



# **TOWARD A NEW DIVISION OF DETERRENCE LABOR BETWEEN AND AMONG THE UNITED STATES AND ITS ALLIES AND PARTNERS**

**Workshop Summary**

**June 6-7, 2023**

## Workshop Summary

### Toward a New Division of Deterrence Labor Between and Among the United States and its Allies and Partners

Center for Global Security Research  
Livermore, California, June 6-7, 2023

Prepared By: Maximilian Hoell, Samuel Hickey,  
Mason Bammer, and Eliza Friend<sup>1</sup>

On June 6-7, 2023, the Center for Global Security Research (CGSR) at the Lawrence Livermore National Laboratory (LLNL) hosted a workshop on anticipating a new division of deterrence labor between and among the United States and its allies and partners. This event brought together over 100 participants drawn across the policy, military, scientific/technical, and think-tank communities, from the United States and a wide spectrum of allied countries.

The discussion was guided by the following key questions:

1. What is the existing division of deterrence labor, regionally and globally?
2. What impact will “integrated deterrence” have on this division?
3. How should the division of deterrence labor further evolve? What practical steps are required?

#### Key take-aways:

1. The division of deterrence labor that existed through the Cold War and into the early 2000s was based on two principles. At the conventional level of war, the United States and its allies and partners shared responsibilities, with the United States contributing both forward presence and power projection. At the strategic level of war, the United States had lead responsibility for nuclear deterrence, though “second centers of decision” played an important supporting role. It’s no longer that simple. Today’s regional deterrence architectures consist of tailored mixes of hardware and software “solutions” spanning a growing number of military domains.
2. The need to work toward a new division of deterrence labor between and among the United States and its allies and partners arises from a combination of factors. These include:

---

<sup>1</sup> The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States government or Lawrence Livermore National Security, LLC, and shall not be used for advertising or product endorsement purposes.

- The increasingly multipolar security environment and the need to sustain effective regional deterrence architectures in at least three regions (Europe, the Indo-Pacific, and the Middle East).
  - China's ongoing emergence as a second nuclear peer and the rising risks of simultaneous nuclearized crises with China and Russia.
  - The erosion of deterrence over the last 15-20 years as regional military balances have begun to shift unfavorably and as challengers have become risk acceptant.
  - The American political choice not to maintain a level of military forces to fight two major regional wars simultaneously.
3. The opportunity to do so also arises from a combination of factors. These include:
    - Military competition in the new domains, where allies and partners have much to contribute.
    - Increased investments by some allies in military industrial capacity and focused technology development.
    - A reorientation of political perspective in many allied capitals, which has renewed the focus on deterrence and comes with a sense of urgency.
    - The solid foundation for enhanced cooperation that has been set by the preceding debate about burden-sharing and the resulting agreement of allies to do more.
  4. The existing division of deterrence labor is, in fact, already in flux. In the NATO context, the balance began to shift in 2010 with the addition of missile defenses to the "appropriate mix" of deterrence and defense capabilities and with the Deterrence and Defense Posture Review of 2012, which (among other things) refreshed declaratory policy. It has accelerated with the designation of space and cyber as military domains. In Northeast Asia, the balance began to shift a decade earlier with Japan's decision to embrace homeland missile defense. South Korea's development in 2010 of a conventional deterrent against North Korean nuclear attack accelerated the shift. AUKUS stands out as another benchmark. Although the trajectory is well established, the destination is murky. Adjustments to the existing division of labor appear to have been more ad hoc than guided by an agreed long-term vision of the needed regional deterrence architecture.
  5. Although the baseline trajectory toward larger allied roles for deterrence is clear, the progress has been uneven across regions. Over the last dozen years, the U.S.-Japan, U.S.-ROK, and U.S.-Australia alliances have taken significant steps to adapt their approaches to deterrence and to increase the deterrence roles of regional allies. In contrast, NATO's steps have been more modest. To be sure, NATO has made important and rapid adjustments to NATO's conventional deterrent in a series of steps following Russia's 2014 annexation of Crimea. But it has made little progress in broadening participation in the nuclear-sharing arrangements, in the missile defense mission, and in fielding deep-precision strike. This raises an important question about expected progress over the next dozen years.
  6. Looking to the decade ahead, the opportunities to further enhance the contributions of U.S. allies and partners to regional deterrence architectures are numerous. Many of these are non-nuclear. These include:

- Denser networks of IAMD sensors and shooters and more comprehensive approaches to the missile defeat mission.
  - Deep-precision conventional (counter-) strike and stronger allied contributions to the full kill chain.
  - Improved cyber resilience and some limited de-confliction of cyber offense.
  - Improved multilateral cooperation for space resilience plus some limited allied roles in non-kinetic counter-space.
  - Coordinated deterrence campaign planning and execution.
7. There are also opportunities in the decade ahead to strengthen the contributions of U.S. allies to nuclear deterrence. These include:
- Improved conventional-nuclear integration in concept development for intra-war deterrence, in updated doctrine, in updated operational plans, and in exercises.
  - A new force sizing and force shaping construct for NATO that would align both with changes in the security environment since 1990.
  - Elevated consultations with allies in Northeast Asia about conventional-nuclear integration (“nuclear sharing with Asian characteristics”).
  - Possible future new supplemental hardware solutions offering greater survivability and assured penetration and adding flexibility to the U.S. nuclear force.
8. A good case can be made that the process of adapting and strengthening regional deterrence architectures is moving as fast as circumstances permit. A counterargument can also be made that the challengers to regional orders in Europe and Asia are making more rapid progress than the United States and its allies and partners in adapting and strengthening their military doctrines and postures to enable their theories of victory in conflict and war with the United States. The strategic advantages long enjoyed by the United States and its allies and partners are seen as slipping away. Some allies feel this acutely and have high and rising anxiety. In their eyes, the United States speaks with urgency about these problems but does not convey urgency in its actions. Indeed, there is little to show for all the talk about the need to adapt “at the speed of relevance.” Most of the recent adaptations are to the software rather than the hardware of deterrence.
9. The obstacles to accelerated progress are both domain-specific and generic. Domain-specific obstacles include:
- Doubts about the strategic value of limited missile defense protection have slowed missile defense integration in Europe (the Ukraine war can be expected to have an impact on this debate).
  - Deployments of deep-precision conventional strike capabilities have been slowed by supply chain problems.
  - Cyber and space remain immature military domains with future roles yet to be defined.
  - Adaptations to nuclear roles are inhibited by many political sensitivities.
10. The generic obstacles include:
- U.S. reluctance to become dependent on the capabilities of others in the execution of key military missions.

