Defense Playbook for Campaigns

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A Note to Readers:

The Belfer Center has a dual mission: (1) to provide leadership in advancing policy-relevant knowledge about the most important challenges of international security; and (2) to prepare future generations of leaders for these arenas. This means not shying away from the most difficult and controversial issues of our time, like how best to change America's national security posture to fit a changing world. This also means giving a platform to our students who are eager to join the ranks of the next generation of national security leaders.

The Defense Playbook for Campaigns fully takes up this challenge, with policy guidance for candidates of either party seeking guidance on regional affairs, military technology, and Pentagon reform. None of these issues are easy, and most are controversial. However, these papers provide a blueprint for candidates searching for fact-based, rigorous, bipartisan analysis on the most pressing national security issues of our time. The topics were proposed by our students, who felt that each area could benefit from injecting fresh thought and potential reform.

The most important thing for the future of our country's national security will be its ability to debate potential responses to the security challenges that we face, and to emerge from this conversation with the best ideas implemented. These papers are intended as a substantive addition to that conversation.

—**Eric Rosenbach**, Co-Director Belfer Center

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Defense Secretary Ash Carter, right, accompanied by Joint Chiefs Chairman Gen. Martin Dempsey, speaks during a news conference at the Pentagon, April 16, 2015.

AP Photo/Andrew Harnik

Introduction

The 2018 National Defense Strategy (NDS) is predicated on a single organizing principle: America's military pre-eminence is rapidly eroding. This is not a new concept. For years, experts have warned that the economic and technological advancements of U.S. adversaries, coupled with the 2008 financial crisis and America's focus on peripheral conflicts, have caused a decline in America's military dominance.

In this context, the advances of near-peer competitors such as China and Russia have created plausible "theories of victory" in potential conflicts across Eastern Europe and East Asia. Competitors' unaddressed improvements in strategic innovation, economic investment, and dual-use technology increases the risk of conflict and strains the U.S. alliance system. It is urgent that the United States reestablish and maintain credible deterrents against these near-peer competitors. After decades of focusing on post-Cold War 'shaping' operations, the American military needs to reinvigorate for full spectrum great power competition.

This report is intended as a blueprint on how to begin that process from graduate students at the Belfer Center for Science and International Affairs at Harvard University. Contained inside are 12 memorandums. Each provides a high-level overview and specific recommendations on a key issue of American defense policy. Each memorandum can be read on its own or as part of the broader package. The topics range from regional defense analysis, emerging technology, and cyber warfare, to budgetary process reforms. The papers are organized in broad themes, with the first section focusing on regional conflicts, the second section addressing broad technological issues, and the third section covering internal U.S. Department of Defense (DOD) reform.

At the highest level, these papers recommend that the next administration:

China: Prepare the country for escalating competition and potential high-end conflict, by:

- Pursuing a strategy built for defined, high probability scenarios

- Advocating for budgets that address the urgency of the challenge

Russia: Improve America's readiness to respond rapidly to further aggression against our partners and allies in Europe, by:

- Continuing to push NATO toward greater readiness to respond to the actual threats that its members face

- Taking actions to signal commitment to American partners

- Realigning force projection capabilities to specific conventional threats facing non-NATO partners such that a rapid unilateral response is possible

Iraq/Afghanistan: Ensure the successful consolidation of military gains in Iraq and Afghanistan while transitioning to a more resource-sustainable approach in these ongoing conflict areas, by:

- Expanding interoperability between SOF and conventional forces

- Maintaining continuity of operations

- Prioritizing developing relationships with partner forces

- Utilizing comprehensive deterrence

Allies: Strengthen alignment between the US and foreign military partners, by:

- Reaffirming public commitment to alliances

- Assessing tools to incentivize cooperation and respond to misalignment among allies

- Increasing strategic defense planning with partners

- Acknowledging progress towards burden sharing while broadening the scope beyond funding

Hybrid Conflict: Improve the way in which America navigates hybrid conflict, by:

- Reviewing current US hybrid deterrence posture

- Ensuring the US and its partners are resilient to adversaries' influence operations

- Reevaluating Cyber Command's authorities to launch offensive cyber operations

- Strengthening intelligence systems

Emerging technology: Secure U.S. advantage in emerging technologies with military applications, by:

- Becoming a better business partner

- Winning the narrative

- Reforming technical workforce hiring and talent management

Space: Underscore the criticality of ongoing competition in this domain while ensuring that America retains its competitive edge in space, by:

- Removing regulation and legislation that creates barriers to innovation

- Allying with the private sector to bring novel solutions to pressing problems

- Engaging the global community to establish space norms

Nuclear modernization: Direct the modernization of the nation's nuclear arsenal, by:

- Directing an interagency effort to modernize NC3 architecture

- Prioritizing investments in the Columbia-class ballistic submarine

- Prioritizing investments in the Nuclear National Security Administration

Budget: Improve the creation, spending, and oversight of America's defense budget, by:

- Ordering a comprehensive review of the defense budget process

- Ensuring that the Pentagon undergo a full financial audit

- Prioritize outreach to Congress on needed reform to budgeting

Acquisition: Improve the DOD acquisition process, by:

- Ordering that all data collected by federal agencies be shared

- Working with Congress to establish new processes for software acquisition

- Seeking to diversify the defense industrial base by establishing partnerships with a wider range of American companies

Readiness: Ensure the DOD maintains constant readiness to fight peer competitors, by:

- Maintaining readiness priorities within the defense budget

- Using the deployment power to exercise readiness and deter aggression

Posture: Ensure the Pentagon has the necessary posture to secure national interests, by:

- Prioritizing footprints and agreements in the Indo-Pacific

- Reassessing posture in Europe and the Middle East to deter Russia and Iran

- Staffing and resourcing other parts of the US government needed to support missions abroad

We hope that these papers will prove useful to campaigns and to others working for the future of US national security. They are addressed to future administrations, regardless of political party. The reinvigoration of America's deterrence cannot be accomplished without sustained bipartisan support and reliable execution. This consistency is a difficult demand but is one that must be met if America is to defend its national interests for generations to come. We believe that America can and will succeed in this new era of global challenges.

—Casey Corcoran, Allison Lazarus, and the
Defense Playbook student team

1. Reasserting Deterrence and Credibility in East Asia

Casey Corcoran

Since the end of the Cold War, America has enjoyed global military superiority, granting it the freedom to pursue its national interests. However, China's economic ascendance and military investments, combined with its expansive strategic interests and autocratic political system, have made it America's primary long-term competitor and challenger to US dominance in East Asia. Advancements in Chinese anti-access/area-denial capabilities (A2/AD), have placed US assets from Beijing to Guam within missile range, raising doubts over US willingness to intervene in potential conflicts on China's periphery. These potential conflicts include those between China and Taiwan over sovereignty or territorial disputes between China and US allies (Japan or the Philippines) in the East and South China Seas. As China's relative strength grows, America's commitment to defending regional allies will be increasingly questioned, potentially leading partners to concede to Chinese coercion rather than risk a conflict without American support. This shift in power incentivizes Beijing to use force to obtain strategic objectives if they believe that they can prevail without triggering a meaningful US response.

The effects of this trend can be mitigated. China's theories of victory in likely conflicts are based on America's recent warfighting tactics. Since the Gulf War, America has relied on an extensive logistics network and unquestionably dominant land, sea, air, and cyberspace capabilities to rapidly deploy combat power globally and operate freely in uncontested warfighting domains. Chinese coastal A2/AD technologies problematize this strategy by targeting US basing and logistics infrastructure to prevent a military buildup. This means that to intervene in a regional conflict, the US would have to neutralize the network through strikes on the Chinese mainland, risking potential nuclear war. Additionally, new Chinese air, space, and cyber capabilities allow Beijing to contest previously uncontested domains. Chinese theories of victory rely on rapidly seizing objectives and forcing the US to choose between costly escalation and capitulation.

To retain its advantage in great power competition, America must pursue and fund a new strategy that allows US forces to quickly respond to Chinese aggression, operate in environments heavily contested by China, and ultimately reassure regional partners that the American military is prepared to fight and win in East Asia.

Recommendations:

The President should pursue a strategy built for defined, high probability scenarios. Recent conflicts created an American military built to win small wars. Current tactics, capabilities, and infrastructure are not viable in potential conflicts in Taiwan or the East and South China Seas. The next administration should pursue a new regional warfighting strategy built on:

- Developing New Capabilities:

    - *Unmanned systems and long-range munitions:* The administration should invest in unmanned vehicles, aircraft, and vessels that can be deployed outside Chinese missile range and can be mass-produced at low-cost to overcome the attrition rates likely in Sino-US conflict. The aircraft should allow for vertical take-offs and landings so they can launch off runways degraded by Chinese munitions.

