Missile Proliferation and the Security Dilemma in East Asia

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Missile Proliferation in the post-Cold War East Asia

In East Asia, missile proliferation is accelerating along action-reaction lines.[1] The action-reaction model was a classical view of explaining excessive military build-up and arms race during the Cold War. Ironically, the missile arms race in East Asia has intensified after the end of the Cold War when the United States and the Soviet/Russia drastically reduced their non-strategic nuclear missiles. In retrospect, the 1987 Intermediate-Range Nuclear Forces (INF) Treaty[2] which eventually triggered the ending of the Cold War, and the following 1991 Presidential Nuclear Initiatives (PNI)[3] created a missile vacuum in the Asia Pacific. For the U.S. part, tactical nuclear weapons (TNW) used to play an especially important role on the Korean peninsula, as TNWs would have been used in a limited nuclear war for operations where strategic nuclear weapons would be unnecessary (ibid.). Following the 1991 PNI, the United States withdrew ground-launched short-range nuclear weapons, including nuclear artillery shells and short-range ballistic missile warheads deployed abroad. By July 1992, the United States had removed all TNWs from South Korea. As of 2001, the United States possessed 1,670 TNWs—320 submarine-launched cruise missiles and 1,350 land-based, air-delivered B-61 nuclear gravity bombs, 180 of which deployed in Europe—compared to a 1991 total of 7,165 TNWs.[4] Both the United States and Russia had removed TNWs completely from their ground-based armed forces. In conclusion, the United States reduced its non-strategic nuclear weapons by 80 percent from 7165 in 1991 to 1670 in 2001, while the Soviet/Russian nuclear stockpile was reduced from approximately 15,000-21,700 in 1991 to 3590 in 2001.[5]

While the United States and the Soviet/Russia largely reduced non-strategic nuclear weapons by the early 1990s, East Asia has experienced the opposite. Since the 1990s, missile proliferation became conspicuous in East Asia, particularly China. According to RAND Research Brief 2015, China had only a handful of short-range ballistic missiles (SRBMs) capable of striking targets in Taiwan and Korea in 1996, but today, China's People's Liberation Army (PLA) has the most active ballistic-missile program in the world and deploys more than 1,200 SRBMs, alongside medium-range ballistic missiles

1 *Barry Buzan, "The Action-Reaction Model", in "An Introduction to Strategic Studies", The Macmillan Press, 1987, pp. 76-93. Available at: https://link.springer.com/chapter/10.1007/978-1-349-18796-6_6*

2 *"The 1987 Intermediate-Range Nuclear Forces (INF) Treaty required the United States and the Soviet Union to eliminate and permanently forswear all of their nuclear and conventional ground-launched ballistic and cruise missiles with ranges of 500 to 5,500 kilometers". Available at: https://www.armscontrol.org/factsheets/INFtreaty*

3 *In September and October 1991, U.S. President George H.W. Bush and Soviet President Mikhail Gorbachev announced a series of policy initiatives declaring that the United States and the Soviet Union—and later Russia—would reduce their arsenals of tactical nuclear weapons (TNW) and delivery vehicles, known as the Presidential Nuclear Initiatives (PNI). The PNIs led to perhaps 17,000 TNWs being withdrawn from service, the deepest reductions in nuclear arsenals to date (Eli Corin, "Presidential Nuclear Initiatives: An Alternative Paradigm for Arms Control", Nuclear Threat Initiative, 1 March 2004. Available at: https://www.nti.org/analysis/articles/presidential-nuclear-initiatives/*

4 *Alistair Millar, "The Pressing Need for Tactical Nuclear Weapons Control", Arms Control Today, May 2002. Available at: www.armscontrol.org (3 December 2003).*

