

ISPSW Strategy Series: Focus on Defense and International Security

Current Security Developments in Japan: Corona and Aegis Ashore

Dr Oliver Corff

Issue No. 704 June 2020

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June 2020

Executive Summary

Very early in 2020, Japan had to manage the Covid-19 outbreak on board the cruise ship Diamond Princess, but due to a strict mitigation regime, the number of domestic casualties remains remarkably low. The medical service of Japan's Self-Defense Forces has contributed substantially to successfully handling the pandemic. Nonetheless, the national fiscal constraints caused by mitigating the Covid-19 impact may have contributed to the recent unexpected announcement by Japan's MOD on June 15, 2020, that a cornerstone component of Japan's Ballistic Missile Defense, Aegis Ashore, will be halted for unsolved safety issues and budget overrun concerns. This decision affects Japan's defense posture and the Japan-US military alliance while also highlighting the ongoing difficulties to achieve a reasonable balance between the nation's security and the safety concerns of Japan's citizens.

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Analysis

Japan's Self-Defense Forces and their role in the fight against the Covid-19 pandemic

With regard to Covid-19 pandemic, Japan has been very early in the international spotlight due to the Covid-19 outbreak on board of the cruise ship Diamond Princess, but has so far managed to keep case load and casualty figures impressively low. A strict border control policy has been in place since March 6, 2020, requiring citizens of all nationalities, including Japanese, arriving at Japan's airports and ports, to undergo two weeks of quarantine upon arrival. Japan's Self-Defense Forces have contributed to the national response as a vital part of a whole-of-government approach to combatting the Covid-19 pandemic.

SDF personnel and material resources³ are employed for numerous services, e. g. the transport of new arrivals at international ports and airports to designated quarantine locations⁴ (the above-mentioned policy interdicts the use of any public transport for those persons), necessary transports of patients from remote islands, the distribution of food to persons under quarantine, and the taking of samples at airports and ports for diagnostic tests. The true stress test of the SDF medical service was the support operation for the cruise ship Diamond Princess for which approx. 2,700 SDF personnel were deployed in February 2020 over three weeks. As a side result of this complex large-scale operation, the MOD offers lessons-learned and training sessions for civilian institutions and private enterprises involved with or affected by the virus outbreak while transferring many of the aforementioned activities to private contractors in order to uphold the sustainability of the SDF medical service. In a further effort, the SDF Central Hospital and the National Defense Medical College Hospital conducted clinical trials using Avigan (favipiravir), on a compassionate-use basis.

In order to shoulder the significant burden associated with the combat against Covid-19, the MOD had to request two budget amendments. As of April 7, 2020, a total budget increase of the MOD was stated with 12.1 billion Yen, approx. 113 million US\$ or 101 million EUR.⁵ This budget was used for the acquisition of ventilators (4.2 billion Yen), installations for an insulation ward at the SDF Central Hospital, medical emergency transport (both airborne and land-based; 2.6 billion Yen), PPE (personal protective equipment; 1.4 billion Yen), emergency supplies for persons under quarantine (3.3 billion Yen), and for capacity building measures in the field of military-civilian coordination.

As of May 26, 2020, another necessary budget amendment is stated as 6.3 billion Yen, roughly equivalent to 58.7 million US\$ or 52.35 million EUR. Only a minor share of this amount is intended for increasing existing capabilities

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¹ As of June 17, 2020, there are 17,587 reported cases and 927 deaths; see Japan Ministry of Health, Labour and Welfare: "About Coronavirus Disease 2019 (COVID-19) Press Conference, June 16, 2020",

https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/newpage 00032.html (consulted June 17, 2020) for data from Japan, and https://www.worldometers.info/coronavirus/#countries (consulted June 17, 2020) for a global comparison.

² Japan Ministry of Health, Labour and Welfare: 水際対策の抜本的強化について(新型コロナウイルス感染症)[Mizugiwa taisaku no bapponteki kyōka ni tsuite (shingata korona uirusu kansenshō)] "Concerning the rigorously intensified enforcement of border control regime (with regard to Covid-19 infections)."

https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000121431_00098.html (as of June 17, 2020).

