

The United States Seeks Domination in Space

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Abstract

This Chapter contains an analysis of the most recent U.S. activity in space that is gradually transforming it into an arena for warfighting. It assesses the evolution of Washington's current policy in space, and outlines its basic military and political elements, and also examines the budgetary resources that would need to be allocated to guarantee unfettered U.S. access to space. Special attention is given to intelligence gathering systems and offensive weapons employed in space. The author is of the opinion that uncontrolled weaponization of space and any quest for unilateral domination in space could result in an arms race of a qualitatively new type – the spaceborne arms race.

Introduction

During Donald Trump's Administration the U.S Department. Of Defense (DOD) accelerated conceptual planning for deployment of military space structures.

The Republican Administration's "National Security Strategy," which was released in December 2018, repeatedly identified space as a contested domain, a somewhat more dire take than that of its predecessor the Democratic Barack Obama administration, which described the competition in space as having "threats posed by those who may wish to deny the peaceful use of outer space," but did not describe it as an already "contested" region.

In the sections following, the evolution of the new policy is discussed in details drawing primarily on U.S. government documents. The broad outlines of the Russian space policy are also presented in a snap shot.

Report to Congress on the Structure of the DOD Space Components

While the administration pushed for a more aggressive policy, Congress chimed in by requesting the Deputy Secretary of Defense to conduct a review of the future structure of the DOD

Space Components and to identify and recommend its organizational and management structures, including the Air Force Space Command, among others. In response, the DOD submitted an interim and a final report. In the Interim Report, dated 1 March, 2018, the DOD stated that outer space had become a warfighting domain and pointed out that assuring unfettered access to space was a high priority for the administration. It emphasized the following:

"Space capabilities compound the speed, precision, accuracy, and clarity of these functions, making the force more lethal at less cost in lives and resources."

While the United States has historically maintained a technological advantage over potential adversaries, those countries were rapidly leveraging technology to counter the U.S., the document warned.

In the final report, dated August 9, 2018, DOD elaborated further on its space policy and the associated material infrastructure. It mapped out the organizational structure of the future Space Force – a sixth branch of the Armed Forces – to protect the U.S. economy "through deterrence of malicious activities", and "provide vital capabilities to joint and coalition forces ... across the spectrum of conflict".

The document declared that

the DOD would usher in a new age of space technology and field new multi-domain systems in order “to deter and, if necessary, degrade, deny, disrupt, destroy, and manipulate adversary capabilities to protect U.S. interests, assets, and way of life.”

It also recommended a four-tier command structure for the new Space Force, including the establishment of 1) a new U.S. Space Command “to improve space warfighting, integrating innovative force designs, concepts of operation, doctrines, tactics, techniques and procedures”; 2) a Space Operations Force of career space experts, who are trained, promoted and retained as space warfighting professionals, and who form a space community of engineers, scientists, intelligence experts, operators, strategists and more; 3) a Space Development Agency, a joint organization charged with rapidly developing and fielding next-generation capabilities; and finally, 4) an operating structure with accountable civilian oversight to provide service and support functions for the Space Force.¹

The Final Report warned that attacks against space systems would likely expand in the coming years and reiterated that space is an integral to the U.S. way of life, its national security, and modern warfare.

President Trump’s National Space Strategy was based on the assumption that the U.S. “competitors and adversaries” have turned space into a warfighting domain. It says that while the United States would prefer that the space domain remain free of conflict, the U.S. will prepare to meet and overcome any challenges that may arise there.

Marcus Weisgerber, a defense analyst based in Washington, D.C., observed that the Pentagon was considering creating a combatant command for space warfare, in response to the Chinese and Russian “militarization” of space, and added that it was also exploring ways to speed up the acquisition of new satellites.²

On August 9, 2018, the Pentagon sent a report to Congress on the U.S. Space Force along with its plans to establish a command structure for space operations for the military. It observed that

although U.S. space systems have historically maintained a technological advantage over those of ‘potential adversaries’, those ‘potential adversaries’ were actively developing ways to deny the U.S. the use of space in a crisis. It argued that it is imperative that the United States appropriately adapt its policies, doctrine, and capabilities to protect its interests.