5 *Joshua Handler, Program on Science and Global Security (PSGS), Woodrow Wilson School of Public and International Affairs, Princeton University, "The September 1991 PNIs and the Elimination, Storing and Security Aspects of TNWs," (24 September 2001), 22. Available at: https://www.nci.org/01/09/pnitwn.pdf*

and ground-launched cruise missiles capable of targeting U.S. bases and other facilities in Japan.[6] China's missile forces include up to 1500 SRBM, 450 medium-range ballistic missile (MRBM), and 160 intermediate-range ballistic missile (IRBM) as well as various types of cruise missiles.[7] North Korea, since the collapse of the Soviet Union, has been one of the most active proliferators of complete ballistic missile systems, components, technology, and has tested a series of different missile types, including short-, medium-, intermediate-, and intercontinental- range ballistic missiles, as well as submarine-launched ballistic missiles.[8] In the early 1990s, North Korea began testing and eventually deployed the 1,000 km-range Nodong missile, in addition to its robust SRBMs (Scud). South Korea, since the 1960s and 1970s, has developed and deployed a series of short-range ballistic missiles, as well as two series of cruise missiles, with ranges potentially up to 1,500 km, which can carry WMD payloads.[9]

Following China's firing of ballistic missiles in the vicinity of Taiwan during a Taiwan Strait confrontation in early 1996, the U.S. Congress acted to support the development and deployment of a missile defense system explicitly oriented towards Asia and the Western Pacific in the FY1999 National Defense Authorization Act.[10] North Korea's August 1998 test of the two-stage Taepodong-1 missile accelerated the efforts for more ambitious development including sea-based missile defense capability. The US Defense Department reported to the Congress detailed theater missile defense architecture options for the Asia-Pacific region,[11] and accordingly started robust investment for developing and deploying missile defense systems to counter missile threats from North Korea.[12]

It is an open question why the United States with the 1991 PNI quickly removed its TNWs which used to play an important role on the Korean peninsula, while started massive investment for developing and deploying missile defense systems in the Asia Pacific since the 1990s. These two movements seem to be contradictory, especially as the effect of missile defense system has been repeatedly questioned. One might well speculate that a hidden agenda of the 1991 PNI might be not so much for genuine disarmament, but rather to pave a way to a new big business for the military-industrial complex, namely missile defense. Indeed, the immediate outcome of the 1991 PNI in East Asia was rapid missile proliferation, particularly in China, North Korea, and South Korea, on one hand, and the U.S. massive investment for missile defense systems on the other.

Japan's efforts for missile defense[13]

Japan does not have a ballistic missile development program due to its pacifist constitution constraints. It has focused on its efforts to de-

6 *"Chinese Attacks on Air Bases in Asia: An Assessment of Relative Capabilities, 1996–2017", RAND Research Brief (RAND 2015). Available at:* https://www.rand.org/content/dam/rand/pubs/research_briefs/RB9800/RB9858z2/ RAND_RB9858z2.pdf

7 *Missile Threat, CSIS Missile Defense Project (June, 2020). Available at:* https://missilethreat.csis.org/country/china/

8 *Nuclear Threat Initiatives, North Korea Missiles (December, 2020). Available at:* https://www.nti.org/learn/countries/north-korea/delivery-systems/

9 *Nuclear Threat Initiatives, South Korea Missiles (April, 2016). Available at:* https://www.nti.org/learn/countries/south-korea/delivery-systems/

10 *Richard Cronin, "Japan-U.S. Cooperation on Ballistic Missile Defense: Issues and Prospects", CRS Report for Congress, RL31337 (19 March 2002), 2.*

11 *U.S. Department of Defense. Report to Congress on Theater Missile Defense Architecture Options for the Asia-Pacific Region, May 1999.*

12 *Initially China was not named as a threat to the United States ("Emerging Missile Threats to North America During the Next 15 Years", Statement for the Record by John E. McLaughlin, Vice Chairman, National Intelligence Council for Hearings of the Senate Select Committee on Intelligence, 4 December 1996). This estimate in now negated by defense Department's various reports estimating China's military power.*

13 *Most part of the prehistory of this section is based on Masako Ikegami-Andersson, Military Technology & U.S.-Japan Security Relations: A Study of Three Cases of Military R&D Collaboration, 1983-1998, (Uppsala University, 1998), ISBN 9150613189.*

velop a missile defense capability in cooperation with the United States. Japan began developing a Ballistic Missile Defense (BMD) system in 2004, and has steadily built up its multi-tier defense system consisting of the Aegis-equipped destroyers and deploying the Patriot Advanced Capability-3 (PAC-3) as well as indigenous FPS radars for detection and surveillance.[14] Japan has eight destroyers that have been equipped with Aegis BMD operational capabilities with SM-3 Block IA missiles that are to be upgraded to new SM-3 Block IIA missiles designed to counter intermediate-range ballistic missile threats.[15] Japan also operates 24 PAC-3 units in 15 military bases, most of them positioned around Tokyo and key locations.[16]

