.6 report AI-related contract spending by the top 10 federal agencies in 2021 and from 2000 to 2021, respectively. The DOD outspent the rest of the U.S. government on both charts by a significant margin. In 2021, it spent $1.14 billion on AI-related contracts, roughly five times what was spent by the next highest department, the Department of Health and Human Services ($234 million).

Aggregate spending on AI contracts in the last four years tells a similar story. Since 2018, the DOD has spent $5.20 billion on AI contracts, approximately seven times the next highest spender, NASA ($1.41 billion). In fact, since 2018, the DOD has spent twice as much on AI-related contracts as all other government agencies combined. Following the DOD and NASA are the Department of Health and Human Services ($700 million), the Department of Homeland Security ($362 million), and Department of the Treasury ($156 million).

**TOP CONTRACT SPENDING on AI by U.S. GOVERNMENT DEPARTMENT and AGENCY, 2021**


- Department of Defense (DOD): 1,138
- Department of Health and Human Services (HHS): 234
- National Aeronautics and Space Administration (NASA): 159
- Department of Homeland Security (DHS): 81
- Department of Commerce (DOC): 49
- Department of the Treasury (TREAS): 38
- Department of Veterans Affairs (VA): 25
- Department of Transportation (DOT): 12
- Securities and Exchange Commission (SEC): 12
- Department of Agriculture (USDA): 12
- Department of Energy (DOE): 8
- Agency for International Development (USAID): 6
- Department of Justice (DOJ): 4
- Department of State (DOS): 3
- National Science Foundation (NSF): 2

Figure 5.2.5
TOP CONTRACT SPENDING on AI by U.S. GOVERNMENT DEPARTMENT and AGENCY, 2000–21 (SUM)


Contract Spending (in billions of U.S. Dollars)

Figure 5.2.6
Largest Contract for Five Top-Spending Departments in 2021

To paint a better picture of how different U.S. government departments use AI, Table 5.2.2 shows the most expensive AI-related contract that the five highest AI-related-spending departments signed in 2021. Last year, the U.S. government invested in AI to build autonomous vehicle prototypes, develop an AI imaging system that could assist with burn classification, and create robots capable of higher-level lunar navigation.

<table>
<thead>
<tr>
<th>Contract Name</th>
<th>Department</th>
<th>Amount (in millions)</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prototype Services in the Objective Areas of Automotive Cybersecurity, Vehicle Safety Technologies, Vehicle Light Weighting, Autonomous Vehicles and Intelligent Systems, Connected Vehicles, and Advanced Energy Storage Technologies</td>
<td>DOD</td>
<td>70</td>
<td>To acquire prototypes in the domain of automotive cybersecurity, vehicle safety technologies, and autonomous vehicles and intelligent systems.</td>
</tr>
<tr>
<td>Biomedical Advanced Research and Development Authority (BARDA)</td>
<td>HHS</td>
<td>20</td>
<td>To develop optical imaging devices and machine learning algorithms to assist in classifying and healing wounds and conventional burns.</td>
</tr>
<tr>
<td>Commercial Lunar Payload Services</td>
<td>NASA</td>
<td>14</td>
<td>To develop lunar robots capable of navigating the moon’s south pole to acquire lunar resources and engage in lunar-based scientific activities.</td>
</tr>
<tr>
<td>SBIR-Autonomous Surveillance Towers-Delivery Order</td>
<td>DHS</td>
<td>37</td>
<td>To construct towers capable of autonomous surveillance.</td>
</tr>
<tr>
<td>Schedule 70: Information Technology</td>
<td>DOC</td>
<td>13</td>
<td>To develop a prototype using AI technology that can improve patent search.</td>
</tr>
</tbody>
</table>

Table 5.2.2
APPENDIX

BLOOMBERG GOVERNMENT
Prepared by Amanda Allen

Bloomberg Government is a premium, subscription-based service that provides comprehensive information and analytics for professionals who interact with—or are affected by—the government. Delivering news, analytics, and data-driven decision tools, Bloomberg Government’s digital workspace gives an intelligent edge to government affairs and contracting professionals. For more information or a demo, visit about.bgov.com.

Methodology

Contract Spending: Bloomberg Government’s Contracts Intelligence Tool structures all contracts data from www.fpds.gov. The CIT includes a model of government spending on artificial intelligence-related contracts that is based on a combination of government-defined product service codes and more than 100 AI-related keywords. For the section “U.S. Government Contract Spending,” Bloomberg Government analysts used contract spending data from fiscal year 2000 through fiscal year 2021.