³ All facts in this paragraph gleaned from "Japan Self-Defense Forces Engagement in response to COVID-19. Updated." Ministry of Defense, Japan, 18 May 2020. https://www.mod.go.jp/e/d_act/disaster/covid/siryo2.pdf

⁴ The Joint Staff Office provides a detailed breakdown of all tasks performed as of May 31, 2020: 新型コロナウイルス感染症に対する水際対策強化に係る災害派遣について [Shingata korona uirusu kansenshō ni taisuru mizugiwa taisaku kyōka ni kakawaru saigai haken ni tsuite] "On the disaster relief deployment related to the strengthened border control regime against the novel Corona virus infection" https://www.mod.go.jp/js/Activity/Gallery/images/Disaster relief/2020covid 19/2020covid 19 press1.pdf (5 pages, Japanese only; consulted June 17, 2020).

⁵ See 令和 2 年度補正予算案(防衛省所管)の概要 [Reiwa 2 nendo hosei yosan'an (bōeishō shokan) no gaiyō] "Outline of the budget amendment proposal of the MOD for Fiscal Year 2020"

https://www.mod.go.jp/j/yosan/yosan_gaiyo/2020/yosan_20200407.pdf (Japanese only; consulted June 17, 2020).

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like the transport of patients (roughly 1 million US\$) and the deployment mobile CT units (roughly 2 million US\$) or strengthening the supply of consumables like PCR test kits (also roughly 2 million US\$) whereas the lion's share (roughly 50 million US\$) is used on the improvement of JSDF facilities and barracks in terms of infection prevention, temperature monitoring etc.6

The MOD shared information about the above-mentioned measures with a number of countries on a ministerial level, conducting more than a dozen conference calls with European (e.g. Germany⁷) Asian (e.g. India⁸ and Mongolia⁹) and Pacific (e.g. Australia¹⁰) nations during the last two months, which provided an excellent opportunity to exchange views on the global security environment, commit to common values and strengthen security bonds with these nations amidst growing concern about recent security developments in the Asia-Pacific region.

The good news is that Japan was able to develop an early and coordinated response to Covid-19, the bad news is that Covid-19 affects Japan's security in unforeseen manners, as budget constraints caused by Covid-19-related spending may have contributed to the unexpected and sudden announcement to halt the fielding of the Aegis Ashore land-based Ballistic Missile Defense (BMD) system announced on June 15, 2020.

Aegis Ashore

Aegis Ashore is the proposed land-based component of Japan's comprehensive Ballistic Missile Defense, the strategical rationale of which is the defense against North Korean ballistic missiles, potentially armed with nuclear warheads. Aegis Ashore is supposed to complement the existing maritime Aegis capabilities, currently consisting of seven operational guided missile destroyers and one unit under construction, DDG-180 JS Haguro, which is expected to be commissioned in March 2021. The Medium Term Defense Program (FY 2019 - FY 2023) states:

"For reinforcing its multi-layered and persistent defense posture for the entire territory of Japan against ballistic missile attacks, SDF will procure its land-based Aegis system (Aegis Ashore), continue to upgrade the capabilities of its existing Aegis-equipped destroyers (DDG) and surfaceto-air guided missile PATRIOT system [...]"11

The complete Aegis Ashore system consists of two land-based units which are proposed to be installed at Mutsumi Training Area in Yamaguchi Prefecture, near the south-western tip of Japan's main island Honshū, and Araya Training Area in Akita Prefecture, in the Tohoku region of Honshū, or Northeast Japan. Each system consists of three major components: 1) a phased array early warning radar AN/SPY-7 based on Lockheed Martin's LRDR system, 2) interceptors (SM-3 Block IIA), housed in a VLS (vertical launch system), and 3) a comprehensive joint command system named Japan Aerospace Defense Ground Environment (JADGE), with the task of providing a

https://www.mod.go.jp/j/yosan/yosan_gaiyo/2020/yosan_20200526.pdf (Japanese only; consulted June 17, 2020).

⁶ All figures from 令和2年度第2次補正予算案(防衛省所管)の概要 [Reiwa 2 nendo dai 2 ji hosei yosan'an (bōeishō shokan) no gaiyō] "Outline of the 2nd budget amendment proposal of the MOD for Fiscal Year 2020"

⁷ Japan-Germany Defense Minister's Telephone Conversation, April 24, 2020.

https://www.mod.go.jp/e/d_act/exc/area/docs/2020/20200424_j-ger_gaiyo-en.html (consulted June 17, 2020).

