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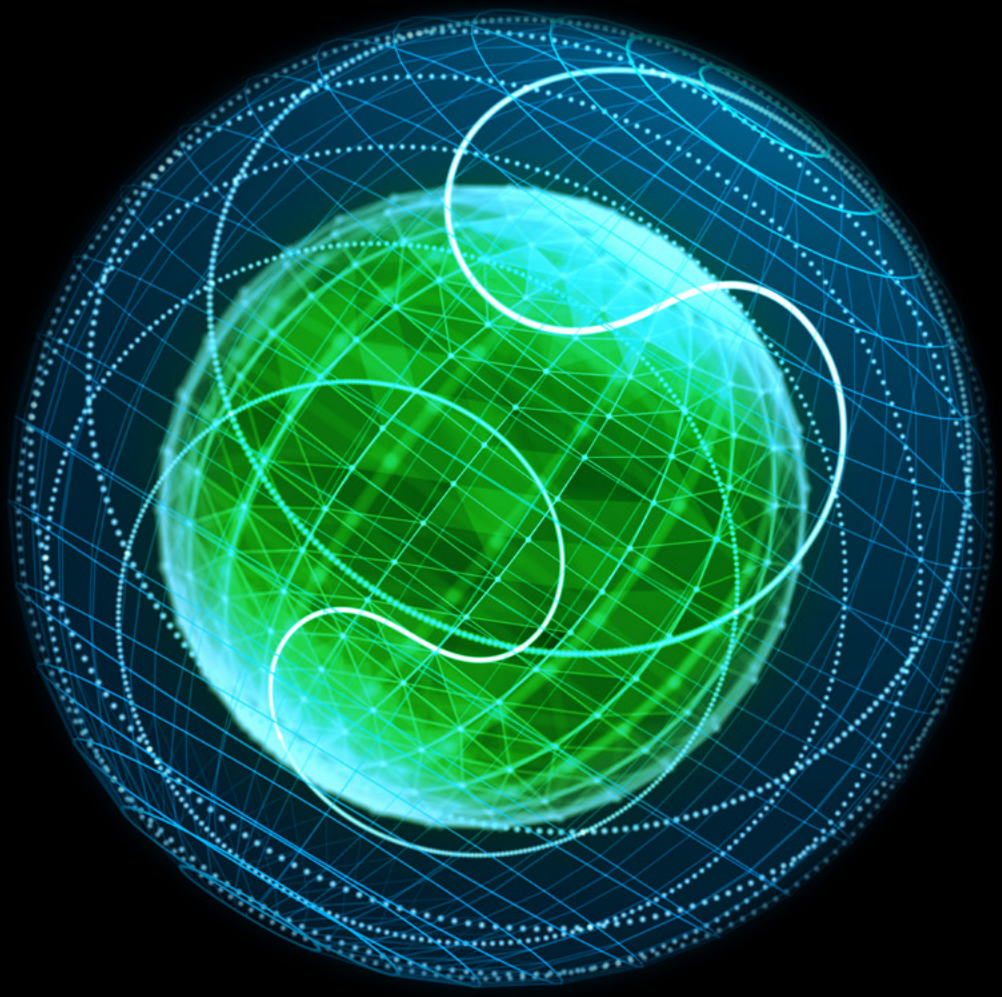

Using Artificial Intelligence (AI) to Modernize American Statecraft

How the Department of State can use AI today to address the biggest global challenges

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"If Netflix can predict what TV show my wife and I might choose to watch next, I think data can also help us and help the department predict maybe the next civil conflict, the next famine, the next economic crisis, and how we can respond more effectively."

– US Secretary of State Antony J. Blinken.[1]

Secretary Blinken's remark reflects the direction in which ministries of foreign affairs around the world are headed. Several European countries now use AI to manage and process visa and passport applications;[2] Canada has fully automated approvals for many temporary residence applications since 2018 using artificial intelligence;[3] and China is also integrating AI into many decision-making processes, including the location and size of Belt and Road Initiative investments.[4]

What could AI look like at the US Department of State and how might the department integrate AI into its work? A first step to consider would be to pinpoint practical ways State can use AI today. Deloitte and Google Cloud have developed a simple framework to aid State Department leaders in doing so. Using this framework, we have identified several AI use cases for the department to consider and how leadership can work to implement them effectively.