Such changes have been oriented to bring about the idea of the U.S. unilateral domination in space

By putting forward the notion that the USA risks ‘losing advantage’ in space to the Peoples’ Republic of China (PRC) and Russia, Washington continued enthusiastically seeking to cement its leadership in this sphere during Donald Trump’s presidency. He not only continued his predecessor’s space policy, but even applied to it new thrust and a new dimension.³

During his presidency, the U.S. military-political leaders claimed that advantage in space over these two nations is not being eroded. The American military “must

1 “Final Report on Organizational and Management Structure for the National Security Space Components of the Department of Defense. Report to Congress on U.S. Space Force”, U.S. Department of Defense. Washington, 2018, August 9. <https://news.usni.org/2018/08/09/report-congress-u-s-space-force-official-pentagon-announcement>.

2 M. Weisgerber, “Pentagon May Create a Combatant Command for Space” Defense One, March 6, 2018. <https://www.defenseone.com/technology/2018/03/pentagon-may-create-combatant-command-space/146430/?oref=d1-related-article>.

3 See some other details: В. Козин, “Космическая политика США: претензия на доминирование с упором на силу”, США и Канада: экономика, политика, культура, 2019, № 1. pp. 24-43.

move faster to maintain a lead in this critical warfighting domain,” said General John E. Hyten, Commander of the U.S. Strategic Command, on December 2, 2017 at the Reagan National Defense Forum in California. He warned that in five years the country might lose the space advantage, if it does not do something different, and ten years from that time it could be left behind other top space explorers. While noting that the notion of a conflict moving into space is “relatively new”, he asserted that the job of the U.S. military was “to figure out how to fight it and win.”⁴

In 2018, the U.S. Congress tried to override the Air Force’s objections and carve out some kind of Space Corps or Space Force. Senior U.S. officials increasingly spoke of pursuing ‘offensive’ capabilities in space.⁵ The U.S. National Security Strategy, signed by President Trump on December 18, 2017, openly proclaimed the ‘leadership’ and ‘freedom of action’ of the U.S. in space. To meet this goal the U.S.A. has re-established the National Space Council with the mandate to review America’s long-range space goals. The

Department of Defense has been tasked to develop new operational concepts and capabilities to win, *inter alia*, in outer space.⁶

A draft Nuclear Posture Review, initially published on January 11, 2018, called for improvement in intelligence and communication assets in outer space in order to enhance nuclear deterrence.⁷ The U.S. National Defense Strategy adopted in 2018 underscored that DOD would prioritize investments in resilience, reconstitution, and operations to assure the U.S. space capabilities.⁸

The U.S.A. firmly believes that space is “a war-fighting domain”

Addressing a military audience at the Marine Corps Air Station Miramar, in San Diego, California, on March 13, 2018, President Trump boasted about his National Security Strategy, revealed his plans to modernize the U.S. nuclear arsenal, to develop hypersonic weapons, and mapped out his proposed increases to military

budgets. It was his the most important speech so far on U.S. efforts in space.

In justifying the creation of a space force Donald Trump noted that his Administration’s National Security Strategy “recognizes that space is a war-fighting domain, just like the land, air, and sea”. If the United States has to fight in space, developing a Space Force would make sense, he said.⁹ Evidently, his notion that space is “a war-fighting domain” is the key concept.

The Pentagon continued to test a multifunctional space-based platform known as an “Orbital Test Vehicle”, a reusable spacecraft, also code-named X-37B. Experts believe that this vehicle can be used to deliver space-based BMDS and ASAT systems.¹⁰

In 2010, the “Orbital Test Vehicle-1” (OTV-1) – a 8.8 meters long, shuttle-like space plane, successfully conducted tests in orbit. In March 2011, U.S. launched OTV-2, which orbited the Earth for nearly nine months. In December 2012, another non-piloted military “mini-shuttle,” OTV-3, was launched. On October 17, 2014, the OTV-3 returned from its third mission and landed at Vandenberg AFB

4 G. Dominguez, “U.S. risks losing advantage in space to China and Russia, warns STRATCOM chief”, Jane’s Defense Weekly, December 13, 2017, p. 6.

5 J. S. Freedberg, “2018 Forecast: Air Force, Space Force Or Multi-Domain Force?”, The Breaking Defense, January 5, 2018. <https://breakingdefense.com/2018/01/2018-forecast-air-force-space-force-or-multi-domain-force/>.

