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Adversaries in Beijing and Moscow are developing an increasing array of nuclear-capable missiles that can threaten the American homeland and overseas bases, even exploring the possibility of putting nuclear weapons on fractional orbital bombardment systems—a development that threatens global stability. America's adversaries clearly seek to undermine American interests and constrain America's freedom of action. The United States will not wait for these adversaries to threaten the American homeland with missiles carrying nuclear weapons or other strategic payloads. The United States will field the defenses it needs to deter or defeat any missile threats to the homeland—be they mixed missile salvos as seen in Ukraine and the Middle East, or lower-escalation pathway attacks that seek to influence U.S. decision-making and terrorize the American people.

Introduction

This *Special Report* is written in the same vein as a publicly facing official *Missile Defense Review* (MDR). It is drawn from unclassified sources and is written in a way that will be accessible to those who are not necessarily subject-matter experts. It eschews footnotes and citations, as do the official Defense Department strategy documents.

The *Special Report* is meant to be a draft MDR for the second Trump Administration. It draws on recent and legacy Heritage Foundation analysis and writing as well as external analysis that examines the strategic challenges posed by the emerging security environment, particularly the employment of missile and autonomous systems by America's adversaries to target America's allies and postures.

The purpose of this *Special Report* is to provide Administration officials with a starting point that provides front-end analysis and some key analytic frameworks that could inform a future official MDR. It uses as its guidance "The Iron Dome for America" executive order signed by President Trump in January 2025.

Clearly, a more complete analysis based on classified data of U.S. and adversary capabilities is needed in order to conduct an official MDR. However, the concepts detailed below are within the ballpark of what The Heritage Foundation believes is necessary to deter America's adversaries in the coming decades.

Missiles have become the lynchpin of adversaries' strategies to deter, coerce, and defeat the United States. China, Iran, North Korea, Russia, and non-state actors value the speed, survivability, and destructive effects of missiles and have centered their aggressive military strategies around their use and threatened use to advance their revisionists' aims at the expense of the United States and its allies.

The ability to defeat missile-based attacks is, by extension, the ability to defeat an adversary's theory of victory. Indeed, when an adversary believes an attack against the United States or its allies will likely be unsuccessful, in addition to provoking an unacceptable response, deterrence is more likely to hold, and war can be avoided. Or, should deterrence nevertheless fail, missile defenses limit the damage of adversary strikes, enable more effective responses, and impose costs that the adversary may prefer to pay elsewhere.

Thus, it is not surprising that discussions about missile defense, both regional and for the U.S. homeland, are growing in parallel with the news around the world. Israel's hyper-effective integrated air and missile defense (IAMD) system, Iron Dome, has defeated hundreds of enemy drones and missiles over the course of a few months, not to mention thousands of shorter-range rockets. Ukraine has used U.S. regional missile defense systems, such as the Patriot system, to defeat Russian cruise and ballistic missiles—again demonstrating impressive kill ratios. In both cases, the adversary has been forced to adjust its strategy and make costly changes to its weapons, while Israel and Ukraine defend their most valued assets and retain freedom of action on how to respond.

Even though there is little difference in the missions assigned to regional and U.S. homeland IAMD, a decades-long debate has focused on the strategic value and utility of U.S. homeland missile defenses within U.S. national strategy. President Donald Trump has repeatedly advocated an expanded and improved U.S. homeland IAMD system, echoing the recommendations of the congressionally mandated bipartisan 2023 report

of the Congressional Commission on the Strategic Posture of the United States. Critics, however, believe that expanding and improving the U.S. ability to defeat adversary missiles, far from countering America's adversaries' theory of victory, would only cause them to build more missiles to overcome U.S. missile defenses, raise tensions, and ultimately undermine U.S. security.

The real-world successes of missile defenses of the past three years in Ukraine and the Middle East have proven these critics wrong.

The United States has not held a national debate on homeland missile defense this significant since President Ronald Reagan's 1983 announcement of his Strategic Defense Initiative. Given the increasingly central role that missiles play in U.S. adversaries' strategy, coupled with the massive improvement in technology since the 1980s, it is high time that the U.S. and allied officials seriously consider the strategic value that U.S. homeland missile defense can provide. This draft MDR examines why U.S. homeland missile defense can and must play a central role in the U.S. theory of victory and details the steps that officials should take to ensure its long-term success in defense of this nation.