⁸ Japan-India Defense Minister's Telephone Conversation, May 8, 2020.

https://www.mod.go.jp/e/d act/exc/area/docs/2020/20200508 j-india gaiyo-en.html (consulted June 17, 2020). 9 Japan-Mongolia Defense Minister's Video Teleconference, June 2, 2020.

https://www.mod.go.jp/e/d_act/exc/area/docs/2020/20200601_j-mng_gaiyo-en.html (consulted June 17, 2020).

¹⁰ Japan-Australia Defense Minister's Telephone Conversation, May 7, 2020.

https://www.mod.go.jp/e/d_act/exc/area/docs/2020/20200507_i-aus_gaiyo-en.html (consulted June 17, 2020).

¹¹ Japan MOD: "Medium Term Defense Program (FY 2019 – FY 2023)". December 18, 2018 (provisional translation), p. 14. https://www.mod.go.jp/j/approach/agenda/guideline/2019/pdf/chuki seibi31-35 e.pdf (consulted June 17, 2020).



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Common Operating Environment (COE) for all services of the Japanese Self Defense Forces. The annual Defense White Paper, 2019 Defense of Japan, offers a visual concept. 12

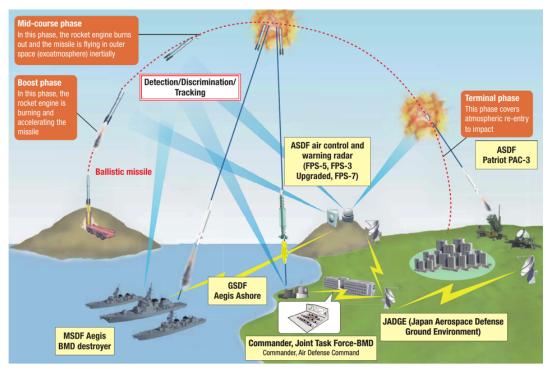


Illustration 1: Aegis Ashore, a key component of Japan's Ballistic Missile Defense

The acquisition of Aegis Ashore was approved by the Cabinet of Japan on December 19, 2017.¹³ The cabinet resolution to this effect states the threat from recent North Korean developments in the fields of ballistic missiles and nuclear capabilities as its rationale, assigns the system to the JSDF Ground Force and requests the formation of a comprehensive Ballistic Missile Defense which encompasses the existing fleet of sea-based Aegis destroyers as well as the land-based Patriot systems in order to aim for a multi-layered missile defence capability. However, the cabinet resolution does not allocate a specific budget other than requesting to remain within the scope of the Medium Term Defense Program (FY 2014 – FY 2018)¹⁴ which allocates gross budgets to defense activities but does not specify detailed per-unit breakdowns. The Defense Budget 2018¹⁵ states the total BMD-related budget as 136.5 billion Yen, the Defense Budget 201916 states the BMD-related budget as 355 billion Yen (3.323 billion

¹² Japan MOD: "2019 Defense of Japan", p. 282. https://www.mod.go.jp/e/publ/w_paper/pdf/2019/DOJ2019 Full.pdf (consulted June 19, 2020).

¹³ 弾道ミサイル防衛能力の抜本的向上について(平成29年12月19日閣議決定)[Dandō misairu bōei nōryoku no bapponteki kōjō ni tsuite (Heisei 29 nen 12 gatsu 19 nichi kakugi kettei] (Cabinet resolution concerning the massive enhancement of Missile Defense capabilities, December 19, 2017).

https://www.kantei.go.jp/jp/content/20171219kakugikettei1.pdf (consulted June 19, 2020).

14 National Security Council and Cabinet: Medium Term Defense Program (FY2014 – FY2018), December 17, 2013. https://www.mod.go.jp/j/approach/agenda/guideline/2014/pdf/Defense Program.pdf (consulted June 19, 2020). 15 Japan MOD: Defense Programs and Budget of Japan. Overview of FY2018 Budget, p. 12.

https://www.mod.go.jp/e/d act/d budget/pdf/190510b.pdf (consulted June 19, 2020). 16 Japan MOD: Defense Programs and Budget of Japan. Overview of FY2019 Budget, p. 16.

https://www.mod.go.jp/e/d act/d budget/pdf/190510b.pdf (consulted June 19, 2020).