6 National Security Strategy of the U.S.A. Signed by President Trump December 18, 2017. Washington. The White House. 2017.

7 V. Kozin, “Militarization of Outer Space and Its Impacts on Global Security Environment”, Islamabad, GTNN, 2015. pp. 2-3.

8 Summary of the 2018 National Defense Strategy of the United States of America. Washington, 2018. January 11. P. 6.

9 S. Erwin, “Trump: U.S. should have a ‘space force,’” Space news, March 13, 2018. <http://spacenews.com/trump-u-s-should-have-a-space-force/>

10 P. Host, “U.S. Air Force X-37 B orbital test vehicle returns to earth”, Jane’s Defence Weekly, May 17, 2017, p.11.

Number of space flights of the X-37B vehicle

No	Flight code	Vehicle	Launcher	Date of launch (UTC)	Date of landing (UTC)	Duration of flight
1	OTV-01 (USA-212)	OTV-1	Atlas-5	22.04. 2010	3.12.2010	224
2	OTV-02 (USA-226)	OTV-2	Atlas-5	5.03. 2011	16.06.2012	469
3	OTV-03 (USA-240)	OTV-3	Atlas-5	11.12. 2012	17.10.2014	675
4	OTV-04 (USA-261)	OTV-4	Atlas-5	20.05. 2015	7.05.2017	718
5	OTV-05 (USA-277)	OTV-5	Falcon-9	7.09. 2017	27.10.2019	780
6	OTV-06 (USA-?)	OTV-6	Atlas-5?	?	?	?

in California. The spacecraft conducted in-orbit experiments for 674 days. During its fourth test, the X-37B managed to stay in orbit 718 days, thus setting a world record. United States Air Force official spokesman said the OTV-4 tested technologies involving high temperature structures and seals, conformal reusable insulation, and autonomous orbital flight, reentry and landing.¹¹

The OTV-5 space plane landed back on Earth on October 27, 2019 after a record 780 days in orbit, racking up the fifth ultra-long mission for the military's mini-shuttle fleet. It ended its mission with an autonomous touch-

down at the Shuttle Landing Facility of NASA's Kennedy Space Center in Cape Canaveral, Florida.

On January 19, 2018, the U.S. Air Force successfully launched its fourth Space-Based Infrared System Geosynchronous Earth Orbit satellite or SBIRS GEO-4. The SBIRS constellation collects data for use by the Pentagon to detect missile launches, including the ability to recognize dimmer targets; support BMD infrastructure; expand technical intelligence gathering, and bolster situational awareness on the battlefield. The first three satellites in this category, SBIRS GEO-1, -2, and -3 were launched in 2011, 2013 and 2017, respectively. SBIRS GEO-5 and SBIRS

GEO-6 are slated for launching in 2020-2021. Together they will comprise the initial SBIRS formation and give it global coverage.

In 2020, U.S. Air Force operated 77 satellites and the Navy 12 satellites. During the FY 2019 budget release, the Air Force canceled the launch of the 7th and 8th satellites in the SBIRS constellation. Instead, it announced a new program called the "Next Generation Overhead Persistent Infrared Program," with new satellites that would be more survivable, and which could be fielded more quickly.¹²

¹¹ S. Ghoshroy, "X-37B – a backdoor to weaponization of space," (this report)

U.S. Space Force: the newest branch of the Armed Forces

In his remarks at a meeting of the National Space Council on June 18, 2018, President Trump directed the Pentagon to immediately begin the process necessary to establish a Space Force as the sixth branch of the Armed Forces separate from and equal to other branches. The Department of Defense since then has taken immediate steps to implement the President's direction and to seek legislation from Congress to realize his vision.

On February 19, 2019, President Trump signed the Space Policy Directive-4 entitled "Establishment of the United States Space Force" (USSF) in which he outlined major principles for the establishment of the new force and how it would be structured, and highlighted the necessity to use space as a future battlefield.¹²

The memorandum stipulates that the United States Space Force shall be organized, trained, and equipped to meet the following five key priorities: 1) protecting the Nation's interests in space and the peaceful use

of space for all responsible actors, consistent with applicable law, including international law; 2) ensuring unfettered use of space for United States national security purposes, the United States economy, and United States persons, partners, and allies; 3) deterring aggression and defending the Nation, United States allies, and United States interests from hostile acts in and from space; 4) ensuring that needed space capabilities are integrated and available to all United States Combatant Commands; and 5) projecting military power in, from, and to space in support of our Nation's interests; and developing, maintaining, and improving a community of professionals focused on the national security demands of the space domain.