The potential of AI at State is expansive—and the need for it is critical. The State Department faces as daunting a set of global issues as it ever has. Renewed great-power competition is testing American diplomacy, economic competitiveness, cybersecurity, and military power. Infectious diseases, including COVID-19, continue to infect millions and restrain human development everywhere, especially in the poorest countries. Climate change is producing near-term physical and political effects that are likely to worsen as temperatures are predicted to rise 2 degrees Celsius by around 2050.[5] International migration, driven by war, economic distress, and environmental degradation, strains border security and widens political fissures at home and abroad.

A fully digitized agency capable of continuous learning can better meet today's increasingly complex and interconnected challenges, as well as anticipate those of tomorrow.

Crises are growing in frequency and intensity, with civil wars,[6] cross-border refugee flows,[7] and countries in democratic decline[8] all recently reaching new heights, pushing American diplomats to reach for new tools. This compound problem set complicates analytic and response considerations for foreign policy decision-makers trying to reshape or reverse these trends. As the political scientist Eliot A. Cohen recently observed, today's foreign policy landscape demands "a fine-grained comprehension of the world [and] the ability to quickly detect and respond to challenges."[9] These challenges are also emerging in an ever-evolving information landscape. Whereas the traditional obstacle to foreign policymaking was data scarcity, America's diplomats, civil servants, and consular officers are now awash in data. What's needed are better ways to make the most productive use of data.

AI is a crucial part of State's modernization agenda. AI is already familiar to many Americans as the technology that helps streaming services recommend movies and TV shows, robots vacuum floors, and doctors diagnose disease. Its abilities to rapidly address problems and perform cognitive tasks similarly to humans are "a source of enormous power for the companies and countries that harness them," the National Security Commission on Artificial Intelligence said in 2021. Other countries—both US allies and competitors—have already recognized this potential, with Canada and China among those accelerating their use of AI in foreign affairs.[10]

The Department of State has the opportunity to harness AI to transform American statecraft, from diplomacy to foreign assistance to consular affairs. The department can maximize AI's ability to turn big data into valuable insights to advance US foreign policy priorities. Moreover, by embracing AI, State can drive a culture of learning and adaptation necessary to navigate accelerating change and preserve America's advantages in international affairs.

From making policy on AI to using AI in policymaking

The State Department has invested considerable time weighing the impact of AI on American interests. Under the previous administration, State's Office of the Science and Technology Adviser authored a Strategic Framework on Artificial Intelligence that mapped US policy positions on a range of AI issues.[11] Under the current administration, State has continued to play a leading role in shaping the global policy environment for AI through diplomatic engagement with the United Nations (UN), the Organisation for Economic Co-operation and Development (OECD), and the Global Partnership on Artificial Intelligence (GPAI), among other institutions.

In the fall of 2021, Secretary of State Antony Blinken pledged to appoint a new special envoy for critical and emerging technology to focus on quantum computing, biotechnology, and AI. Since April 2022, the new Bureau of Cyberspace and Digital Policy has been bolstering State's leadership on AI policy by providing senior leadership (an ambassador-at-large leads the bureau) and institutional heft to a range of digital issues.

Now the department is pivoting to more concrete ways of using AI itself to advance American interests. This journey began in 2020 with the establishment of the Center for Analytics (CfA) as State's data and analytics hub. Led by the department's first-ever chief data officer, the CfA crafts data governance, architecture, and management policies, and oversees analytics projects for bureaus and missions.

In 2021, the department took another major step in the use of AI for statecraft by launching an Enterprise Data Strategy to create goals and guidelines for using data in service of diplomacy.[12] A data strategy is critical since the ability of AI to perform and deliver insights is contingent on an understanding of the origins and dimensions of the data it leverages.

