

Revitalizing Arms Control

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The international arms control architecture is under stress. Russia’s destabilizing actions have jeopardized the last remaining bilateral nuclear arms control agreement between the United States and Russia. Other countries seek to exploit gaps in existing arrangements and pursue destabilizing capabilities. Looming on the horizon is the potential for emerging technology to enable new kinds of military applications that will defy management through traditional arms control mechanisms. Many are wondering, is arms control dead?

The tone of this year’s Aspen Strategy Group Summer Workshop was sober about the prospects of arms control to overcome these pressures. But it also underscored that the core of arms control—working with other states to create guardrails for a more predictable international system—is ever more vital to international stability.

Far from dead, arms control remains an integral part of the United States’ national security strategy and an important tool in an era of increasing geopolitical and technological disruption. We acknowledge the growing strain on the existing architecture. But in response, the Department of State is revitalizing arms control, including by updating our toolkit and embracing the potential for emerging technologies to strengthen its application. As an important tool of U.S. diplomacy, we must communicate transparently around the world how we use arms control to maintain strategic stability and decrease the risk of conflict.

Geopolitical Turbulence

Russia has violated nearly every arms control agreement that it has signed on to, which challenges its credibility as a reliable partner. Russia’s legally invalid decision to suspend its implementation of the New START Treaty and link the agreement to its unprovoked full-scale invasion of Ukraine has set back decades of hard-won progress in arms control. Rather than reward Russia’s attempt to hold arms control hostage to its imperial interests, the United States has implemented proportionate and reversible countermeasures that are fully consistent with international law, in an effort to induce Russia to reverse its purported “suspension” of the Treaty. Our commitment to the world is to act in a deliberate, stabilizing way to return Russia to the full implementation of the Treaty.

Meanwhile, the People’s Republic of China (PRC) is rapidly and opaquely accelerating the expansion of its nuclear weapons arsenal. If the PRC maintains the pace of this expansion, it will likely field a stockpile of about 1,500 nuclear warheads by 2035. As part of this expansion, the PRC is constructing new intercontinental ballistic missile (ICBM) silo fields, pursuing novel delivery systems, and implementing a launch-on-warning posture. The PRC continues to deny the changes in its strategic capabilities, despite the fact that its expansion is impossible to hide from the international community, and it has refused to participate in confidence-building measures with the United States designed to reduce the risk of accidental nuclear war. The PRC’s refusal to give any explanation for its nuclear buildup—the largest in its history—leaves the world to wonder and ultimately prepare for a worst-case scenario if necessary. Moreover, the PRC continues to focus on acquiring and diverting the world’s cutting-edge technologies to its military programs in order to achieve military dominance.

In the same neighborhood, we also have serial proliferation challenges in the Democratic People’s Republic of Korea (DPRK), which has launched a total of ninety ballistic missiles since 2022, including several ICBMs, all in violation of multiple UN Security Council resolutions. We assess that the DPRK is prepared to conduct its seventh nuclear test and is only awaiting a political decision to do so. The DPRK also has developed and launched a solid-propellant ICBM and has announced plans to further expand its ballistic missile and nuclear capabilities, including by developing hypersonic ballistic missiles and “mass-producing” tactical nuclear weapons. It also claims to have tested

an underwater nuclear attack drone. All of these developments are extremely concerning, especially when paired with Pyongyang's threatening and aggressive rhetoric, as well as its renewed alignment with Russia.

Technological Disruption

Against this backdrop of increasing contestation of the existing arms control architecture, new challenges are posed by the dual use potential of emerging and disruptive technologies (EDT). The large-scale deployment of commercial artificial intelligence (AI) tools throws into stark relief the fact that these technologies have already begun to arrive. AI, biotechnology, quantum information science (QIS), and other emerging and converging technologies will bring tremendous benefits—not only to economies and societies, but also to military operations. But as they begin to interact with existing weapons, or alter the character of warfare, EDT could change the nature of the arms control challenge in several ways.

First, the pace of technological evolution increases uncertainty and diminishes time for diplomatic efforts to manage its consequences. As we have seen with advanced forms of AI, cutting-edge capabilities can surprise even their own developers. To be sure, the AI capabilities that militaries are exploring look more like logistics and personnel management systems than the AI chatbots prone to “hallucinating” false information. Nevertheless, the pace of innovation reveals a potential dilemma for states seeking to manage advancing military applications of EDT: if they move too quickly to formulate agreements, they risk getting “locked in” to an approach that fails to anticipate how the technology will develop and be used by militaries, but if they wait too long, they risk losing the opportunity to shape the trajectory of the technology and its use.

Second, the characteristics of EDT will confound efforts to verify possible future arrangements. When we're talking about technologies like AI, for example, we're talking about a general-purpose enabling technology rather than specialized technologies with clear distinctions between civilian and military uses. EDT diffuse rapidly, with much of the innovation being conducted in transnational, open-source research communities and commercial industries. Military applications, when diverted from civilian, open sources may lack the conventional “fingerprints” that arms control regimes depend upon for verification.

Third, EDT raise novel concerns because of the sheer complexity and potential for unintended consequences they create. This includes their potential second and third order consequences on decision-making processes. For instance, we are concerned about the potential for states to deploy AI systems that result in unintended consequences, whether because they are poorly designed, inadequately tested, or operated by those who do not possess an adequate understanding of the capabilities and limitations of those systems. These types of risks call for new kinds of arms control measures to promote responsible development and use of EDT to supplement more traditional measures aimed at managing arms races and maintaining stability.

