# Aff

## clarity

### 1ac – impact – digital authoritarianism

#### Digital authoritarianism facilitates revisionist great power wars

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Private firms worldwide legally or illegally have long been selling dual-use digital technologies that can be used to monitor web traffic and to censor information. That there is a global market for digital surveillance tools is old news. Companies incorporated in democracies heavily export these dual-use technologies worldwide, including, in many documented cases, to despots.[12] Likewise, companies incorporated in autocracies sell dual-use technologies, including those that can be used for censorship and surveillance, to other authoritarian regimes.[13] Some studies suggest that democracies account for a far greater volume of surveillance technology exports, including to despots, despite attempts to restrict such exports.[14] The pursuit of digital authoritarianism to bolster state power magnifies incentives for some countries to acquire dual-use surveillance tools, and for others to encourage their spread. China’s state leadership, for instance, consistently has advocated a sovereign and controlled Internet governance model on the global stage, with practices like censorship and surveillance, as opposed to a global and open model supported by many liberal democracies.[15] In tandem with this global diplomatic messaging, the Chinese government has reportedly conducted trainings on new media or information management with representatives from dozens of countries, many on record as pursuing restrictive online practices.[16] This has coincided with countries targeted by the Belt and Road Initiative passing cybersecurity laws that sometimes mirror laws already enacted in China, such as Vietnam’s recent establishment of data localization requirements.[17] Causality remains unclear in this situation, and empirical questions remain to be answered about the underlying drivers of digital authoritarianism in different countries. Nonetheless, these patterns and events, coupled with exports of surveillance technologies from China, raise questions about Beijing’s intentions to spread digital authoritarianism globally, including through a greater focus on, and/or endorsement of, the sale of digital surveillance and control capabilities. This could amplify the aforementioned national security risks, should authoritarian countries acquire the tools and/or knowledge needed to bolster their power through digital surveillance. National security analysts have already flagged these potential risks across Africa. Many countries China has engaged with through its Belt and Road investments have acquired Chinese surveillance technology, potentially usable for oppressive purposes. For instance, Chinese company exports of surveillance technology to the Ethiopian government have occurred alongside Chinese government investments.[18] Given China’s history of spying on and suppressing political dissidents, this is hardly a benign fact, and Ethiopia is but one of several examples. Should China’s leadership be intent on spreading digital authoritarianism worldwide, to include diffusion of surveillance tools, this likely could include countries aligned with China’s national security and/or economic interests. Like China, Russia has long advocated for cyber sovereignty on the international stage,[19] with President Vladimir Putin repeatedly emphasizing the importance of information control within a country’s sovereign borders.[20] As noted above, Russian companies export surveillance and hacking technologies, especially to post-Soviet states.[21] Andrei Soldatov and Irina Borogan actually suggest that Russian surveillance technology exports to some of these countries are a better fit than Western-made surveillance applications, because Russian laws and procedures governing traffic interception are more compatible for these countries, and the technologies are tailored accordingly.[22] In either case, these surveillance technology exports need further study, and they clearly serve as tools of political influence in Russia’s near-abroad. As with China, the extent of the Russian government’s direct involvement in and support of such exports needs further study, because the Kremlin’s direct hand in these exports, while visible, is hardly transparent. The desire to spread digital authoritarianism may well incentivize the Kremlin to better spread its surveillance technologies, or to at least look the other way when they occur, and thereby consolidate power in the hands of Russian-aligned countries at the expense of US government interests. This also could threaten vulnerable democracies worldwide, and facilitate the so-called fracturing of the global Internet, as countries build out technical and legal regimes that filter the global and open Internet touching and running through their borders.[23] Again, the threat here is not only from governments in China and Russia. Companies incorporated in democracies also sell a high volume of dual-use surveillance technologies to despots, and this is something we are better able to monitor and correct. It is also important to reemphasize the existing incentives for countries to encourage or allow the spread of these capabilities to other countries (including the technologies and how to optimize them). But growing desires to spread digital authoritarianism globally not only undermine human rights and developing democracies; this also exposes US national security to increased risk.

### 2ac – uniqueness – digital authoritarianism

#### AI soon to takeover politics to reaffirm authoritarian and fascist ideology to eradicate democracy

Ünver 18 (Akın, associate professor of IR at Ozyegin University, former research associate at Oxford University, The 2021 Science Academy of Turkey’s ‘Outstanding Young Scientist’, “Artificial Intelligence, Authoritarianism, and the Future of Political Systems”, 7/1/18, https://www.jstor.org/stable/pdf/resrep26084.pdf?refreqid=excelsior%3A1b398a4cb80c5f85d280d26dbc1f9669&ab\_segments=&origin=&acceptTC=1)

In a public discussion with Arkady Vorozh, the CEO of Yandex, Russian President Vladimir Putin asserted that whichever country would master the A.I. in the short-term, ‘will be the ruler of the world.’ Elon Musk later shared Putin’s words on Twitter, who added ‘Competition for AI superiority at the national level most likely **cause of WW3’**.26 Both Putin and Musk statements constitute high-level affirmations of algorithmic feudalism, given how they both locate the A.I.’s immediate role within political anarchy and global leadership to circumvent its effects. Both, furthermore, view A.I. mastery as an inherently zero-sum game, in which one power has to dominate and others, become dominated. Although Putin’s statement referred to both military and non-military applications of A.I., the rest of his statement specifically referred to threats originating from the **automation of security tools** (drones, cybersecurity, 3D printing), instead of finance, healthcare or other non-military applications of A.I. Both Putin and Musk deviate significantly from Emmanuel Macron, for example, who gave an exclusive interview to Wired on France’s A.I. strategy, where he focused exclusively on healthcare, finance and political participation aspects of algorithmic structures, rather than their military applications.27 ‘A.I. feudalism’ then, has to imply a political regime, primarily geared towards eliminating systemic anarchy and revolves directly around security provision, both domestically and internationally, in exchange for financial and human capital provision. In domestic politics, it implies riot control and surveillance industries, whereas internationally it concerns cybersecurity, unmanned systems and a wide array of communication-related fronts. The most immediate impact of A.I. that might reinforce the feudalistic tendencies of the digital space is to create a production system mimicking corporatism - namely, the reconfiguration of power relations through sectoral alliances between coder syndicates and guilds. This would entail the control of algorithm-building and maintaining structures that both state and private actors rely on, and the foundation of the future economic system. The corporatization of A.I. could **reinforce power-centralization** through the combination of corporations that monopolize modes of code and coder production that will disproportionately influence politics, military and science affairs. This will effectively generate a feudal network that minimizes political participation and representation, leading to the **eradication of democracy**. The Habermasian ‘algorithmic enclosures’ that are obscure and inaccessible will establish robust control mechanisms on the society and in turn, empower coder oligarchies and corporations in charge of them. The second alarmist trend in the popular mainstream is the idea that the A.I. will create a ‘fascist system’28 - where the over-centralized A.I.-based decision-making will create a hierarchy of repression in which control-oriented, top-down practices will restrict expression, engagement, oversight and political information-seeking behavior. These fears have been intensified with the rise of the far-right groups in the US and Europe in the last years, bolstered by Internet trolls, fake news, and bots. According to the conceptualization of Foucault29 and Canguilhem30, the way technology and science are deployed by fascist regimes snowball into a social force, bursting their initial utilitarian origins and take on a life of their own. Technologism then determines the bounds of rights and freedoms in a society, becoming the real political ideology in fascist regimes. In ‘techno-fascism,’ all aspects of social life are controlled with the purpose of maximizing scientific progress and technological advances that are in turn, used to exert newer forms of sectoral control over social life. Views that don’t conform or fully converge to the hegemonic ideology are taken out of the equation through imprisonment and death. Totalitarianism is different from authoritarianism in this context since the latter denotes the centralization of political power without the need to control thoughts and actions of all citizens through a revolutionary mechanism to change the human nature or the world at whole. An ‘A.I. fascism’ or totalitarianism, therefore, has to entail a bid to change human relations and social interactions; merely political control and centralization are not enough on their own

### 2ac – uniqueness – china

#### China implementing mind controlling AI now

Huang 7-9-22 -- (Joyce Huang, "China Boasts of 'Mind-reading' Artificial Intelligence that Supports 'AI-tocracy'", 7-9-2022, VOA, https://www.voanews.com/a/china-boasts-of-mind-reading-artificial-intelligence-that-supports-ai-tocracy-/6651986.html)//Alk

An artificial intelligence (AI) institute in Hefei, in China’s Anhui province, says it has developed software that can gauge the loyalty of Communist Party members – something that, if true, would be considered a breakthrough, but has sparked public outcry. Analysts said China has improved its AI-powered surveillance, using big data, machine learning, facial recognition and AI to “*get into the brains and minds of its people*,” building what many call a draconian digital dictatorship. The institute posted a video called “The Smart Political Education Bar,” on July 1 to boast about its “mind-reading” software, which it said would be used on party members to “further solidify their determination to be grateful to the party, listen to the party and follow the party.” In the video, a subject was seen scrolling through online material that promotes party policy at a kiosk, where the institute said its AI software was monitoring his reaction to see how attentive he was to the party’s thought education. The post, however, was taken down shortly after sparking a public outcry among Chinese netizens. Hung Ching-fu, a professor of political science at National Cheng Kung University in Tainan, in southern Taiwan, said that the Communist Party has abused technological advances to serve its own political interests. “It has used cutting-edge technology to empower its party state. China has upgraded from early-day facial recognition to AI programs that try to get into brains and minds (more) than meet the eye. Its adoption of advanced AI will reinforce its total controls,” Hung told VOA over the phone. Hung added China’s AI-fueled police state will weigh on its people, who are likely to self-censor or live in fear. But he cast little confidence in what he called China’s digital repression, which he said will likely put *the Communist Party* in the “dictator’s dilemma” – a political term that describes a government leader’s *failure to win the hearts and minds of its people*. “The taller you build your wall [of power], the further you’re cut off from the people… This constitutes what we call the ‘dictator’s dilemma’ in politics. That is, despite their enormous powers, dictators keep out of touch with the people. I don’t think any political systems that are against human nature will sustain,” Hung added. VOA’s calls and emails to the Hefei-based institute for comment went unanswered. The so-called mind-reading software is but the latest digital control China has implemented. China reportedly has long deployed facial recognition in Xinjiang to keep tabs on ethnic Uyghurs while having enhanced its surveillance in recent years with “one person, one file” software to make it easier to track its people.