Japan's commitment to missile defense dates back to the mid-1980s, when the Reagan Administration launched the Strategic Defense Initiative (SDI) in 1983 and solicited its allies and friendly states to join research and development of the project. The then Japanese Prime Minister Nakasone who was known for his friendly relationship with then President Reagan, promptly pledged to participate in the SDI project, dampening domestic political sensitivity deriving from the Japanese pacifistic constitution and related political/administrative constraints. In the 1980s, the United States was keenly interested in Japanese dual-use technologies and high-tech components as "strategically vital" (SOURCE). In 1980, the Japan-US Systems and Technology Forum was set up, which was an informal meeting between working-level Japanese and US officials to promote cooperation in military technology and equipment.[17] Furthermore in 1983, upon the request of the US government for exchange of defense-related technologies, the Japanese government decided to open the way for Japan's transfer of military technologies to the United States as an exception to its strict Three Arms Exports Ban (1967-2014). This led to the agreement of 'Exchange of notes on the transfer of military technologies to the United States' in 1983, and 'Detailed arrangements for transfer of military technologies between Japan and the United States' in 1985. According to the 1985 agreement, the Japanese Defense Agency and the Ministry (JDA) of Trade and Industry (MITI) were to take necessary measures to encourage transfer of military technology to the US Defense Department or US commercial entities. In addition to the political sensitivity, the Japanese government was affected by the aftermath of the technology-transfer controversy caused by its first Japan-U.S. military co-development project, the FS-X fighter in the late 1980s, and was reluctant towards any new co-development project with the United States.[18]

Notwithstanding the Japanese government's reluctance, a few major Japanese and US defense industries initiated the Western Pacific Basin Architecture Study (WESTPAC), a feasibility study as a regional version of the SDI. For example, Mitsubishi Heavy Industry actively carried out a project during 1988-1993, expecting to develop software technology for SDI.[19] In parallel, Keidanren (Japan Business Federation), Japan's most powerful industrial lobbying association repeatedly requested the government to increase the military R&D budget. In 1993, the US-Japan joint research program WESTPAC concluded a report urging that the United States and Japan should develop and deploy missile defense systems against missile threats from China, Russia, and particularly North Ko-

14 *Defense of Japan 2017, p. 327; Arms Control Association Fact Sheet & Briefs, op.cit.*

15 *'Sea-Based Weapon Systems', Missile Defense Agency. Available at:* https://www.mda.mil/system/aegis_bmd.html

16 *Arms Control Association Fact Sheet & Briefs, op. cit.*

17 *Masako Ikegami-Andersson, "Multinationalization of Military R&D: Latent Obstacles to Disarmament – The case of US-Japan military R&D Cooperation", in eds. J. Rotblat & M. Konuma, Towards a Nuclear-Weapon Free World (Singapore, London: World Scientific), 480-495.*