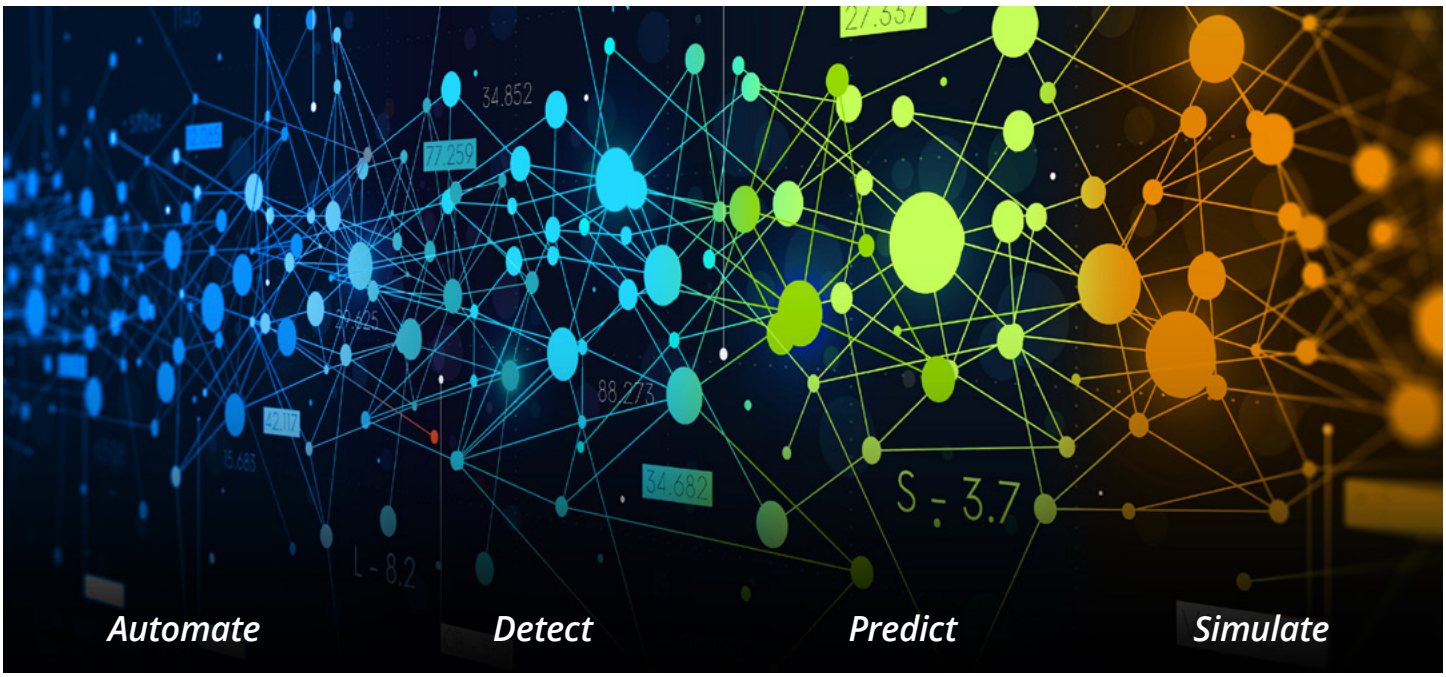
Along with these new organizations and strategies, State has appointed key leaders to drive the use of AI, including a chief data officer and a chief data scientist, and is cultivating a culture of openness to data as well as collaborative analysis and decision-making. Furthermore, State has taken initial steps to transform more of its operations and functions to digital, hiring dozens of data scientists, streamlining data use and access, and embracing new ways of work.[13]

With these new initiatives, the department has created the policy-setting bodies and coordination mechanisms—the priorities, the people, and the processes—necessary to leverage AI in foreign policymaking. The next step is to match AI's capabilities with State's needs. Meanwhile, US allies and competitors are already realizing these benefits and accelerating their own use of AI into foreign policymaking, creating a risk that, without prompt action, the department could fall behind.

Six European Union (EU) countries and a majority of non-EU countries in the 38-member OECD have incorporated AI into migration management.[14] Finland, Germany, the Netherlands, New Zealand, and Australia use AI for language identification and assessment, identity document fraud detection, or migration forecasting, among other applications.[15] Since 2018, Canada has used AI to triage many temporary residence applications into tiered risk categories—with ultimate decisions for 40% of applications issued without officer review.[16] The result has been a 20% drop in processing time for high-risk applicants and an 87% reduction for low-risk automated approvals.[17]

China also has integrated AI and analytics into its foreign policymaking.[18] As part of its ongoing Belt and Road Initiative (BRI) infrastructure development and political strategy, China is using AI to inform which countries to invest in, and is helping partner nations develop their own AI technologies as part of the BRI's Digital Silk Road offshoot.[19]

AI uses at State: Automate, detect, predict, and simulate



To transform American statecraft, the department can consider four ways to use AI:

- **Automate** repetitive, rules-based work such as filling out forms, processing email, responding to basic inquiries and transactions, and collecting and processing metrics. AI automation saves time and reduces errors compared with manual input. It relieves organizations from tedious work, allowing experts to spend more time developing insights and analysis. Such automation not only can reduce costs by improving quality and efficiencies, but also can increase customer satisfaction by accelerating routine transaction processing. Moreover, in fee-funded activities such as visa and passport issuance, automation can accelerate revenue recognition, helping to close the fiscal hole caused by the COVID-19 global pandemic.
- **Detect** patterns in data that humans might miss—or that are just beyond their capability to find. For example, cluster analysis, a form of machine learning, identifies shared features or groupings within datasets. In business, marketers use cluster analysis to identify distinct customer segments and then tailor products and advertising accordingly. AI's detection capabilities can be used to sort and categorize data, or to isolate potentially anomalous cases or behaviors. By revealing new patterns and insights, detection can fuel innovative and productive responses by subject-matter experts.
- **Predict** outcomes, events, metrics, or categories of items, among many other possible phenomena of interest. Machine-learning and statistical techniques, from simple binary classification to complex deep-learning methods, can help optimize resource allocation, support planning, and prevent or mitigate crises. These and other predictive techniques can reduce the time needed to perform tasks or attain operational or mission results.
- **Simulate** complex systems to identify possible courses of action. AI-based simulations such as system dynamics or agent-based models can identify complex, nonlinear interactive processes that human analysis alone might not discover. Simulations are useful for observing complicated processes unfold in iterative fashion, and in understanding how small changes can cascade into larger process shifts. By reducing complexity, simulations can provide insights and improve decision-making.

In most situations, AI augments rather than replaces human decision-making. Adopting intelligent automation can reduce the amount of time spent on repetitive tasks, freeing up experts for more complex and demanding priorities. For more challenging tasks, AI complements and stimulates rather than replaces human expertise.

For example, a study of how well doctors diagnose future strokes in patients using AI predictions found that their accuracy improved when provided details on how the underlying algorithms function and the confidence level of the AI predictions.[20] Similarly, researchers at the Massachusetts Institute of Technology (MIT) have found that the use of simulations changes how investors perceive risks and competitive market dynamics by letting "the decision-maker live through the problem many times" to build experiential evidence about the potential consequences of various actions.[21]

Rather than simply funneling crystal-ball predictions for action, AI reshapes how experts evaluate a problem at hand, stimulating and speeding the delivery of new insights. Combining a machine's ability to make predictions based on millions of inputs with a human's intuition, insight, and creativity is among the most virtuous and productive application of AI.

AI and automation across the US government: Benefits to be realized

AI and automation hold great promise for public-sector government efficiency and productivity. For example, a Deloitte analysis of time spent on repetitive tasks by US civil servants found that substantial savings could be realized through intelligent automation. At least 100 million federal work hours could be automated, reducing worker tedium and redirecting staff time to more impactful and innovative tasks.[22]

Despite the benefits, many US government agencies are still in the early stages of AI adoption. A 2021 Deloitte survey of 500 government executives classified 48% of the organizations they represent as AI beginners based on the status of their AI strategy, governance, and data and technology.[23] A 2020 analysis of AI and machine learning across 142 non-defense federal agencies reached a similar conclusion. While 45% of agencies had experimented with AI, fewer than a dozen accounted for more than two-thirds of all documented AI use cases.[24] Many US government agencies are experimenting with AI, but there remains substantial opportunity for tapping the potential of AI.

A new lens for exploring AI at State

We have found it helpful to link the four ways State can use AI—automate, detect, predict, and simulate—to the department's three core functions of diplomacy, foreign assistance, and consular affairs, as well as to mission-enabling functions such as human-resources management, logistics, and infrastructure management.

Our four-by-four matrix (see table below) offers a lens for exploring AI that State Department leaders and managers can use to identify practical AI use cases. Throughout this section, we demonstrate how the matrix works in action by examining some of the potential use cases we have identified. Our discussion focuses primarily on more complex AI prediction and simulation applications; but to provide details on the full breadth of potential AI functions, we also briefly summarize other use cases listed in our matrix.