This draft MDR therefore provides options to the Department of Defense (DOD) and guidance to the broader U.S. government as it develops and fields an integrated missile defense architecture that, along with America's nuclear arsenal and conventional capabilities, will deter America's adversaries and safeguard American interests.

Further, this draft MDR provides a framework by which the United States can deploy a capability that will support the overarching strategic objectives of the government's National Defense Strategy (NDS) and the subordinate deterrence objectives of the *Nuclear Posture Review* (NPR). Indeed, this draft provides a vision by which missile defense capabilities can and will be a strategic imperative and provide defensive capabilities of strategic importance and effect on par with America's nuclear deterrent.

In support of the NDS, this draft MDR articulates a vision for a missile defense architecture that integrates existing ground-based midcourse defense (GMD) interceptors with shorter-range, underlayer defenses deployed as part of theater IAMD with a space-based missile defense overlayer capable of intercepting missile threats from all of America's adversaries—not simply those from rogue states. America's missile defenses will provide an "Iron Dome–like" protection not only to the U.S. homeland but will also integrate with theater IAMD architectures of key allies and partners to obviate and overcome the missile threats posed by shared adversaries.

America's missile defense architecture must and will change dramatically from the posture of years past. This necessity is due to (1) the deteriorating security environment and the growing missile threats posed by U.S. adversaries; (2) the dramatic successes of missile defense in real-world operational environments, from Europe to the Middle East; and (3) the incredible technological breakthroughs that make possible capabilities that were aspirations in years past. Due to these three developments, the United States will not be able to rely only on its nuclear arsenal to deter strategic threats from China and Russia but will also have to rely on its new integrated missile defense architecture to deter—and if necessary, defeat—strategic missile threats emanating from the autocrats in Beijing and Moscow, along with those in Pyongyang and Tehran.

The world is becoming more dangerous as the autocrats and those who oppose U.S. interests become more emboldened. Missiles have become a weapon of choice for America's adversaries. U.S. interests and the safety of the American people require systems that can obviate these threats. American ingenuity and engineering prowess can provide the missile defense shield that the American people deserve.

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The Evolving Air and Missile Threat Environment

America's adversaries—particularly China, Iran, North Korea, and Russia—are building more and more diverse capabilities that can target not only their regional neighbors, some of whom are American allies, but the United States itself. Such new weapons systems, including intercontinental ballistic missiles (ICBMs), long-range cruise missiles, hypersonic missiles, and even orbital bombardment systems, are coupled with increasing attempts of coercion, particularly against America's regional allies. This coercion sometimes takes the form of attempted nuclear coercion as is the case with North Korea against the American homeland as well as against U.S. allies in the Pacific and Russia's regular threats of nuclear use against the U.S. homeland and that of our allies in Europe. Other times, it takes the form of outright attacks on civilian and military targets, evidenced by the Iranian attacks on Israel and Russian attacks on Ukraine.

Clearly, U.S. adversaries increasingly see potential missile and autonomous systems strikes on not only military targets, but also on homelands and civilian population centers, as legitimate. This is true not only for targets in the homelands of America's allies, but for the United States as well.

This development in adversary perception is because America's adversaries see the U.S. homeland to be not only a valid target, but a vulnerable one as well. This is why they are building a growing array of long-range strike capabilities. This change in adversary perception is what not only drives their development of missile threats, but why the United States must develop and field a credible multilayered missile defense architecture.

The Evolving Long-Range Strike Threat

America's adversaries seek to threaten and potentially exploit America's vulnerability to long-range attacks as a means to achieve their own wide-ranging revisionist goals, be they breaking up the North Atlantic Treaty Organization (NATO), diminishing American global influence, or projecting power to the Western Pacific.

As noted, America's adversaries are increasingly building long-range threats, many of which may be nuclear-capable, in order to achieve the above goals. These long-range threats include ballistic missiles, long-range cruise missiles, hypersonic missiles, and potentially threats that could be deployed from orbital platforms.