- U.S. reluctance to have allies or partners acquire the means to independently initiate and/or escalate conflicts in ways the United States might consider unwelcome.
  - U.S. reluctance to prioritize efforts to adapt and strengthen regional deterrence architectures when it comes to allocating human and institutional bandwidth in the Pentagon, State Department, and National Security Council.
11. In recent years, the U.S. reluctance to have allies or partners acquire potentially escalatory capabilities has eased, as the United States has accepted the initiatives of allies in Asia and Europe to deploy deep-precision (counter-) strike capabilities. At the same time, however, it has resisted their development of the enabling ISR and C2 capabilities. The trade-offs between the benefits and risks of this approach deserve closer scrutiny as there are significant deterrence (and assurance) benefits to be had down this pathway.
  12. The Biden administration's emphasis on integrated deterrence has had a generally positive effect by setting a goal of improved integration of deterrence strategy and posture with U.S. allies and partners and by improving leadership focus on the urgency of moving in that direction. But integrated deterrence is at risk of becoming all things to all people and of muddying the water rather than clarifying implementation tasks. The administration appears not to have invested the human and institutional capital to fulfill the expectations it has set for improved cooperation with allies and partners to strengthen deterrence.
  13. Allied experts were often critical of U.S. leadership. One ally argued that "a new form of U.S. leadership is needed—radical inclusion." He described this as necessary to tackle the new problems of intra- and inter-war deterrence and as useful for sending a message of assurance to allied publics (that we're truly in this together) and to adversary leaders (that we're serious about restoring the stable landscape that they have unsettled). Others argued that "the United States should spend less time reassuring and more time talking frankly about the problems we all perceive and the difficult steps that are now necessary."
  14. Further progress in enabling U.S. allies and partners to contribute to regional deterrence architectures will not have a net effect of reducing the burden on the United States. New allied and partner contributions will supplement U.S. efforts and help ensure that regional deterrence architectures remain viable and credible in an eroding security environment. The United States has its own responsibilities to contribute to the effort to adapt and strengthen those architectures—which include, but are not limited to, steps to strengthen extended nuclear deterrence.

## Panel 1: Integrated Deterrence and U.S. Alliances

- How does the United States seek to strengthen extended deterrence?
- Does the United States want allies to do more for deterrence? How much more? Why?
- What can allies contribute to integrated deterrence?
- What lessons stand out from past experiences in trying to increase the contributions of allies to regional deterrence architectures?

In the 2022 National Defense Strategy, the United States identified China as the long-term pacing challenge while Russia represents an acute threat to international security and the U.S. alliance system. The United States has made it a priority to simultaneously reassure allies that it will not abandon them and to increase the contributions of allies to regional deterrence architectures. The rapidly deteriorating security environment, exemplified by Russia's aggression in Ukraine and China's nuclear advancements, further complicates efforts to revitalize extended deterrence and redistribute the burden among allies.

The United States' efforts to strengthen extended deterrence are comprised of both hardware and software components. In the short-term, catching up with Russia and China's warhead production capabilities, for example, may prove challenging due to the scaling back of the United States' nuclear enterprise over the past three decades. However, the United States' commitment to the hardware component of nuclear modernization means there is optimism in its long-term prospects and is welcomed by allies.

On the software side, the United States has been actively engaging with allies to reenergize assurance mechanisms and make others more robust. With respect to NATO, the United States has reenergized the NATO High-Level Group (HLG) and brought more countries into the nuclear planning operation process. However, there remains a collective action problem within the HLG, with varying degrees of willingness among allies to take more assertive measures. Those near Russia's border are keen to move quickly while those more distant have other priorities and are wary of moving too aggressively. The ultimate goal is to enhance participation and ensure that NATO's nuclear mission is truly fit for purpose while still moving at a pace that the market can bear.

In East Asia, the United States has made progress strengthening cooperative deterrence mechanisms with South Korea, Japan, and Australia. The United States is developing robust bilateral mechanisms, which in the future may be funneled into a multilateral mechanism to strengthen security cooperation and align messaging among the allies. The broader aim is to foster a better understanding of the United States' posture among allies in the Indo-Pacific region, but there remain concerns that the United States has not decided how it wants the allies to address the threats emanating from China, North Korea, and Russia.

The demand signal from South Korea and Japan is to have real discussions on planning, jointness, and conventional support for nuclear operations. The recently announced Washington Declaration with South Korea holds a lot of promise and there is broad agreement that it is not in its final form; rather it is a waypoint as the cooperative relationship evolves. The United States has invested a lot of time in the U.S.-South Korea relationship because its security environment is degrading so quickly. However, there are concerns that ally expectations may not be met and

that other courses of action are not being pursued. For example, some voices are calling for an independent South Korean nuclear deterrent or the deployment of U.S. nuclear weapons to the Korean Peninsula. Yet, such a move might undermine the U.S. nuclear architecture: nuclear sharing arrangements could be preemptive targets for North Korea in the event of a conflict. Instead, the United States has invested in software upgrades, or “iron clad commitments,” to convince South Korea that the United States is with them and will not abandon them.

An additional approach is to establish second centers of decision making, rather than encouraging or allowing allied proliferation. Second centers of decision-making can complicate an adversary’s strategic calculus, and there is a spectrum of independence levels for such centers. In the Washington Declaration, the United States and South Korea established the Nuclear Consultative Group (NCG), which elevates the nuclear planning dialogue between Washington and Seoul. While the United States has committed to more regular strategic asset rotations, elevating dialogues, and additional exercises to give South Korea more insight into U.S. nuclear planning, there could be incongruities in expectations of how much Seoul can influence or even be aware of U.S. nuclear plans. The concern from Seoul is that if there is a crisis and the United States launches a nuclear mission, South Korea would be very vulnerable without a plan.

Due in large part to the deteriorating security environment, there is some optimism that a trilateral mechanism could be developed between Japan, South Korea, and the United States, fully cognizant of the long history of bilateral tensions between Tokyo and Seoul. Depending on how Australia’s perception of its threat environment evolves, there is the potential for eventually integrating Canberra into whatever trilateral mechanism is created to form a new quad. To lay the groundwork for future cooperation, the United States is investing in the technology infrastructure to be able to have those conversations.