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US\$ or 2.964 billion EUR), and the Defense Budget 2020¹⁷ states the total BMD-related budget as 116.3 billion Yen, roughly 1.089 US\$ or 971 million Euro. These amounts include the expenses for the interceptor vertical launch system, the procurement of the interceptors, necessary modifications of the Patriot system, upgrade of the JADGE, and other related cost items.

With all good intentions,¹⁸ the introduction of the Aegis Ashore system was accompanied by several public hearings¹⁹ in summer 2018, May 2019 and December 2019 to local communities in Yamaguchi and Akita Prefectures which provided extensive information on the fundamentals of the Aegis Ashore system, its importance for the defense of Japan, the selection principles of candidate sites, as well as detailed information on the expected environmental impact, all in order to reassure and convince the local communities of the safety of the Aegis Ashore installations. For instance, the MOD presentation provided to Hagi City and Abu District in Yamaguchi on December 17, 2019²⁰ contained 11 slides (slides 9 to 19) on the expected impact of electromagnetic radiation of the radar system alone, as well as a 15-slide long overview of all aspects relating to hydrology (surface water, groundwater, water recycling, etc.; slides 24 to 38). The danger potential of the interceptor missiles is also mentioned briefly (slides 41 to 42), but it is emphasized that the interceptor is purely kinetic and does not carry explosives. Two slides (44 and 45) are dedicated to the question whether the boosters used for starting the interceptors can cause damage when falling back to the surface, yet the presentation states that any risk for the local population is minimal. The risk of boosters falling back to earth in an uncontrolled manner is a matter of lesser concern for the proposed site in Akita as that site faces the open sea.

The objective of "winning over" the local population was not achieved, not least due to a number of communication mishaps; in one set of slides presented during the May 2019 hearings, a systematic error had crept into the tables for the minimum elevation of the radar lobes; the MOD apologized for the error and provided a corrected table but the public damage could not be undone.

On June 15, 2020, Minister of Defense Kōno Tarō announced that the deployment of the Aegis Ashore system had been halted as of Friday, June 12, 2020, explaining that necessary design modifications to assure that boosters will only go down in their designated target areas will require work on both software and hardware of the system. The original development cost of the interceptors (SM-3 Block IIA) was given as approximately 110 billion Yen (1.03 billion US\$, 918.4 million EUR) on the Japanese side, with a similar estimate for the U.S.A. share, while the development time had taken about 12 years. It is assumed that a total rework of the interceptors would again consume similar cost and time. In reflection of such an estimate, the MOD reported its conclusions to the National Security Council.

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¹⁷ Japan MOD: Defense Programs and Budget of Japan. Overview of 2020 Budget, p. 16. https://www.mod.go.jp/e/d_act/d_budget/pdf/200330a.pdf (consulted June 19, 2020).

^{18 &}quot;The MOD and the JSDF do appreciate the understanding and hope for the support of the local communities; they will do their best do provide all relevant information." https://www.mod.go.jp/j/approach/defense/bmd/aegis ashore.html (consulted June 19, 2020).

¹⁹ See Japan MOD: 陸上配備型イージス・システム(イージス・アショア)に関する秋田県及び山口県への説明について [Rikujō haibigata iijisu sisutemu (iijisu ashoa) ni kansuru Akita ken oyobi Yamaguchi ken he no setsumei ni tsuite] (Concerning the presentations given at Akita and Yamaguchi Prefectures with regard to the land-based Aegis system (Aegis Ashore) https://www.mod.go.jp/j/approach/defense/bmd/aegis_ashore.html (consulted June 19, 2020).

²⁰ MOD: イージス・アショアの配備について—再調査の結果を踏まえた再説明— [lijisu ashoa no haibi ni tsuite – sai chōsa no kekka wo fumaeta sai setsumei –] (On fielding Aegis Ashore – further explanations referring to the results of the renewed investigation) https://www.mod.go.jp/j/approach/defense/bmd/pdf/20191217 a.pdf (consulted June 19, 2020).