Ballistic Missiles. States have built ballistic missiles for purposes of warfare since the 1940s. By the 1950s, with the Atlas missile program, both the United States and the Soviet Union were pursuing ICBMs as a delivery vehicle for nuclear warheads, capable of striking each other's homelands.

Russia and China have had ICBMs capable of carrying nuclear warheads for decades and both are modernizing their ICBM arsenals. Russia is pursuing the "super-heavy" SS-28 Sarmat ICBM, capable of carrying multiple nuclear warheads to targets in North America. China is today the fastest-growing nuclear power on the planet and is building nuclear ICBM silos in its western desert at a breathtaking pace. North Korea, meanwhile, is advancing its Hwasong-18, a road-mobile three-stage ICBM capable of carrying nuclear weapons that can reach targets in North America.

Long-Range Cruise Missiles. In recent years, Russia has shown a proclivity to proclaim the development of new systems and capabilities, many of which never materialize. One of interest was outlined in a recent Defense Intelligence Ballistic Missile Committee report, which identified the SSC-X-09 Skyfall as a program of real concern. The Skyfall—which has been hinted at by the Russians for years—is reportedly a long-range cruise missile with a range of up to 20,000 kilometers, is maneuverable, and can fly at low altitude. The range of the missile means that Russia can base the missile anywhere in its territory and still be able to reach targets in the continental United States, while its maneuverability combined with its low flight altitude means that such systems can evade most missile defense radars and interceptors. While this, and other long-range cruise missile systems, remain in the development and testing stage, it is possible that Russia is seeking to deploy such capabilities with an eye toward having an additional capability of

striking the United States with a limited number of nuclear weapons from a platform that could evade existing missile defenses. Indeed, a 2023 report by the Defense Department suggested that China is pursuing its own arsenal of such long-range cruise missiles.

Hypersonic Missiles. Hypersonic flight, generally described as beginning around five times the speed of sound, is gaining more interest from advanced militaries around the world. Hypersonic weapons are divided into two general categories of weapons: hypersonic cruise missiles and hypersonic glide vehicles. Hypersonic cruise missiles use a scramjet thrust that enables them to sustain speed and maneuver as necessary at lower altitudes of flight. Hypersonic glide vehicles use rockets to accelerate to high speeds during a boost phase and then glide in the atmosphere at enormous speeds with significant maneuverability during the terminal phase of flight. Their speed, range, and maneuverability mean that they can be effective against regional targets or against targets in North America, while complicating enemy efforts to detect, track, and prevent attack.

Indeed, the speed and maneuverability of hypersonic weapons present real challenges from defense perspectives—which is one reason adversaries are building them. Hypersonic weapons' maneuverability at low altitudes makes targeting and engagement with traditional missile defenses, such as Terminal High Altitude Air Defense (THAAD) and Patriot Air Defense difficult, if not impossible. Faster interceptors and battle management systems, along with more precise radars, will likely ensure greater effectiveness of missile defenses, but much needs to be done to counter the novel threats posed by hypersonic weapons.

Russia has been interested in hypersonic capabilities since the 1980s. It claims that the "Kinzhal"—which has seen service in the Ukraine war—is a jet-launched hypersonic missile, while Moscow also claims that its hypersonic glide vehicle "Avangard" is nuclear-capable. Moscow also is pursuing a ship-based hypersonic cruise missile, the "Tsirkon." In all, Russia seems to be pursuing hypersonic capabilities as part of a broader strategy of fielding long-range precision fires that could be nuclear or conventionally armed.

For the past several years, Defense Department officials have warned of Chinese interest in hypersonic capabilities. The Defense Department reported that China deployed its first hypersonic glide vehicle—the DF-17—in 2020. An unclassified Congressional Research Service report noted that it had the potential to both evade U.S. missile defenses and be nuclear-capable. More recent reports suggest that China is pursuing a variety

of hypersonic capabilities, to include ground-launched, air-launched, and even submarine launched capabilities, many of which could support a nuclear warhead.