Australia, the United Kingdom, and the United States are implementing the AUKUS nuclear submarine agreement, but coordinating the construction with the United States’ two closest partners has proven challenging. While the agreement holds great potential, there are interagency conflicts and delays as the Department of Defense and the Department of State are conducting parallel but separate reviews of the foreign military sales and failing to coordinate. Among the allies, the Australia-U.S. Defense Trade Cooperation Treaty is going unfulfilled, which could pose long-term problems for the alliance and set a poor precedent with other U.S. allies.

On the issue of burden sharing, the United States has made valuable efforts to revitalize alliances and increase burden sharing among U.S. allies. Every U.S. administration since Eisenhower has desired greater contributions and burden sharing from allies in support of deterrence. However, the United States is also attempting to integrate multiple fronts and tools into its larger definition of integrated deterrence including the realms of space, cyber, missile defense, and nuclear weapons as well as coercive tools like economic sanctions, coercive diplomacy, and the military elements of deterrence. While the Biden administration has reinvigorated alliances, striving to orchestrate all these tools and communicate U.S. deterrence posture effectively with U.S. allies may be overly ambitious.

Finally, Russia’s invasion of Ukraine has left a mixed bag of takeaways for the United States and its allies. The United Kingdom has identified Russia as its pacing threat and has been forward

leaning on training and equipping Ukraine, which has allowed the United States to focus elsewhere. Norway, Denmark, and the Netherlands are driving forward security cooperation in NATO, which is also relieving some of the burden the United States has shouldered. The addition of Finland and potentially Sweden into NATO portend an opportunity to push the alliance forward and to make up for lost time. However, some allies in the Indo-Pacific are concerned about the United States' reluctance to fully back Ukraine with weapons and ammunition. While Ukraine is not a U.S. ally, the division is reflective of the U.S. internal debate over what weapons transfers to authorize, so clarifications and reassurances may be necessary.

## **Panel 2: The Evolving “Appropriate Mix” at NATO**

- How has NATO's approach to deterrence evolved since the 2012 DDPR and the judgement that the alliance's posture was fit for purpose? What lessons follow?
- How has Russia's aggression against Ukraine affected NATO thinking about deterrence?
- In case of major military crisis in Asia, how would NATO's posture be affected and need to adjust?
- How might deterrence roles and responsibilities within the Alliance further evolve?

The 2014 Russian annexation of Crimea was a turning point in the evolution of NATO's approach to deterrence and, since then, progress toward bolstering the alliance's defense and deterrence posture has been fairly steady. The sustained American effort, following the annexation, to convince allies that Russia was in violation of the Intermediate-Range Nuclear Forces (INF) Treaty was significant in signaling the reasoning behind the shifts in the alliance's posture.

Russia's aggression against Ukraine concentrated the minds of NATO allies in several areas, primary among them Integrated Air and Missile Defence (IAMD). Within NATO, there is a general recognition that allies do not currently possess significant IAMD capabilities. Though there are concerns regarding the affordability of IAMD and potential effects of expanded conventional capabilities on the credibility of NATO's nuclear deterrent, the alliance acknowledges that greater IAMD capabilities are necessary to increase and augment NATO deterrence posture. The European public and policymakers have observed the successes and failures of missile defense in Ukraine and there is an understanding among allies that missile defense cannot stop every threat. However, there are critical needs that are not supported by current capabilities. The conflict in Ukraine has highlighted a need for the alliance to reinforce and adjust its missile defense posture to meet critical defense requirements. Likewise, Russian aggression has made it clear that the alliance's strategic thinking must shift away from missile defense and toward missile defeat, as American strategic thinking has.

The Russian full-scale invasion of Ukraine has shifted NATO's perception of nuclear war from real, but abstract, to potentially concrete. The war in Ukraine is a nuclear crisis—nuclear weapons capabilities are shaping the character of the conflict and NATO's nuclear deterrent is shaping Russian behavior within the war. Shifts in perception regarding the gravity of the Russian nuclear threat have been particularly dramatic in the minds of allies whose countries are



in close geographic proximity to Russia, highlighting a variance of stake across the alliance. The alliance has taken a number of steps to this end, including 1) deciding (among allies that they would contribute dual-capable aircraft (DCA) capabilities) to transition the force to F-35 fighter aircrafts for nuclear missions, 2) committing substantial resources to the modernization of NC3 infrastructure, and 3) undertaking a multi-year effort to better understand the conventional requirements for the NATO nuclear mission.

In case of a major military crisis involving the United States in Asia—and assuming that it does not involve an attack on an ally and the activation of article 5 of the North Atlantic Treaty—reactive changes in NATO posture would depend largely on the specifics of the conflict. What is certain, however, is that such an event would draw enormous amounts of U.S. resources and, in turn, cause a decrease in NATO access to American resources. This does not seem to be a pressing issue in the nuclear domain; however, in the conventional domain, expectations of allied contribution to NATO's conventional capabilities in the event of American preoccupation is a critical conversation that has yet to be addressed.

The alliance is currently taking a number of steps to adapt its posture to meet current and future challenges. From an operational standpoint, the upcoming summit in Vilnius will involve the unveiling of a plan for NATO vis-à-vis Russia and the delineation of what, specifically, will be expected of allies in a crisis. Current changes in posture are centered around the long-term goal of bolstering conventional capabilities to support nuclear deterrence; these changes include 1) renewed emphasis on readiness, 2) the creation of a broader pool of troops, aircrafts, and ships from which to draw during a crisis, and 3) greater focus on high demand assets, such as IAMD capabilities.

### **Panel 3: Deterrence Adaptation in the Indo-Pacific**

- Over the last decade, how have U.S. alliances adapted deterrence policy and posture to developments in the security environment? What lessons follow?
- In case of a major military crisis in Europe involving NATO, how would deterrence in the Indo-Pacific be affected and need to adjust?
- How might deterrence roles and responsibilities within the alliances further evolve?

The U.S. defense focus has pivoted from counterinsurgency operations in the Middle East to great-power competition in the Indo-Pacific region. A remaining concern is how U.S allies in the Indo-Pacific will fit into an increasingly relevant deterrence architecture. As the United States is reassuring partners in NATO against the threat of Russia, allies in the Indo-Pacific are looking for those same reassurances against the rising threats of China and North Korea.