    - *Space and Cyber:* Chinese missiles rely on integrated networks of satellites and radar. The US should invest in testing and fielding countermeasures to blind them.

- Improving Force Resilience:

    - *Hardened and Expanded Basing Infrastructure:* Chinese missiles degrade US response times by forcing assets to be stationed further from the fight. The administration should prioritize missile defense and hardening existing air and logistics bases to increase the survivability of assets stationed close to Beijing. Concurrently, the administration

should explore opening new bases and placing new capabilities on existing ones, such as deploying fifth-generation aircraft to Northern Japan, to increase the number of targets China must suppress.

- *Secured Cyber Networks:* US dependence on digital and space systems for communications, targeting, and navigation presents a crucial vulnerability. The administration should pursue strengthening these systems against intrusion while promoting military contingency training involving degraded capabilities.

- Maintaining Remaining Advantage:

  - *Attack Submarines:* Submarines can get close to the Chinese mainland, holding their assets at risk while avoiding missiles. However, the US only has 51 attack submarines, 15 short of its stated goal. This number is set to decline to 42 by 2028. Of the 51, the Navy can only deploy approximately eight on short notice to the Western Pacific, while China hosts over 50 in its backyard. The US needs to provide life-extension services to retiring submarines and increase the production of new ones but lacks the required infrastructure to do so. The administration must urgently invest in submarine parts and shipyards to meet this need.

  - *Fifth-Generation Aircraft:* The US should expand deployment of the F-22 and F-35. While they are expensive and may be destroyed rapidly in a full war, they hold a significant edge over the Chinese J-20 and remain critical for responding to maritime crises or striking China's A2/AD network in the event of escalation.

  - *Special Operations Forces:* Chinese doctrine emphasizes "informationized" warfare, which uses cyber and political operations to prepare the battlefield for a swift victory before the US can respond. Increased special operations activity, including training and potentially aiding

counter-psyops initiatives in Taiwan, Japan, and Southeast Asia, can mitigate this risk.

The President should advocate budgets that address the urgency of the challenge. The Pacific Reassurance Initiative (PRI) was a good first step to funding East Asian defense policy. However, reassurance is a long-term commitment and follow on steps need to be taken, including:

- *Institutionalizing Regional Support:* The next administration will oversee the implementation of PRI and the development of its successor. Funding levels should be adjusted as needed and money should be focused on improving basing and logistics networks, strengthening partner capacity, and developing and prepositioning key capabilities.

- *Building Regional Capacity:* America does not stand alone. The administration should prepare partners to resist Chinese coercion. A good start would be fully funding the Maritime Security Initiative to develop South East Asia's maritime capacity.

NATO Photo

2. Countering Russian Belligerence in Europe

William Wright

Russia has proved both able and willing to challenge American interests in Europe and destabilize American allies and partners in the region. The Russian military's growing nuclear and expeditionary capabilities merits treating it as a near peer threat—something that requires a far different approach than against terrorist organizations or rogue states. Russia has also demonstrated mastery of tools that defy traditional classifications of military action, including cyber-attacks, information operations, and political interference. At the same time, Russia has debuted improvements on conventional weapon systems like their alleged hypersonic nuclear capabilities which seem to render traditional missile defense less potent.

These capabilities present no idle threat. Russia has shown an increasing appetite for flexing its newly modernized military in order to assert control over its near abroad. It has proved especially adept at exploiting fissures in existing alliances in order to prevent established deterrence mechanisms from checking Russian projections of power. Its actions in Crimea and East Ukraine testify to both the potency of this threat and NATO's inability to check it. Finally, it bears emphasizing that Putin has long sought to reestablish the Soviet Union's old sphere of influence and views NATO's presence on its border as a strategic threat. Destabilizing NATO and regaining control over its near abroad are among Russia's top foreign policy priorities. More belligerence is to be expected.

This threat could materialize in two ways: against vulnerable NATO members, and against non-NATO partners. Because Russia is still conventionally outmatched, it will not quickly challenge a NATO member through conventional force, as NATO's Article V ensures a resolute alliance response in such an event. Rather, they will seek to undermine domestic political institutions and infrastructure through information operations and cyber operations. The Baltic states are particularly vulnerable to such an approach, though all post-Soviet NATO members remain potential

targets. With respect to non-NATO members, Russia may be willing to use rapid thrusts of conventional force to present the West with a fait accompli that will prove difficult to dislodge. This would likely take the form of further seizures of territory in Ukraine or another invasion of Georgia. America's policymakers and military commanders must ensure that our military forces in Europe are well-suited to counter the actual threats that Russia poses today—and not simply the Soviet threat of decades past.

The next President should clearly articulate three guiding principles for the National Security apparatus:

- Build broad consensus on how NATO will respond to unconventional aggression

- Continue to build cohesion within NATO and among key non-NATO partners

- Sharpen our ability to respond unilaterally to the specific threats that Russia poses

Recommendations

The President must continue to push NATO toward greater readiness to respond to the actual threats that its members face. Most of NATO's partnership exercises and quick-response capabilities remain focused on conventional threats. Little understanding has been reached of what kind of response will be merited for actions that defy classification as an "armed attack." Furthermore, special operations and intelligence capabilities must be better synchronized across the alliance to response to unconventional threats. The following actions would be wise:

- *Encourage NATO to build consensus on the term "armed attack"*: We must draw clear lines about what conduct currently meets this threshold, thus decreasing uncertainty.

- *Articulate responses to aggression below an armed attack*: We must assess the tactics we know Russia uses and articulate responses

these will elicit, even if they fall below the threshold of "armed attacks." We must also hone our ability to carry out these responses.

- *Increase intelligence sharing and special operations capabilities in the Baltics:* Building on the progress already made here will check the most likely Russian move in this area.

The President should take actions to signal our commitment to our partners. Russia seeks to destabilize NATO by sowing uncertainty and doubt about members' commitment to each other. We must aggressively counter this notion and ensure that alliance forces can fight together. We should also bring vital non-NATO member partners under this umbrella where the strategic benefit is worth the potential cost we would have to pay to defend them. To do this we should:

- *Continue NATO-wide exercises, including key non-member partners*: Doing so is a strong signal of commitment and increases the ability of European forces to fight as one.

- *Maintain a rotational presence of NATO troops in threatened countries*: Nothing is a stronger signal than a protracted presence of alliance troops on a vulnerable country's soil. Our efforts in this lane thus far should be further refined and bolstered.

The President should realign our force projection capabilities to the specific conventional threats facing non-NATO partners such that a rapid unilateral response is possible. In the event of a rapid takeover of Ukraine or Georgia, mustering the willpower of a coalition of allies will be both difficult and slow. Ensuring our ability to rapidly insert enough American forces to blunt a Russian invasion is thus vital. However, our European forces remain geared toward conventional threats to central Europe. We therefore should take the following actions:

- *Align the Army Prepositioned Stock (APS) to threats to greater Ukraine and Georgia*: Forward deployed stocks of equipment to support rapid projections of conventional force are currently concentrated in Western Europe. Logistical difficulties remain an obstacle to deploying these to threatened theaters rapidly. We

should move a division's worth of this equipment to Poland and a brigade's worth to Georgia, prioritize these stocks in the planned APS modernization, and ensure these can counter Russian UAVs and T-14 tanks.

- *Emphasize anti-armor and counter-UAV in our airborne response forces*: Our most rapidly deployable conventional assets—contingency response forces of the 82nd and 173rd Airborne Brigades—must cultivate a greater ability to blunt Russian thrusts. This will entail sharpening their focus on countering modern Russian armor and UAVs.

- *Align a conventional armored brigade to Ukraine and to Georgia*: Knowing precisely where the conventional threat lies, we should align specific heavy units to respond.

3. Ongoing Conflicts in Iraq and Afghanistan

Kathryn Reed

Although the 2018 *National Defense Strategy* identified inter-state strategic competition as the primary concern in American national security, ongoing conflicts in Iraq and Afghanistan persist after decades in theater. The conflicts in Iraq and Afghanistan are asymmetric. Large-scale interventions and conventional command and control structures have not proven well-poised to address unconventional war. The operational environments of Iraq and Afghanistan require integrated operations that draw upon the broad and interrelated capabilities of Special Operations Forces (SOF) and conventional forces, thereby combining the flexibility of the former with the scale of the latter. Though still largely dependent upon conventional units, these conflicts are increasingly typified by a reliance on low-visibility forces, including SOF.

The United States Special Operations Command (SOCOM) has maintained high operational tempo in its force. Modern SOCOM operations are characterized by hybrid warfare environments that involve both irregular and conventional threats. As such, ongoing conflict in Iraq and Afghanistan poses organizational and planning challenges for SOCOM, which must at once maintain present readiness and develop future preparedness.