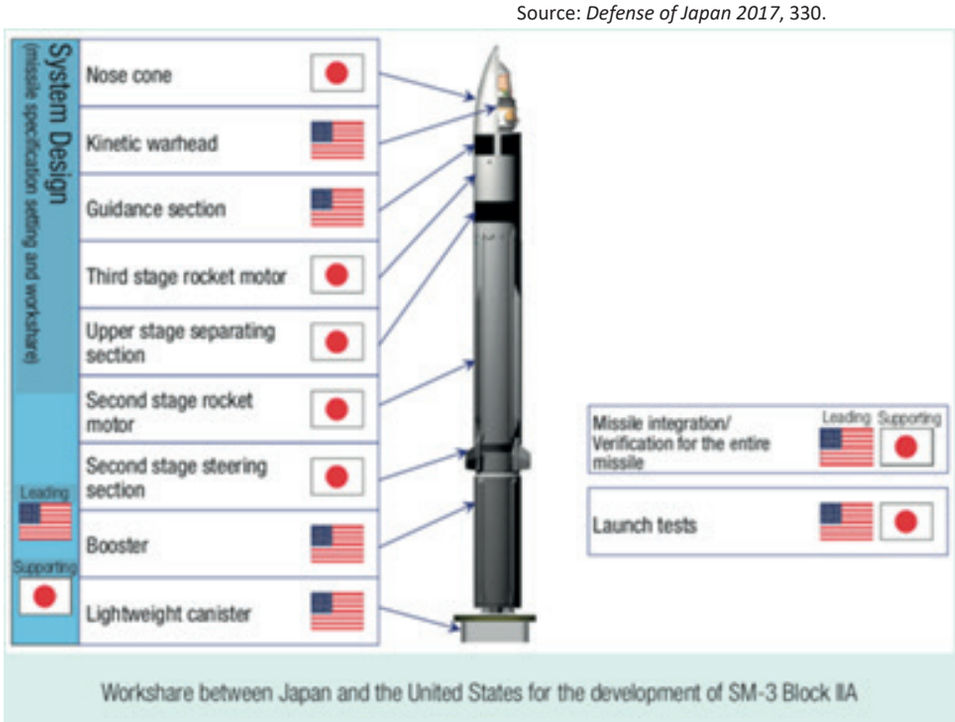
18 *Masako Ikegami-Andersson (1998) op.cit.*

19 *Masako Ikegami-Andersson (1998) op.cit.*

rea. It coincided with the time when North Korea's nuclear weapons program and testing of the Nodong-1medium-range ballistic missile caused sensation in Japan. In late 1993, top US officials including the Defense Secretary Aspin visited and requested Japan to participate in R&D for Theater Missile Defense (TMD). Eventually, North Korea's test-firing of its Taepo Dong-1 solid-fuel three-stage ballistic missile in August 1998 prompted the Japanese government to decide on cooperation with the United States for R&D on a ballistic missile defense system. In August 1999, the U.S. and Japanese governments signed a memorandum of understanding (MOU) for a joint R&D program on the then U.S. Navy Theater Wide (NTW) ballistic missile defense program/ sea-based midcourse interceptor missile.

In 2003, the Japanese security council approved the introduction of a ballistic missile defense (BMD) system, and the deployment of BMD in Japan started in 2004.[20] In 2005, the Japanese government approved the Japan-U.S. cooperative development of advanced interceptors for BMD. Deployment of the Patriot Advanced Capability (PAC-3) units and the standard missile (SM-3) launch tests by the Aegis destroyers started in 2007. In light of North Korea's overall ballistic missile development and frequent missile tests, Japan has accelerated its efforts for BMD. Japan's BMD is a multi-tier defense system with the upper tier consisting of interception by Aegis-equipped destroyers and the lower tier by Patriot PAC-3, both inter

Source: *Defense of Japan 2017*, 330.



Workshare between Japan and the United States for the development of SM-3 Block IIA

connected and coordinated by the Japan Aerospace Defense Ground Environment (JADGE), and the Joint Task Force-BMD with the Commander of the Air Defense Command assuming the task as its commander.[21] Japan closely cooperates with the United States in responding to ballistic missiles by means such as receiving early warning data from the U.S. Forces, and sharing intelligence gathered by assets such as transportable BMD radars TPY-2 and the Aegis-equipped destroyers deployed in Japan by the U.S. Forces.[22]

Japan and the United States are jointly developing SM-3 Block IIA interceptor missiles as the successor of the current SM-3 Block IA to deal with incoming ballistic missiles taking a higher trajectory (lofted trajectory) than a normal trajectory.[23] The SM-3 Block IIA is expected to have improved capabilities such as extended interceptable altitude and coverage of protection, enhanced defeating capability and simultaneous engagement capability, and enhanced capability against ballistic missiles equipped with interception avoidance measures or ballistic missiles taking a higher than nominal trajectory (lofted trajectory).[24] Its test conducted in February