AI applications across State Department activities

	Automate	*Detect*	*Predict*	*Simulate*
1 **Diplomacy**	Cable tagging to improve searchability	Anomalous cyber activity	Impact of diplomatic messaging	Climate negotiations
2 **Foreign assistance**	Program monitoring and funding	Patterns, anomalies, and trends across regional assistance	Effects of assistance programs	Strategic competition involving foreign assistance
3 **Consular affairs**	Application data entry and compilation	High-risk applicants	Demand for visa, passport, and overseas citizen services	Cumulative impacts of eligibility and process changes
4 **Mission-enabling functions**	Hiring processes	Funding obligation and deobligation patterns	Needs of vehicle fleets	Human-resources planning and trends

1. Diplomacy

US diplomats follow an arduous process to prepare for complex multi-stakeholder negotiation processes. For example, they typically review volumes of scientific, political, and cultural data to prepare for climate talks, in addition to leaning on their experience, conversations, and other information sources. Once talks begin, they monitor the dynamics of the negotiations to understand the approach other states may be taking.

However, multilateral negotiations are complex activities, and climate negotiations in particular have been marked by increasing fragmentation of various climate-related issues and polarization among a proliferating number of like-minded groups of countries.[25] This complicates the ability of diplomats to understand how shifts in position on one climate issue may affect others or how changes by one actor within a like-minded group might influence other countries' behavior. AI makes it easier to handle the complexity of negotiations or scenarios of how talks could play out, capabilities that academics have leveraged to analyze commodity market dynamics, trade negotiations, and other interactive multi-participant forums.[26] Simulation could enhance the ability of diplomats to prepare for various negotiation pathways, pivot when other participants alter their positions, and navigate toward preferred negotiation outcomes.

Other AI use cases for diplomacy:

- **Automate cable distribution:** Use natural language processing and semantic analysis to aid in tagging, sharing, and searching for diplomatic cables. Putting the most relevant cables in a policymaker's inbox faster—or, better yet, discovering relevant cables that may have been overlooked—may lead to more effective collaboration among bureaus and overseas posts on topics of common interest.
- **Predict impact of diplomatic messaging:** Apply sentiment analysis to understand how other ministries of foreign affairs, the media, or influential stakeholders perceive a critical issue and the impact of relevant messaging efforts by the State Department. The resulting information can help decision-makers tailor their diplomatic approach.
- **Detect anomalous cyber activity:** State Department diplomatic communications are regular targets of cyberattacks. Network traffic on State systems and devices can be modeled to identify clusters of anomalous cyber activity that can be more closely inspected or isolated by information security specialists to avoid and manage cyber intrusions.[27]

2. Foreign assistance

Foreign assistance accounts for more than two-thirds of the annual foreign operations appropriation, and the State Department manages about US$25 billion annually in foreign assistance.[28] Such aid is used to support activities that align with a variety of US interests, from counternarcotics efforts to nonproliferation to foreign military sales to combating human trafficking, among other applications. Following the Foreign Aid Transparency and Accountability Act in 2016 and the Foundations for Evidence-Based Policymaking Act of 2018, State has begun to institute new guidelines for monitoring, evaluating, and learning from its aid programs.[29] Traditionally, the department also has faced difficulties in effectively managing and monitoring the performance of these programs.[30]

State could develop a range of predictive models to support the evaluation and impact of its foreign aid work. Building on past project monitoring and evaluation of data as well as general spending patterns over time, State could use AI models to predict proposed project efficacy and, during the course of implementation, monitor projects to cue program officer intervention if progress diverges from expected outcomes. These models could be enhanced to simulate how unexpected events, such as an economic recession, conflict occurrence, or change in government, might affect a foreign aid program. Overall, such tools assist the department's efforts to prepare for contingencies, improve knowledge of the links between foreign aid and preferred outcomes, and ensure the highest impact for foreign aid dollars.

Other AI use cases for foreign assistance:

- **Automate grant and contract management:** Foreign aid grants and contracts are complex and administratively intensive. Eligibility and application details are assessed; regular reports are submitted and processed; and spending is monitored and reconciled with budgets. Often, this data comes from multiple partners and vendors. AI can routinize and cross-check some of these laborious steps as well as flag potential errors for program officers.
- **Detect anomalies in foreign aid disbursements:** Using cluster analysis and other modeling techniques, foreign aid spending can be analyzed to identify unusual activity for detailed inspection by a human expert for potential fraud, waste, or abuse.
- **Simulate foreign aid interaction:** Many countries are recipients of foreign aid from multiple donor countries, including those that have competitive relations. Drawing on expert knowledge of subnational political dynamics, agent-based modeling could be used to help decision-makers evaluate how those understandings of local politics might evolve as foreign aid from external donors is distributed and altered. Findings can test assumptions about local politics and inform decisions about shifting aid within states and across regions.