Defense RDT&E Budget: Bloomberg Government organized all the RDT&E budget request line items available from the Defense Department Comptroller. For the section “U.S. Department of Defense (DOD) Budget,” Bloomberg Government used a set of AI-specific keywords to identify 500 unique budget activities related to artificial intelligence and machine learning worth a combined $5.9 billion in FY 2021.

Legislative Documents: Bloomberg Government maintains a repository of congressional documents, including bills, Congressional Budget Office assessments, and reports published by congressional committees, the Congressional Research Service, and other offices. Bloomberg Government also ingests state legislative bills. For the section “AI Policy and Governance,” Bloomberg Government analysts identified all legislation, congressional committee reports, and CRS reports that referenced one or more AI-specific keywords.
GLOBAL LEGISLATION RECORDS ON AI

For AI-related bills passed into laws, the AI Index performed searches of the keyword “artificial intelligence,” in respective languages, on the websites of 25 countries’ congresses or parliaments, in full-text of bills. Note that only laws passed by state-level legislative bodies and signed into law (i.e., by presidents or received royal assent) from 2015 to 2021 are included. Future AI Index reports hope to include analysis on other types of legal documents, such as regulations and standards, adopted by state- or supranational-level legislative bodies, government agencies, etc.

**Australia**
Website: www.legislation.gov.au  
Keyword: artificial Intelligence  
Filters:  
- Legislation types: Acts  
- Portfolios: Department of House of Representatives, Department of Senate  
Note: Texts in explanatory memorandum are not counted.

**Belgium**
Website: http://www.ejustice.just.fgov.be/loi/loi.htm  
Keyword: intelligence artificielle

**Brazil**
Website: https://www.camara.leg.br/legislacao  
Keyword: inteligência artificial  
Filter:  
- Federal legislation  
- Type: Law

**Canada**
Website: https://www.parl.ca/legisinfo/  
Keyword: artificial Intelligence  
Note: Results were investigated to determine how many of the bills introduced were eventually passed (i.e., received royal assent) and bill status was recorded.

**China**
Website: https://flk.npc.gov.cn/  
Keyword: 人工智能  
Filters:  
- Legislative body: Standing Committee of the National People’s Congress

**Denmark**
Website: https://www.retsinformation.dk/  
Keyword: kunstig intelligen  
Filter:  
- Document Type: Laws

**Finland**
Website: https://www.finlex.fi/  
Keyword: tekoäly  
Noting under the Current Legislation section

**France**
Website: https://www.legifrance.gouv.fr/  
Keyword: intelligence artificielle  
Filter:  
- texte consolidé  
- Document Type: Law

**Germany**
Website: http://www.gesetze-im-internet.de/index.html  
Keyword: künstliche Intelligenz  
Filter:  
- All federal codes, statutes, and ordinances that are currently in force  
- Volltextsuche (full text)  
- Und-Verknüpfung der Wörter (entire word)

**India**
Website: https://www.indiacode.nic.in  
Keyword: artificial intelligence  
Note: The website used allows for a search of keywords in legalization title but not in the full text, as such it is not useful for this particular research. Therefore, a Google search using the “site” function to search the site with the keyword of “artificial intelligence” is conducted.
Chapter 5: AI Policy and Governance

**Ireland**
Website: [www.irishstatutebook.ie](http://www.irishstatutebook.ie)
Keyword: artificial intelligence

**Italy**
Website: [https://www.normattiva.it/](http://www.normattiva.it/)
Keyword: intelligenza artificiale
Filter:
- Document Type: law

**Japan**
Website: [https://elaws.e-gov.go.jp/](http://https://elaws.e-gov.go.jp/)
Keyword: 人工知能
Filter:
- Full text
- Law

**Netherlands**
Website: [https://www.overheid.nl/](http://https://www.overheid.nl/)
Keyword: kunstmatige intelligentie
Filter:
- Document Type: Wetten

**New Zealand**
Website: [www.legislation.govt.nz](http://www.legislation.govt.nz)
Keyword: Artificial intelligence
Filter:
- Document type: acts
- Status option: For the status option (example: acts in force, current bills, etc.)