The organizational adaptability of SOF lends strategic value to addressing these challenges. As outward regarding units—those that reconfigure their own capabilities and tactics to exploit adversarial weaknesses—SOF adjusts to accommodate dynamic shifts in external threats. Yet, despite this adaptability, SOF remains limited by bureaucratic, fiscal, and organizational constraints. The United States must pursue a new SOF framework that draws upon intra-military units and partner forces in order to increase mission efficiency and efficacy in ongoing conflict in Iraq and Afghanistan.

Recommendations

Expand interoperability between SOF and conventional forces.

- *Increase planned interdependence:* To facilitate success among combined executing forces, specific SOF and conventional units should be paired and habitually aligned by region. Routine joint training exercises should be conducted to increase inter-unit cohesion and preparedness.

- *Continue to increase differentiation and specialization of conventional units:* There should be continued focus on developing and expanding specialized conventional units, as typified by Security Force Assistance Brigades. Such units support SOF missions (counterinsurgency, unconventional warfare, direct action, foreign internal defense, special reconnaissance, security force assistance) and SOCOM competencies, resulting in increased dynamic capability. While conventional forces are designed and optimized for traditional warfare missions, contexts, and purposes, their capabilities can and should be applied in hybrid warfare environments.

Maintain continuity of operations. Effective continuity of operations is integral to sustainable success. By nature, rotational warfare requires that SOF and conventional relieving elements must efficiently and sufficiently access the knowledge base, tactics, techniques, and procedures of outgoing elements while concurrently assuming responsibility for the mission.

- *Implement staggered relief in place:* Staggered relief in place is a process by which an outgoing unit is gradually replaced by an incoming unit in a sequence that is determined by the tactical situation, rather than by geographic considerations. This process allows for command overlap, ensuring mission cohesion between outgoing and incoming units.

- *Return units to their previous areas of deployment:* When units return to areas of operation, they build upon and develop previously formed relationships with partner forces. Additionally, rotation cycles that return units to previous areas of deployment

do not require substantial familiarization with areas of operation, thus increasing efficacy. However, given frequent soldier turnover, it may be necessary to develop additional processes to preserve institutional knowledge within units.

Prioritize developing relationships with partner forces. Partner forces help to establish regional influence and legitimacy. SOF elements and conventional Security Force Assistance Brigades are specially trained to develop and maintain relationships with partner forces, particularly within the context of advise, assist, and accompany missions. Such relationships can be integral to intelligence cooperation and security arrangements, as partner forces have greater familiarity with local populations and terrain.

- *Prioritize capability development over partner force operations:* In order to ensure operational sustainability, the United States must focus on partner force unit capability. This can be achieved by focusing SOF security force assistance on limited missions that build operational capacity.

- *Develop non-transactional relationships:* Fostering non-transactional relationships can increase rapport between SOF and partner forces. Non-transactional relationships are facilitated by enhanced language skills, increased cultural awareness training, and proximal living conditions.

Utilize comprehensive deterrence. Comprehensive deterrence requires three components: U.S. capability, U.S. will, and adversaries' belief in U.S. capability and will. Overt deterrence behavior signals U.S. intent. SOCOM should employ its Title 10 authorities—the section of the U.S. Code that delineates the role of armed forces—to enhance the U.S. deterrence framework in Iraq and Afghanistan. A comprehensive deterrence model that is integrated with partner force cooperation allows for the rescaling of security challenges away from major combat operations earlier in their trajectory, thus increasing the efficiency of resource allocation.

- *Realign doctrine and policy in pursuit of a general deterrent strategy:* Comprehensive deterrence is more successful when backed by consistent action. The United States should focus on developing and

projecting uniform doctrine and policy that projects a consistent stance regarding ongoing conflict in Iraq and Afghanistan.

- *Avoid specific threats:* Vague objectives can afford policymakers and military leaders more flexibility in selecting the time, method, and place of reprisal. When conveyed through overt military presence and active diplomacy, vague threats can exert greater influence on adversaries than can specific deterrence policies (e.g., "red lines").

4. Synchronizing Defense Policy with Allies

Bo Julie Crowley

Over the past 75 years, allies and partners have helped share resources, defend a common democratic worldview, and provide collective defense that enables peaceful trade, governance, and economic development. Direct US benefits include intelligence sharing, access to a global network of basing, ground force support, and more. Allies and partners also support military engagements independently, allowing the US to refocus resources from secondary commitments to the most pressing threats. As the global balance of power shifts, this network will become even more important to protect US defense interests.

While the 2018 National Defense Strategy (NDS) promoted strengthening allies and attracting new partners as a core line of effort, conflict over burden sharing and the US' military and diplomatic decisions have strained traditional alliances during the Trump administration. Sources of tension include the decision to withdraw from the Iran deal and escalation of rhetoric between American and Iranian leaders, the imposition of near-unilateral restrictions on Chinese technology exports, the drawdown of US forces in Syria, and public statements questioning or undermining the role of NATO.

At the same time, the US faces a complex threat landscape that will require greater cooperation and capability-building. Hybrid warfare tactics like information operations, cybersecurity, and economic coercion leverage transnational systems to project influence and undermine democratic processes. The NDS identified China and Russia as the most severe threats to the alliance structure, cautioning that the US cannot rely on its conventional military advantage alone to protect its security interests.

To increase alignment with allies and partners, the next President should double down on engaging allies and partners in planning, operations, and capability-building.

Recommendations

Reaffirm public commitment to alliances. Publicly affirming the US' commitment to collective defense deters adversaries and helps the public understand how the US benefits from this system. This messaging should include:

- *Long-term commitment:* Articulate the US' past and future commitment to uphold key tenets of collective mutual defense to deter adversaries. This should also be directed at allies and partners who question the US' recent policy reversals on agreements like the Trans Pacific Partnership to prevent them from seeking stronger ties with US adversaries.

- *Priority countries:* Prioritize resource allocation and engagement with allies who have made the greatest commitments to preserving a peaceful world order as well as countries central to combating adversaries' strategies, e.g., countries targeted by China's influence program in Southeast Asia and Africa.

Assess tools to incentivize cooperation and respond to misalignment among allies and partners. The next President should initiate a review of interagency tools that can be used to influence behavior among allies and partners and assess their effectiveness. These tools include:

- *Defense sales*: Review defense sales to determine whether they address the country's and US' security needs. To deter actions that run counter to US interests, clearly establish the conditions under which sales would be suspended.

- *Security cooperation*: Prioritize programs to train and equip foreign partners where the primary objective aligns with US defense activities that address state actor threats, evaluate how security cooperation funding can be more responsive to ally and partner activities.

- *Foreign defense acquisitions:* When allies and partners seek feedback from the US on defense equipment purchases, the US should use

these invitations for input to encourage purchases that backfill US shortfalls rather than emphasizing interoperability alone.

Increase strategic defense planning with partners and allies. The NDS influences strategic, operational, and tactical activities across the DOD enterprise and provides a forum to align allies and partners with US defense objectives from planning through execution. Today, the NDS incorporates some foreign military input but lacks a consistent process to engage all allies and partners. The next President should increase and formalize allied and partner engagement in the following activities:

- *NDS Planning*: Engage key allies and partners in NDS working groups. Formalize consultations between regional policy desks, Geographic Combatant Commands, and DOD leadership with their foreign counterparts. This aims to increase buy-in to US strategic objectives at an early stage, as well as inform and improve the NDS.

- *Planning Consultations*: Incorporate allies and partners into operational planning, both to improve relationships and to communicate the US' capability needs to key allies who may not realize where their resources are most needed.

- *Foreign Military Defense Strategies*: Engage more formally in NDS-like activities among partners to provide US input and increase cohesion with US strategy and interests.

Acknowledge progress towards burden sharing while broadening the scope beyond funding. The next President should adopt a more nuanced approach towards burden sharing. Setting more specific and relevant targets beyond defense spending can improve the overall readiness and security posture of alliance structures. These factors include:

- *Global contributions*: Recognize allies that participate in efforts to combat multiple threats across multiple regions and identify those that should increase their engagement. For example, Australia has stepped up its efforts to counter Chinese influence throughout

Southeast Asia, not just the immediate military threat China poses to the country.

- *Defense capability maturity*: Identify capabilities that impact an ally's readiness on a country-level basis and target these areas for improvement. Elevate capability development as a priority at principal-level meetings.

- *Support for regional alliances*: Support external alliance structures that promote collective defense and counter threats from China and Russia without direct US commitments, such as the Association of Southeast Asian Nations (ASEAN).

5. Competing in an Era of Hybrid Conflict

Casey Corcoran

Hybrid conflicts blend conventional and irregular warfare, mixing cyberwarfare and proxy forces with other influence tactics such as economic leverage and information operations. They often operate within the 'grey zone' between active warfare and peace.