In March 2019, DOD released an outline of the new satellite architecture for its Space Development Agency (SDA), a space force military branch under the direction of the Under Secretary of Defense for Research and Engineering.

The agency would unify and integrate efforts across the Department to define, develop and field the novel and innovative solutions necessary for the next-generation military space capabilities.¹⁴ It will provide the overall infrastructure that will monitor and assess the situation in

space.¹³

The Defense Intelligence Agency (DIA) has expressed concern about how the emergence of 'near-peer allies' such as China and Russia, pose a new threat. Its director, Lieutenant General Robert Ashley, who is charged with providing policymakers with intelligence on the military threats posed by foreign governments and non-state actors, said on July 1, 2019 at the Aspen Institute's Security Forum that each year the U.S. Space Command conducts a computer war game in which it practices the first-strike attack on Russia and China.¹⁴

Another major concern to national space security is environmental. Space debris, deactivated satellites and broken pieces of other satellites and launch vehicles, pose a major threat to active spacecraft. Objects as small as 10 centimeters can destroy military satellites in a collision, and there are about 21,000 of those objects, Lieutenant General Ashley said. Finding a solution to managing that space debris is a problem the DIA is focused on, he noted.¹⁵

12 D. Trump "Establishment of the United States Space Force". Text of Space Policy Directive-4. 2019. February 19: <https://www.whitehouse.gov/presidential-actions/text-space-policy-directive-4-establishment-united-states-space-force/>.

13 "Newly Established US Space Agency Offers Sneak Peek at Satellite Layout", July 5, 2019. <https://sputniknews.com/science/201907051076163344-newly-established-us-space-agency-offers-sneak-peek-at-satellite-layout-photo/>.

14 H. Caldicott (editor), "Sleepwalking to Armageddon. The Threat of Nuclear Annihilation", New York: The New Press, 2017. p. 33.

15 N. Strout, "Four almost invisible

It is clear from the discussion above that the U.S. has displayed a strong determination to use space for both peaceful and military purposes – with a major emphasis on maintaining military superiority. The main targets of the newly-born Space Force will be the Peoples Republic of China and the Russian Federation. At the same time, it has to be noted that Washington has not produced any initiative to ban the use of space as a theater of hostile operations.

Besides the USA, a number of NATO member states are actively engaged in pursuing a military space policy. Recognizing that space is “a highly dynamic and rapidly evolving area, which is essential to a coherent Alliance deterrence and defense posture”, the Heads of State and Government participating in the meeting of the North Atlantic Council, held in Brussels on 11 July 2018 in the framework of a NATO Summit, have agreed to develop “an overarching NATO Space Policy.”¹⁶ No doubt, such a policy will cement the Alliance’s drive to operate actively in outer space. In

June 2019, NATO approved a new space policy, which NATO Secretary General Jens Stoltenberg described as an acknowledgment of NATO’s reliance upon satellites for a range of fundamental military functions. These include, for example, communications, tracking, missile early warning, surveillance and navigation.

There is potential for deeper collaboration in additional areas, such as hosted payloads on satellites, and communications. And while there is [disagreement](#) within the Alliance with respect to space weaponization, it should not prevent the Alliance from forging ahead on a number of important initiatives.

Examples include, among others, space-reliant communication, synchronized threat warning, command and control, and surveillance and reconnaissance. A space sensor layer, for instance, would be critical to [tracking and intercepting Russian hypersonic missiles](#), identified as an emerging threat against which there is currently no adequate defense.¹⁷

¹⁷ B. Bowman and A. Gabel, “NATO declares space ‘operational domain,’ but more work remains”, Defense News, December 16, 2019. www.defensenews.com/opinion/commentary/2019/12/16/nato-declares-space-operational-domain-but-more-work-remains/?utm_source=Sailthru&utm_medium=email&utm_campaign=Space%2012.26.19&utm_term=Editorial%20-%20Military%20Space%20Report

Setting up the Pentagon’s new Space Force will cost nearly \$13 billion over next five years

Over the next five years, the Air Force projected a spending of \$44.3 billion on space systems – \$31.5 billion in research and development and \$12.8 billion in procurement. That would mark an 18 percent rise over the \$37.5 billion five-year plan submitted in 2016 by President Obama.¹⁸

The biggest impact will be by issuing Directive-4 on the establishment of the United States Space Force in February 2019, President Trump finalized the legal and political preparations for creating the U.S. Space Force and the pursuance of a vigorous, far-reaching and challenging space policy.