20 *Defense of Japan 2017, Ch. 1-2, 'Response to ballistic missile attacks'*

21 *Defense of Japan 2017, 328.*

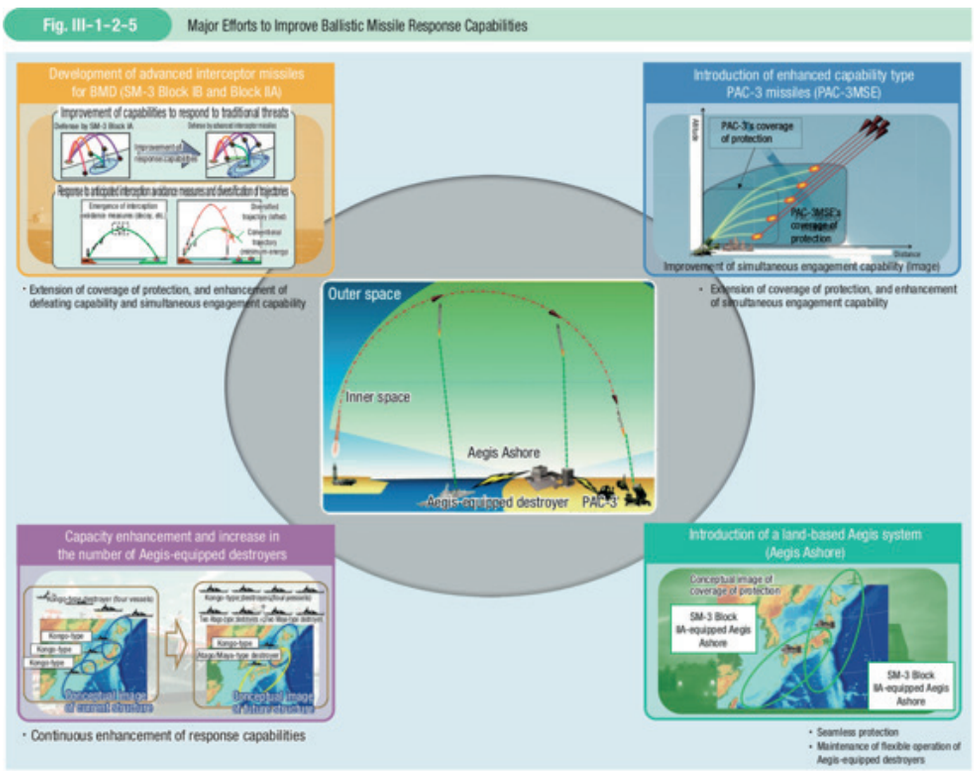
22 *Defense of Japan 2017, 329.*

23 *Defense of Japan 2017, 330.*

24 *Defense of Japan 2017, 331.*

2017 was reported as a"success" in intercepting a mock ballistic missile as a target. Acquisition and deployment of SM-3 Block IIA are to be implemented in FY2021.[25] Reportedly, in November 2020 the U.S. Navy "successfully demonstrated an ability to destroy an intercontinental ballistic missile with a Standard Missile-3 Block IIA interceptor", noting that the SM-3 IIA interceptor was originally designed to counter medium- or intermediate-range missiles, but the successful test suggests that the interceptor can be used to strengthen American layered missile defenses even against "a rogue state's" ICBM.[26]

Source: Defense of Japan 20120, 259.



Japan's cancellation of Aegis Ashore

Since 2016, North Korea has conducted three nuclear tests and launched more than 70 ballistic missiles and other missiles. Some of the missiles launched in 2019 are presumed to be new models similar to the Russian short-range ballistic missile "Iskander," which can fly at a lower altitude than conventional ballistic missiles and on an irregular trajectory to penetrate missile defense systems.[27] North Korea has improved its practical launch capability using a transporter erector launcher (TEL) and developed submarine-launched ballistic missiles (SLBM), which makes it difficult to detect signs of launch at an early stage.[28] In light of rapidly growing North Korean missile threats, Japanese Self Defense Forces (SDF) with minimum personnel and equipment, were overloaded by deploying Aegis-equipped destroyers constantly, and this triggered a review of the Japanese ballistic missile defense posture. In 2017, the Japanese national security council decided to introduce two Aegis Ashore units to be assigned to the Ground Self Defense Forces. Reportedly, Aegis Ashore was favored over THAAD as it comes with a wider coverage area, which would mean fewer units needed to protect Japan.[29]