**Norway**
Website: [https://lovdata.no/](http://https://lovdata.no/)
Keyword: kunstig intelligens

**Russia**
Keyword: искусственный интеллект
Filter:
- Words in text

**Singapore**
Website: [https://sso.agc.gov.sg/](http://https://sso.agc.gov.sg/)
Keyword: artificial intelligence
Filter:
- Document Type: Current acts and subsidiary legislation

**South Africa**
Website: [www.gov.za](http://www.gov.za)
Keyword: artificial intelligence
Filter:
- Document: acts
Note: This search function seemingly does not search within the context of the full text and so no results were returned. Therefore, a Google search using the “site” function to search the site with the keyword of “artificial intelligence” is conducted.

**South Korea**
Keyword: artificial Intelligence or 인공 지능
Filter:
- Type: Act
Note: Cannot search combined words, so individual analysis is conducted.

**Spain**
Website: [https://www.boe.es/](http://https://www.boe.es/)
Keyword: inteligencia artificial
Filter:
- Type: law
- Head of state (for passed laws)

**Sweden**
Website: [https://www.riksdagen.se/](http://https://www.riksdagen.se/)
Keyword: artificiell intelligens
Filter: Swedish Code of Statutes
Switzerland
Website: https://www.fedlex.admin.ch/
Keyword: intelligence artificielle
Filter:
  • Text category: federal constitution, federal acts, and federal decrees, miscellaneous texts, orders, and other forms of legislation.
  • Publication period for legislation was limited to 2015-2021.

United Kingdom
Website: https://www.legislation.gov.uk/
Keyword: artificial intelligence
Filter:

United States
Website: https://www.congress.gov/
Keyword: artificial intelligence
Filter:
  • Source: Legislation
Status of legislation: Became law
MENTSIONS OF AI IN AI-RELATED LEGISLATION PROCEEDINGS

For mentions of AI in AI-related legislative proceedings around the world, the AI Index performed searches of the keyword “artificial intelligence,” in respective languages, on the websites of 25 countries’ congresses or parliaments, usually under sections named “minutes,” “hansard,” etc.

**Australia**
Website: https://www.aph.gov.au/Parliamentary_Business/Hansard
Keyword: artificial intelligence

**Belgium**
Website: http://www.parlement.brussels/search_form_fr/
Keyword: intelligence artificielle
Filter
• Document Type: all

**Brazil**
Website: https://www2.camara.leg.br/atividade-legislativa/discursos-e-notas-taquigraficas
Keyword: inteligência artificial
Filter:
• Federal legislation
• Type: Law

**Canada**
Website: https://www.ourcommons.ca/PublicationSearch/en/?PubType=37
Keyword: artificial Intelligence

**China**
Website: Various reports on the work of the government
Keyword: 人工智能
Note: The National People’s Congress is held once per year and does not provide full legislative proceedings. Hence, the counts included in the analysis only searched the mentions of artificial intelligence in the only public document released from the Congress meetings, the Report on the Work of the Government, delivered by the Premier.

**Denmark**
Website: https://www.retsinformation.dk/
Keyword: kunstig intelligens
Filter:
• Minutes

**Finland**
Website: https://www.eduskunta.fi/
Keyword: tiedot
Filter:
• Parliamentary Affairs and Documents
• Public document: Minutes
• Actor: Plenary sessions

**France**
Website: https://www.assemblee-nationale.fr/
Keyword: intelligence artificielle
Filter:
• Reports of the debates in session
Note: Such documents were only prepared starting in 2017.

**Germany**
Website: https://dip.bundestag.de/
Keyword: künstliche Intelligenz
Filter:
• Speeches, requests to speak in the plenum

**India**
Website: http://loksabhaph.nic.in/
Keyword: artificial intelligence
Filter:
• Exact word/phrase

**Ireland**
Website: https://www.oireachtas.ie/
Keyword: artificial intelligence
Filter: Content of parliamentary debates
**Italy**  
Website: [https://aic.camera.it/aic/search.html](https://aic.camera.it/aic/search.html)  
Keyword: intelligenza artificiale  
Filter:  
  - Type: All  
  - Search by exact phrase

**Japan**  
Website: [https://kokkai.ndl.go.jp/#/](https://kokkai.ndl.go.jp/#/)  
Keyword: 人工知能  
Filter:  
  - Full text

**Netherlands**  
Website: [https://www.tweedekamer.nl/kamerstukken?pk_campaign=breadcrumb](https://www.tweedekamer.nl/kamerstukken?pk_campaign=breadcrumb)  
Keyword: kunstmatige intelligentie  
Filter:  
  - Parliamentary papers - Plenary reports