The End of Arms Control?

In the face of these combined geopolitical and technological challenges, the notion of coming together with adversaries to agree on new limits on weaponry may sound naïve or outdated. Yet the narrative that arms control is obsolete reflects both a limited understanding of the past and a narrow vision for the future.

Historically, arms control has always been challenging. Negotiators had to constantly navigate changing geopolitical and technological conditions. Arms control also never assumed nor required a placid strategic environment. In fact, it is when the strategic environment has been most challenging that arms control has shown its greatest value. It has always been an iterative, experimental, often laborious process of distilling from dialogue the areas of common interest, eventually culminating in formal agreements.

Moreover, the shortfalls of arms control also tend to capture far more attention than its successes. We would certainly be in a far less stable and secure international environment without having inherited arms control agreements limiting the spread and use of nuclear, chemical, biological, and other kinds of weapons, by which the vast majority of countries continue to abide. When arms control is going well, it rarely makes the headlines.

But on July 7, 2023, the world took notice of one of the greatest arms control successes: the complete destruction of the world's declared chemical weapons (CW) stockpiles. This remarkable achievement shows the power of arms control and our steadfast commitment to achieving a world without chemical weapons as envisioned when the Chemical Weapons Convention (CWC) was adopted thirty years ago. Arms control works, and people see what we can accomplish together.

In short, as we look to the future of arms control, we need to get back to the basics and take stock of collective successes. The question is not whether we can expand the already strained arms control architecture to address new challenges posed by EDT. Rather, it's how can we shape the trajectory of states' development and use of EDT toward a more predictable and stable international system.

Fundamentally, arms control is an approach to pursuing predictability and stability that encompasses much more than just formal, legally binding agreements. Arms control includes non-binding commitments, joint statements, codes of conduct, and transparency and confidence-building measures, like crisis hotlines and information exchanges. Whether or not we choose to label these activities as arms control, they play a pivotal role in protecting our security by fostering mutual understanding and dissuading reckless and destabilizing behavior.

All of this is not to say there is any less value in the so-called "traditional" arms control models. Verifiable, legally binding treaties are excellent tools for managing nuclear and other strategic risks. We are working to strengthen and enforce existing treaties that remain in the United States' national security interest.

Reinvigorating Our Approach to Arms Control

In the face of these daunting geopolitical and technological challenges, the Department of State is reinvigorating our approach to arms control. We remain committed to pursuing arms control as a core pillar of international stability. We will continue to uphold our existing commitments and reinforce the international arms control architecture. At the same time, we are updating and expanding our arms control toolkit to meet the challenges of EDT without compromising the benefits.

First, we are working to reduce uncertainty and create space and time for diplomacy by modeling transparency and responsibility in our approach to the adoption of EDT and in pursuing dialogue to increase mutual understanding. We are coordinating closely with allies to navigate the risks and opportunities of EDT, including through the Australia-UK-U.S. (AUKUS) defense and security partnership. As President Joe Biden noted in a joint press conference with Prime Minister Rishi Sunak in June, our close partnerships will ensure that AI and other emerging technologies are developed in a manner "fundamentally aligned with our value set." These values emphasizing safety, security, and responsible development and use will underpin a more predictable and stable technological landscape.

Second, we are turning EDT from a liability into an asset for long-standing verification challenges. For instance, the Department of State is sponsoring research on the potential utilization of quantum sensing—a powerful new approach that leverages the unique properties of quantum mechanics—to support future on-site arms control inspections. We are also eager to explore how AI could augment the collection and analysis of data for the purposes of verification. We are engaging with industry and academic communities at the cutting-edge of innovation on how to harness these technologies for new kinds of verification arrangements.

Third, we are working with states now to proactively establish international norms of responsible behavior to address the novel risks of EDT while these technologies are still emerging and maturing. One area in which this approach is already paying dividends is in reducing risks in the space domain. In April 2022, Vice President Kamala Harris announced the United States' commitment not to conduct destructive, direct-ascent anti-satellite missile tests, calling on other nations to make similar commitments and to work together in establishing this as a new international norm for responsible behavior in space. At the UN General Assembly in December 2022, we successfully passed a United Nations resolution operationalizing this commitment, which received overwhelming support, with 155 countries voting yes and only 9 voting no.

We are also working to build an international consensus around norms of responsible behavior when it comes to AI in the military domain. In February, we launched a Political Declaration on Responsible Military Use of AI and Autonomy. The Declaration contains a set of fundamental principles and practices to ensure the safety, security, and effectiveness of military AI capabilities, such as ensuring that personnel who use or approve their use are adequately trained. These are meant to serve as the foundation for an international normative framework of responsible development and use of AI by state militaries.

As we navigate an increasingly complex and uncertain international security landscape, a revitalized approach to arms control will remain a core pillar of our strategy. The United States will continue to abide by its commitments and buttress existing arrangements. However, to meet emerging challenges, we will draw from the full diplomatic arms control toolkit, focusing less on traditional lenses and more on what we seek to achieve. We will continue to pursue dialogue, promote transparency, and foster norms of responsible state behavior. Working with others, we will put in place guardrails to support a more stable and predictable international system.

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