### 2ac – uniqueness – turkey

#### Turkey shifting to digital authoritarianism now

Timuçin 21 – (Fatma Timuçin went to the Graduate School of Social Sciences at Sabancı University for the degree of Master of Arts, “8-BIT IRON FIST: DIGITAL AUTHORITARIANISM IN COMPETITIVE AUTHORITARIAN REGIMES: THE CASES OF TURKEY AND HUNGARY”, 7-21, Sabancı University, https://research.sabanciuniv.edu/id/eprint/42417/1/10337574.pdf)//Alk

Turkish case of digital authoritarianism is an important example for shedding light on possible pathways for populist regimes’ handling of the free media. As his populist counterparts, Erdoğan assumed office with his struggle against the existing political framework. The media’s dominantly opposing views and belonging to the ‘elite’ made him target the media. While Turkey did not possess a mainstream conservative media Erdoğan could rely on, almost every media outlet exhibited a drastic shift in their narrative after just a decade. The primary reason for this unfolding of events was the crony capitalism of AKP. While holding the traditional media under direct control, AKP has also expanded its influence over the internet, mainly the news sites of said traditional media. As a result, digital media was regarded as the “alternative” for opposition voters. Just shy of the end of their second term at the helm of parliament, their *digital authoritarianism started to materialize* more directly, especially *in terms of legislative decisions*. Gezi period pitted AKP against the online presence of opposition voters and created a demarcation of traditional news and social media on opposing sides of the political debate. After 2016’s failed coup attempt, Erdoğan operationalized a crackdown through legal persecution, presidential decrees, and bans on several platforms. Lastly, the remaining opposition presence has been plagued by trolls and bot accounts favoring the government. Through these three sequences, Erdoğan has triumphed over means of alternative information and created pro-government media to prolong his incumbency, solidify his voter base, and further *expand his control over civil society*.

### 2ac – i/l – digital authoritarianism

#### Technology and AI key to assure new form of Digital Authoritarianism

Wright et al 20 (Joseph, Erica Frantz, Andrea Kendall-Taylor, Wright is a Political Science Professor at Penn State, Co-Director of the Global and Intl. Studies, with a Ph. D at UCLA. Frantz is an associate professor at MSU with a Ph.D from UCLA. Kendall-Taylor is a current director of the Transatlantic Security Program at CNAS, a former Senior Intelligence Officer for Russia and Eurasia. “The Digital Dictators: How Technology Strengthens Autocracy”, 3/1/2020, https://www.foreignaffairs.com/articles/china/2020-02-06/digital-dictators?utm\_medium=promo\_email&utm\_source=lo\_flows&utm\_campaign=registered\_user\_welcome&utm\_term=email\_1&utm\_content=20220713)

But this wishful vision of a more democratic future proved naive. Instead, new technologies now afford rulers fresh methods for preserving power that in many ways rival, if not improve on, the Stasi’s tactics. Surveillance powered by artificial intelligence (AI), for example, allows despots to automate the monitoring and tracking of their opposition in ways that are far less intrusive than traditional surveillance. Not only do these digital tools enable authoritarian regimes to cast a wider net than with human-dependent methods; they can do so using far fewer resources: no one has to pay a software program to monitor people’s text messages, read their social media posts, or track their movements. And once citizens learn to assume that all those things are happening, they alter their behavior without the regime having to resort to physical repression. This alarming picture stands in stark contrast to the optimism that originally accompanied the spread of the Internet, social media, and other new technologies that have emerged since 2000. Such [hopefulness peaked in the early 2010s](https://www.aljazeera.com/indepth/opinion/2012/09/2012919115344299848.html) as social media facilitated the ouster of four of the world’s longest-ruling dictators, in Egypt, Libya, Tunisia, and Yemen. In a world of unfettered access to information and of individuals empowered by technology, the argument went, autocrats would no longer be able to maintain the concentration of power that their systems depend on. It’s now clear, however, that technology does not necessarily favor those seeking to make their voices heard or stand up to repressive regimes. Faced with growing pressure and mounting fear of their own people, authoritarian regimes are evolving. They are embracing technology to refashion authoritarianism for the modern age. Led by China, today’s digital autocracies are using technology—the Internet, social media, AI—to supercharge long-standing authoritarian survival tactics. They are harnessing a new arsenal of digital tools to counteract what has become the most significant threat to the typical authoritarian regime today: the physical, human force of mass antigovernment protests. As a result, digital autocracies have grown far more durable than their pre-tech predecessors and their less technologically savvy peers. In contrast to what technology optimists envisioned at the dawn of the millennium, autocracies are benefiting from the Internet and other new technologies, not falling victim to them.

### 2ac – i/l – Russia/China

#### NATO currently deemed unsuitable to fight back against Russian and Chinese AI attacks – Clear Standards needed to deter threats

JillAitoro 18[February 15; Senior Vice President of Content Strategy at CyberRisk Alliance, Editor in Chief at SC Media editor of Defense News, former executive editor of Business-to-Government Group; “AI Warfare is Coming, and Some Global Leaders Say NATO Isn’t Ready,” Defense News, https://www.defensenews.com/smr/munich-security-forum/2018/02/16/ai-warfare-is-coming-and-some-global-leaders-say-nato-isnt-ready/]

The future of warfare will involve artificial intelligence systems acting as lethal weapons, and [much like cyber a decade ago,](https://www.fifthdomain.com/dod/2018/01/24/the-next-cyber-arms-race-is-in-artificial-intelligence/) NATO allies are ill-equipped to manage the potential threat, said current and former European leaders speaking at the Munich Security Conference. Kersti Kaljulaid, president of Estonia, estimated a 50 percent chance that by the middle of this century we will have an AI system capable of launching a lethal attack. And yet, just as the world was **not prepared** for a cyberattack when [Russia first launched a cyberattack against Estonia in 2007](https://www.fifthdomain.com/2017/11/21/estonian-official-cyber-must-be-part-of-core-military-education/) — bombarding websites of Estonian parliament, banks, ministries, and news outlets — there is no strategy or international law to deter such tactics of warfare. First, “we need to understand [the risks — what we’re afraid of,](https://www.fifthdomain.com/home/2017/07/14/what-an-artificial-intelligence-researcher-fears-about-ai/)” said Kaljulaid,, pointing to three: someone using AI disruptively; intelligence going widespread; and AI depleting energy. “Right now we know we want to give systems some right of auto decision-making when it has the necessarily information to react,” Kaljulaid said. But once that is accomplished, “then we have the responsibility” to establish standards — the ability to apply reporting requirements to AI system, or to even shutdown systems if they are deemed threatening. The kind of standards gradually being put in place for cybersecurity “need to apply to the AI world, exactly the same way,” she said. For such standards to potentially be established for AI, there must be acceptable models of use in combat, and in conjunction with that, when there is evidence that AI is deployed outside those established boundaries, there must be a right to intervene. And much like nuclear non-proliferation efforts, “if we say that we will have the right to intervene, we have to have the right to international inspection,” Kaljulaid said. Among the standards advocated by Anders Fogh Rasmussen, former NATO secretary general, is that AI always involve human beings. There are three options, he said during the panel: humans can be in charge, always “in the loop;” humans can be “on the loop” through a supervisory role, able to intervene; or humans can be “out of the loop” – telling the system to attack, and then leaving the rest to the machine. “I’m in favor of trying to introduce legally binding [standards] that will prevent production and use of these kinds of autonomous lethal weapons,” Rasmussen said, strongly advocating for a human role. But such standards don’t come fast. It took until 2017 for NATO to declare that a cyberattack would spur an Article 5 response – that being, collective defense among allies — after a massive computer hack paralyzed portions of government and businesses in Ukraine before spreading around the globe. In the meantime, much like cybersecurity, AI presents an opportunity for Russia as well as China to use “grey zones,” said Rasmussen – not initiating open military conflict, but provoking allies enough to disrupt. So what is the red line? “The NATO perspective is clear: ambiguity,” Rasmussen said. **“We never define when a red line is crossed. We never define how to respond if a certain member state is attacked. Nobody should know when they cross the line and how we would react. It’s easy- abstain from attacking any NATO ally; if you do [attack], we’ll respond decisively. It may be conventional,** it may be a cyber counterattack, you never know.” But to prevent adversaries from taking advantage of the technological capability, “we need leadership from the democratic world,” Rasmussen added. “Whenever the democratic countries retrench and retreat they leave behind a vacuum. And that will be filled by the bad guys.”

### 2ac – clarity key – cohesion

#### Unequal adoption of AI leads to consequences on coalition operations

**Lin-Greenberg, 20** (Erik Lin-Greenberg, He is Assistant Professor in the History and Culture of Science and Technology in the Department of Political Science at the Massachusetts Institute of Technology. His research examines how emerging military technology affects conflict dynamics and the use of force., 6-2-2020, accessed on 7-15-2022, Texas National Security Review, "Integrating emerging technology in multinational military operations: The case of artificial intelligence | MIT Center for International Studies", https://cis.mit.edu/publications/analysis-opinion/2020/integrating-emerging-technology-multinational-military-operations)

In the military domain, AI has been increasingly used in roles that traditionally required human intelligence. In some cases, AI is employed as part of analytical processes, like the use of machine learning to help classify geospatial or signals intelligence targets. Or, it can be part of the software used to operate physical systems, like self-driving vehicles or aircraft. States around the world have already fielded a range of military systems that rely on AI technology. The US Department of Defense, for instance, launched Project Maven to develop AI to process and exploit the massive volume of video collected by reconnaissance drones.53 Similarly, Australia is working with Boeing to develop an advanced autonomous drone intended for use on combat missions, and the US Navy is exploring the use of self-operating ships for anti-submarine warfare operations.54 Military decision-makers look to these systems as ways of increasing the efficiency and reducing the risk of conducting military operations. Automating processes like signals analysis can reduce manpower requirements, while replacing sailors or soldiers with computers on the front lines can mitigate the political risks associated with suffering friendly casualties.55 As states develop AI capabilities, leaders must consider the challenges that may arise when fielding AI as part of broader alliance or coalition efforts. First, alliance leaders must consider the unequal rates at which alliance members will adopt AI—and the consequences this could have on alliance and coalition operations. Second, leaders must consider how AI will affect two important components of alliance dynamics: shared decision-making and interoperability.