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The Minister's sudden announcement came unexpected to the defense community in Japan²¹ and the U.S.A. and deals a severe blow to the deterrence posture of Japan. A number of considerations as to why the Aegis Ashore program was put to a halt is possible; given the bilateral security alliance with the U.S.A., Japan's SDF is, in the eyes of a profoundly pacifist society, not necessarily the dominant guarantor for the defense of Japan, but is rather appreciated for all aspects of disaster relief. It is thus extremely difficult for the MOD and the SDF to communicate defense measures which contain even a minimal risk; in a television interview, local citizens explained that they felt much safer after the halt of the Aegis Ashore system had been announced.²² With this common sentiment as a background, the official reason stated by the MOD becomes more transparent. The question of boosters did not figure prominently in MOD public presentations, in comparison to electromagnetic compatibility and environment impacts which occupied the lion's share of the MOD presentations (more than 90%). Yet local inhabitants enquired specifically about the risk of boosters falling on nearby houses,²³ perceiving this risk as highly tangible in comparison to the far more intangible risk of electromagnetic emissions of radar side lobes. In light of the sudden announcement that blamed the unsolved booster problem, the Minister had to respond to sharp criticism that earlier information offered by the MOD painted an unduly rosy picture, if not to say that the information was outright misleading; faced with these allegations, the Minister could only offer his personal apologies to the local communities.²⁴

Yet, two other considerations might contribute to the sudden announcement. One consideration is that, given the total price tag of 220 billion Yen associated with fixing the problem of boosters dropping outside the designated area, the question of boosters becomes an ideal pretext to explain the cancellation of the project. It may well be that budget overruns were the true concern of the MOD which perhaps felt it highly inappropriate to request yet another budget amendment, especially in light of the second national budget amendment for mitigating the Covid-19 impact²⁵ which had been passed just a few days earlier, on June 10, 2020. This budget amendment has a volume of 31.91 trillion Yen, or 297 billion US\$.

The other consideration is that a tacit shift in Japan's defense posture, in combination with current budget constraints, might play a more important role than perceived. If a total redesign of hardware and software of the interceptor boosters would really take 10 to 12 years, a future Aegis Ashore system might be outdated the day it will be deployed; hence the Minister's wording that "cost and time of required software and hardware modifications for solving the booster issue without combat efficiency improvement cannot really be justified."²⁶

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²¹ Ōta Fumio 太田文雄: 理解できぬイージス・アショア計画の停止 [Rikai dekinu iijisu ashoa keikaku no teishi] ("The inexplicable halt of the Aegis Ashore plan") June 16, 2020. https://jinf.ip/feedback/archives/30735 (consulted June 17, 2020). 22 ANN News: イージス・アショア 秋田、山口への配備計画白紙に [lijisu ashoa. Akita, Yamaguchi he no haibi keikaku hakushi ni] ("Aegis Ashore: Plans for fielding in Akita and Yamaguchi go back to the drawing board"). 「やっぱり安心というかね、良かったと思います」("I am relieved and think this is a good outcome"), 「人もたくさん住んでいるところなので、安全性が確保されていない以上、賛成はできないとは思っていました」("I think I could not approve [the Aegis Ashore deployment] if safety precautions were not taken, especially in such a densely populated area") June 16, 2020. https://www.youtube.com/watch?v=H6CbLcOyWkk (consulted June 17, 2020).

²³ TV Tokyo: 防衛省 再調査結果を報告 地上イージス配備 山口県で説明 [Bōeishō sai chōsa kekka wo hōkoku. Chijō iijisu haibi Yamaguchi ken de setsumei] ("MOD: Report on the findings of second investigation. Fielding Land-based Aegis. Hearing in Yamaguchi Prefecture") 19 Dec. 2019 https://www.youtube.com/watch?v=C0vXw9twNpY (consulted June 17, 2020). 24 Transcript of the Minister's press conference on June 16, 2020: https://www.mod.go.jp/j/press/kisha/2020/0616a.html (consulted June 17, 2020).

^{25 &}quot;Japan's Lower House passes second extra budget for coronavirus package"

https://www.japantimes.co.jp/news/2020/06/10/national/second-coronavirus-package/ (consulted June 17, 2020). See https://www.mof.go.jp/budget/budger_workflow/budget/fy2020/sy020407/hosei020527b.pdf for a detailed overview of Covid-19 related budget elements (consulted June 17, 2020).