Beyond Russia and China, in March and April of 2024, North Korea claimed to have tested a hypersonic glide vehicle capable of striking targets in Japan and South Korea. While there has yet to be a confirmed test of a North Korean hypersonic capability, it is very possible that North Korea seeks hypersonic capabilities.

One positive characteristic of hypersonic weapons is that they may be more vulnerable to destruction, if they can be targeted and engaged. That is, the high speed of hypersonic weapons means that hypersonic weapons may be disrupted by smaller impacts of interceptors or changes to their structures. Put another way, the tight performance margins needed to ensure that they perform high speed maneuvers over extended spaces may mean that they are far more vulnerable to interception than traditional ballistic missiles, which are generally more robust.

Fractional Orbital Bombardment System (FOBS). FOBS is an orbital platform that could launch strikes from space to terrestrial targets, using kinetic, high-explosive, or even nuclear weapons. FOBS has never been fielded but has been discussed for more than half a century.

Moscow first evinced interest in FOBS in the late 1950s. By 1963, the Soviet military announced that it sought to use space as a domain from which it could launch nuclear strikes on terrestrial targets. By 1965, the United States abandoned its studies in potential FOBS platforms and began to advocate that space be a domain in which nuclear weapons are not stationed, culminating in the 1967 Outer Space Treaty, which prohibited the stationing of nuclear weapons in space.

However, it is now known that the Russians sought nuclear-armed FOBS for a number of reasons, to include unlimited flight range; lesser flight time from launch to target than missiles; the impossibility to predict the target of a FOBS platform during flight time; the likely high degree of accuracy of such a system; the lack of strategic warning from such an attack; and most important, such a system's ability to overcome American missile defenses due to the speed of a FOBS-launched weapon. Put another way, the Soviets understood that FOBS can put warheads on a target, with no warning, and are impossible to intercept.

While FOBS was largely ignored for decades, in the past few years two major reports indicated that China and Russia potentially were interested in putting nuclear weapons on FOBS: In 2021, Under Secretary of Defense Frank Kendall noted that China potentially pursuing a FOBS capability. In

October 2023, the Defense Department's "China Military Power Report" noted that "the PRC probably is developing advanced nuclear delivery systems such as a strategic hypersonic glide vehicle and a fractional orbital bombardment (FOB) system." In March 2024, reports suggested that Moscow once again was interested in putting nuclear weapons in orbit—potentially as an antisatellite weapon, but also potentially as a FOBS capability.

The Lower Escalation Pathway Temptation

China, Iran, North Korea, and Russia are challenging American interests and seeking to constrain American influence and freedom of action around the world. Russia is attempting to use nuclear weapons to coerce the West due to its support for Ukraine and has hinted at pursuing a low-escalation pathway attack on NATO states in pursuit of such a goal. Other actors may also pursue a lower-escalation pathway attack, as their missile forces expand and diversify.

In a lower-escalation pathway, an enemy would attack an American homeland site, potentially including military assets, with a limited number of conventional or low-yield nuclear weapons, limiting civilian casualties, in an attempt to change the behavior of the United States.

In a low-escalation pathway attack, China or Russia may try to escalate its way out of a conventional conflict it is losing against the United States by conducting a series of limited conventional or nuclear strikes at key targets in the U.S. homeland. These coercive strikes would be intended to demonstrate enough resolve and result in significant damage to convince U.S. political leaders to give in to adversary demands but limited enough in scope and scale (meaning not catastrophic) to not prompt an overwhelming U.S. response.

This lower-escalatory pathway of forcing a nation to negotiate has not been tested, but the logic is sound, and there is some indication that America's adversaries are considering such a strike. China is building a nuclear arsenal that in the coming years could enable it to carry out such a strike, and Russia openly discusses the prospects of limited nuclear strikes against targets in the West.

The United States' existing approach to missile defense, as enacted through the Missile Defense Agency, is not comprehensive. It cannot address lower-escalation coercive attacks from China or Russia or compete with China's pacing challenge due to the limited nature of the existing missile defense posture or capacity. According to the DOD's 2023 annual report, *Military and Security Developments Involving the People's Republic of China*:

> In 2020, the DoD estimated China's operational nuclear warhead stockpile was in the low-200s and expected to at least double by 2030. However, Beijing has accelerated its nuclear expansion, and DoD estimates China's stockpile had more than 500 operational nuclear warheads as of May 2023. By 2030, DoD estimates that the PRC will have over 1,000 operational nuclear warheads, most of which will be fielded on systems capable of ranging the CONUS [Continental United States].