### 2ac – at: entaglement turn

**No US entanglement**

**Beckley, 15** (Michael Beckley, Michael Beckley is Assistant Professor in the Department of Political Science at Tufts University, 4-1-2015, accessed on 7-15-2022, MIT press direct, "The Myth of Entangling Alliances: Reassessing the Security Risks of U.S. Defense Pacts", https://direct.mit.edu/isec/article/39/4/7/12305/The-Myth-of-Entangling-Alliances-Reassessing-the)

American concerns about entangling alliances are as old as the Republic itself. During the post-World War II era, however, there have been only five ostensible episodes of U.S. entanglement, and even these cases are questionable. The case in which alliance obligations had the largest impact on U.S. decision-making (the 1995–96 Taiwan Strait crisis) entailed minimal military action, and the case that entailed the most military action (the Vietnam War) contained only a marginal role for alliance politics in U.S. decision-making. In the other three cases (the 1954–55 Taiwan Strait crisis and the wars in Bosnia and Kosovo), both the effect of alliance obligations on U.S. policy and the costs suffered by U.S. forces were moderate. And beyond these cases, entanglement was virtually nonexistent in U.S. foreign policy. Against this limited evidence of entanglement are numerous cases in which alliances restrained the United States. Allies dissuaded the United States from escalating the Korean War and crises in Laos and Berlin, and struggled in vain to prevent the United States from entering or escalating other conflicts, the 2003 Iraq War being only the latest major example. Indeed, instances of alliance-induced restraint are evident even within the five cases of entanglement discussed above: in the 1954–55 Taiwan Strait crisis, concerns about European alliances discouraged U.S. policymakers from bombing the Chinese mainland and publicly committing to defend Jinmen and Mazu; in the Vietnam War, allies impeded U.S. entry into the war and then repeatedly implored the United States to get out; and in Bosnia and Kosovo, U.S. allies initially restrained the United States from lashing out violently and then provided all of the NATO ground forces and most of the postconflict peacekeepers for the eventual operations. There also are several cases in which the United States sidestepped inconvenient alliance commitments, restrained an ally from attacking a third party, or openly sided against an ally—and this list could probably be expanded by looking within other cases, including the five ostensible cases of entanglement. As explained earlier, the United States blatantly retracted a pledge to Taiwan to defend Jinmen and Mazu in 1955, refused to save the French at Dien Bien Phu in 1954, delegated ground operations and most of the postconflict peacekeeping in Bosnia and Kosovo to allies, and waited for eight months and the receipt of private security assurances before responding militarily to China's provocative behavior near Taiwan in 1995–96. In sum, the empirical record shows that the risk of entanglement is real but manageable and that, for better or worse, U.S. security policy lies firmly in the hands of U.S. leaders and is shaped primarily by those leaders' perceptions of the nation's core interests. When the United States has overreached militarily, the main cause has not been entangling alliances but rather what Richard Betts calls “self-entrapment”—the tendency of U.S. leaders to define national interests expansively, to exaggerate the magnitude of foreign threats, and to underestimate the costs of military intervention.188 Developing a disciplined defense policy therefore will require the emergence of prudent leadership, the development (or resurrection) of guidelines governing the use of force,189 the establishment of domestic institutional constraints on the president's authority to send U.S. forces into battle, or some combination of these.190 Scrapping alliances, by contrast, would simply unleash the United States to act on its interventionist impulses while leaving it isolated diplomatically and militarily.

## public trust

### 2ac – clarity i/l

#### Transparency/clarity key to AI trust and acceptance- study proves

**Shin 20** (Donghee,College of Communication and Media Sciences, Zayed University, “User Perceptions of Algorithmic Decisions in the Personalized AI System:Perceptual Evaluation of Fairness, Accountability, Transparency, and Explainability”) 14 Dec 2020

https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/08838151.2020.1843357 acd

The existence of trust is key to promoting technology acceptance (Shin, [2010](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/08838151.2020.1843357)) as it facilitates openness and transparency in adoption process. Findings in the work of Lee ([2018](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/08838151.2020.1843357)) imply that trust plays a mediating role in algorithm acceptance. In the news recommendation context, trust is considered a mediator of relationships between behavioral intentions and individual characteristics, and algorithm technology (Shin & Park, [2019](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/08838151.2020.1843357)). It can be reasonably considered trust can play a mediating role in the context of AI. For estimating indirect effects for FATE and trust, a non-parametric bootstrapping approach was employed. Bootsrapping is one of the crucial parts in structural equation modelling when it comes to test mediation effects. Mediation analyses assessed the indirect effect of explainability on the association of FAT and trust. Bootstrapping techniques can be used when examining mediation to gain confidence limits for specific indirect effects. Variance accounted for (VAF) is to evaluate the indirect effect and the value of greater than 80% is full mediation, while greater than 20% but less than 80% is partial mediation (per Hair et al., 2013). The 95% confidence interval for the indirect effect via trust was obtained using bootstrapped resampling. Mediation is confirmed if such a confidence interval does not contain zero. The standardized indirect effect (Table 2) shows that exogenous latent constructs have partial mediation effects toward emotion through trust. The partial mediations observed in the test suggest that there are other potential mediators for trust or emotion.

The findings suggest that users trust AI recommendations as much as they understand FATE. The findings of the study provide evidence of the FATE model of human-AI interaction. The model illustrates that interacting with algorithms involves a series of interrelated cognitive processes wherein features of algorithms are used to formulate a heuristic of user motivation and to trigger action in AI services. The findings of this study offer interesting insights on the relationships between heuristics, quality, and trust in algorithm. First, using the HSM as a primary framework, this study examined how algorithmic features influenced users’ trust and emotion through two different routes of cognitive processing. Users’ heuristic process of FATE influences user trust and increased trust influence systematic processing of performance expectancy, which is positively associated with emotion and satisfaction. Just as transparency, accountability, fairness, and explainability are considered critical values in social systems, so too are they in algorithm-based services. Not only do qualities of FATE play a significant role in establishing trust, but they also play an anchoring role in developing user evaluation of performance as well as perceived usefulness and convenience of using AI. The model shows that users rely on FATE as heuristic tools to assess trust in algorithm. The model shows a dual process: Heuristic process is less resource demanding and less analytical as users normally do not have expertise to evaluate specialized algorithmic features, whereas systematic process is more effortful and more deliberate (whether personalized results are accurate, precise, and private) based on the established trust. Algorithm users develop their own processes of algorithmic trust based on cognitive processes related to FATE. User reactions to perceived usefulness and convenience are not automatic; rather, they are dependent upon or at least closely related to how users recognize, understand and process the information regarding FATE. Such a relationship can be described as heuristic insofar as users rely on FATE to determine their feelings on usefulness and convenience around algorithm services. In other words, users figure out usefulness and convenience in the context of algorithm according to the FATE of content. This finding is in line with the arguments of previous studies, which have shown the contextual nature of such variables (Shin & Park, [2019](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/08838151.2020.1843357)). Second, the findings suggest the significant role of trust in human-AI-interaction. With the pervasive role of algorithms in our lives, a question is how people trust an algorithm’s decision? How trust is formed and evolves in the course of adoption may provide important clues in designing and developing AI services. More and more people are aware that algorithms are not neutral and concern is rising that AI may have human prejudices. People would like to understand how algorithms work, how the processes work, and to what extent the results are fair. The model in this study shows a clue on how trust is gained and sustained and with what factors. Trust plays a liaison role by linking uncertain issues to measurable values and establishing confirmation for usage and adoption of personalized algorithms. It's worth noting that the model without trust mediation shows similar results but is less and powerful than the initial model with trust. Without this trust factor, overall paths remain significant but less robust with lower C.R. values. This signifies the role of trust as intermediate states that foster the development of engagement. Although previous research consistently has shown the role of trust in AI and algorithm (e.g., Alexander et al., [2018](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/08838151.2020.1843357)), this study empirically proves the role of trust in AI, its antecedents, intermediating role, and heuristic-systematic process. In algorithms, users get a sense of trust when they are assured with the level of FATE. When users trust algorithm systems, they tend to believe that system services are useful and “convenient” just like overriding effects (Shin & Park, [2019](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/08838151.2020.1843357)). The mediating role of trust between satisfaction and FATE supports the liaison role of trust in algorithmic processes: linking heuristic and system evaluation (Ferrario et al., [2020](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/08838151.2020.1843357)). Trust significantly mediates the effects of FATE on users’ satisfaction. Satisfaction promotes trust, and in turn, influences user perception of FATE. Higher satisfaction implies greater trust and suggests that users are more likely to continue to use an algorithm. Affording more user trust and assured emotion may warrant users that their individual data will be used by legitimate and transparent processes, thereby generating positive trust toward the AIs and the providers, ultimately leading to heightened levels of satisfaction. Previous research findings have confirmed the mediating role of trust in diverse contexts (Zhang et al., [2014](https://www-tandfonline-com.proxy.lib.umich.edu/doi/full/10.1080/08838151.2020.1843357)). Based on the mediating role, it can be inferred **that trust between users and algorithms is the underlying key factor in acceptance and experience of AI.**