The 2020 National Defense Authorization Act (NDAA) allocated substantial funds to create the U.S. Space Force (USSF) to be rolled out in slices over by mid-2021

¹⁸ S. Erwin, “Air Force Chief Goldfein: ‘We’ll be fighting from space in a matter of years’”, Spacenews, February 24, 2018. <http://spacenews.com/air-force-chief-goldfein-well-be-fighting-from-space-in-a-matter-of-years/>

threats to keep US intel officials on edge”, Intel/GEOINT, July 22, 2019. <https://www.c4isrnet.com/battlefield-tech/space/2019/07/22/4-almost-invisible-threats-to-keep-us-intel-officials-on-edge/>.

¹⁶ Brussels Summit Declaration. Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Brussels 11-12 July 2018. https://www.nato.int/cps/en/natohq/official_texts_156624.htm?selectedLocale=en.

The 2020 National Defense Authorization Act (NDAA) was signed by President Donald Trump December 19, 2020 during a ceremony at Joint Base Andrews. It allocated \$40 million to establish the Space Force, which was \$32 million less than the Administration's request. Donald Trump once again reiterated that "... space is the world's newest warfighting domain." And added that "America's superiority in space is absolutely vital."¹⁹

Donald Trump's signature to enact the Space Force meant that the Air Force Space Command (AFSPC) had been officially redesignated as the United States Space Force. Some 200 personnel were also assigned to the Space Force Headquarters at the Pentagon to plan to move additional staff into that force within 30, 60, 90 and 120-days program. Air Force Secretary Barbara Barrett said in December 2019 that the newly-created Space Force will be "rolled out" in tranches over the next 18 months – a schedule that other senior service officials say is faster than originally planned.²⁰ At the end

of 2019 nearly 16,000 active duty and civilian personnel from AFSPC were reassigned to the USSF.

The DOD space strategy will advance space power to maintain U.S. superiority and domination in space in a complex security environment characterized by great power competition.²¹

The Secretary of Defense, Mark Esper, declared that DOD will focus on the following: the integration of military space power into national, joint, and combined operations; shaping the strategic environment; and cooperation with allies, partners, industry, and other U.S. Government departments and agencies.

The military will also develop an agile space enterprise that can take advantage of emerging technological and commercial innovation. Space superiority will be achieved through on-orbit, multidomain operations that are integrated with the allies and partners of the United States. A pledge is given to deter adversary aggression

against the space capabilities of the United States and its allies, partners, and their commercial interests.²²

Moscow's space policy at a glance

According to international law, outer space belongs to all nations. It is thus very strange to hear that "more than any other nation, the United States relies on space-based capabilities to project and employ power on a global scale."

It has been claimed that China and Russia "have weaponized space and turned it into a warfighting domain", and that they present "the greatest strategic threat" due to their development, testing, and deployment of counterspace capabilities and their associated military doctrine for employment in conflict extending to space.²³ A distortion of reality is the assertion of the US space strategy that Moscow and Beijing have certain military doctrines that imply the use of force in outer space. They do not have any such provisions. On the contrary, the Russian Federation and the People's Republic of China have long been co-spon-

19 V. Insinna, "May the Space Force be with you", Defense News, December 20, 2019.

20 Th. Hitchens, "Space Force Slow Roll? Air Force Says Not So", Breaking Defense, December 20, 2019. https://breakingdefense.com/2019/12/space-force-slow-roll-air-force-says-no-to-critics/?utm_campaign=Breaking%20News&utm_source=hs_email&utm_medium=email&utm_content=81128284&hsenc=p2ANqtz-8aOVCB4yyDqdWBEWUXCBAbkRDHdf

[IFY3ZA0Uk0LDo9Dz7zI-zFseqeUeaM0-A11Zf-In-ixhHu4akOFaiFniUuqLWsYA&hsmi=81128284](https://media.defense.gov/2020/June/17/2002317392/-1/-1/1/2020_DEFENSE_SPACE_STRATEGY_FACTSHEET.PDF)

21 According to the Pentagon, Space power "is the sum of a nation's capabilities to leverage space for diplomatic, information, military, and economic activities in peace or war in order to attain national objectives." Defense Space Strategy Fact Sheet. Washington: Defense Department/June 2020. p.2 https://media.defense.gov/2020/June/17/2002317392/-1/-1/1/2020_DEFENSE_SPACE_STRATEGY_FACTSHEET.PDF.