The United States requires a comprehensive set of missile defense layers to counter an adversary's lower-escalation temptation. A set of

comprehensive missile defense layers that can destroy at least a hundred adversary nuclear-armed missiles—be they from China, North Korea, or Russia—would incentivize these adversaries' leaders to abandon plans for "easy coercion" or "cheap shot" attempts with a few missiles to coerce or intimidate American political leaders. Forcing adversary leaders to consider the lower likelihood of success for attacks below 100 missiles, in addition to the potential for provoking an unacceptably damaging U.S. response, will help to improve deterrence and raise the threshold for missile-based strikes against the U.S. homeland. Making escalation more difficult and riskier to achieve lowers the risk that adversaries will see value in escalation.

While adversaries might be tempted to execute a lower-escalation pathway strike (say, firing only a dozen nuclear-armed missiles at the American homeland) as a high-risk but potentially high-reward strategy to end a conflict on terms acceptable to them, they would be far more cautious about firing more than a hundred nuclear-armed missiles at the United States. Such a strike would almost certainly trigger the kind of massive nuclear retaliation by the United States that they would otherwise try to avoid, in addition to the uncertainty of success for the initial attack.

In this way, a credible and effective multilayered missile defense architecture could deter America's adversaries from pursuing an otherwise attractive lower-escalation pathway in the near future. Indeed, the existing Ground-Based Interceptor (GBI) architecture first fielded in 2004—designed to defend against limited attacks from North Korea—may no longer be sufficient to defend against even a rogue state attack, given the expansion and maturation of North Korea's missile program. To put another way, effective and credible missile defenses are not a "future like to have"—they are a "near term must have."

The Role of Missile Defense in America's Strategic Posture

The United States maintains credible nuclear capabilities and highly lethal, battle-proven conventional capabilities that give its adversaries pause, deter aggression, assure its allies, and defeat threats should deterrence fail. A credible, integrated, and multilayered missile defense architecture is a strategic imperative on par with maintaining a credible and diverse nuclear arsenal, particularly in an era when America's adversaries are developing, deploying, and employing ever-more capable and lethal missile threats.

Indeed, adversaries may grow more desperate over a prolonged conventional conflict with a superpower like the United States, leading them to take riskier strategies like conventional or even nuclear strikes on the U.S. homeland and its critical infrastructure. To counter this threat, the United States should deploy IAMD systems that can deter and defeat such coercive attacks over a protracted conflict and be prepared to defeat multiple salvos conducted over extended periods of time. Indeed, it is likely to strain credibility to have defenses that can defeat a single salvo of attack. A credible missile defense architecture must be able to defeat (or seem to be able to defeat) multiple waves of attacks during a protracted conflict.

There are three possible ways in which the United States can respond to its adversaries' long-range missile threats—be they lower-escalation pathway strikes, repeated salvos on the American homeland during a protracted conflict, or even larger-scale strategic attacks—to its allies and the American homeland. Washington can (1) acquiesce to the wishes of U.S. adversaries and accept a fragmented NATO, reduced American global influence, and limits to its ability to project power; (2) rely solely on the threat of punishment to deter a growing list of ever-more capable adversaries from striking civilian population centers; or (3) build effective missile defenses to deny U.S. adversaries the ability to coerce the United States or its allies.

Given the emerging threats and the apparent desire for America's adversaries to field an arsenal of ICBMs, long-range cruise missiles, hypersonic capabilities, and FOBS—many of which are optimized to overwhelm or evade U.S. missile defenses—the United States must, can, and will build an integrated, multilayered missile defense architecture that can deter and defeat coercive strikes on the homeland while also providing a regional defense of key capabilities overseas.