#### Gaining Public Trust through clear technical standards key to effective AI usage and implementation

Vincent 19 (Brandi, Defense Technology Correspondent at NextGov, Washington Bureau Desk Assistant at NBC News, Bachelors Degree at Northwestern State University, “Building the Public’s Trust in AI Key to Coming Guidance, White House Official Says”, 10/16/2019, https://www.nextgov.com/emerging-tech/2019/10/building-publics-trust-ai-key-coming-guidance-white-house-official-says/160652/)

The White House Office of Science and Technology Policy’s Assistant Director for Artificial Intelligence offered fresh details Wednesday into a memo being developed to help foster public trust and build agencies’ confidence in regulating artificial intelligence technologies.  “This is a memo directed to agencies that suggests regulatory and non-regulatory principles for how you oversee the use of AI in the private sector,” Lynne Parker, OSTP’s assistant director for artificial intelligence, said. “So these will establish some common principles [and] some predictability across agencies in terms of how they think about regulatory and non-regulatory approaches to the use of AI.” In February, President Trump issued an executive order to accelerate American advancements in AI. One of the key priorities of the order, Parker noted, is to “foster public trust and confidence in AI technologies and protect civil liberties, privacy, and American values in their application in order to fully realize the potential of AI technologies for the American people.”“The question is—how do you implement trust and confidence?” she asked.  Late last month, Federal Chief Technology Officer Michael Kratsios initially announced the memo. Implementing advanced technological solutions will require modern regulatory approaches, and Kratsios noted that it will be the first document that has “legal force” around how agencies should go about regulating AI tech. The memorandum is currently in the works through “close coordination” with the Office of Management and Budget’s Information and Regulatory Affairs office. The in-the-making memo marks one of the key efforts the administration is embarking on to address issues around worries the general public has around adopting AI. Parker said the memo’s crafters are taking a risk-based approach and thinking of AI not as a single monolithic concept, but more unique in terms of how it works for each specific application domain. She added that some application domains don’t need as many approaches as others, depending on whether they raise more concerns around deployment. Though Kratsios and Parker did not offer up a timeline, the assistant director of AI said once it’s crafted in draft format, the memo will be released for the public to weigh in. Parker noted that that element is critical as the team wholeheartedly aims to “get it right.” Once the input is taken into account, a final memo will be released. “After that, agencies will be directed to come up with their own plans for their own regulatory space, for how they want to ensure the appropriate regulatory and non-regulatory approaches for AI within the user application domains that they have oversight in,” she said. The order also calls for the establishment of AI technical standards, and efforts to limit the barriers around testing the technology and accelerating adoption. Technical standards enable interoperability across AI systems. Parker noted that putting them in place would support the measurement of the system’s performance, accuracy, robustness and trustworthiness. In support of the administration’s initiative, the National Institute of Standards and Technology recently instituted a plan for federal engagement to develop the necessary guidelines. “On the one hand, we say we want AI that’s trustworthy, but on the other hand, we have no way of knowing how to achieve it—because we don’t know the standard for trustworthiness,” Parker said. “So these technical standards are critically important.”Both the memo and the establishment of standards will support those deploying AI on the frontline in measuring bias and addressing concerns around it. Parker said the memo’s approach will allow agencies to consider use cases that present implications of bias.  She added proper tools must be developed to determine whether training data for machine-learning systems is appropriately representative for specific use cases.“We also have to make sure that we are comparing systems to the current state, and the current state is that people are making decisions, and often, people are biased,” Parker said. “So, we don’t want to hold AI systems to an unreasonable level of perfection when we know that the AI systems can do better than that current state.”

## solvency

### 2ac – NATO key

#### NATO is specifically key to setting norms on AI

Ehlert 21 (Dr Ulf Ehlert, 12-16-2021, accessed on 7-9-2022, Nato Review, "NATO Review - Why our values should drive our technology choices", https://www.nato.int/docu/review/articles/2021/12/16/why-our-values-should-drive-our-technology-choices/index.html)

We must strive to limit potential harm **without unduly constraining the benefits a technology can bring**. Therefore, our policies should set limits for the application of technologies (such as genetically optimised super-soldiers) rather than banning entire technology areas (in this case, biotechnology). We need to understand when policy changes are necessary and what those changes should be. Reflecting the diversity of interests, we need to institutionalise a broad stakeholder engagement that reaches out to all parties affected by a technology and influencing its evolution. Within this broadly applicable framing, **NATO’s role is specific.** As the international organisation committed to defence and security in the North Atlantic area, it convenes considerable political, military, economic, and technological power. Building in particular on its political and intellectual capital, the Alliance can credibly spearhead **norm setting for technology applications in defence to comply with Western values.** With its recently published AI Strategy, NATO fulfils its traditional role in an innovative way. This Strategy embraces principles of responsible use, which express the value-driven norms that NATO and its member nations will adhere to in the application of AI. By making these principles public, they set an example for other nations to consider and potentially adopt NATO’s principles. This is an effective approach towards proposing and gradually implementing an international norm, not unlike the European Union’s General Data Protection Regulation. At the same, NATO responds to the globally distributed innovation landscape. The NATO2030 initiative highlights the need to forge new coalitions with likeminded partners beyond the North-Atlantic region. This broad outreach should not only extend to governmental organisations, it should in general expand the types of partners to collaborate with (even within Allied nations), to include non-governmental organisations, the private sector, academia, and civil society.

#### NATO’s key for military AI

Gray and Ertan ND (Maggie Gray and Amy Ertan, Maggie Gray is a NATO CCDCOE Research Intern and student at Stanford University. her research focuses on cyber-enabled information warfare and the role of cybersecurity and technology in the military., Amy Ertan is a NATO CCDCOE Visiting Researcher and non-resident Cybersecurity Fellow at the Belfer Center at Harvard University’s Kennedy School of Government, No Date, accessed on 7-13-2022, The NATO Cooperative Cyber Defence Centre of Excellence, "Artificial Intelligence and Autonomy in the Military:An Overview of NATO Member States ‘Strategies and Deployment", https://ccdcoe.org/library/publications/artificial-intelligence-and-autonomy-in-the-military-an-overview-of-nato-member-states-strategies-and-deployment/)

**AI and autonomous systems will play an increasingly large part in enabling future military activities**. AI-enabled systems will make warfare faster and more effective by several metrics. ML will be especially influential, as militaries use it to improve a wide variety of systems, including autonomous vehicles, air and missile defence systems, ISR, and logistics support. NATO member states are, to varying extents, investing and exploring AI-enabled technology and autonomous military systems. There is an element of pressure to this, with significant evidence that **Russia and China are already actively and aggressively** developing these systems. The consequences of falling behind technologically could be catastrophic should AI-enabled systems live up to the current expectations of many. Military AI and autonomous systems should not be underestimated, and incremental implementations can be leveraged to great effect. **Militaries around the world have begun integrating AI-enabled and autonomous systems into their militaries**, especially in the categories discussed in this paper – autonomous vehicles, autonomous air and missile defence systems, data analytics, logistics, personnel management, and healthcare. Whenever possible, NATO should facilitate cooperation and information sharing between its members to ensure their military systems remain cutting-edge. It is important for NATO countries to work together to ensure that their military systems are interoperable and secure. When developing AI-enabled and autonomous systems, it is imperative that militaries consider security. AI systems are brittle, opaque, and reliant on good data, and any failure in an AI military system could have catastrophic consequences.

### 2ac – solvency – clarity

#### Lack of clarity and advancements in AI make Russian deterrence more difficult

**O'Hanlon, 18** (Michael E. O'Hanlon, Michael E. O'Hanlon is a senior fellow and director of research in Foreign Policy at the Brookings Institution, where he specializes in U.S. defense strategy, the use of military force, and American national security policy., 11-29-2018, accessed on 7-15-2022, Brookings, "The role of AI in future warfare", https://www.brookings.edu/research/ai-and-future-warfare/)

A hypothetical scenario in which Russia creates a pretext to slice off a piece of an eastern Baltic state, occupying it in purported “defense” of native Russian speakers there, could cause enormous problems if NATO chose to reverse the aggression. In that event, it could require a massive deployment of Operation Desert Storm-like proportions to liberate the territory while facing down any Russian reinforcements that might be sent. In a less successful case, Russia could interdict major elements of that attempted NATO deployment through some combination of cyberattacks, high-altitude nuclear bursts causing electromagnetic pulse, targeted missile or aerial strikes on ports and major ships, and perhaps even an “escalate to de-escalate” series of carefully chosen nuclear detonations against very specific targets on land or sea.[[1]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-1) While the latter concept of nuclear preemption is not formally part of Russian military doctrine, it could influence actual Russian military options today.[[2]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-2) Alternatively, the NATO deployment could succeed, only to face subsequent Russian nuclear strikes once evidence of NATO’s conventional superiority on the Baltic battlefields had presented Moscow with the Hobson’s choice of either escalating or losing.[[3]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-3) By 2040, some aspects of this kind of scenario could improve for American and NATO interests. The clarity and perhaps the scale of NATO’s security commitments to the Baltic states might have strengthened, reducing the chances of deterrence failure in the first place and improving the initial capacity for resistance to any Russian aggression.[[4]](https://www.brookings.edu/research/ai-and-future-warfare/#footnote-4) But on balance, technological innovation, including advancements in robotics and AI, makes it quite possible that things could also get worse.