While allies like Australia return to their regional defense priorities from supporting U.S.-led operations in the Middle East, Japan and the Republic of Korea (ROK) have long remained wary of the rising threat posed by China and the enduring threat of a nuclear-armed North Korea. The need for allied leadership coherence and a unified front against adversaries has been

reemphasized by seeing the devastation of Russian aggression against Ukraine and the impact of renewed threats against NATO. While the United States is viewed as the guarantor of allied security, there is an implicit acknowledgement of the growing importance of multilateral cooperation between those in the Indo-Pacific. More than ever, allies in the Indo-Pacific are willing and able to share the division of labor by investing in their own conventional military forces.

The ROK faces an enduring threat from North Korea, a threat that is no longer just regional, but one that can now reach the U.S. homeland via intercontinental ballistic missiles (ICBMs). Alongside the threat from North Korea, the ROK has begun to acknowledge the pacing threat that China poses and expects it will surpass North Korea as a primary regional security concern within the next ten years.

Unlike the U.S. alliances with Japan and the ROK, Australia's defense relationship with the United States is much less institutionalized but has a greater importance now as Australia focuses on its own regional security regarding China. Australia is looking to bolster its indigenous conventional capabilities such as precision strike, while also cooperating with the United States on rotational strategic assets like Bomber Task Forces, Marine Rotational Force-Darwin, and a new Submarine Rotational Force-West with AUKUS partners. For the Australians, the value of U.S. deterrence stems largely from conventional capabilities rather than a desire to be included in the extended nuclear deterrence umbrella of the United States.

Allies in the Indo-Pacific recognize the threat Russia poses to U.S. interests in the Euro-Atlantic region and realize that in the event of a major military crisis in Europe, conventional U.S. forces and capabilities supporting deterrence in the Indo-Pacific would likely be moved to the European continent and would leave Indo-Pacific allies to rely on the nuclear deterrent instead. Some participants voiced skepticism about Indo-Pacific allies having the domestic political will or industrial capacity to support the United States and NATO in a military conflict on the European continent, especially if doing so would weaken the presence of conventional capabilities in the Indo-Pacific.

With new and existing dialogues and agreements in place like the Washington Declaration (ROK), the Strategic Policy Dialogue (Australia), and the Extended Deterrence Dialogue (Japan), the United States is hoping to reassure allies of a credible U.S. commitment to extended deterrence. Indo-Pacific partners are increasingly under pressure from China through gray-zone operations that operate below the threshold of war and thus require new efforts to deter. The Biden and Yoon administrations demonstrated U.S.-ROK solidarity through the recent Washington Declaration, but there remain questions of whether the Nuclear Consultative Group that was established will truly offer the ROK influence in U.S. nuclear planning. In recent high-level policy developments, there was agreement that while new U.S. commitments were reassuring, the actual implementation of the policies will be the true show of their deterrence value. Indo-Pacific allies remain hesitant to express any willingness to support the United States and other allies in the event of a conflict (like one over Taiwan) in the region unless it directly concerns their own territorial sovereignty.

While recent expansions of bilateral relationships were acknowledged as essential for adapting the extended deterrence architecture, the need for multilateral cooperation and coordination was also reemphasized and questions remain about the feasibility of creating new multilateral dialogues. For example, when U.S.-Japan-ROK or Japan-ROK-Australia dialogues were proposed, there was consensus that there is limited domestic political support for such cooperation, particularly between the ROK and Japan due to lasting historical and cultural tensions. Dialogues and agreements like the Quadrilateral Security Dialogue (QUAD) and AUKUS send strong signals to China that the United States and its partners are aligning to compete with Beijing. Australia is currently setting the precedent for multilateral dialogue in the Indo-Pacific, and some participants suggested that Japan and the ROK must follow their lead and take on political risk domestically to improve the regional security environment.

The limited bandwidth of the United States to support separate nuclear and conventional deterrence strategies in Europe and the Indo-Pacific was also cited as an obstacle to further and more rapid progress. With bandwidth wearing thin, there is a need to devote more resources to supporting a sustainable deterrence architecture. This argument was disparaged by some, who see bandwidth as a function of leadership focus and who argued that the failure to give regional deterrence the bandwidth it requires is a sign of a lack of leadership interest and follow-through on a stated goal.

While it was agreed there is a need for greater interagency coordination on deterrence policy, particularly between the Department of Defense and Department of State, there was contention over which department should take the lead on developing and coordinating policy both domestically and with allies abroad. U.S. policymakers must acknowledge to their Indo-Pacific allies where U.S. limitations on deterrence exist and allow allies to take the initiative to bridge those gaps, thus bolstering the extended deterrence architecture.

#### **Panel 4:** Potential Disruptions Driving the Further Evolution of Roles

- What impact will China's emergence as a second nuclear peer have on U.S. alliances and their deterrence strategies?
- What impact might Iran's emergence as a nuclear-armed challenger have on regional deterrence?
- How do U.S. allies hedge against a possible future rupture in U.S. alliances resulting from a change in U.S. approach?

Of the three major disruptions to the nuclear landscape and the U.S. alliance system, the emergence of China as a second nuclear peer may have the greatest ramifications for burden sharing in the NATO alliance. The U.S. Department of Defense projects that by 2035 Beijing may possess 1,500 nuclear warheads, which would bring it roughly equivalent to the deployed arsenals of the United States and Russia. In this context, Europe is becoming theater number two in the eyes of some in the United States, which means that there will be increased competition for U.S. resources and capabilities. It is foreseeable that deterrence failure in one theater could impact the other, allowing for opportunistic aggression by a second peer competitor, and stressing the United States' ability to offer credible deterrence.

China's emergence as a nuclear superpower and its ability to reshape the nuclear landscape in the Asia-Pacific region are a paradigm shift since China was regarded as a second-tier nuclear power for so long. Consequently, the United States needs a deliberate and strategic response to address this emerging reality as it diverts resources. To mitigate these challenges in Europe, one option is for NATO countries to take on a larger role in the alliance and assume more responsibility for deterrence, particularly because the presence of U.S. forces in Europe is unlikely to rise again. Another option is for the Europeans to invest in their own intelligence, surveillance, and reconnaissance capabilities, and involve non-nuclear allies in NATO's nuclear deterrent. Further, the modernization of Britain's and France's nuclear arsenals could play a larger role in nuclear deterrence for the alliance. It is noteworthy that Britain's 2021 Integrated Review increased the ceiling of nuclear warheads to 260, which is a significant change from the previous target stockpile ceiling of 180 warheads.