Hybrid tactics already play a prominent role in the battle plans of America's future adversaries. They have been utilized successfully, in different forms, from Iraq to Ukraine to the South China Sea to gain asymmetric advantages over conventionally superior adversaries and to achieve strategic objectives without triggering a forceful response. Currently, America lacks the infrastructure and policies required to unify its instruments of power to mount an effective hybrid defense and conduct its own hybrid operations. In order to compete in this new era of warfare, the next President must focus on strengthening regional capabilities, assessing organizational authorities, and defining American deterrence.

The next President should clearly articulate three guiding principles:

- *Do No Harm*: Reforms to address hybrid conflicts must not degrade current US capabilities to fight and win conventional wars.

- *Avoid Conflict Creation and Escalation*: Increased engagement in grey-zone activities must be carefully managed to avoid more frequent conflict.

- *Beware of Norm Setting:* The US must be aware that it is establishing precedent with both its action and inaction and should consciously choose which norms to establish and uphold.

Recommendations

Review current US hybrid deterrence posture. Adversaries use the grey zone to achieve strategic objectives without triggering forceful responses. Clear signaling from America can help deter grey zone activity. However, overly defined red lines encourage activity up to the threshold and constrain US action. In reviewing the US deterrence posture, the President must consider the following:

- *Allies & Partners*: Deterrence must take a global perspective by including key partners and allies. The US should establish regional frameworks to address hybrid threats and consider updating its commitments to include sections regarding grey-zone activities.

- *Persistence & Specificity*: U.S. countermeasures should be ongoing rather than singular episodes, minimizing pressure on policymakers to respond to every event and allowing for dynamic response options tailored specifically to alter foreign leaders' cost calculus.

- *Outcomes & Ambiguity:* US responses should be triggered by outcomes to avoid constraining responses to specific tactics. The communicated warnings should be broad to allow policymakers flexibility and add to adversarial uncertainty.

Ensure the US and its partners are resilient to adversaries' influence operations. Russia and China advance their interests through persistent influence campaigns that spread selective content and censor criticism through social and traditional media channels. The US must confront these tactics without impacting civil liberties or Russia and China will succeed in replacing democratic influence in East Europe and East Asia with their own.

- *Eastern Europe:* Russia divides societies and benefits from the chaos as seen in the 2016 American election and the 2014 invasion of Ukraine. In Ukraine, they targeted divisive messaging at ethnic Russian minorities to create a pretext for invasion. NATO states in the Baltics have minority ethnic Russian populations who could be targeted with similar tactics. America should encourage Baltic allies

to be inclusive of ethnic-Russians and assist them in developing counter-messaging methods. The FBI should increase overseas anti-corruption efforts to highlight Kremlin-backed politicians.
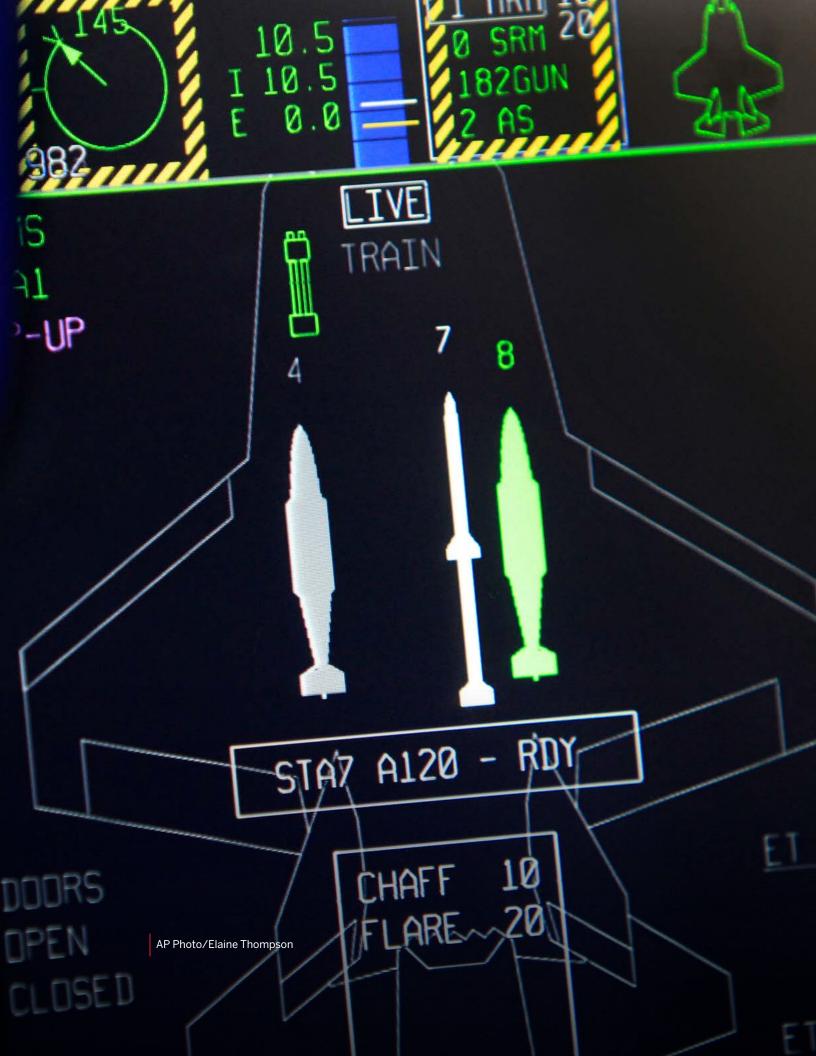
- *East Asia:* China generally targets specific pro-China issues. China has used both social and traditional media to promote Beijing friendly politicians and policies while disparaging adversaries. China captures elites through economic leverage and blackmail. America should export its NATO-centric Eastern European hybrid defense model to Asia by developing counter-hybrid teams with key allies, funding regional research centers, and increasing intelligence sharing centered on ongoing information campaigns and foreign elite's financial ties to Beijing.

Reevaluate Cyber Command's authorities to launch offensive cyber operations. President Trump initiated a new streamlined process governing how the interagency approves cyber operations. This was part of an overall strategy of "defending forward" in cyberspace by using persistent operations to pre-empt and respond to adversaries. While this allows for a more proactive cyber posture, additional reform is needed to address the following:

- *Oversight & Deconfliction*: The President must understand and assume responsibility for all ongoing operations. Furthermore, all relevant agencies must be allowed to object to operations that interfere with their priorities such as diplomatic or intelligence efforts.

- *Efficiency*: Cyber operations, like conventional operations, need to occur when operationally effective, not bureaucratically convenient. Cyber warriors need enough autonomy to prepare the battlefield in advance and choose the optimal moment to strike.

- *Transparency*: While certain cyber authorities must be classified, the rules governing the process for choosing when to use force should be open to inspection by US citizens.

Strengthen intelligence systems. Mounting an effective hybrid defense requires both extensive counter-intelligence and collection efforts. However, advancements in hacking and surveillance technology have blunted the US ability to collect intelligence and allowed adversaries to enable their influence operations through more effective HUMINT operations. Innovation is needed to:

- *Rethink Intelligence Collection:* By combining data taken from breaches with new surveillance technologies, Russia and China will become increasingly effective at identifying foreign agents and their assets. New collection methods must be pioneered to maintain US intelligence collection capabilities.

- *Strengthen Democracies:* Stolen personal data and emboldened adversaries are allowing Russia and China to subvert political systems on their periphery through blackmail and bribery. A renewed focus on anti-corruption efforts abroad is required.

- *Protect Sensitive Networks:* Data is the backbone of many of these new threats. The US must harden both commercial and governmental systems to blunt their effect through regulation and private sector innovation.

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AP Photo/Elaine Thompson

6. Emerging Technology and Military Advantage

Bo Julie Crowley, Richard Kuzma, Allison Lazarus

Technology can provide a decisive advantage on the battlefield—developments like air power, the internet, and guided munitions have revolutionized how war is fought. The Department of Defense has traditionally led the world in technology research and development. In the most recent budget, about $100B was appropriated for research, development, test and evaluation (RDT&E), which includes most of the Department's emerging technology initiatives. DOD invests in technology at varying levels of maturity. The Defense Advanced Research Projects Agency (DARPA) and military laboratories focus on early-stage technologies with a time horizon of 15+ years; services' rapid capabilities offices and warfighting labs focus on more mature technologies with a time horizon of 5-15 years; the Strategic Capabilities Office (SCO) focuses on repurposing mature, existing military technology for new uses; and the Defense Innovation Unit (DIU) brings advanced commercial technologies directly into DOD.