### 2ac – solvency – cooperation

#### International cooperation on clarity is key

Christie and Stanley-Lockman, 21 (Edward Hunter Christie and Zoe Stanley-Lockman, Researcher, consultant, economist, EU affairs professional, former NATO official, public policy expert., ​Zoe Stanley-Lockman is an Associate Research Fellow in the Military Transformations Programme at the Institute of Defence and Strategic Studies at the S. Rajaratnam School of International Studies in Singapore. Her research interests are in the areas of defence innovation, emerging technologies, defence industries, and military capability development. Previously she worked as a defence analyst at the European Union Institute for Security Studies., 10-25-2021, accessed on 7-13-2022, Nato Review, "NATO Review - An Artificial Intelligence Strategy for NATO", https://www.nato.int/docu/review/articles/2021/10/25/an-artificial-intelligence-strategy-for-nato/index.html)

Adopting AI in the defence and security context also calls for effective and responsible governance, in line with the common values and international commitments of Allied nations. To that end, Allied governments have committed to as a key component of NATO’s AI Strategy. These enduring principles are also foundational to the discussion and adoption of more detailed best practices and standards. Allies and NATO can leverage NATO’s consultative mechanisms and NATO’s specialised staff and facilities to work actively towards that goal. NATO’s own standardisation and certification efforts can also be bolstered by coherence with relevant international standard-setting bodies, including for civilian AI standards. In addition to best practices and standards, these principles can also be operationalised via other mechanisms including review methodologies, risk and impact assessments, and security certification requirements like threat analysis frameworks and audits, among others. Further, NATO’s cooperative activities provide the basis to test, evaluate, validate, and verify (TEVV) AI-enabled capabilities in various different contexts. More specifically, NATO’s experience not only in operations, but also in **trials, exercises, and** experimentation provide several avenues in which Allies and NATO can test principles against intended use cases. This is further reinforced by NATO’s scientific and technical communities, which have worked on issues such as trust, human-machine and machine-machine interactions, and human-systems integration, among many others. In addition to these existing activities, the implementation of the AI Strategy will also benefit from connections with NATO’s forthcoming Defence Innovation Accelerator for the North Atlantic (DIANA). Allied Test Centres affiliated with DIANA could be used to fulfil the aims set out in the definitions of the principles. In the future, use of these Test Centres can help ensure that AI adoption and integration are tested for robustness and resilience. For example, to ensure that AI is Traceable, Reliable and Bias-mitigating, Test Centres could synthesise how AI systems perform in different simulated environments and on different testing data, or provide independent validation and verification to assess compliance with standards that focus on responsible engineering practices. Through the adoption of principles of responsible use, NATO and Allies are sending a deliberately public message to their domestic populations, to Allied forces, and to other states, reiterating the Alliance’s enduring values and commitments under international law. More than just an obligation, this democratic commitment is also a pre-condition for common policy bases among Allies – and for partnership with non-traditional innovators across the Alliance. Accelerating principled and interoperable adoption With the ethical aspects of adoption that the principles underscore, NATO has the chance to signal – and follow through on – responsibility at the core of its outreach efforts. This includes engagement with start-ups, innovative small and medium enterprises, and academic researchers that either have not considered working on defence and security solutions, or simply find the adoption pathways too slow or restrictive for their business models. In contrast to the development of traditional military platforms, AI integration entails fast refresh cycles and requires constant upgrading. This requires a change of mind-set for iterative, adaptive capability development, in contrast to sequential development cycles that take years to deliver small numbers of highly sophisticated platforms. With hostile state and non-state actors increasing their investments in Emerging and Disruptive Technologies including AI, this more flexible approach to adoption is all the more urgent. In this context, with its focus on TEVV and collaborative activities, the AI Strategy sets the framework for technological enablers to out-adapt competitors and adversaries. With more of a focus on agility and adaptation, NATO can make defence and security a more attractive sector for civilian innovators to partner with, while also allowing them to maintain other commercial opportunities. In doing so, efforts to bolster the transatlantic innovation ecosystem can also serve as a bulwark against undesirable foreign investment and technology transfers. NATO’s experience not only in operations, but also in trials, **exercises,** and experimentation provide several avenues in which Allies and NATO can test principles against intended use cases. This is further reinforced by NATO’s scientific and technical communities, which have worked on issues such as trust, human-machine and machine-machine interactions, and human-systems integration, among many others. Pictured: U.S. ground troops patrol while robots carry their equipment and drones serve as spotters. Illustration by U.S. Army This work requires coordination across the NATO Enterprise. Indeed, several stakeholders across the NATO Enterprise are already involved in the development of AI-related use cases, concepts, and programmes. With the AI Strategy, these activities can gain coherence to ensure the proper connections exist between all innovation stakeholders, including operational end-users. Moving Ahead To be sure, the implementation of accelerated, principled, and interoperable AI adoption depends not just on technology, but equally on the talented and empowered people who drive the technological state-of-the-art and integration forward. NATO has also dedicated attention to other AI inputs, notably through the development of a NATO Data Exploitation Framework Policy. With actions to treat data as a strategic asset, develop analytical tools, and store and manage data in the appropriate infrastructure, the Data Exploitation Framework Policy sets the conditions for the AI Strategy’s success. In addition to the interrelationships between data and AI, ensuring coherence between NATO’s efforts on AI and other Emerging and Disruptive Technologies such as autonomy, biotechnology, and quantum computing will be vital. As Allies and NATO seek to fulfil the aim of this AI Strategy, the linkages between responsible use, accelerated adoption, interoperability, and safeguarding against threats are critical. Indeed, these linkages will also apply to NATO’s follow-on work on other Emerging and Disruptive Technologies, including the development of principles of responsible use. More broadly, this entails further coherence between the work strands on these technologies, understanding that NATO’s future technological edge – and threats the Alliance will face –may depend on their convergence**.** As such, not only does the NATO AI Strategy apply to this foundational technology, but it also sets the stage for NATO’s and Allies’ ambitions with regards to other Emerging and Disruptive Technologies. For each of them, the future strategic advantage that comes with NATO innovation efforts will derive from the connections between ethical leadership, iterative adoption, and integration that prizes flexibility, interoperability, and trust.

### 2ac – solvency – digital authoritarianism

#### NATO’s key to AI norms to counter digital authoritarianism

Margarita and Nurkin, 22 (Konaev Margarita and Tate Nurkin, Margarita Konaev is a nonresident senior fellow in the Forward Defense practice of the Atlantic Council’s Scowcroft Center for Strategy and Security. Konaev’s research on international security, armed conflict, non-state actors and urban warfare in the Middle East, Russia, and Eurasia., Tate Nurkin is the founder of OTH Intelligence Group and a nonresident senior fellow with the Scowcroft Center for Strategy and Security at the Atlantic Council.Substantively, Mr. Nurkin’s research and analysis has a particularly strong focus on US-China competition, defense technology, the future of military capabilities, and the global defense industry and its market issues., 5-25-2022, accessed on 7-13-2022, Atlantic Council, "Eye to eye in AI: Developing artificial intelligence for national security and defense", https://www.atlanticcouncil.org/in-depth-research-reports/report/eye-to-eye-in-ai/#accelerating-dod)

Moreover, the DoD should also leverage the under secretary of defense for research and engineering’s (USDR&E) testing practices and priorities to ensure planned and deployed AI systems are hardened against adversary attacks, including data pollution and algorithm corruption.

The DoD should leverage allies and foreign partners to develop, deploy, and adopt trusted AI. Engagement of this nature is vital for coordination on common norms for AI development and use that contain and counter China and Russia’s authoritarian technology models. Pathways for expanding existing cooperation modes and building new partnerships can include the following.

Cross-sharing and implementing joint ethics programs **with** Five Eyes,NATO**,** and AUKUS partners**.85** In addition to supporting interoperability, this will add a diversity of perspectives and experiences, as well as help to ensure that AI development efforts limit various forms of bias. As one former general officer interviewed for this project noted, “diversity is how we ensure reliability. It is essential.”**86**

Broadening outreach to allies and partners of varying capabilities and geographies, including India, South Africa, Vietnam, and Taiwan, to explore opportunities for bilateral and multilateral research-and-development efforts and technology-sharing programs that address the technical attributes of trusted and responsible AI.87

#### Lack of AI transparency undermines public trust

**Putoni et al. 21** (Stefano, Behavioral scientist at the Rotterdam School of Management, Erasmus University, Director of the Psychology of AI Lab at the Erasmus Centre for Data Analytics, Rebecca Walker Reczek, Berry Chair of New Technologies in Marketing, Markus Giesler, Consumer researcher and Professor of Marketing at the Schulich School of Business, Simona Botti, PhD in philosophy, “Consumers and Artificial Intelligence: An Experiential Perspective”) Jan 2021 https://web-s-ebscohost-com.proxy.lib.umich.edu/ehost/detail/detail?vid=2&sid=fac31364-8601-4729-91f3-c78d18a8b3b0%40redis&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#AN=147580050&db=bth acd