In the Indo-Pacific, deeper cooperation among allies, sharing of assessments, and joint crisis response efforts with Indo Pacific allies and partners and NATO allies could help avoid surprises and reduce reliance on U.S. assets. NATO allies have an interest in understanding the Indo-Pacific strategic context as failures in that region could have consequences for NATO. The allies could do more of the heavy lifting here to share experiences and reduce the burden on the United States. However, alliance management is equally important. Specifically, the handling of the AUKUS nuclear submarine deal is a source of tension in bilateral relations with France since it is an important NATO ally and an active Indo-Pacific player.

Japan is particularly concerned about decoupling as China becomes a nuclear superpower. If mutual vulnerability between the United States and China is recognized, then Japan will be concerned that the United States could be deterred from providing support to or defending Japan from Chinese aggression. The United States and the Soviet Union signing the anti-ballistic missile treaty and institutionalizing mutually assured destruction serves as a reference case for Japan. Soviet regional nuclear force deployments in the 1970s led to the European allies asking the United States to deploy Pershing missiles on the continent to placate fears of decoupling. To mitigate Japan's fears in the emerged and emerging context, there are a couple of options. The United States could deploy ground-based and submarine warheads in the Asia-Pacific, establish three command centers for nuclear and conventional decision-making, and make existing bilateral consultative mechanisms multilateral. Unlike the collective action challenges of NATO, there is greater flexibility in the Indo-Pacific with fewer partners to coordinate.

There is a clear logic for establishing a trilateral mechanism. In the event of a nuclear confrontation with North Korea, the United States, South Korea, and Japan would all be under threat. If the United States plans to attack North Korea with conventional or nuclear weapons, then North Korea will likely retaliate with a variety of weapons against targets potentially in each of these countries, so both Japan and South Korea would have some operational need to know to prepare their respective missile defense operations for a North Korean response. If the United States only coordinates with South Korea, then Japan could be left vulnerable. Some allied experts hope that a new trilateral mechanism would be used to integrate Japan and South Korea into the American nuclear operational planning and execution processes. However, there are different views on what exactly that integration would look like. It could mean sharing plans,

military deconfliction and consequence management, or extending aspects of control and decision-making to second centers in the theater.

Iran's delivery vehicles and nuclear threshold state status is an additional stress test for extended deterrence. For some, the signing of the 2015 Joint Comprehensive Plan of Action (JCPOA) between the P5+1/E3+3 and Iran evokes memories of a similar framework agreement in 1997 with North Korea, which did not prevent North Korea's nuclearization. Consequently, there are legitimate concerns about the potential nuclearization of Iran, posing a complex extended deterrence challenge in the Middle East. While the United States and Israel have repeatedly committed to preventing Iran from getting a nuclear weapon, the redline of acceptable behavior has moved so many times that it might not eventually be upheld. It is unlikely that any country in Europe would authorize a preemptive operation on the Iranian nuclear program, and there is a divergence of opinion on how to manage the situation. Ultimately, despite the risks, many in Europe are hoping that the crisis can simmer without boiling over.

Exploring missile defense cooperation with the Gulf states could support extended deterrence for NATO in the Middle East, and some participants suggested that Japan could potentially contribute to extended deterrence through missile defense exports. However, if Iran crosses the nuclear threshold and mates its warheads with a delivery vehicle, then the conversation would need to shift to how to deter Iran. Missile defenses are unlikely to provide a long-term solution, particularly if Iran follows North Korea's path. Not only is there insufficient attention to the threat, but insufficient discussion of what comes next if deterrence fails. At present, there is little overlap between the deterrence and non-proliferation scholarly communities about how to handle the threat from Iran, so there appears to be a poverty of ideas for dealing with the Iranian nuclear question.

Lastly, the possibility of a dramatic change in U.S. policy toward alliances and extended deterrence is very real. There are concerns that one statement from a new administration could remove the benefits of extended deterrence and leave the allies out in the cold. Given this possibility, the United States should spend less time reasserting its commitment to the assurance of allies, and more time talking clearly about the new deterrence challenges faced by the alliances and about the ways to overcome constraints in responding. By having more candid conversations with allies, the allies can make investments of their own to keep the United States engaged in the alliance relationship. The NATO alliance is far more institutionalized than any of the bilateral extended deterrence relationships in the Indo-Pacific, but the Europeans are aware that Europe is becoming a secondary priority in the eyes of the United States. At the same time, while the Indo-Pacific is rising in importance for the United States, without the technological infrastructure invested to develop the extended deterrence dialogue, it is less costly for the United States to switch gears if a new administration sought to go in a different direction. U.S. allies are aware of these dynamics and are hedging by pursuing advanced weaponry like deep precision strike capabilities, keeping open pathways to pursue independent nuclear deterrents, and attempting to institutionalize the alliance system. The deteriorating security environment represents a moment whereby allies appear to be keener to be more forward leaning, which is an opportunity for the United States if it wants to relieve the alliance burden.

## Panel 5: Collective Defense and Nuclear Burden Sharing in Europe

- What can and should be done in the NATO context to increase sharing?
- Are other changes to the U.S. practice of extended nuclear deterrence in Europe warranted by changes in the security environment?

NATO's nuclear sharing arrangements were created in the early days of the alliance and are comprised of U.S. nuclear weapons deployed in Europe and conventional support from European allies. Allies share responsibility for political control over the nuclear weapons, while the United States retains custody and physical control over them, in accordance with the NPT.

The Russian nuclear and conventional doctrines are fully integrated and rooted in the fundamental assumption that a limited nuclear use in Europe is not likely to result in an all-out war on the Russian homeland. Russia's nuclear forces are designed to be effective in a theater conflict with NATO. The Russian leadership is likely to be antagonistic toward the alliance for the foreseeable future and, when the war in Ukraine has ended, Russia may exit the conflict having increased its reliance on nuclear forces due to the poor performance of its conventional forces. NATO nuclear strategy and capabilities must convince the Russian leadership that any nuclear use is always their worst option.

Nuclear sharing arrangements are vital to the political viability and operational capacity of the alliance, as well as to the maintenance of international strategic stability. From a political standpoint, nuclear sharing 1) is critical to the credibility of NATO's deterrence and defense posture, 2) is a clear demonstration that NATO allies are committed to sharing the nuclear burden, 3) demonstrates political unity and the indivisibility of the alliance, and 4) signals the legitimacy of NATO's actions. From an operational standpoint, the alliance's DCA and B61s are one of NATO's options to demonstrate intent and restraint. DCA forces have operational flexibility—aircrafts can be recalled or redirected mid-mission to deescalate or change targets—and, perhaps most importantly, they are effective—if DCA forces were called upon to undertake a nuclear mission, they would be successful. Regarding international strategic stability, nuclear sharing is a tool to prevent further proliferation as it negates the need for allies to develop their own nuclear arsenals.