Two key military-technical trends have accelerated since the end of the Cold War: (1) private investment in research and development increasingly outpaces government investment, and (2) the United States now faces serious competition from China for technological supremacy. DOD spending, though large, increasingly pales in comparison to the private sector, where the largest technology firms routinely spend over $10B each per year on research and development (R&D). The federal government cannot compete at scale with the private sector's increasing R&D budgets, speed of adoption, and technical talent, and will need to drive public-private partnerships to keep pace with technological developments.

The NDS cites advanced computing, "big data" analytics, artificial intelligence and machine learning, autonomy, robotics, directed energy, hypersonics, and biotechnology as technologies critical to retaining the US's technical advantage. The private sector largely drives breakthrough

research and new uses cases across these technologies, but current statute and policies make DOD a poor business partner and customer - meaning that this commercial technology may never make its way to defense applications. Further, private sector technology engineers have raised ethical objections to working with the military, as expressed in open letters from Google, Amazon, and Microsoft employees. In contrast, China's People's Liberation Army (PLA) has made "civil-military fusion" a key element of its integrated public-private technology strategy.

Recommendations

Become a better business partner. Traditional DOD contracting is too slow for technology companies and investors. DOD contracting must be as nimble as commercial options to entice the most advanced technology companies to work with the military.

- *Fund organizations connecting DOD to commercial technology:* If the DOD is serious about commercial technology, it must support organizations that provide pathways for emerging technology. These organizations, including DIU, make up less than 1% of DoD's $104 billion proposed RDT&E budget.

- *Incentivize calculated risk-taking:* Even if DOD builds successful acquisition pathways, the services are the end-customers that must supply funding for technology contracts. Unit commanders are traditionally risk-averse with their funding, leading to a supply of technology without demand. The Department should reward innovative leaders willing to take risk. Examples include the Air Force's successful Kessel Run and Air Operations Center project, which created an in-house software development capability.

- *Refocus the military laboratories:* The shift in commercial technology means service laboratories should increasingly focus on developing technologies that address longer-timetable military problem sets and has no commercial market.

Win the narrative. Engineers are the lifeblood of technology companies. Companies that fail to recruit and retain engineers will die. Many engineers are currently pitted against DOD because of two narrative battles. First, technologists don't believe working with the military is ethically sound. Second, the U.S. government treats foreign technologists (who make up a significant portion of tech companies) as security threats, making them adversaries.

- *Make ethical use of technology a key part of DoD's tech strategy:* The Defense Innovation Board (DIB) is a group of technical experts from industry and academia. They released the results of their ethical AI principles study in October 2019. The DOD should work to enact these recommendations and continue to include voices from industry and the academy.

- *Reframe the immigration national security issue:* The DOD must avoid framing all foreign-born scientists as an inherent security risk. Alienating immigrant communities and raising broad barriers to high-skilled immigration means technically gifted immigrants work abroad instead of in the United States. Programs to attract talent at universities become even more critical in ensuring DoD secures top technical personnel.

Reform technical workforce hiring and talent management. Government hiring is cumbersome, and both uniformed and civilian technical talent languishes without the proper tools and purposeful work.

- *Fund a larger university-to-DOD recruiting pipeline:* DOD should frame China's technology advances as a Sputnik moment and recommit funding for loans, scholarships, and graduate fellowships for science and engineering students, and publicize the DOD's technology initiatives and career options on college campuses across the country, while increasing funding for basic research at premier academic institutions (e.g. Stanford, MIT, Carnegie Mellon) to advance research that is not commercially viable in the short-term and to build student talent pipelines.

- *Build on current reforms to the security clearance process:* DOD should support the Defense Digital Service's efforts to modernize the clearance process, while potentially reconsidering barriers that may disqualify technical workers, such as drug use and foreign national contacts, and do not necessarily increase their risk of committing espionage.

- *Provide flexible career options:* DOD fails to leverage its uniformed technical talent by forcing them to conform to traditional military career pipelines. Technically gifted personnel should be identified and given flexibility to do jobs that use their skills.

7. American Dominance in Space

Richard Kuzma, Tom Wester

Space is a key element of our national power and prestige. Nearly everything we do depends upon space-based capabilities, from the precise timing of global stock markets to enabling the full spectrum of military operations.

While space is a powerful enabler for U.S. power, it is also a critical vulnerability. Global competition in space is eroding the U.S. advantage. Russia and China view the space domain as critical to waging modern warfare and ultimately undermining U.S. military effectiveness. Both are rapidly pursuing novel capabilities. In 2018, China conducted more orbital launches than the United States and, by the end of this year, they will be nearly complete with a new, rival Global Navigation Satellite System. Further, Chinese Communist Party leadership has clearly delineated their intent to become a "space power in all respects" and attain peer-status with the United States. Russia, a dominant space power since the 1950s, retains advanced anti-satellite weaponry able to hold American space assets at risk and continues to modernize their space capabilities. America is rapidly falling behind.

The next President must ensure that American space superiority remains built upon three foundational principles:

- *Undenied Access:* The U.S. must have low-cost, responsive, and undenied access to space via diversified multi-domain launch solutions that promote flexibility and speed.

- *Advanced Capabilities*: Government-led research and development lags behind commercial sector innovations. The U.S. must engage with industry partners to accelerate commercial technology to meet national security needs and retain a leading technological edge.

- *Resiliency:* Losing American space capabilities would cede a profound advantage to any adversary during conflict. The U.S. must maintain persistent and sustainable capabilities.

Recommendations

Remove regulation and legislation that creates unnecessary barriers to innovation. Estimates indicate that over the next five years, more satellites will be launched into space than have been launched in the previous history of the planet. Several pieces of antiquated legislation and regulations currently carried out by the Federal Communications Commission (FCC) hinder technology companies from rapidly pursuing space-based capabilities through length permit processes. These delays have caused some companies to launch to foreign countries instead of the United States.

- *Establish different regulatory requirements for different platforms:* a satellite the size of a mini-fridge should be subject to separate requirements from one the size of a school bus

- *Unburden the FCC from a one-size-fits-all space organization:* The FCC should focus on spectrum usage, not ensuring the safety, ability to track, general operational guidelines, and end-of-life disposal for all satellites. Leverage the new Space Development Agency (SDA), NASA, and others.

- *Establish a space-traffic management organization:* More satellites in space require permits, tracking, and deconfliction. A space organization analogous to the Federal Aviation Administration will be needed to manage this.

Ally with the private sector to bring novel solutions to pressing American space problems.

Increasingly, the most cost-efficient, innovative, and leading-edge space technologies come from the private sector. Failing to integrate closely with the rising commercial "new-space" participants will risk ceding the U.S.'s advantage to Russia and China.

- *Increase support and funding for proven rapid contracting mechanisms:* Defense Innovation Unit (DIU) paved the way for DOD acquisition of commercial technologies. Using only a fraction of DIU's $40M budget, DIU's space portfolio has already delivered small satellites, persistent intelligence and warning capabilities, and on-demand space launch capabilities to DoD.

- *Focus investments in priority areas, including***:**

  - *Broadband communication* - decreasing latency and increasing coverage in support of next generation technologies, especially autonomous systems.

  - *Position, navigation, and timing* - ensuring American navigation and guidance systems retain capability in a catastrophe and maintain resiliency

  - *Hypersonics* - retain supremacy in detecting and defeating emerging weapons.

  - *Persistent intelligence, surveillance, and reconnaissance (ISR):* creating large constellations of satellites capable of global, persistent, real-time monitoring

- *Lower barriers of commercial space industry via small, responsive launch:* Launch represents the largest barrier to the commercial space industry—space assets aren't any good if you can't get them there. The government must foster the development of on-demand, varied size, multi-domain space-launch capabilities so that access to space can never be denied.

Engage the global community to establish space norms. Establishing strong international norms in space that are able to de-escalate future conflict in an increasingly congested domain will become increasingly important.

- *No targeting strategic warning and nuclear command and control:* Blinding adversaries to potential nuclear threats or preventing

the use of nukes by an adversary is destabilizing and could lead to unnecessary nuclear escalation.

- *Giving global watchdogs space capabilities:* International organizations like the United Nations and the International Atomic Energy Agency should be provided with advanced commercially available, space situational awareness capabilities to track nefarious activities—human rights violations and illegal missile and nuclear program build-ups—and hold stakeholders accountable through internationally agreed-upon processes.

8. **Nuclear Modernization**

Ryan Solís

For the past 70 years, nuclear weapons have served as the bedrock of the nation's defense by providing an effective deterrent to large-scale provocations by adversaries. Over the same period, those weapons have also stoked fears of global catastrophe and encouraged destabilizing arms races. The U.S. nuclear triad that resulted, the combination of ground-based intercontinental ballistic missiles (ICBM), submarine launched ballistic missiles (SLBM), and bombers, aims to provide an effective combination of responsive, survivable, and flexible deterrent capabilities.