The listening capability enables AI systems to collect data about consumers and the environment in which they live. We conceptualize the resulting experience as "data capture," which includes the different ways in which data are transferred to the AI. Data can be intentionally provided by consumers, albeit with different degrees of understanding of the process: consumers share data when there is little or no uncertainty about how the data will be used and by whom, or consumers surrender data when this uncertainty is high ([147]). Data can also be obtained by AI from the "shadows" consumers leave behind when they engage in daily activities, as in the case of a shopper perusing a store equipped with facial recognition technology or of an iRobot Roomba creating a map of a residential space ([89]). The data capture experience provides benefits to consumers because it can make them feel as if they are served by the AI: the provision of personal data allows consumers access to customized services, information, and entertainment, often for free. For example, consumers who install the Google Photos app let Google capture their memories but in return get an AI-powered assistant that suggests context-sensitive actions when viewing photos. Access to customized services also implies that consumers can enjoy the outcome of decisions made by digital assistants, which effectively match personal preferences with available options without having to endure the cognitive and affective fatigue that decision making can entail ([ [4](https://web-s-ebscohost-com.proxy.lib.umich.edu/ehost/detail/detail?vid=2&sid=fac31364-8601-4729-91f3-c78d18a8b3b0%40redis&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#bib4)]). Finally, access to customized services offers unprecedented opportunities for self-improvement. Consider one of the projects within Alphabet, in which data from smartphones, genomes, wearables, and ambient sensors are combined to drive personalized health care ([86]).Despite AI's ability to predict and satisfy preferences, consumers can feel exploited in data capture experiences, mainly because they do not understand AI's operating criteria. This can be attributed to several features of AI. First, the modalities of data acquisition are becoming increasingly intrusive and difficult to avoid. Second, even when consumers intentionally share information, they are not aware of how this information is aggregated over time and across contexts. Finally, data brokers are largely unregulated and often lack transparency and accountability ([59]). As a result, data capture experiences may threaten consumers' ownership of personal data and challenge personal control, that is, the feeling that events are determined by the self rather than by others or by external forces and can be stirred toward desired outcomes ([36]). We examine the consequences of this loss of control next from both a sociological and psychological perspective. In popular culture, lack of ownership over personal data has been frequently associated with a loss of personal control stemming from technology's threatening potential to enable monitoring of human behavior. Stories such as George Orwell's 1984 or Philip K. Dick's Minority Report envision systems of oppression in which, due to lack of privacy and constant surveillance, people can no longer control their destiny. This dystopian imagination is echoed in sociological scholarship that associates data capture with the rise of a capitalist marketplace in which private information becomes the central form of capital ([157]).Such dystopian concerns strike a resonant chord when considering Google's move in the early 2000s to transform consumer data from a by-product into an economic asset that formed the basis of a new type of commerce driven by the ability to colonize the consumer's private experience. This commerce contributes to a surveillance marketplace, in which data surplus is "fed into advanced manufacturing processes known as 'machine intelligence' and fabricated into prediction products that anticipate what you will do now, soon, and later" ([157], p. 14, italics in the original). To illustrate the power of this commerce, targeted ads based on personality characteristics inferred from the analysis of Facebook likes in combination with online survey questions can increase conversion rates by about 50% ([102]). In 2018, Facebook's revenues from the sales of such tailored ads was close to $56 billion ([111]). From the perspective of this narrative, not only are technology companies continually required to find new ways to make monitoring and surveillance palatable to consumers by linking it to convenience, productivity, safety, or health and well-being ([10]), but they must also constantly push the boundaries of what private information consumers should share ([55]) through a complex landscape of notifications, reminders, and nudges intended to initiate behavioral change. Thus, as consumer behavior becomes increasingly retailored to the exigencies of behavioral futures, AI can transform consumers into subjects who are complicit in the commercial exploitation of their own private experience, thereby undermining personal control and promoting the concentration of knowledge and power in the hands of those who own their information. Data capture experiences are characterized by an underlying tension: consumers recognize that data capture allows AI to serve them through customization, but AI's inherent lack of transparency makes them feel exploited. These feelings of exploitation are fueled by actual and perceived loss of personal control, with important psychological consequences ([17]). The first of such consequences is negative affect, which can turn into demotivation and helplessness. Consider the case of Leila, a sex worker who shielded her identity on her Facebook account and reported being shocked to see some of her regular clients recommended by the "People You May Know" function. According to Leila, "the worst nightmare of sex workers is to have your real name out there, and Facebook connecting people like this is the harbinger of that nightmare." For Leila, like for domestic violence victims or political activists, privacy invasion is not only frightening, it may become a matter of life, death, or time in jail ([73]). As being in control is a basic need and a precondition of psychological welfare ([93]), the second consequence of loss of personal control may be moral outrage. Consider the case of a German consumer who requested his own data from Amazon and received transcripts of Alexa's interpretations of voice commands, even though he did not own any Alexa devices. The consumer relayed his story to a local magazine, which attempted to identify the consumer whose privacy had been compromised. The magazine staff involved in this experience described it as follows: "[we were able to] navigate around a complete stranger's private life without his knowledge, and the immoral, almost voyeuristic nature of what we were doing got our hair standing on end" ([24]). The third consequence of loss of personal control relevant to data capture experiences is psychological reactance, a state in which a person is motivated to restore control after a restriction ([21]), which causes more negative evaluations of and hostile behaviors toward the source of the restriction. In marketing, reactance can decrease the likelihood to repurchase and follow recommendations ([48]). Illustrating reactance in AI data capture experience is Danielle, a U.S. consumer who installed Echo devices throughout her home, believing Amazon's claims that they would not invade her privacy. When one of her Alexas recorded a private conversation and sent it to a random number in her address book, Danielle said "I felt invaded" and concluded, "I'm never plugging that device in again, because I can't trust it" ([76]). In summary, consumers may experience data capture as a form of exploitation: whereas technology companies, firms, and governmental agencies gain financial and political power, consumers lose ownership of their data and feel a loss of control over their lives. As we discuss next, managers should gain a better understanding of feelings of exploitation, as they prevent consumers from seeing the value firms can provide through data capture. This understanding starts at the organizational level and is then translated into decisions about experience design. A central programmatic task in addressing the issue of consumer exploitation in AI data capture experiences involves determining and enhancing the organization's level of awareness regarding the sociological and psychological costs raised in the previous sections. Companies should strive toward greater organizational sensitivity around consumer privacy and the current asymmetry in the level of control over personal data. For instance, they should use netnographic observation or sentiment analysis to listen empathetically and at scale to consumers who have experienced exploitation in AI data capture experiences. Furthermore, rather than accepting the surveillance society narrative at face value, firms can use these tools to understand when, how, and whether their own data capture experiences play into versus subvert this narrative. Likewise, companies should draw on insights by privacy scholars and activist movements to question their taken-for-granted beliefs. In doing so, for instance, companies could realize that their own view on privacy default settings might differ markedly from that of a vulnerable consumer group and adjust their processes accordingly ([101]).

### 2ac – solvency – risk assessment

#### Opening the “Black Box” of AI is key to creating proper regulations & risk assessment

Buiten 19 (Miriam, CERRE Research Fellow and Assistant Professor of Law and Economics at the University of St.Gallen, Switzerland, “Towards Intelligent Regulation of AI, Published 4/29/2019, Accessed 7/15/2022, https://www.cambridge.org/core/journals/european-journal-of-risk-regulation/article/towards-intelligent-regulation-of-artificial-intelligence/AF1AD1940B70DB88D2B24202EE933F1B, EA)

The concern of AI is that it presents new and unknown risks with which current laws may not be able to cope. We may thus need new rules to mitigate the risks of AI. One proposal is to introduce transparency requirements for AI.29 Such a transparency requirement would be difficult to implement in practice, if we are not sure what its scope is. The lack of a clearly defined scope would leave the industry uncertain whether its activities are covered by the regulation, and would leave the definition of AI to the courts. The definitions of AI discussed above are, however, context-sensitive and time-varying in character. Take the approach of defining AI in terms of a system’s autonomy. This raises the question of what it means for an application to act autonomously. Scherer uses the example of autonomous cars and automated financial advisers that can perform complex 24 Oxford Dictionaries, “Artificial Intelligence” accessed 22 October 2018. 25 P Stone et al, “Artificial Intelligence and Life in 2030: One Hundred Year Study on Artificial Intelligence” (2016) accessed 20 September 2018. 26 C Reed, “How should we regulate artificial intelligence?” (2018) Phil Trans R Soc A 1. 27 R Calo, “Robotics and the Lessons of Cyberlaw” (2015) 103 Cal L Rev 513, 529. 28 JM Balkin, “The Path of Robotics Law” (2015) 6 Cal L Rev 45, 51. 29 See eg European Parliament, supra, note 11, and White House Report, supra, note 8. 2019 Towards Intelligent Regulation of Artificial Intelligence 45 https://doi.org/10.1017/err.2019.8 Published online by Cambridge University Press tasks “without active human control or even supervision”. 30 Let us consider the example of cars. Most would agree that a regular car is not autonomous, but some would say, like Scherer, that a self-driving car is. What about cars that have some autonomous-driving features, such as automatic distance keeping? Do they have sufficient autonomy to be considered AI, and should this distinction have any legal implications? If we were to require more transparency from AI, what would be the implications for producers of regular cars, partly autonomous and fully autonomous cars? Who would be subject to the requirement, and what would the requirement entail concretely? The problem, of course, would not be limited to cars, but to all systems that may be called AI. Considerable uncertainty would ensue on which systems and applications fall within the scope of such a rule. Using intelligence to define AI presents similar problems. Capabilities we consider intelligent today may not be seen as such in the future. The AI literature from the 1980s is illustrative, referring to a system’s ability to learn from experience as intelligent.31 Systems capable of playing chess, for instance, were seen as AI systems.32 Today, chess is considered as a relatively easy problem for a computer, given that the rules are known and the number of moves is finite. In 1996, IBM chess computer Deep Blue defeated the then world champion Gary Kasparov.33 In essence, while AI is sometimes defined as the capability of machines to perform tasks that require intelligence, our conception of what constitutes intelligent may change as machines acquire more capabilities. After all, how can the task require intelligence if a machine can do it?34 Even if we overcome the problem of varying definitions over time, intelligence may be viewed very differently depending on whom you ask. In 1982, John Searle essentially took the position that any technology that is understandable is not intelligent. Computers may seem to understand concepts but actually do not, as they attach no meaning or interpretation to any of it.35 On the other end of the spectrum are the views discussed above of intelligent behaviour as mimicking intelligent human behaviour, or being perceived as intelligent by humans.36 The range of applications that would be considered AI would vary greatly depending on which approach is taken. In some instances, features of AI such as autonomy or intelligence may help guide us in incorporating AI in our laws.37 When asking how laws should respond to AI, however, I propose to take a step back and demystify this concept. The narrative of AI as an inscrutable concept may reinforce the idea that AI is an uncontrollable force shaping our societies. In essence, part of the problem is that we cannot control what we do not 30 understand. I therefore propose to “open the black box” of AI and try to identify the risks and “unknowns”. This is not to say that AI does not present risks, or even that all of these risks are knowable now. In fact, the majority of the policy challenges regarding AI boil down to the need to mitigate risks that are unknown or difficult to control. It is clear that the question of how to address these risks deserves attention. A first step in doing so is to make these risks concrete, by considering the underlying computational systems. Notwithstanding AI being difficult to understand even for experts, it is a misconception that AI is completely unknowable. AI is a product of human invention, and humans continuously improve upon its underlying technology, algorithms. Algorithms are the basis of the wide array of AI applications, which may vary widely in their sophistication and purpose.38 Since the technology of algorithms is what AI applications have in common, I propose that we focus the policy debate on this technology, starting by better understanding the risks associated with algorithms. Understanding these risks may be possible without full comprehension of the technology, allowing us to grasp the risks and flaws that advanced automated systems present.