Indeed, an integrated missile defense architecture that incorporates existing homeland missile defenses, to include existing GBIs and regional

missile defenses in the Indo–Pacific, Europe, and the Middle East, and builds additional capacity and capabilities in several key areas is required given the expanding threats. Such a missile defense architecture must perform a number of functions, including:

- **Defending the homeland.** The United States must ensure that its population centers and critical locations are protected and preserved.

- **Defending key overseas nodes.** Such nodes could be key bases, logistical sites, or allied population centers.

- **Defending the U.S. and its allies against a variety of inbound threats.** Typically, the United States has focused its missile defense on intercepting ballistic missiles and cruise missiles overseas, and ballistic missiles at home. Given the evolving nature of the threat, the United States should field the capabilities necessary to defeat all nature of inbound threats, to include long-range cruise missiles, hypersonic threats, and those delivered from orbit.

- **Defending the U.S. and its allies against a variety of actors.** No longer should the United States optimize its missile defenses against rogue actors, such as Iran or North Korea, but it will also field capabilities that can destroy threats coming from other, more advanced adversaries, such as China and Russia.

An expanded and improved U.S. homeland and regional missile defense architecture would support a number of U.S. defense objectives, including:

- **Deterring attack.** Deterrence by denial, which is the ability to prevent an attacker from achieving his operational objectives, can be a powerful tool. An effective missile defense architecture that could credibly intercept a variety of long-range threats from a variety of actors could deter U.S. adversaries from launching an attack in the first place because they do not believe that such an attack would achieve their objectives—and instead, leave them vulnerable to significant reprisals from the United States.

- **Limiting damage should deterrence fail.** Even if a missile defense architecture is not perfect it could significantly limit the extent of damage through a partial success rate. That is, if an adversary seeks

to destroy six critical targets, even a partially effective missile defense could ensure that some quantity of those targets survive an attack.

- **Assuring allies**. Regional allies, particularly those located close to U.S. adversaries and who would therefore be on the front line should a conflict erupt, often seek assurance that the United States will support them during times of crisis or conflict. In many cases, their need for assurance drives their calculations about whether they need an independent nuclear arsenal. In many ways, the more insecure they feel, the more likely they are to pursue an independent nuclear weapons program, which it has been U.S. policy to oppose since 1963. Forward deploying nuclear weapons is one way to assure allies and convince them not to pursue their own nuclear weapons programs. Integrated missile defenses are another important tool.

Finally, it is America's policy that no nation should be allowed to put nuclear weapons in orbit for the purposes of targeting sites on Earth. Therefore, the United States reserves the right to destroy, pre-emptively, any adversary orbital platform that carries nuclear weapons, and may do so using any tool best suited to the purposes—whether that tool is based terrestrially or in orbit.

An Integrated, Multilayered Missile Defense Architecture

An effective and credible missile defense architecture includes a number of components, such as an integrated sensor architecture that takes multiple data streams from multiple U.S. and allied or partner sources and creates an integrated command and control and management structure and three different engagement levels: a short-range defense to protect key, high-value nodes in the U.S. homeland and overseas; a ground-based system to give general coverage over North America; and a space-based overlayer that can engage a number of threats across the world, in various stages of flight.

Taken together, such an architecture will increase America's ability to address adversary threats and strengthen deterrence by denying adversaries the benefit of missile strikes on key targets.

Capabilities. While some of the critical components for an integrated, multilayered missile defense architecture exist today, including regional command-and-control nodes, theater air defense systems, and GBIs, there is important work to be done in (1) integrating disparate systems into a cohesive architecture and (2) expanding existing systems to include more capacities and building capabilities in orbit, in order for the United States to field a credible missile defense architecture.

An Integrated Command and Control. An integrated command-and-control system can more effectively coordinate the tracking and interception of enemy missile launches by developing and fielding a Hypersonic and Ballistic Tracking Space Sensor Layer; and by integrating shots from the various layers, missile defenses can get more shots at incoming missiles, thereby increasing the likelihood of a successful interception. Put another way, if the overlayer misses the interception, GBIs have the opportunity to engage the incoming target. If the GBIs miss, the underlayer can have some utility in potentially intercepting inbound missiles or warheads at a limited number of critical sites.