**New Zealand**  
Keyword: artificial intelligence

**Norway**  
Website: [https://www.stortinget.no/no/Saker-og-publikasjoner/Publikasjoner/Referater/](https://www.stortinget.no/no/Saker-og-publikasjoner/Publikasjoner/Referater/)  
Keyword: kunstig intelligens  
Note: This search function does not directly allow the keyword within minutes. Therefore, a Google search using the “site” function to search [https://www.stortinget.no/no/Saker-og-publikasjoner/Publikasjoner/Referater/](https://www.stortinget.no/no/Saker-og-publikasjoner/Publikasjoner/Referater/) with the keyword “artificial intelligence” is conducted.

**Singapore**  
Website: [https://sprs.parl.gov.sg/search/home](https://sprs.parl.gov.sg/search/home)  
Keyword: artificial intelligence

**South Africa**  
Website: [https://www.parliament.gov.za/hansard](https://www.parliament.gov.za/hansard)  
Keyword: artificial intelligence  
Note: This search function does not search within the context of the full text and so no results were returned. Therefore, a Google search using the “site” function to search [https://www.parliament.gov.za/storage/app/media/Docs/hansard/](https://www.parliament.gov.za/storage/app/media/Docs/hansard/) with the keyword “artificial intelligence” is conducted.

**South Korea**  
Website: [http://likms.assembly.go.kr/](http://likms.assembly.go.kr/)  
Keyword: 인공 지능  
Filter:  
  - Meeting Type: All

**Spain**  
Website: [https://www.congreso.es/](https://www.congreso.es/)  
Keyword: inteligencia artificial  
Filter:  
  - Official publications of parliamentary proceedings

**Switzerland**  
Website: [https://www.parlament.ch/](https://www.parlament.ch/)  
Keyword: intelligence artificielle  
Filter:  
  - Parliamentary proceedings

**Sweden**  
Website: [https://www.riksdagen.se/sv/global/sok/?q=&doktyp=prot](https://www.riksdagen.se/sv/global/sok/?q=&doktyp=prot)  
Keyword: artificiell intelligens  
Filter:  
  - Minutes
Chapter 5: AI Policy and Governance

Methodology

Each broad topic area is based on a collection of underlying keywords that describe the content of the specific paper. We included 17 topics that represented the majority of discourse related to AI between 2018-2021. These topic areas and the associated keywords are listed below:

- Health & Biological Sciences: medicine, healthcare systems, drug discovery, care, biomedical research, insurance, health behaviors, COVID-19, global health
- Physical Sciences: chemistry, physics, astronomy, earth science
- Energy & Environment: energy costs, climate change, energy markets, pollution, conservation, oil and gas, alternative energy
- International Affairs & International Security: international relations, international trade, developing countries, humanitarian assistance, warfare, regional security, national security, autonomous weapons
- Justice & Law Enforcement: civil justice, criminal justice, social justice, police, public safety, courts
• Communications & Media: social media, disinformation, media markets, deepfakes
• Government & Public Administration: federal government, state government, local government, public sector efficiency, public sector effectiveness, government services, government benefits, government programs, public works, public transportation
• Democracy: elections, rights, freedoms, liberties, personal freedoms
• Industry & Regulation: economy, antitrust, M&A, competition, finance, management, supply chain, telecom, economic regulation, technical standards, autonomous vehicle industry and regulation
• Innovation & Technology: advancements and improvements in AI technology, R&D, intellectual property, patents, entrepreneurship, innovation ecosystems, startups, computer science, engineering
• Education & Skills: early childhood, K-12, higher education, STEM, schools, classrooms, reskilling
• Workforce & Labor: labor supply and demand, talent, immigration, migration, personnel economics, future of work
• Social & Behavioral Sciences: sociology, linguistics, anthropology, ethnic studies, demography, geography, psychology, cognitive science
• Humanities: arts, music, literature, language, performance, theater, classics, history, philosophy, religion, cultural studies
• Equity & Inclusion: biases, discrimination, gender, race, socioeconomic inequality, disabilities, vulnerable populations
• Privacy, Safety & Security: anonymity, GDPR, consumer protection, physical safety, human control, cybersecurity, encryption, hacking
• Ethics: transparency, accountability, human values, human rights, sustainability, explainability, interpretability, decision-making norms