25 *Defense of Japan 2020, 258.*

26 *Bradley Bowman and Behnam B. Taleblu, "Successful SM-3 weapons test offers missile defense opportunity", Defense News, 21 November 2020. Available at:* https://www.defensenews.com/opinion/commentary/2020/11/21/successful-sm-3-weapons-test-offers-missile-defense-opportunity/

27 *Defense of Japan 2020, 257.*

28 *Defense of Japan 2020, 259-260.*

29 *"Japan favors Aegis Ashore over THAAD to boost missile defense", Reuters Tokyo, 13 May 2017. Available at:* https://jp.reuters.com/article/us-japan-northkorea-missiles/japan-favors-aegis-ashore-over-thaad-to-boost-missile-defense-sources-

Aegis Ashore is a missile defense system consisting of radars, a command communication system, a vertical launch system (VLS), etc., to be deployed on the ground to intercept ballistic missiles in the exo-atmosphere.[30] However, the idea to deploy ground-based Aegis system caused political controversy between the Ministry of Defense (MoD) and the local governments and communities, particularly in the northern Akita prefecture, who were concerned about the risk of hosting such a system. Eventually the Abe Administration announced rather abruptly the suspension of the acquisition and deployment of Aegis Ashore in June 2020, citing safety concerns for planned host communities. There was also criticism that the systems were to intercept long-range North Korean missiles targeting Guam or Hawaii rather than for Japan's self-defense.[31]

In June 2020, when the Japanese Minister of Defense Taro Kohno announced the suspension of the Aegis Ashore project, the reasons were costs and technical issues. The rocket boosters from the SM-3 interceptor missiles might hit local population centers after separation from the interceptor, and modification of the missile to prevent such an accident would cost an extra 1.8 billion USD and take more than a decade to implement.[32] In addition, the costs Japan had initially estimated for purchasing, operating, and maintaining the Aegis Ashore systems over its 30-year operating period amounted to 2.15 billion USD, but turned out to be at least 4.1 billion USD.[33] Among the expenses that Japan failed to account for was missile testing for its two Aegis Ashore sites costing at least 500 million USD, as the Japanese government had erroneously thought computer-simulated tests would be sufficient.[34]

However, Unbehauen and Decker (2020) argue that the real reason for the Japanese government's cancellation of the Aegis Ashore system is far more complex and fundamental.[35] In 2016-2017 North Korea frequently conducted missile tests simulating a "saturation attack," where numerous ballistic missiles were fired and launched on a highly lofted-trajectory missile which is known to be harder to intercept. There emerged a notion that Aegis Ashore cannot effectively engage North Korean ballistic missiles fired on a lofted trajectory, and that North Korea has made all traditional missile defense options obsolete with the introduction of saturation attacks and highly lofted missile trajectories. Unbehauen and Decker argue that with its extremely effective SPY-7 sensor, which can also perform space surveillance, and its new SM-3 Block IIA interceptor (believed to be capable of engaging intercontinental ballistic missiles [ICBM]), Japan would have gotten with Aegis Ashore the best available option to counter missiles on lofted trajectories.[36] Instead, Japan is considering alternatives such as a "megafloat," a huge floating structure that can be used as an offshore base, or to upgrade the Japanese fleet of Aegis ships with SPY-6 radars, which does not solve the problems that the Aegis Ashore system was initially proposed for.

Unbehauen and Decker (2020) point out that many signs of Japan's suspension of Aegis Ashore actually point to Japan's strategic reorientation and threat re-evaluation as the primary reason. Firstly, for the first time, Japan has officially admitted that it is not North

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30 *Defense of Japan 2020, 260*

31 *Mari Yamaguchi, "Japan to Scrap Costly Land-Based US Missile Defense System", The Diplomat, 15 June 2020. Available at:* https://thediplomat.com/2020/06/japan-to-scrap-costly-land-based-us-missile-defense-system/

32 *Jeffery W. Hornung, "Japan is canceling a U.S. missile defense system", Foreign Policy, 2 July 2020. Available at:* https://foreignpolicy.com/2020/07/02/japan-aegis-ashore-expense-cancel-united-states-alliance/

33 *Ibid.*

34 *Tim Kelly, "Exclusive: As North Korea expands arsenal, Japan's missile defense shield faces unforeseen*