However, the international security environment has changed dramatically since the bipolar Cold War era when the majority of these weapons and doctrines were developed. With nine nuclear weapons states, the global community is confronted with the most diverse set of nuclear threats in history. Simultaneously, the U.S. nuclear weapons stockpile faces growing challenges due to deferred modernization and the limitations of life extension programs, the results of a diminished role in U.S. defense planning as the threat landscape has changed.

The next President must take renewed action to maximize the stabilizing effects of the nation's nuclear arsenal. Such action should include directing increased resources to modernize nuclear command, control, and communication (NC3) systems, ballistic missile submarines, and National Nuclear Security Administration (NNSA) infrastructure.

Further, the next President should clearly articulate to Congress these three guiding principles with regard to the nation's nuclear weapons arsenal:

- *Essential to Deterrence:* As long as nuclear weapons exist, the United States will maintain a safe, secure, and effective nuclear arsenal to deter potential adversaries and reassure allies of our commitment to global security.

- *Survivability is Paramount:* The ability of the United States to maintain the full range of response options following an adversary's first strike, regardless of the effects of such an attack, is vital to strategic stability.

- *Secure and Reliable NC3:* While the United States maintains its nuclear arsenal, it must remain under the strictest control, especially during times of crisis. A resilient NC3 network is critical to directing nuclear weapons consistent with national objectives.

Recommendations

The President should direct an interagency effort to modernize the NC3 architecture and ensure budgets satisfy the resulting requirements. The nation's NC3 systems include early warning satellites, radars, communication networks, command posts, and control centers for the nuclear systems. The systems, many elements of which still rely on legacy technology, suffer from aging components, growing cyber vulnerabilities, budgetary unpredictability, and other emerging threats.

- *Emerging Threats:* The President should direct the intelligence community to prioritize the study of emerging threats to the NC3 network. Emphasis should be placed on understanding threats posed by the increased targeting of communications and early warning satellites and offensive cyber threats to NC3 support infrastructure.

- *Reduce Vulnerabilities and Replace the Prompt Response Model:* The President should prioritize reducing the NC3 vulnerabilities identified before pursuing other nuclear modernization initiatives to ensure the nuclear arsenal continues to serve as a credible deterrent. The remediation of those vulnerabilities will decrease the prominence of the "use or lose" model of nuclear response, greatly enhancing strategic stability.

The President should direct the prioritization of investments in the Columbia-class ballistic missile submarine. The nuclear-powered ballistic missile submarine (SSBN) fleet constitutes the most survivable leg of the nuclear triad owed to a constantly deployed presence and ability to avoid detection. The current ballistic missile submarine, the Ohio-class, is scheduled to be replaced at the completion of a 42-year service life (extended from 30 years) by the Columbia-class submarine between 2031 and 2042. Coupled with a resilient NC3 system, the SSBN fleet ensures the United States maintains a persistent, retaliatory strike capability.

- *Anti-Submarine Warfare (ASW):* The long-term viability of the submarine leg of the nuclear triad depends on the ability of the United States to defeat advancements in adversary ASW capabilities. As such, the President should direct a substantial and continuous effort by the intelligence community into the study of ASW developments.

- *Anticipate and Preempt Delays:* The current plan to replace the Ohio-class submarines while maintaining a 10-submarine deployed fleet leaves little margin of error. It is essential to prevent delays to due technical challenges likely to occur in a project of this scale by building excess capacity into the production process and to avoid budgetary uncertainty inherent to funding via continuing resolutions to the greatest extent possible.

The President should direct the prioritization of investments in the Nuclear National Security Administration. While the Department of Defense generates the military requirements for the nuclear warheads to be carried on delivery platforms, the NNSA— a semiautonomous agency within the Department of Energy—is responsible for the research, assessment, design, development, production, and testing of those warheads. The NNSA requires urgent modernization to meet increasing requirements of the Life Extension Program and to satisfy new weapon development.

- *Infrastructure:* The NNSA's aging and deteriorating explosives infrastructure, 40% of which is insufficient to meet current mission requirements, poses significant safety issues and threatens to undermine current life extension programs for the nuclear

stockpile. The President should direct the Secretary of Energy to recapitalize NNSA infrastructure.

- *Specialized Material Shortages:* The NNSA is further challenged by dwindling supplies and lost recipes of explosive precursor materials coupled with a significantly reduced knowledge base and a fragile supply chain. As such, the President should direct the Secretary of Energy to increase resiliency in critical materials production and acquisition to hedge against uncertainty in future demands for these materials.

GEN Milley

Secretary Wilson

9. Defense Budget Reform

Allison Lazarus, Jacqueline Parziale

The defense budget is a portion of the discretionary United States federal budget appropriated for the Department of Defense (DOD) and other military-related expenditures (e.g., nuclear activities at the Department of Energy). This budget pays the salaries of uniformed and civilian personnel, maintains arms, equipment, and facilities, funds operations, and develops and buys new goods and services. For Fiscal Year 2019, this budget was approximately $700 billion, making up slightly over half of total federal discretionary spending.

DOD allocates resources through an annual process called Planning, Programing, and Budgeting Execution (PPBE), which creates a framework based on DOD's strategic objectives to allocate resources across programs and force structure requirements. The complexity of the process means that a single year's budget development begins at least two years prior to the year of execution. The priorities driving budget decisions are set by strategic documents descending from the National Security Strategy (written by the White House) into the National Defense Strategy (written by DOD), DOD's war plans, the needs of the All Volunteer Force, and other operational requirements. Ultimately, DOD sends this budget request to Congress, which authorizes and appropriates the funds that are available to the Department the following year. For example, for the President's Budget Request for Fiscal Year 2021, the DoD will begin writing and adjudicating the full request in the summer and fall of 2019 and submit the request to Congress in the spring of 2020, with the goal of a passed appropriations bill by the start of Fiscal Year 2021 on October 1, 2020. Congress may choose to pass a budget similar to DOD's request, but it often makes modifications based on its own policy goals. Should Congress fail to pass a budget by the start of the fiscal year, DOD (and any other Federal agencies lacking appropriations) will be forced to shut down. Often, to avoid a shutdown, Congress will pass a continuing resolution (CR), in which appropriations for the coming fiscal year match those of the previous year. While CRs allow the DOD to continue operating at full scale, they strip the DOD of the ability to modify investments to evolving threats.

The budget "topline," (or total) can be understood through several lenses, including:

- *Military Services and fourth estate:* The budget is built beginning with separate submissions from each of the three military Services and from the defense agencies collectively known as the fourth estate.

- *Base v. Overseas Contingency Operations (OCO):* The base budget is focused on traditional peacetime operations, while OCO (or "war") funds are devoted to financing ongoing combat operations. However, the Pentagon has recently been criticized for overusing the OCO designation, as these funds are not subject to sequestration cuts and receive comparatively light oversight. DOD's position has historically been that this overuse has been caused by unrealistic Congressional budget caps (directed by sequestration).

- *"Colors of money":* Congress appropriates DOD funds for specific purposes in several major categories: Procurement; Research, Development, Testing and Evaluation (RDT&E); Operations and Maintenance (O&M); Military Personnel (MILPERS); and Military Construction (MILCON). Each of these categories has different rules around fund availability and use and cannot be 'converted' into another color without the involvement of Congress.

DOD can reallocate funds during the execution stage to purposes other than those appropriated by Congress through a process known as reprogramming. The rules for reprogramming actions vary by dollar amount, category of funds, and intended purpose of the funds. Reprogramming actions with higher dollar amounts or the start or cancellation of ongoing programs may require Congressional approval, which can prove a lengthy and contentious process. For most smaller shifts in funds, reprogramming serves as a useful tool to allow DOD flexibility in executing funding under often-changing circumstances. In 2019, the Trump administration used an Executive Order to enable reprogramming without Congressional approval to move DOD funds allocated for counter-narcotics activities toward border wall construction, causing significant frustration on the Hill.

Currently, this convoluted resource allocation process hinders the Department of Defense's ability to match resource allocation to changing strategic needs, advancing technology, and emerging threats. To compete and succeed in this new era of warfare, America's policymakers must work with Congress to ensure that budget development and execution allows DOD to truly adapt to great power conflict.

Though major elements of this process reside with Congress, the next President can significantly impact defense policy by clearly articulating guiding budget principles:

- *Reflecting Strategic Priorities*: Any defense budget must reflect the priorities of the White House, and not succumb to inertia, process takeover, or internal politics.

- *Collaborating with Congress*: The administration has broken trust with Congress on reprogramming. This relationship must be reestablished to improve outcomes.

- *Embracing Transparency:* To justify the large percentage of spending the defense budget occupies, the American people need to understand what capabilities it enables.