²⁶ Paraphrased translation by the author of the Minister's statement during press conference on June 16, 2020. Full wording: 当初、ソフトウェアの改修でこれが実現できるという認識でおりましたが、ソフトウェアの改修だけでは確実にむつみ演習場

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According to Japan's Medium Term Defense Program, the Aegis Ashore system is part of an effort to strengthen cross-domain operations in traditional domains.²⁷ Accepting the cost overruns for the Aegis Ashore project would jeopardize funding for strengthening capabilities in future warfare domains, namely Space, Cyber and Electromagnetic Domains.²⁸

Conclusions

As plausible as the problem of boosters and rocket debris appears at first glance, the explanations given by the MOD cannot conceal the enormous disproportion between two different threat perceptions at stake. On one hand, the Aegis Ashore system is supposed to fend off a ballistic missile attack on Japan, possibly with nuclear warheads, but on the other hand, the deployment of the system is brought to a halt because of concerns over uncontrolled rocked debris going down in a limited area. With unbroken confidence in the Aegis Ashore design and capabilities, the booster problem should be a minor issue to be solved without calling the whole system into question. Yet if there is any reason to doubt that Aegis Ashore will perform as designed,²⁹ then the fiscal considerations appear in a totally different light, raising the question whether the commitment to the Aegis Ashore program is worth the political, fiscal and technological effort.

It is currently unclear how the halt to the Aegis Ashore program will affect the bilateral alliance between Japan and the U.S.A.; the US have expressed that the project is 'suspended', not cancelled, as acting assistant defense secretary David Helvey explained.³⁰ The bilateral commitment to the Aegis Ashore system is one of the more expensive items of Japan's defense, and how the ensuing technical and budget problems will be solved will most certainly affect the outcome of the renegotiation of the bilateral defense agreement which will expire in March 2021, notably in light of US President Donald Trump's demands to quadruple annual payments for U.S. forces stationed in Japan.³¹

A formal abolishment of the Aegis Ashore project will also affect Japan's future cross-domain and joint service capabilities, as the role of the Japan Aerospace Defense Ground Environment (JADGE) will have to be readjusted. A BMD relying on an exclusively sea-based Aegis would result in a two-layered approach, with the Patriot system protecting the land areas of Japan. Yet, a sea-based Aegis approach would greatly benefit from enhanced corporation with other nations currently investing in Aegis capabilities, like the Republic of Korea and Australia,

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内に落下させると言えない、ということが判明いたしまして、ハードウェアの改修が必要になると。しかし、ハードウェアの改修おそらくSM-3ブロック II Aの例を考えると、あの時が少なくとも2,200億、開発に12年ということですから、今回もそれと同様の期間、コストがかかるということを考えると、ミサイルの能力が向上するわけではありません。ブースターの落下地点をコントロールするということですので、この投資は合理的ではないと判断をいたしました。 ("It was initially understood that the modification could be realized in software alone, but then, with a software modification alone it would not be possible to say that the boosters will definitely fall down within Mutsumi Training Area. Once this had been understood, a hardware modification would also be necessary. But if we consider a hardware modification of the SM-3 Block IIA, for example, that would potentially require at least 220 billion [Yen] and last 12 years. Given this time and cost, we will still not achieve a combat efficiency improvement. We came to the conclusion that such an investment is not reasonable if it is for the [sole] purpose of controlling the drop zone of the boosters." – author's translation)

²⁷ MOD: 2019 Defense of Japan, p. 27. 28 MOD: 2019 Defense of Japan, pp. 162 – 175.

²⁹ Hypothetical scenarios testing the limits of the defense capabilities of the Aegis Ashore system could involve a simultaneous attack with a number of missiles sufficient either to drive the system's data processing capabilities into saturation or to exhaust the limited number of interceptors per VLS.

³⁰ Ryo Nakamura: "US says Japan 'suspended' Aegis Ashore, not canceled". [sic!] Nikkei Asian Review, June 19, 2020. https://asia.nikkei.com/Editor-s-Picks/Interview/US-says-Japan-suspended-Aegis-Ashore-not-canceled (consulted June 17, 2020).

³¹ Reuters: "Trump asks Japan to hike payments for U.S. troops to \$8 billion: Foreign Policy" November 16, 2019, https://www.reuters.com/article/us-japan-usa-idUSKBN1XQ06F (consulted June 20, 2020).



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but here, the political obstacles are far higher than the technical ones. As long as neither Aegis Ashore is active nor a functional substitute is available, adversary nations like China, Russia and North Korea will perceive a weakened deterrence on Japan's side.

Last but not least, the Aegis Ashore issue highlights a fundamental challenge of the MOD and SDF: How to strike a proper balance between the nation's security and the daily safety concerns of Japan's citizens.

Remarks: Opinions expressed in this contribution are those of the author.

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