Panelists agreed that the alliance's nuclear sharing arrangements are a critical foundation for the alliance's deterrence and defense posture. However, regarding the question of what can and should be done in the NATO context to increase sharing, there was disagreement. Suggestions included that NATO increase the number of allies that participate in DCA missions, expand the ranks of DCA-basing nations, and position DCA forces further east. The logic behind this proposal was that this increase in the number of NATO basing nations would 1) complicate Russian preemptive nuclear strike planning, 2) provide an opportunity to rectify the current misalignment of NATO forces in Europe, 3) increase the size and survivability of DCA forces, and 4) send a signal of NATO's nuclear resolve to Moscow.

Workshop participants raised questions about whether dispersing DCA forces further east would increase or decrease their survivability, though there was agreement that increasing the number of allies involved in the DCA mission (without necessarily dispersing forces eastward) could allow for greater strategic capability. It was also noted that conversations and questions regarding additional DCA allies are politically sensitive for all parties—for the United States because the weapons belong to them and for existing DCA allies because they don't want their outsized share of responsibility and influence diluted. The willingness of senior political leadership—both American and European—is necessary to initiate these sensitive conversations and affect change.

Regarding possible additional changes to the U.S. practice of extended nuclear deterrence in Europe, panelists argued that a larger, more survivable nuclear force is warranted. Forward-deployed American nuclear-armed submarines were also proposed as being suited to addressing the changing security environment in the region, though the deployment of such capabilities is not amenable to increased nuclear sharing. Panelists additionally noted that, while the procurement of hardware takes significant time, the decision to do so now could send an important deterrent message.

## **Panel 6: Allies and the New Domains**

- What is the current division of deterrence labor in cyber space and outer space?
- What more can and should U.S. allies contribute to “strike” in these domains?
- Are there roles in one or both domains the United States should willingly cede?

The addition of cyber and space as warfighting domains complicates the division of deterrence labor between allies and forces a reevaluation of the role the United States and allies fulfill in deterrence. Cyber has become an established part of allied cooperation, and space is becoming an integral part of collective defense as alliances like NATO work to modernize their deterrence frameworks. The United States must acknowledge the potential risks associated with further integrating with allies and balance that with the potential benefits of leveraging allied capabilities. With a new multipolar world, the United States must come to terms with the fact that new capabilities may make allies more independent actors and must embrace the notion that this creates a more flexible and capable alliance architecture.

Currently, allied cyber and space operations rely on voluntary contributions of capabilities—whether for cybersecurity or satellite operations—from individual states to conduct any coordinated actions. The division of deterrence labor in the cyber and space domains has traditionally been divided along low versus high-end operations, with allies responding to threats that fall on the low-end of the spectrum of conflict (gray-zone operations) and the United States responding to threats at the high-end, a division that remains largely true.

Specifically for cyber operations, cooperation typically occurs at the law enforcement and homeland security level rather than at the military and defense level, a trend reflected in the recent Washington Declaration between the United States and the ROK. Offensive cyber

operations are closely held by individual allies due to the risk of losing capabilities if information is leaked, which limits burden sharing on offensive capabilities. A defensive focus on cyber cooperation is the current standard and can even be seen in U.S. cybersecurity support for Ukraine, building on similar support teams within NATO. Allies are also thinking about cyber and space cooperation at a lower level, with civil and commercial cooperation focusing on relieving export controls on technology and military cooperation focusing on information sharing and supporting terrestrial operations through space and cyber capabilities.

For operations focusing on space, the current standard is for NATO allies to be responsible for deterring attacks on their own systems, primarily due to NATO's limited visibility of national space assets. For the first time, NATO's 2022 Strategic Concept acknowledged that an attack to, from, or in outer space could constitute an attack warranting an article 5 collective defense response. With such an acknowledgement, NATO is looking to expand alliance-wide space cooperation and has resolved to collectively respond to actions in space, such as condemning the Russian anti-satellite missile test in late 2021. Within NATO, multinational cooperation projects should be encouraged, with consideration to new risks, because they complicate adversaries' decision-making when targeting allied satellites and space systems. NATO currently has no satellites of its own and thus relies on individual members to contribute capabilities, but it is looking to launch an intelligence, surveillance, and reconnaissance (ISR) satellite. As NATO works to create an integrated deterrence framework, the organization can follow the European Union's progress on intergovernmental space cooperation, as the body has its own satellite constellation for navigation and has a space security strategy to attribute attacks on its systems.

To leverage allied abilities to contribute to "strike" in cyber and outer space, the United States and allies need to first set clear military requirements and begin to educate military commanders on how space information and new capabilities can be integrated into operations to achieve goals. At an alliance-wide level, NATO must explore what counter-space and offensive space operations may look like because although individual allies have explored this, members are hesitant to reveal their national strategies. Space assets need to be analyzed to determine how resilience to threats such as jamming can be improved and conversely, how adversary assets could be targeted. Allies could limit their dependence on U.S. ISR satellites by launching their own and thus would have greater ability to conduct operations and contribute to their territorial defense. While cooperation on offensive cyber and space operations is difficult, allies should emphasize developing non-kinetic capabilities to support terrestrial operations. Though some concern exists that increasing allied capabilities decreases US control over operations, it is necessary to divide the labor and provide NATO and other alliances greater flexibility in deterring and defending territory.

Allies need to take a deep look at shaping norms in outer space and cyber because without a clear understanding of what acceptable behaviors in outer space are, actors risk unintentionally escalating or being paralyzed by uncertainty when attacks occur. Additionally, private companies can provide space-based services during conflict (like Starlink in Ukraine), which necessitates allies examining what responsibilities they must protect commercial actors from attack.

Due to the emerging nature of the cyber and space domains, the United States is not in a position where it could fully cede any specific capabilities to allies. In the near term, the United States should continue to make capabilities and products available to allies for use in the new



domains and advance the agenda for innovation globally so allies can eventually become less dependent on the United States. There are potential areas like targeting or ISR that provide an opportunity for allies to enhance their role in space and cyber. For example, allies could be tasked with targeting specific types of targets (communications, military networks, satellites) or could focus on protecting a specific area of their territory using cyber or space capabilities. To facilitate allied innovation within new domains, the United States should share its experiences in private/commercial sector cooperation with NATO and Indo-Pacific allies, allowing new avenues of capability development.