### 2ac – solvency – dod key

#### US needs dod ai leadership/ai in military

NSCAI 21 “final report” National Security Commission on Artificial Intelligence: Eric Schmidt (Chair) Safra Catz, Steve Chien, Mignon Clyburn, Chris Darby, Kenneth Ford, José-Marie Griffiths, Robert Work (Vice Chair), Eric Horvitz, Andrew Jassy, Gilman Louie, William Mark, Jason Matheny, Katharina McFarland, Andrew Moore https://www.nscai.gov/wp-content/uploads/2021/03/Full-Report-Digital-1.pdf

Even with the right artificial intelligence (AI)-ready technology foundations in place, **the U.S. military will** still **be at a battlefield disadvantage if it fails to** adopt the right concepts and operations to **integrate AI technologies.** Throughout history, the best adopters and integrators, rather than the best technologists, have reaped the military rewards of new technology.1 **The** Department of Defense **(DoD) should not be** a **witness to the AI revolution** in military affairs, **but** should **deliver** it with **leadership from the top, new operating concepts, relentless experimentation, and** a system that rewards **agility and risk.** A new warfighting paradigm is emerging because of AI. Our **competitors are making** substantial **investments to take advantage of** it. This idea has been called “**algorithmic” or** “mosaic” warfare2; China’s theorists have **called it “intelligentized” war**.3 All of these terms capture, in various ways, how **a new era of conflict will** be dominated by AI and **pit algorithms against algorithms.** Advantage will be determined by the amount and quality of a military’s data, the algorithms it develops, the AI-enabled networks it connects, the AIenabled weapons it fields, and the AI-enabled operating concepts it embraces to create new ways of war. Today’s DoD is trying to execute an AI pivot, but without urgency. Despite pockets of imaginative reform and a few farsighted leaders, **DoD** remains locked in an Industrial Age mentality in which great-power conflict is seen as a contest of massed forces and monolithic platforms and systems. The emerging ubiquity of AI in the commercial realm and the speed of digital transformation punctuate the risk of not pivoting fast enough. The Department **must** act now to **integrate AI into critical functions,** existing **systems, exercises, and wargames to be**come an **AI-ready** force by 2025. Simultaneously, **DoD must develop** more **creative warfighting concepts** that ar**e paired with investments in future AI**-enabled technologies **to** continuously **out-innovate** potential **adversaries. If our forces are not equipped with AI**-enabled systems **guided by new concepts** that exceed those of their adversaries, **they will be** outmatched and **paralyzed by** the **complexity of battle.To compete, deter, and,** if necessary, **fight** and win in **future conflicts requires** wholesale **adjustment**s **to operational concepts,** technologies, organizational structures, and how we integrate allies and partners into operations. It will also require risk-based assessments of both the benefits and drawbacks of widespread integration of AI-enabled capabilities, to include future autonomous weapon systems. Lastly, **it will require** a willingness to engage in **bilateral and multilateral dialogues with** our **allies** and partners **to urge** them to make similar **AI pivots to ensure** future **interoperability.** CHAPTER 3 79 p How AI Will Change Warfare. AI-enabled warfare will not hinge on a single new weapon, technology, or operational concept; rather, it will center on the application and integration of AI-enabled technologies into every facet of warfighting. AI will transform the way war is conducted in every domain from undersea to outer space, as well as in cyberspace and along the electromagnetic spectrum. It will impact strategic decision-making, operational concepts and planning, tactical maneuvers in the field, and back-office support. In this new kind of warfare, traditional confines of the battlefield will be expanded through AI-enabled micro-targeting, disinformation, and cyber operations, as described in Chapter 1 of this report. **AI will reshape** many **attributes of war, such as** its **speed,** tempo, and **scale;** the **relationships** service members have **with machines**; the **persistence with which the battlefield can be monitored; and** the discrimination and **precision with** which **targets** can be attacked. There will be a premium on speed and accuracy in developing knowledge, acting, and reacting as the conflict unfolds. AI will make the process of finding and hitting targets of military value faster and more efficient. It will also increase accuracy of target identification and minimize collateral damage. Currently, this process generally involves passing data in a serial fashion from a sensor, through a series of humans, to a platform that can shoot at the target. AI will help automate some of the intermediate stages of the decision process. **AI will** also **create opportunities for** more advanced **processes that** would operate more akin to a web, fusing multiple sensors and platforms to **manage complex data flows and transmit**ting actionable **information to human operators and machines** across all domains.4 In war, many of the military uses of AI will complement, rather than supplant, the role of humans. AI tools will improve the way service members perceive, understand, decide, adapt, and act in the course of their missions. However, new concepts for military operations will also need to account for the changing ways in which humans will be able to delegate increasingly complex tasks to AI-enabled systems. In the near term, this will be managed through the military’s principle of “mission command,” which stresses decentralized execution and disciplined initiative by subordinates who follow a commander’s intent. This human-centric approach to fighting should remain the standard for the foreseeable future. But as AI continues to advance into the cognitive and neuromorphic domain, and human-machine teaming becomes more sophisticated, the military will need to develop more imaginative concepts and organizational constructs that take full advantage of AI technologies without relinquishing the principles that undergird mission command. This list of how AI might transform warfighting principles and capabilities—as well as others like it—is by no means exhaustive. **Innovation will lead to future capabilities** that are **unknowable at present** and will only become clearer in time.

# Negative

### 1nc – regulations fail

#### It is impossible to fully and safely regulate complex AI

Gyulai and Ujlaki 21(Attila, Centre for Social Sciences - Institute for Political Science / University of Public Service.  Anna, Centre for Social Sciences – Institute for Political Science / Corvinus University of Budapest, “The political AI: A realist’s account of AI regulation”, Információs Társadalom XXI, no. 2 (2021): 29–42,<https://dx.doi.org/10.22503/inftars.XXI.2021.2.3>)

Recalling the realist viewpoint of the political sphere, it seems that the only attainable goal is a modus vivendi, which resonates with the idea that an inherent characteristic of the political world is balancing the possibilities of two extremes. History of politics supports this more pessimistic view: occasionally, eruptions of civil war and failed states still embody the brute reality of the Hobbesian state of nature, while the existence of authoritarian and totalitarian dictatures altogether with hybrid regimes are eternal reminders of the impossibility to limit power in a once-and-for-all manner. In light of this reality of the political world, new claims for the regulation of artificial intelligence, more specifically on weak AI, are less promising. Debates on the regulation of AI concentrate on the need to connect principles such as fairness, accountability, safety, sustainability, and social inclusion, among others, to AI governance (for a more exhaustive list, see Hagendorff 2020). Nevertheless, the most discussed issue is transparency, which is among the primary claims for several AI 38 ethics guidelines released by different institutions and companies in the past few years. The current boom in ethical guidelines for AI involves several criticisms concerning the effectiveness of such guidelines based on their potential to implement transparency and other claims effectively. This line of criticism can be divided into three types of argument. The first type challenges the AI guidelines on their extensive list of ethical claims based on their ineffectiveness. This type, which can be called ‘tick-box criticism,’ can be coupled with a proposal of some different approach, for example, virtue ethics (see Hagendorff 2020). The second type, which can be called ‘double standard criticism’, is more sceptical about the possibility of guiding AI and whether full transparency can be achieved at all. This criticism builds on the argument that it would be a double standard to call for higher transparency in AI compared to human decision tools and human reasoning (see Zerilli et al. 2019). The third type of criticism is more focused, what we call ‘specificity criticism’, and argues that current Artificial Intelligence Guidelines (AIGUs) are not specific to AI, but they are simply attempting to gain social control over technology. This criticism also demonstrates that transparency and explainability are claims that specifically concern AI because in such cases there is a possibility of the autonomy of AI. In that case, though, the double standard problem arises (see Héder 2020). These criticisms imply that there is a profoundly political characteristic of AI. On the one hand, there is a relative autonomy inherent in AI that can be understood in a broader sense. It is impossible to regulate in every detail, something that can develop by itself. On the other hand, concerning the expert systems of weak AI, the double standard criticism and specificity criticism correctly acknowledged that it would be an unfair expectation to regulate the decision-making of artificial intelligence in domains where human decision-making cannot be entirely regulated likewise. However, contrary to the double standard criticism, we do not base our argument on the similarity between the obscurity of artificial decision tools and human cognitive processes. Instead, we build our argument on the political characteristic of AI. Using AI as a tool is similar to political authorization: although accountability is the main virtue in politics, it would be unrealistic to expect legislative, executive, or judicial officials to act ‘perfectly’. We can only hope that they behave to the best of their knowledge, and while we usually hold them to account for significant breaches of their power, mostly, we authorize them because authorization is the only legitimate way to create order without slipping into a Hobbesian state of nature or a tyrannical regime.