3. Consular affairs

One of State's oldest functions is supporting American travelers and expatriates by, among other things, issuing passports and recording births of US citizens abroad. State also plays a key role in America's border security and immigration systems by issuing visas for foreign nationals to enter the United States.

These fee-funded activities expose the Bureau of Consular Affairs, more than any other part of State, to the pressures many businesses face, from attracting and keeping customers to dealing with large economic, political, and public health forces. Because of this business-like character, the Bureau of Consular Affairs has been a primary focus of State's previous modernization effort.[31] Demand for US visa and passport services has been highly variable over the last few years, with drops of nearly 50% in both 2020 and 2021[32] during the height of the COVID-19 global pandemic. However, annual numbers of issued visas had been declining for several years prior to the pandemic, and there is much uncertainty about the future given forthcoming sharp increases in visa fees.[33] The bureau faces the possibility of significant funding shortfalls in the next few years.[34]

AI can help State modernize consular workflows to reduce costs, accelerate revenue recognition, and enhance the customer experience to bolster demand. Prediction techniques could help in pre-vetting applications to identify risks of denial, thereby focusing consular officer attention for high-value review. In addition,

simulations could show how changes in processes, eligibility, and travel restrictions could affect revenue, resource planning, and migration patterns. These potential use cases can reshape the efficiency of the millions of visa and passport applications that consular affairs processes every year, automating standard submission steps, isolating the sources of performance bottlenecks, and enhancing resource allocation and staff time.

Other AI use cases for consular affairs:

- **Automate for customer experience:** From the applicant's perspective, passport processing can be lengthy and confusing. While critical security needs contribute to this deliberate process, intelligent automation of more routine application and vetting steps through the use of bots could improve overall user experience and fulfill the spirit of Executive Order 14058 on Transforming Federal Customer Experience and Service Delivery to Rebuild Trust in Government.[35]
- **Detect visa fraud:** Organized overseas visa fraud rings undermine the integrity of America's immigration and border security controls, and also may victimize foreign travelers and intending immigrants. AI can help State detect such fraud rings—and put them out of business—by discovering patterns in data that link seemingly independent travelers, and highlighting these patterns for human adjudicators.

4. Mission-enabling functions

The department's core missions depend on numerous administrative operations, from recruiting talent to managing real estate and vehicle fleets to paying bills. AI can help the department improve these operations, from human resources and e-government efforts to financial management to the planning and maintenance of its overseas footprint. Enhancing mission-enabling administration may also be more critical than ever, given staff vacancies across the Foreign Service that have persisted for most of the last decade and complicated mission execution and compliance.[36]

Prediction and simulation could support staffing and recruitment at State, including ongoing efforts to build a Foreign Service that more closely resembles the US population. For example, State could use machine-learning models to unpack how various demographic trends relate to candidate assessment process or to internal promotions. This would help State leadership to understand what practical measures could be considered to assist them in their goals to diversify the diplomatic corps.

An AI-based simulation could help State leadership understand how recruitment strategies, retention trends, and other staffing dynamics might reshape the future of the Foreign Service. These same tools could also assist in matching staff expertise with department needs. An AI-driven "expertise locator," for example, could quickly search for talent and experience areas across the agency that might not be transparent, helping ensure maximization of current talent as well as modeling what talent and expertise the department should prioritize.

Other AI use cases for mission-enabling functions:

- **Automate and detect budget management:** The department has confronted budget reporting challenges in recent years.[37] However, a combination of intelligent automation can be used to oversee programs and to link funding obligations and transactions with detection applications while detection capabilities can identify those obligations that may miss deadlines. Together, these AI capabilities can help budget analysts improve reporting and optimize funds management.[38]
- **Predict vehicle fleet needs:** State maintains a large fleet of vehicles to support local transportation of staff and diplomats both in the United States and abroad. Using data on past fleet usage, service, and vehicle replacement can be modeled across posts and domestically to improve planning and purchases. Such prediction techniques can similarly be extended to a variety of overhead and administrative operations.

How to get there from here: What it will take to use AI for statecraft

Integrating AI into core State Department functions will take more than choosing the right technology and instituting the systems to implement it. State Department leadership should take into account a number of related considerations as they embrace AI as a mainstream tool to assist with diplomacy, foreign assistance, and consular affairs.