Recommendations

The President should order a comprehensive review of the defense budget process. The current PPBE process is antiquated and leads to budgets that are not fully aligned with strategic documents because of bureaucratic inertia and mismatched incentives. For instance, the structure of major acquisition programs (like the Joint Strike Fighter) commit the Department to inflexible budgeting plans for many years. This rigidity sometimes follows the organizational structure of DOD - despite a changing threat landscape since the 1960s, the military services have roughly split the budget each year equally between themselves. Therefore, the next President should order a complete review of PPBE to assess:
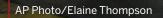
- *Timeframes:* Though the tasks required are complex, timelines must decrease—writing a budget two years before it is executed leads to dramatic mismatch with the circumstances of the day, especially in an era of rapidly changing technology. Some of these changes could be negotiated with Congress—for instance, better processes for suggesting modifications to the budget between the time of submission and its passage.

- *Roles:* Within PPBE, the roles of major actors could be refined - for instance, the major roles played by the military departments could be minimized in order to ensure necessary realignment occurs. The process could also be refined so that the Secretary retains a specific proportion of the budget to align against emerging priorities.

- *Alignment with strategic documents:* Refining the process to tighten alignment with strategy documents will ensure that budget shifts more quickly than it has traditionally—for instance, bringing reconsideration of roles and missions explicitly into the process could enable a more robust conversation on the size of the budget. Ensuring that the process is flexible enough to follow strategic documents can help ensure fidelity.

The President should ensure that the Pentagon complete a full financial audit. All US government agencies have been legally required to undergo and pass an audit since 1990, and all have done so except DOD. This lack of progress reflects the complexity and age of the Department's systems, but needs to be remedied in order to address:

- *Modernizing management:* Across the Department, the Pentagon has little insight into what assets it has and even how much money it spends. Achieving auditability will require a more complete picture of the Department, which should lead to better management and asset fidelity, and identify which financial systems might need to be updated.

- *Transparency and responsibility to taxpayers:* At the most basic level, the Pentagon's budget is made up of taxpayer dollars. Being able to track the spending of these funds seems to represent a basic level of responsibility to American citizens.

The President should prioritize outreach to Congress on needed reform to budgeting. Congress retains control over major elements of the defense budgeting process. The next administration should consider an agreement with Congress that trades the reforms Congress desires for those the executive branch wants.

- *Returning to reprogramming norms:* The administration should return to observing the custom that major reprogramming actions require Congressional concurrence.

- *Restrained use of OCO:* Multiple administrations have overused OCO in order to promote flexibility. Despite the advantages of this ambiguity, the next administration should realign appropriate (non-wartime) budgets into the base where possible. At the same time, the administration should urge Congress to lift BCA caps to enable larger realignment to the base.

AP Photo/Elaine Thompson

10. **Optimizing the Military's Acquisition Process**

Jacqueline Parziale

The DoD acquisition process is the mechanism by which the DoD procures all goods and services. Governed by a combination of federal and internal regulations, the acquisitions process covers everything from aircraft carriers and sophisticated weapons systems to desktop computers and email services. The defense acquisition process is incredibly complex, and timelines from initial concept to full operating status span a range from several years for basic commercial items, such as cell phones or drones, to decades for next generation capabilities such as the Joint Strike Fighter.

Two areas receive the majority of the criticism surrounding the defense acquisition process. The complexity of the process adds time and cost and serves to bar entry for small companies lacking the capacity to manage red tape. More importantly, antiquated processes stifle cutting-edge innovation and hinder the U.S.'s ability to compete militarily with technologically advanced and industrially integrated adversaries such as China.

As a result of these critiques, acquisition reform has been present in the defense sector for over four decades. Driven by Congress, the DoD, or even by the private sector, acquisition reforms nominally strive to prevent the abuse or misuse of taxpayer funds, minimize the overwhelming red tape of federal-wide and defense-specific regulations in order to reduce costs, shorten timelines, and improve the quality of the services and technologies the DoD procures every year. However, due to the interconnected nature of the process, outcomes of individual reform initiatives can be difficult to track and often rely on rudimentary cost and timeline data.

As the evolution and spread of technology rapidly increase, the acquisitions process must advance as well. Failure to appropriately reform the defense acquisitions process will result in an erosion of our technological advantage over our adversaries. However, hasty reform can cause more harm than good. Because acquisitions lifecycles often last decades, immediate

progress can be difficult to see. It is essential to balance necessary imme-
diate reforms with strategic patience and match the type of reform to each
type of platform. For example, reforms to the software acquisition process
can and should look different than reforms to the process for acquiring
tanks. In order to maintain our military technical advantage, the next
President should focus on reforming the acquisitions process for highly
complex and emerging technologies in the immediate term while continu-
ing to address the problems plaguing the acquisitions process for legacy
systems in the long term.

The next President should clearly articulate three ranked priorities for
Congress and the Department of Defense:

- *First, improve data collection throughout the acquisition process.*
  Require all contractors working for the Department of Defense to
  provide detailed cost, technical, and timeline data from the earliest
  stages of the acquisition process.

- *Second, overhaul the software acquisition process.* Due to its agile
  nature, software development should not follow the traditional
  process as developed for large platforms. The acquisitions process
  should be tailored to each type of technology the DoD procures.

- *Third, improve the traditional acquisition process with an eye to
  future capabilities.* Ensure any changes both reflect the need to
  rapidly acquire emerging technologies and continue to support
  legacy systems.

Recommendations

**The President should order all data collected by federal agencies to be
shared among all agencies, within classification limits.** Currently, depart-
ments and agencies own their own data and are not compelled to share it
with other federal agencies. Within the DoD, there is no culture of data
sharing among Services, the Office of the Secretary of Defense, the Joint
Staff, the intelligence community, and other agencies. Sharing acquisitions

requirements, cost estimates, and negotiation data could enable Services to improve outcomes when embarking on new programs.

- *Set standards for data collection and storage:* Each Service and agency collects acquisition data according to their own methods and stores it internally. Even when data is shared, it can be challenging to draw useful comparisons if metrics vary. A series of standards for acquisitions data would enable useful analysis on acquisitions practices to identify successes and areas for improvement.

The President should work with Congress to establish new processes for software acquisition. Currently, the DoD acquires software through a variation of the traditional acquisition process, which requires program managers to execute funds for software projects in discrete phases - Research, Design, Testing, and Evaluation (RDT&E), Procurement, and Operations and Management (O&M). Because navigating between funding streams can prove cumbersome, it can be challenging for software acquisition programs to develop in an agile way. A new process for software acquisition using existing and additional authorities to work outside the traditional acquisition system would enable program managers to develop better, continually updated projects while increasing cost and schedule efficiency.

- *Establish a new acquisition pathway:* Requiring software developers to meet milestones linearly can hinder the creation of optimal products by limiting time to refine ideas. Establishing a new pathway with a more flexible series of milestones would allow developers to operate in an agile way.

- *Require access to source code:* The DoD should require software development companies to provide access to source code to enable the DoD to perform security tests and build additional capabilities.

The President should seek to diversify the defense industrial base by establishing partnerships with a wider range of American companies. Throughout the twentieth and twenty-first century, the United States defense industry has rapidly consolidated. Diversifying the mix and

increasing the number of companies involved will encourage competition and mitigate supply chain risks posed by consolidated industries.

- *Invest in start-ups and new companies:* Build on initiatives like DIU to ensure R&D investments reach start-ups with innovative ideas, particularly in areas of emerging technologies such as UAVs, virtual reality, or machine learning.

- *Lower barriers to entry for companies new to the defense space:* For small companies with few clients, work with the DoD is unfeasible because of the delay between their identified interest in a project and the contract award. Expedite processes for new companies to gain access to the GSA schedule, complete clearance requirements, and receive contract awards.

The President should mandate improvements to cybersecurity throughout the acquisition process. The DoD invests billions of dollars in exquisite platforms that last for decades but lacks a single standard for ensuring the cybersecurity of the increasingly technical components of these platforms. This gap exposes the DoD and its warfighters to significant risk by increasing the vulnerability of major platforms to cyberattack. A series of minimum standards for cybersecurity would begin to lessen these risks.

- *Requirements stage:* Cybersecurity must be built in to the requirements for all new platforms at the earliest possible stage. This should be included in the existing requirements processes and the acquisitions workforce should be trained to write and enforce cybersecurity requirements when embarking on new programs.

- *Sustainment stage:* Cybersecurity must also be built into the sustainment stage. As cyber threats evolve, additional requirements must be built into the regular sustainment process for all hackable systems.

- *Maintaining legacy systems:* Some DoD platforms, such as some bombers or aircraft carriers, were built before the digital age or during its early stages. These platforms require additional levels of attention to ensure cybersecurity is considered throughout the modernization process.