### 1nc – dod fails

#### DoD needs huge reforms before it could be effective

Konaev and Nurkin, 22 (Konaev Margarita and Tate Nurkin, Margarita Konaev is a nonresident senior fellow in the Forward Defense practice of the Atlantic Council’s Scowcroft Center for Strategy and Security. Konaev’s research on international security, armed conflict, non-state actors and urban warfare in the Middle East, Russia, and Eurasia., Tate Nurkin is the founder of OTH Intelligence Group and a nonresident senior fellow with the Scowcroft Center for Strategy and Security at the Atlantic Council.Substantively, Mr. Nurkin’s research and analysis has a particularly strong focus on US-China competition, defense technology, the future of military capabilities, and the global defense industry and its market issues., 5-25-2022, accessed on 7-13-2022, Atlantic Council, "Eye to eye in AI: Developing artificial intelligence for national security and defense", https://www.atlanticcouncil.org/in-depth-research-reports/report/eye-to-eye-in-ai/#accelerating-dod)

Currently, there are no shared technical standards for what constitutes ethical or trustworthy AI systems, which can make it difficult for nontraditional AI vendors to set expectations and navigate the bureaucracy. The DoD is not directly responsible for setting standards. Rather, the 2021 National Defense Authorization Act (NDAA) expanded the National Institute of Standards and Technology (NIST) mission “to include advancing collaborative frameworks, standards, guidelines for AI, supporting the development of a risk mitigation framework for AI systems, and supporting the development of technical standards and guidelines to promote trustworthy AI systems.”7979. Pub. L. 116-283, William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, 134 Stat. 3388 (2021), https://www.congress.gov/116/plaws/publ283/PLAW-116publ283.pdf. In July 2021, the NIST issued a request for information from stakeholders as it develops its AI Risk Management Framework, meant to help organizations “incorporate trustworthiness considerations into the design, development, use, and evaluation of AI products, services, and systems.”8080. “Summary Analysis of Responses to the NIST Artificial Intelligence Risk Management Framework (AI RMF)—Request for Information (RFI),” National Institute of Standards and Technology, October 15, 2021, https://www.nist.gov/system/files/documents/2021/10/15/AI%20RMF\_RFI%20Summary%20.pdf. Related to standards are the challenges linked to testing, evaluation, verification, and validation (TEVV). Testing and verification processes are meant to “help decision-makers and operators understand and manage the risks of developing, producing, operating, and sustaining AI-enabling systems,” and are essential for building trust in AI.8181 Michele A. Flournoy, Avril Haines, and Gabrielle Chefitz, “Building Trust through Testing: Adapting DOD’s Test & Evaluation, Validation & Verification (TEVV) Enterprise for Machine Learning Systems, including Deep Learning Systems,” WestExec, October 2020, 3–4, https://cset.georgetown.edu/wp-content/uploads/Building-Trust-Through-Testing.pdf. The **DoD’s current TEVV protocols and infrastructure are meant primarily for major defense acquisition** programs like ships, airplanes, or tanks; it is linear, sequential, and, ultimately, finite once the program transitions to production and deployment. **With AI systems, however, “development is never really finished, so neither is testing**.”8282. Flournoy, Haines, and Chefitz, “Building Trust through Testing,” 3. Adaptive, continuously learning emerging technologies like AI, therefore, require a more agile and iterative development-and-testing approach—one that, as the NSCAI recommended, “integrates testing as a continuous part of requirements specification, development, deployment, training, and maintenance and includes run-time monitoring of operational behavior.”8383. “Final ,” 384. The ethical code that guides the US military reflects a fundamental commitment to abiding with the laws of war at a time when authoritarian countries like China and Russia show little regard for human rights and humanitarian principles. Concurrently, the DoD’s rigorous approach to testing and assurance of new capabilities is designed to ensure that new weapons are used responsibly and appropriately, and to minimize the risk from accidents, misuse, and abuse of systems and capabilities that can have dangerous, or even catastrophic, effects. These values and principles that the United States shares with many of its allies and partners are a strategic asset in the competition against authoritarian countries as they field AI-enabled military systems. To cement the DoD’s advantage in this arena, we recommend the following steps**.** The DoD will not be able to fulfill its ambitions in AI and compete effectively with the Chinese model of sourcing technology innovation through military- civil fusion without close partnerships with a broad range of technology companies. This includes defense-industry leaders with long-standing ties to the Pentagon, technology giants at the forefront of global innovation, commercial technology players seeking to expand their government portfolio, and startups at the cutting edge of AI development**. But, the DoD’s budget-planning, procurement, acquisition, contracting, and compliance processes will likely need to be fundamentally restructured to effectively engage with the entirety of this vibrant and diverse technology ecosystem. Systemic change is a slow, arduous process**. But, delaying this transition risks the US military falling behind on exploiting the advantages AI promises to deliver, from operational speed to decision dominance. In the meantime, the following actions could help improve coordination with industry partners to accelerate the DoD’s AI adoption efforts. The DoD should implement the NSCAI’s recommendation to accelerate efforts to train acquisition professionals on the full range of available options for acquisition and contracting, and incentivize their use for AI and digital technologies.”88 Moreover, such acquisition- workforce training initiatives should ensure that acquisition professionals have a sufficient understanding of the DoD’s ethical principles for AI and the technical dimensions of trusted and responsible AI. The DIU’s ethical guidelines can serve as the foundation for this training. Rather than building entirely new AI-enabled systems, in the short to medium term, the DoD will be integrating AI into a range of existing software and hardware systems—from cyberdefense architectures to fighter jets to C2. Progress toward implementing AI will, therefore, also depend upon streamlining collaboration between the startups and nontraditional AI vendors that the DoD has been courting for their innovative and cutting-edge technologies and the defense primes responsible for integrating new capabilities into legacy systems.

### 1nc – russia AI fails

#### Russia lags behind in AI, means they aren’t a threat

Polyakova ’18(Alina,  President and CEO of the Center for European Policy Analysis (CEPA) as well as an adjunct professor of European studies at the Johns Hopkins University’s School of Advanced International Studies (SAIS), “Weapons of the weak: Russia and AI-driven asymmetric warfare, Accessed 7/9/2022, brookings.edu/research/weapons-of-the-weak-russia-and-ai-driven-asymmetric-warfare/)

Speaking to Russian students on the first day of the school year in September 2017, Putin squarely positioned Russia in the technological arms race for artificial intelligence (AI). Putin’s comment (see above) signaled that, like China and the United States, Russia sees itself engaged in direct geopolitical competition with the world’s great powers, and AI is the currency that Russia is betting on. But, unlike the United Statesand China**,** Russia lags behind in research and development on AI and other emerging technologies. Russia’s economy makes up less than 2 percent of global GDP compared to 24 percent for the United States and 15 percent for China, which puts Russia on par with a country like Spain.[[3]](https://www.brookings.edu/research/weapons-of-the-weak-russia-and-ai-driven-asymmetric-warfare/#footnote-3) Despite Putin’s focus on AI, the Russian government has not released a strategy, like China has, on how the country plans to lead in this area. The Russian government’s future investment in AI research is unknown, but reports estimate that it spends approximately $12.5 million a year[[4]](https://www.brookings.edu/research/weapons-of-the-weak-russia-and-ai-driven-asymmetric-warfare/#footnote-4) on AI research, putting it far behind China’s plan to invest $150 billion through 2030. The U.S. Department of Defense alone spends $7.4 billion annually on unclassified research and development on AI and related fields.[[5]](https://www.brookings.edu/research/weapons-of-the-weak-russia-and-ai-driven-asymmetric-warfare/#footnote-5) Russia’s public corruption, decline in rule-of-law, and increasingly oppressive government regulations have produced a poor business environment. As a consequence, the country trails the United States and China in terms of private investment, scientific research, and the number of AI start-ups.[[6]](https://www.brookings.edu/research/weapons-of-the-weak-russia-and-ai-driven-asymmetric-warfare/#footnote-6) In 2018, no Russian city entered the top 20 global regional hubs for the AI sector,[[7]](https://www.brookings.edu/research/weapons-of-the-weak-russia-and-ai-driven-asymmetric-warfare/#footnote-7) despite the much-hyped opening of the “Skolkovo Innovation Center” in 2010, which was designed to be Russia’s answer to Silicon Valley. Unlike Silicon Valley, Skolkovo did not spur the kind of private investments and innovation that the Kremlin had hoped for and has since fizzled out. Russia’s new venture, a “technopolis” named Era, which is set to open in the fall of 2018, now promises to be the new hub for emerging technologies, but it too is unlikely to spur Silicon Valley like innovation.[[8]](https://www.brookings.edu/research/weapons-of-the-weak-russia-and-ai-driven-asymmetric-warfare/#footnote-8) It is telling that despite high-level presidential and administrative support, there is scant Russian language academic research on AI. It is not likely that the country’s stagnant and hydrocarbon-dependent economy will do much to improve the government’s ability to ramp up investment in emerging technologies. In the longer term, Russia’s demographic crisis (Russia is projected to lose 8 percent of its population by 2050, according the UN)[[9]](https://www.brookings.edu/research/weapons-of-the-weak-russia-and-ai-driven-asymmetric-warfare/#footnote-9) will likely lead to shortages in highly skilled workers, many of whom have already left Russia for better pay and opportunities elsewhere.[[10]](https://www.brookings.edu/research/weapons-of-the-weak-russia-and-ai-driven-asymmetric-warfare/#footnote-10) Western sanctions on key sectors of the Russian financial sector and defense industry, which Europe and the United States imposed after Russia’s annexation of Crimea in 2014 and the United States has continued to ramp up since then, put extra pressure on the Russian economy. Taken together, the economic and demographic trends signal that in the AI race, Russia will be unable to match China on government investment or compete with the United States on private sector innovation. The Kremlin is undoubtedly aware of the country’s unfavorable position in the global AI competition, even if such an admission is unlikely to ever be made publicly. Strategically, such a wide gap between ambition and capacity means that Russia will need to invest its limited resources carefully. Currently, Moscow is pursuing investments in at least two directions: select conventional military and defense technologies where the Kremlin believes it can still hold comparative advantage over the West and high-impact, low-cost asymmetric warfare to correct the imbalance between Russia and the West in the conventional domain. The former—Russia’s development and use of AI-driven military technologies and weapons—has received significant attention.[[11]](https://www.brookings.edu/research/weapons-of-the-weak-russia-and-ai-driven-asymmetric-warfare/#footnote-11) The latter—the implications of AI for asymmetric political warfare—remains unexplored.[[12]](https://www.brookings.edu/research/weapons-of-the-weak-russia-and-ai-driven-asymmetric-warfare/#footnote-12) Yet, such nonconventional tools—cyber-attacks, disinformation campaigns, political influence, and illicit finance—have become a central tenet of Russia’s strategy toward the West and one with which Russia has been able to project power and influence beyond its immediate neighborhood. In particular, AI has the potential to hyperpower Russia’s use of disinformation—the intentional spread of false and misleading information for the purpose of influencing politics and societies. And unlike in the conventional military space, the United States and Europe are ill-equipped to respond to AI-driven asymmetric warfare (ADAW) in the information space.