### **Panel 7: Allies and Deep Precision Strike**

- How can and should NATO strengthen its strike toolkit? How much is enough?
- How can and should U.S. alliances in the Indo-Pacific strengthen their strike toolkits? How much is enough?
- By what logic might it be possible to overcome traditional U.S. resistance to such allied acquisitions?

Late last year, Japan conducted a review of its major strategic documents and decided to acquire long-range strike capabilities that it previously lacked. Japan is acquiring the F-35 Joint Strike Fighter aircraft, domestically developed cruise missiles, upgraded versions of the Type 12 surface-to-ship missile, and U.S. Tomahawk missiles. Initially, these systems were described as inter-island long-range fire systems for remote island defense plans, which included standoff attacks against adversaries invading Japanese territory or territorial waters. However, their ranges exceed those operational mission requirements, with the Tomahawk and upgraded Type 12 missiles reaching over 2,000 kilometers. This implies that these assets have the capability to conduct deep precision strikes against targets on the mainland of China or North Korea.

To effectively utilize these strike capabilities, the Japanese Ministry of Defense has conducted war games and identified capability gaps. It is important to note that the Japanese Self-Defense Forces do not fight alone. To use these strike capabilities effectively, joint operational concepts, escalation control strategies, and targeting doctrines need to be developed with allied support from countries like the ROK, Taiwan, and the United States. Additionally, a joint capability assessment and analysis could be conducted to determine munition stockpiles and logistics management. Another factor to consider is the timeframe between planning and actual deployment. Chinese and North Korean advancements in strike capabilities are outpacing defensive resources, necessitating a proactive approach. Since China and North Korea rely on mobile missile launchers, locating and destroying these targets in conventional counter-force operations presents challenges. Subsonic cruise missiles have limited effectiveness against mobile targets, and the slow speed of cruise missiles hampers their ability to penetrate advanced air defense systems. Combining intrusive attack aircraft with precision-guided munitions is a more effective option, but building a comprehensive strike package would require a substantial budget.

Japan's defense programs are ambitiously developing unmanned systems, satellite constellations for target identification, studying jammers, and acquiring additional air refueling

tankers. However, it will take decades to build these capabilities, and resource allocation remains a challenge. In a conflict with China, allocating fighters and tankers becomes crucial for maintaining air superiority in the East China Sea and Western Pacific. As Japan is a status quo power and considering its inherent challenges, it is unlikely that Tokyo would initiate a conflict or seek to take an early advantage. Instead, the focus should be on defensive operations and recognizing that adversaries may attempt to neutralize Japanese and U.S. air defense bases early in a conflict. Japan's goal is to have the capability to strike mobile missiles on the ground, but this would require significant resources and be time-consuming to develop.

In the Western Pacific region, strike gaps need to be acknowledged as the adversaries already possess a quantitative advantage making it challenging to neutralize their mobile missiles. Therefore, Japan could focus on striking high-value fixed targets on the ground using existing capabilities. Tactical objectives might include degrading the PLA's offensive counter-air capabilities, such as targeting aircraft, munition depots, communication facilities, and command and control systems. However, even with a proactive procurement strategy, it will be challenging to integrate these diverse missile systems with other allied nations, especially when considering the different capabilities and operational concepts of each country.

On the part of NATO, the allies have agreed to pursue precision strike capabilities and to develop the associated concepts, which was reflected in Political Guidance 2023 and initiated the defense planning process. This process, spanning four to five years, involves establishing levels of ambition, defining recommended capabilities and minimum military requirements, assigning capability development to nations, and determining commonly funded initiatives. While positive progress has been made, there is still work to be done. The NATO defense planning process relies on rudimentary defense planning scenarios agreed upon by allies. Despite its imperfections, this process serves as a basis for achieving agreement within NATO. There has been a notable shift in the willingness to undertake military strategic studies on deep precision strike scenarios, which were previously considered sensitive topics. The inclusion of Russia in war games and discussions has slowly become more acceptable, allowing for a more comprehensive assessment of the security landscape.

One participant commented that NATO is a consensus-based organization rather than a logic-based one. To convince decision-makers of a strategic necessity, a combination of quantitative and qualitative analyses, war games, modeling and simulation, and engagement with subject matter experts has raised the level of knowledge and the urgency of action. Evidence-based assessments, such as the studies conducted on dual-capable aircraft, have helped NATO nations overcome their resistance to adopting offensive capabilities and inform nations' decision-making processes. Russia's own actions have also spurred collective action. For example, Russia's battlefield use of an extensive arsenal of long-range strike weapons has led to increased analysis, requests for funding for science and technology, and a reassessment of existing defense systems such as the North Warning System. Countering Russia does not merely involve matching capabilities but requires a delicate balancing act considering risks, intentions, and historical precedents. Therefore, it is necessary to view discussions on deep precision strike within the broader context of multidomain operations and its contribution to deterrence.

The unveiling of Russia's deep precision strike weapons in 2018, including nuclear-powered cruise missiles and hypersonic vehicles, further intensified the need for a new deterrence understanding within NATO. To address the resistance within NATO to adopting offensive capabilities, Russia's invasion of Ukraine did a lot of the heavy lifting to convince decision-makers that NATO needed to enhance deterrence. A comprehensive study that aimed to strike a balance between defensive and offensive measures emphasized the importance of recuperative resilience, reactive measures, proactive approaches, and the ability to hold the adversary at risk. The goal of deep precision strike is to neutralize specific military targets such as command and control centers, weapons facilities, infrastructure or high value enemy assets and the objective is to disrupt the enemy's ability to wage war effectively. The tactical importance, however, pales in comparison to its role in deterrence and the message it sends to Moscow. A target inside Russia is important because it is inside Russia. The difference between one weapon, a dozen, 100 or 1000 is not in the number of targets destroyed, but in the Russian perception of risks, intent, precedent, and implied proposal for the conduct or termination of war.

### **Panel 8: Nuclear Burden Sharing in the Indo-Pacific**

- What can and should be done in the Indo-Pacific to enhance the credibility of U.S. extended nuclear deterrence?
- What can and should be done to strengthen the credibility of the U.S. commitment to forward-deploy non-strategic weapons in support of its allies globally?