An Effective Underlayer for Protecting Critical Sites. As noted in a recent study, current off-the-shelf missile defenses, such as Patriot PAC-3s, Aegis Afloat, air-to-air missiles and surface-to-air missiles, directed-energy weapons (DEW), and THAAD systems, can provide robust missile and autonomous systems defenses around a limited number of key locations within the U.S. homeland, at forward bases, and at key allied locations.

By putting such systems near key bases, ports of embarkation, and command-and-control nodes, defenses have multiple interception opportunities of enemy missiles which target critical, high-value nodes. Accordingly, the United States will develop and deploy an underlayer that leverages terminal phase intercept capabilities that are postured to defeat a countervalue attack.

Ground-Based Layer. The current missile defense layer comprises 44 ground GBIs at sites in Alaska and California. They are optimized for targets coming from North Korea and were built when North Korea had a very modest ability to target North America with missiles. Later this decade, the next-generation interceptors (NGIs) will augment the existing GBIs on the West Coast with 20 additional interceptors.

The fielding of NGIs is a necessary step, but one that is inadequate for the current threat. A modest expansion of missile interceptors is necessary to contain not only the expanding North Korean and Iranian missile threats but also threats posed by Russia and China. To that end, the United States will expand the number of NGIs it purchases from 44 to roughly 64 and look to station a significant portion of the new interceptors on a new missile defense site on the East Coast to better target incoming adversary missiles from Eurasia. These 64 NGIs should replace the older GBIs currently deployed in Alaska and California.

These capabilities, needed today, given the growing threat from adversary long-range fires, are an important, interim step to a more robust, space-based missile defense layer.

A Space-Based Overlayer. The "overlayer" is a capability that will field a network of microsatellites in orbit that would serve as both sensors and communication relays, as well as platforms for launching interceptors capable of destroying long-range threats, regardless of point of origin, destination, or delivery mechanism. Of particular utility against rogue states, such as Iran and North Korea, an overlayer will make an important contribution on threats posed by China and Russia.

The constellation's networked sensors automatically will share launch and targeting data with each other and with ground-based command-and-control networks. They will carry small kinetic, non-explosive kill vehicles or directed-energy weapons that can engage targets across multiple stages of flight, including the boost phase, midcourse flight, or coasting phase.

The technology to share launch and targeting data among the orbital sensors exists today. Similar to how ride-share applications use networked artificial intelligence (AI) to identify which vehicles are closest to

a customer's location, networked satellites can identify a threat and identify which interceptors are best positioned to engage and destroy an enemy's launched missile.

A constellation of satellites in orbit through the development and deployment of a Proliferated Warfighter Space Architecture can engage enemy missiles far sooner than a ground-based system, particularly those that are located thousands of miles away in North America. Because they are closer to the target in mass, they can get not only multiple shots at enemy missiles during their trajectory, but the satellites can engage some targets while the targets are still in their ascent phase—thereby increasing the chances that interceptors may destroy inbound targets.

In addition, an orbital sensor and engagement capability addresses many of the challenges posed by terrestrial-based engagement, particularly its ability to surveil huge portions of the Earth's surface from orbit. This expanded sensor coverage, coupled with redundant interceptors, increases the likelihood of a successful interception before the missile strikes its intended target.

A proliferated constellation of orbital satellites will address a variety of terrestrial or space-based threats. Further, a robust space-launched resupply capability that leverages commercial launch capabilities would be able to replace expended satellites quickly during a conflict, thus strengthening the resilience (and therefore, efficacy) of such a capability. Building such satellites at scale enables cost-efficiency, resilience, and rapid reconstitution.

Allied and Theater Missile Defenses. The United States will strengthen its homeland defenses while at the same time strengthening missile defenses for forward deployed U.S. forces and with allies and partners against missile threats from any adversary. By strengthening, integrating with, and operating with allied and partner missile defense systems, the United States can better deter and, if necessary, defeat missile and autonomous systems threats globally, thereby reducing risk to deployed American forces, the lives and citizenry of America's allies and partners, and, ultimately, the American homeland.