22 Defense Space Strategy Fact Sheet. Washington: Defense Department, June 2020. pp7-8 https://media.defense.gov/2020/June/17/2002317392/-1/-1/1/2020_DEFENSE_SPACE_STRATEGY_FACTSHEET.PDF.P1.

23 Ibidem. P. 1-3.

sors of a draft international treaty on the prevention of an arms race in outer space. The United States not only persists in ignoring it, but also has also been creating various spurious obstacles to its adoption.

In addition, starting with the "Space age" proclaimed in 1957 after the launch of the first artificial Earth satellite by the USSR, all subsequent U.S. administrations have blocked some twenty different foreign policy initiatives, first tabled by the Soviet Union and then by Russia. These initiatives called for abandoning the militarization of outer space, the use of force and the deployment of offensive space weapons in it, and - more recently - the banning of the deployment of offensive missile defense systems in space.

Although the summary of the new U.S. DSS released on 17 June 2020 has the word "defense" in its title, it cannot be qualified as such. Given its key provisions, it is an offensive military-political posture with huge negative strategic implications for the entire world, as it contains a clear U.S. bid for monopolizing and dominating outer space. It also provides for an intensification of its offensive military activities in space and constitutes the basis for an arms race of a qualitatively new type - a space-borne arms race.

To avoid such a gloomy scenario, it would be appropri-

ate to negotiate a special political arrangement between Moscow and Washington pledging not to attack each other's space-based assets in peacetime.

Commenting on the statements made in July 2020 by U.S. and British officials about the testing of a Russian satellite that allegedly had "the characteristics of a weapon," the Russian Ministry of Foreign Affairs (MFA) stated on 24 July 2020 that the testing conducted by the Russian Defense Ministry on July 15, 2020 has not endangered any other space assets and, most importantly, has not infringed any norms and principles of international law. According to the Russian Defense Ministry, the inspector satellite was launched to inspect a Russian satellite at close range, using special equipment for this purpose. This mission collected valuable information about the technical maintenance status of the inspected spacecraft which was transmitted to the ground-based command system.

The Russian MFA regarded the statements made by Washington and London as an attempt to discredit Russia's activities in space and its initiatives for preventing an arms race in outer space; to distract public attention from the existing threats in outer space; to justify their actions to deploy weapons in outer space and to get additional funding for these pur-

poses. Not surprisingly, they keep silent about their own military activities in outer space, including the use of the so-called inspector and maintenance satellites as anti-satellite weapons.

The Russian diplomatic service has reaffirmed its national commitment to its obligations regarding the peaceful exploration and use of outer space by all states without discrimination. Of crucial importance in this connection are Russian initiatives, which incidentally the overwhelming majority of UN member states support, aimed at preventing the militarization of outer space. The idea is to draft a multilateral binding agreement that will prevent an arms race in outer space based on a Russian-Chinese draft agreement on the prevention of the deployment of weapons in outer space, and the use or threat of force against space objects, as well as the globalization of the political commitment on the no first placement of weapons in outer space.

Moscow once again called on the U.S. and the U.K. "to start negotiations and join meaningful and practical collective efforts". It has reaffirmed its readiness "to discuss all issues related to activities in outer space with representatives from the concerned agencies and establishments."²⁴

24 https://www.mid.ru/en/web/guest/kommentarii_predstavitelja/-/asset_publisher/MCZ7HQuMdqBY/

As noted earlier, during the space age that started in 1957, the USSR and later Russia have put forward nearly 20 international initiatives aimed at making space a domain of peace to be used for the benefit of all mankind. The most important of them were ideas on the prevention of an arms race in space and on a policy of not being the first to deploy any kind of space-based weapons. Unfortunately, they have been neglected by the USA and its NATO allies.

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