Peak credibility is reached when the ally and the adversary see things for what they are. This is to say, credibility cannot be achieved through deception. Today, the credibility of American deterrence varies. This variance may be attributed to changes in reputation and international perceptions of American credibility—a messy withdrawal from another commitment in Afghanistan, a shift in traditional alliance policy, and uncertainty regarding the intentions of a potential incoming administration may influence whether American deterrence is perceived as credible. The power of the United States, in comparison to its rivals, may also affect the credibility of U.S. extended deterrence—mutual vulnerability is a much more difficult position from which to construct credibility than hegemony.

In attempting to strengthen the credibility of the U.S. commitment, the United States must recognize that DCAs and the B61-12 are not answers to all strategic problems; there must be variety in the U.S. tactical arsenal. It must also be emphasized that Asia is not NATO on a larger map. Asian countries are not bound together into a cohesive alliance. While there has been a shift toward a limited form of strategic aggregation, the robustness of these structures should not be overstated.

Following the Russian invasion of Ukraine, Japanese Prime Minister, Shinzo Abe, said that Japan may need to consider nuclear sharing as a deterrent. While support for nuclear sharing did not become mainstream following Abe's statement—approximately 47% of the Japanese population believes that Japan should open discussions on nuclear sharing—the looming threats of China's rapid nuclear buildup and North Korea's development of tactical nuclear weapons have

amplified concern in Japan and increased domestic public and political interest in strengthening deterrence.

From the Japanese perspective, an extended deterrence dialogue between the United States and Japan is insufficient; the U.S.-Japan alliance must be strengthened to enhance the credibility of American extended deterrence. Additionally, the Japanese people remain unconvinced of the stability and predictability of American foreign policy, given the polarized state of American domestic politics and the upcoming election cycle; this unpredictability undermines the credibility of the American commitment to extended nuclear deterrence. Managing public and political expectations, as well as expanding the alliance's capacity and preparedness for shared responsibility are important considerations in strengthening the U.S.-Japan strategic alliance and ensuring the credibility of U.S. extended deterrence.

Regarding extended deterrence on the Korean Peninsula, the Yoon administration would prefer to rely on American extended deterrence, rather than develop South Korean capabilities; however, this is a conditional preference that requires a stronger, more reliable American extended deterrent. The Washington Declaration builds only incrementally on previous alliance policy, but it has the potential to move the alliance to a more equal partnership that could enhance deterrence against North Korea.

There are several points of disagreement between the United States and the ROK regarding American extended deterrence on the peninsula. These include 1) the lack of American guarantee of a nuclear response to a potential North Korean attack on the ROK, 2) the role of ROK officials in U.S. nuclear plans and operations, and 3) the forward deployment of the U.S. strategic assets. The Washington Declaration provides an opportunity to narrow the above-mentioned differences and signals the potential for profound alterations in the character of and division of labor within the US-ROK alliance. Reinforcing extended deterrence on the Korean Peninsula, however, remains a work in progress that, in the future, will depend on maintaining the closeness that has characterized the Yoon-Biden relationship.

There was consensus among panelists that it is possible to deter North Korea without giving China the impression that the United States and its allies are attempting to antagonize Beijing. Participants agreed that China will likely believe that the deterrent signal is intended, at least in part, for them. It is in the Chinese interest to dissuade the United States from improving intended deterrence against North Korea—China seeks to defend and expand the Asian sphere of influence to which it feels entitled. Panelists further agreed that efforts to delay the modernization of Chinese nuclear weapons capabilities would likely be difficult and, in the long-term, unsuccessful. Diplomatic efforts were suggested as an appealing and potentially more viable alternative.

Panelists disagreed about the need for second centers of decision making in the Indo-Pacific. Some argued against Korean or Japanese proliferation, while others warned against rejecting strategic options on the grounds of risk aversion alone.

## Panel 9: Closing Roundtable Discussion: Taking Stock

- Can a little or a lot be accomplished? How quickly?
- Is one region more likely than the other to make significant headway?
- To what extent will significant new allied contributions reduce the deterrence burden on the United States? Or will those contributions supplement and strengthen deterrence but not substitute for U.S. contributions?

As the United States and its allies learn to navigate a multipolar world, China provides an enduring pacing challenge, one that is moving at a faster pace than alliance innovation and requires concrete actions to address. Still, Russia should not be overlooked, as the threat of a multi-theater conflict or opportunistic aggression is present. With allies looking to take on more responsibility, the risks posed by expanding nuclear and conventional deterrence capabilities must be acknowledged and tailored to the needs and abilities of specific allies. By expanding nuclear and conventional capabilities, the ability of allies to act as separate control centers increases, as does the risk of unintentional escalation from allies acting individually without consulting one another.

A balance must be struck between the enduring nuclear nonproliferation regime and the potential expansion of nuclear deterrence, an issue that could be integrated into new deterrence policy. Similarly, arms control efforts must be pursued now to reduce the risk of another Cuban Missile Crisis, therefore the United States must consider what adversaries value and how they could be convinced that coming to the table is worthwhile.

Panelists acknowledged that the European deterrence architecture provided and institutionalized through NATO remains the strongest and provides an example for enhancing deterrence in the Indo-Pacific. There is room for multilateral dialogue and cooperation between Indo-Pacific allies on conventional and nuclear deterrence that is left untouched due to the politicization of historical and cultural tensions, which limits deterrence cooperation to bilateral relations between the United States and individual Indo-Pacific allies.

Important headway has been made recently to improve the “software” of deterrence policy by establishing new dialogues and processes for planning and integration and now the “hardware” must be improved through nuclear modernization and implementation of agreed upon policy. Key areas for improvement exist regarding conventional capabilities to support deterrence like investing in deep-precision strike, innovating in integrated missile defense, and leveraging multi-domain/integrated deterrence to support allied efforts.

Regarding the division of deterrence labor, the United States is likely to maintain a long-term role in extended deterrence but there is room for allies to take on a greater share of the deterrence responsibility. This will reduce some of the deterrence burden put on the United States, though the United States will still bear the bulk of the responsibility and burden to provide a deterrent. The Russian invasion of Ukraine provides important lessons to the United States and its allies regarding the importance of integrating arms, intelligence, and logistics and emphasizes the value of NATO’s interoperability as a deterrent. The United States should

understand how its response to the invasion of Ukraine may have signaled to U.S. allies and adversaries how credible the U.S. commitment to extended deterrence is.



Center for Global Security Research  
Lawrence Livermore National Laboratory  
P.O. Box 808, L-189 Livermore, California 94551  
<https://CGSR.llnl.gov>

This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344. LLNL-PRES-851286.