Use AI on the right processes and organizational problems. The department is detailed and rigorous in terms of the processes and requirements it develops for many standard procedures, from clearing memos to determining how staff can ship materials through the diplomatic pouch system. Careful mapping of these specific tasks or processes is a vital step before AI can be applied to improve them. This essential legwork identifies bottlenecks or pain points that could be analyzed with prediction or detection functions, and enables the programming of intelligent automation applications to reduce tedious manual paperwork.

Be selective. AI is not the answer to every problem or challenge. Care should be taken during the conceptualization phase of every new AI project to identify performance targets that an AI system should meet in order to provide clear benefit over existing practices. Building the right development teams with diverse perspectives matters as well. Enterprise data campaigns that bring together not only data scientists but also technology, mission, legal, procurement, and other experts can help to ensure that all players are working together to leverage AI to its full benefit for State's mission and to reduce the risk that AI innovations get lost in bureaucratic snarls.

Incorporate ethical and trustworthy principles from the start. Though AI is becoming ubiquitous, many citizens remain concerned about the fairness of AI in practice, from its role in recruitment decisions to its use in financial services to its application in judicial processes.[39] These concerns are understandable given regular reports of AI deployments that are biased against marginalized groups.[40] The reliability of AI systems can also wane over time, whether due to shifting data and environmental factors or to intentional intrusion and adversarial attacks. It is critical that the department develop a handbook for both AI practitioners and procurement executives that outlines how AI services, whether built by practitioners or procured through technology platforms, remain trustworthy (e.g., fair, transparent, accountable, secure, private, and robust) from design through operation and when a human in the loop, especially for high-risk situations, is required, necessary, and desirable.[41]

Get data moving through governance and IT systems. The key to effective AI is data suitable to model the relevant tasks and outcomes. Leveraging the new Enterprise Data Strategy, the department can continue to develop detailed data governance procedures to ensure data is free flowing within the department and between partner agencies, secure from intrusion, and well documented so that new users can quickly understand data provenance and applications. Additionally, the department should further adopt modern data platforms and deploy modern data architectures to enable the Enterprise Data Strategy principles. From consular affairs to State's numerous foreign assistance programs, there is no lack of data at the State Department. However, current methodologies for data management can be supplemented to improve data-sharing and access. Investments in cloud-based data platforms, application programming interfaces (APIs), and architectures can help overcome these challenges and streamline end-to-end operations.

Prepare staff to work in new ways. As State adopts AI in its day-to-day work, staff will be able to reallocate their time to different tasks, particularly more challenging and higher-priority items, innovating and changing the ways in which they conduct their work. These shifts may accumulate into broader adjustments to the portfolio, capabilities, and expectations of State diplomats. Leadership in the department should monitor how AI affects the evolution of the Foreign Service—and be prepared to offer ways for diplomats and other personnel to acquire new skills through education, training, and practical application. That said, younger cohorts of new Foreign Service and Civil Service officers are already accustomed to the future of work and expect to readily engage with AI. Building out State's AI toolbox enables more innovation from America's emerging diplomats.

Get ready for a revolution in diplomatic affairs. The current system of diplomacy was developed in 17th-century Europe and still reflects many of the beliefs and practices of that time. As the United States and other countries embrace AI as a tool of statecraft, state-to-state relations may change in ways that are difficult to foresee. The State Department should be ready to embrace new forms of diplomacy, foreign assistance, and consular affairs.

Conclusion: Toward AI-enabled statecraft

When it comes to AI's power to transform international relations, the State Department has shown it can talk the talk. Now it is time to walk the walk by using AI to transform the department itself. Building on the many promising steps already taken, State can use the framework described in this paper to expand its use of AI in support of diplomacy, foreign assistance, consular affairs, and the numerous functions that enable these core activities.

AI will not be the solution to every problem, and it cannot replace the knowledge, insight, and judgment of subject matter experts. But a deliberate, mindful approach to adopting AI can significantly augment the productivity, efficiency, and innovation of America's diplomats and other international-affairs professionals. Drawing on the department's new data strategy, its vast data inventory, and the vision of its modernization agenda, State can apply a new set of tools for a new era of AI-enabled statecraft.

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The Deloitte AI Institute for Government is a hub of innovative perspectives, groundbreaking research, and immersive experiences focused on artificial intelligence (AI) and its related technologies for the government audience. Through publications, events, and workshops, our goal is to help government use AI ethically to deliver better services, improve operations, and facilitate economic growth.

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