Indeed, adversary missile and autonomous systems threats increasingly blur the line between theater or regional missile threats and missile threats to the American homeland. To combat such threats, regional Combatant Commanders will work with key allies and partners in the Indo–Pacific, Europe, and the Middle East on information sharing (both pre-launch and post-launch), targeting data, and interceptions. Indeed, Iran's 2024 attacks on Israel—which mixed ballistic missiles, cruise missiles, and autonomous

systems—failed due to the integration of American and partnered missile defense capabilities and command-and-control nodes. This type of collaboration will be a model for successful capability integration among American, allied, and partner missile defense architectures. Indeed, cooperation with like-minded allies and partners will be crucial both for real-world interceptions, but also, increasingly, on development of ever-more advanced and capable missile defense systems.

Such advances will be crucial to counter adversary anti-access/area-denial (A2AD) strategies that increasingly rely on advanced missile threats to deny American access to forward theaters. Indeed, collaborating with allies and partners on building and deploying advanced missile interceptors, both at home and abroad, will enable American freedom of action and key access to the most critical parts of the globe. Regional missile defense architectures in the Western Pacific, including national missile defenses in Japan and South Korea, NATO missile defense architectures, and the effective missile defense systems increasingly employed by U.S. partners in the Middle East, only strengthen America's position, standing, and freedom of action.

Where appropriate and feasible, the United States will work with allies and partners on IAMD detection and defeat capabilities that can be concealed or disguised to enhance deterrence and complicate adversary targeting.

An Ever-Evolving Architecture. In addition to the above layers, designed to prevent adversaries from launching a long-range strike on the United States or its regional allies, the United States will continue to develop new capabilities with an eye toward not only strengthening defenses, but to introduce uncertainty into the minds of its adversaries. To that end, not only will the Defense Department continue to explore new capabilities, but it will employ existing capabilities in innovative ways. For instance, placing missiles on autonomous aerial systems and on drones to shoot down enemy missiles in the boost phase, or placing missile interceptors, such as the SM-6, into shipping containers in overseas ports that could target enemy missiles close to their homelands, would not only help to protect key areas, but would keep America's adversaries guessing. To this end, the Defense Department will embark upon an aggressive campaign to identify key capabilities that can mitigate the adversary missile threat today.

Implementation. Within one year of the publication of this draft MDR, the Defense Department will consult with allies and partners in East Asia, Europe, and the Middle East on the incorporation of existing national and theater defense systems into the integrated, multilayered missile defense

architecture. Such consultations will identify avenues for data sharing, operational integration, and future advancements. Within one year, the Secretary of Defense will brief Congress on a four-year plan to (1) integrate existing missile defense architectures around the world; (2) establish a third, East Coast missile defense site; and (3) field an initial operating capability for a space-based layer, to include sensors and shooters, all by January 1, 2029. Further, the United States will field a robust, resilient, and credible fully operational space-based missile defense layer no later than January 1, 2032.

Conclusion

The adversary missile threat is real. The world has seen America's adversaries attempt to employ missiles to coerce the governments and terrorize the people of Ukraine and Israel. Adversaries in Beijing and Moscow are developing nuclear-capable hypersonic missiles and even exploring the possibility of putting nuclear weapons on FOBS—a development that threatens global stability.

Clearly, America's adversaries are no longer constrained in how they view long-range missile threats. They are fielding systems and increasingly employing them to coerce and terrorize America's allies and partners. Given their abandonment of arms control, it is clear that they no longer value—nor do they seek—"strategic stability" with the West. Instead, they seek to undermine American interests and constrain American freedom of action using missiles.

The United States must not wait for these adversaries to become so bold to think they can threaten the American homeland with missiles carrying nuclear weapons or other strategic payloads. The United States must field the defenses it needs to deter or defeat any kind of missile threat to the American homeland and those key nodes globally from any kind of missile threat—be they mixed missile salvos as seen in Ukraine and the Middle East or lower-escalation pathway attacks that seek to influence American decision-making and terrorize the American people.

Indeed, America's adversaries have become so bold that they are making their plans public. America should believe them.

Ultimately, the United States will deny the ability of its adversaries to kill tens of thousands of American citizens with a handful of missiles.

The American government can do nothing else.

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