AP Photo/Sergei Grits

11. Maintaining Readiness to Fight Near-Peer Competitors

David Michelson

American readiness, or the ability to rapidly deploy fully manned, trained, and equipped forces that are capable of defeating any adversary, anywhere in the world, is at risk. Readiness can be measured by comparing personnel and equipment authorizations versus the numbers that exist on the ground, operational readiness (OR) rates that give the health of our systems and equipment, and training readiness rates as reported by military units. Since 2001, the United States has been focused on the war on terror, Iraq, and Afghanistan. Fighting the relatively lightly armed insurgent groups in these conflicts took the military's attention away from fighting large scale conflicts against peer foes. The force structure used to fight in Iraq and Afghanistan is not the same as that needed in a peer fight.

Readiness gives the President options. Strategically, readiness will provide a range of actions that the President can take to act quickly in the face of an immediate threat, whether a Russian incursion into Eastern Europe, a Chinese invasion of Taiwan, Iranian maritime attacks in the Gulf, or North Korean missile attacks. Past models, such as the Army Forces Generation model, were cyclical and gave unit commanders predictability in deployments and training. Now that these rotations are not as ubiquitous as they once were, readiness has become a constant requirement as opposed to the previous model that let units go in to periods of maintenance and refit in order to fully meet mission requirements. To compound our military's challenges, sequestration and an unpredictable budget affected maintenance, training, contracts, and acquisition reform.

The next President should clearly articulate four ranked priorities for Congress and the Department of Defense:

- *The defense budget directly translates to readiness.* Predictability and consistent funding build the force of today and of tomorrow.

Sequestration and continuing resolutions risk modernization efforts and readiness at all levels.

- *Second, our deployments matter.* The Administration cannot focus on abstract metrics to understand deployments and rotations for training and combat. Predictable deployments breed complacency and allow our adversaries to exploit troop movements and exercise timing. We must instill an expeditionary mindset and capability in our force.

- *Third, our asymmetric advantage relies on joint readiness and technological innovation.* The joint capabilities that the American military bring to bear are unrivaled, but the qualitative edge we enjoyed in the 1980s and 1990s culminated with Desert Storm. To keep this advantage, the President must use the powers of the office to enable the Pentagon to effectively manage talent through incentives, and work with Congress and private partners to innovate and give our warfighters the technological advantage needed to win.

Recommendations

The President should maintain readiness priorities within the defense budget. Our adversaries, and even many of our allies, have one, maybe two significant threats that they must focus on and budget for. The United States has five—China, Russia, Iran, North Korea, and terrorist organizations. The current budget reflects the need to address all of them; any cuts to readiness priorities mean that the President assumes risk in the ability to deter or defeat these threats.

- *Naval and Marine Corps modernization, maintenance, and training:* The Navy is America's primary force in the Pacific. Without a modern fleet that can penetrate Chinese Anti-Access/Area Denial (A2AD) systems, China will dominate.

- *Air Supremacy:* Our fifth-generation fighters like the F-35, strategic bombers, and Air Force global strike capabilities allow the military to dominate the skies and defeat enemy A2AD systems. Air Force

readiness requires robust maintenance and sustained training for readiness.

- *Ground Combat:* In many cases, US ground forces are equipped to fight the last war, not the next. While rapid acquisition and fielding specifically designed to defeat threats in Iraq and Afghanistan saved lives, they are not the systems that will win against a near peer in the next fight. American armor, fires, vertical lift, and close combat lethality require significant investment and fiscal predictability.

- *Talent Management:* Quality of life, monetary and non-monetary compensation, stability, and choice must exist to retain the right people, all of which is represented in the budget.

The President should use the deployment power to exercise readiness and deter aggression. The 2018 NDS set the tone for near-peer competition in the DoD and changed many of the predictable operations and deployments that the Department has exercised for more than a decade.

- *Establish requirements for irregular deployments and exercises:* Emergency Deployment Readiness Exercises (EDRE) test all aspects of the Department's capabilities and should be conducted frequently. No-notice changes to carrier strike group movements, Army division sized training deployments, and joint exercises with our allies create dilemmas for adversaries and build combat skills in our formations. EDREs should be prioritized in the Pacific first, then in Europe to counter China and Russia respectively.

- *Forward deploy carrier strike groups, 5th generation fighters, bombers, and armor assets:* To fight tonight and win, the American military needs access to contested areas. These assets will provide for freedom of navigation on the seas, air supremacy and superiority, and joint forced entry capabilities that must be positioned near our adversaries to be effective. A forward deployed presence in countries like Japan, South Korea, Qatar, Germany, Poland, and others is required to give the President options, create challenges for adversaries, and extend America's operational range.

Air Force Photo/Senior Airman Michael Washburn

12. Reforming the Posture of the Department

Jacqueline Parziale, David Michelson

The Global War on Terror motivated an expansive network of military basing around the globe with a particular emphasis on the Middle East and Africa. The necessity of a comprehensive posture is apparent for counter-terrorism, but it matters even more in our current era of great power competition. Russia, China, and Iran all undermine US interests globally through the use of proxy forces, military contractors, economic agreements, or military deployments, all of which enable them to project power and maintain a wide set of warfighting options available beyond their own borders. The US can counter this global adversarial presence through an attention to posture—a combination of forces, footprints, and agreements.

The deployment of specific forces and capabilities is designed to present the President with the widest possible range of military options. These could be strategic bombers, carrier strike groups, special operations forces, and more. The footprints that they operate out of also give clear advantages in the form of logistics, operational reach, and intelligence. Tying all of these together are agreements. Coming in a variety of forms, agreements with partner nations give the US the ability to build bonds, understanding, and influence across the world to maintain and advance American interests. When combined, posture is a way of accomplishing deterrence by weakening an adversaries' hand while simultaneously strengthening that of the US.

The next President should clearly articulate the following posture priorities for Congress and the Department of Defense:

- *First, diplomatic relationships give the US partners and access to respond swiftly or act preemptively.* Diplomatic relationships allow the Combatant Commanders to shape the environment, deter adversary aggression, and logistically support the force. If these relationships disappear, so does access to contested areas.

- *Second, posture to compete and expand our comparative advantage against China*: The US needs a global presence globally to compete against China and preserve options for a potential war. The forward deployment of military forces undergirds the hard power the US will require to counter China, but diplomatic and economic agreements are also required to provide the necessary soft power.

- *Third, reassess posture in Europe and the Middle East to deter Russia and Iran:* The outcome must be the same: deter Russian and Iranian aggression; however, the US should not do it alone. The US should rebalance burden-sharing with allies and partners by reevaluating the agreements and forces intended to create a stronger deterrent effort against both competitors.

Recommendations

The President should prioritize footprints and agreements in the Indo-Pacific. The challenges posed by China's rapid expanse are evident. An increased US presence in the region, especially in areas where China has invested with the Belt and Road Initiative, will give the US influence.

- *Align with the National Defense Strategy*: The US has been slow to implement the latest NDS. Posture is a significant metric for the effectiveness of the strategy.

- *Japan:* The US relationship with Japan provides a solid foundation to compete with China. Departing from Japanese footprints will only allow the Chinese to exploit the American vacancy.

- *Korean Peninsula:* Departing from or significantly reducing the US footprint on the Korean peninsula provides a win to both the DPRK and China. While burden-sharing is important, it does not outweigh the cost of departure.

- *China's Near-Abroad:* Diplomatic, military, and economic relationships in China's near-abroad (to include the 14 countries that share their borders, the island chains, and Oceana) will increase

America's comparative advantage by offsetting any over-commitment to Japan and Korea.

The President should reassess Posture in Europe and the Middle East to Deter Russia and Iran. NATO is under more scrutiny now than at any time in its past. Tensions with Iran cannot be ignored. The US must reassess the forces, agreements, and footprints in Europe and the Middle East so that the US and our allies remain capable of competing and warfighting if necessary.

- *Conditional Basing:* US military bases must provide benefit to the US and be contingent upon the host nation increasing their own security investment. If a base is in a country only for relationships, then the US must improve its usefulness in contingencies or other scenarios.

The President should fully staff and resource other parts of the US government needed to accomplish missions abroad. The US military relies on other nations to house prepositioned stocks, logistics hubs, airfields, ports, and intelligence activities that cannot be accomplished from the US. The State Department is crucial in procuring these agreements, building good faith, and securing the long term viability of these options.

- *Signal the importance of a US presence to both allies and adversaries:* Every time the US abandons a mission, diminishes support, or lessens its presence in another country, China and Russia fill the void. They use this as an opportunity to replace US influence and learn about American activities so that they can counter them later. Robust diplomatic relationships and security cooperation activities ensure that the US military can posture for an immediate response and shape the environments of contested areas in our favor.

- *Security Assistance:* Security assistance is vital to building robust, capable partners that can respond on their own while US forces mobilize and also ensures interoperability by using common munitions, communications, intelligence methods and reporting, and tactics. The US should review and increase security assistance where it can improve and enable posture.

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