35 *Michael Unbehauen and Christian Decker, "Japan cancels Aegis Ashore: Reasons, Consequences, and International Implications", Journal of Indo-Pacific Affairs, Winter 2020.*

36 *Unbehauen and Decker 2020, 110.*

Korea, but China, that poses the biggest military threat to Japan; Secondly, it is becoming more obvious that Japan is trying to build armed forces that could sustain a credible military capability without the direct involvement of the United States, thereby building up an offensive capability.[37] Indeed, Hornung points out that Japan's questions regarding the cost-effectiveness of devoting billions of dollars to a single system that may or may not succeed in intercepting incoming ballistic missiles are legitimate.[38] Besides, Japan's Aegis Ashore was limited to ballistic missiles despite that initially the idea included capabilities to defend against both ballistic and cruise missiles but the latter were scrapped due to cost concerns.[39] Japan's planned Aegis Ashore sites would not have protected against all potential missile threats, given China's existing inventory of cruise missiles and progress in hypersonic boost-glide missiles; while Japan's Aegis Ashore system would have enhanced U.S. homeland defense capabilities and freed up American Aegis destroyers in the region to shift to other areas where China is active, such as the South-China Sea.[40]

After all, Japan experienced complications in their air and missile defense (AMD) procurement and planning process, and was essentially not confident in pursuing rather complex and cost-intensive defensive missile operations.[41] As an alternative to Aegis Ashore, the Japanese government is shifting its focus more towards acquiring an offensive strike capability. Japan is already procuring cruise missiles designed for jet fighters with 500- to 900-kilometer ranges that government officials believe can be used in a capacity to strike enemy forces far from Japanese shores for a "standoff defense capability"; e.g. the Lockheed Martin AGM-158C Long Range Anti-Ship Missile (LRASM) and the AGM-158B Joint Air-to-Surface Standoff Missile – Extended Range (JASSM-ER), a long-range cruise missile with an estimated range of up 1,000 kilometers, as well as a fifth-generation standoff, long-range sea- and land-target precision-guided Joint Strike Missile (JSM) co-developed by the U.S. defense firm Raytheon and the Norwegian defense contractor Kongsberg Defense & Aerospace.[42] Japan's fleet of aerial refuelers and growing number of F-35s would extend the ranges of these missiles even further. In addition, the Acquisition, Technology & Logistics Agency (ATLA) of the Japanese Ministry of Defense is conducting several R&D programs to develop various types of advanced missiles: Research on the future medium-range air-to-air missile utilizing high-performance seekers with a ducted rocket engine; Type 12 surface-to-ship missile Kai and a new air-to-ship missile for maritime patrol aircraft; the multi-purpose missile system Kai; a new ship-to-air missile; and research on technology elements of a HVGP(Hyper Velocity Gliding Projectile) intended for the defense of remote islands.[43] In short, after the cancellation of Aegis Ashore, Japan is reorienting towards "building its own military to a stature of defensive self-sufficiency as well as its offensive capability to address China".[44]

Adverse effects of missile defense

Shortly after Japan announced its cancellation of Aegis Ashore and a possible acquisition of offensive missile capabilities, Australia announced a new strategy for its national defense

37 *Unbehauen and Decker 2020, 112*

38 *Jeffery W. Hornung, "Is Japan's interest in strike capabilities a good idea?", War on the Rocks, 17 July 2020. Available at:* https://warontherocks.com/2020/07/is-japans-interest-in-strike-capabilities-a-good-idea/

39 *Ibid.*

40 *Hornung, Ibid.*

41 *Unbehauen and Decker 2020, 123.*

42 *Hornung, Ibid.; Franz-Stefan Gady, "Japan's Ministry of Defense Confirms Plans to Procure New Stand-off Missiles", The Diplomat, 4 February 2020.*

43 *"Research and Development Programs", Acquisition, Technology & Logistics Agency (ATLA). Available at:* https://www.mod.go.jp/atla/en/soubi_system.html

44 *Unbehauen and Decker 2020, 115.*

and declared that it would include offensive long-range missiles that can be launched from aircraft into its defense concept to deter potential enemies and to have strike capabilities.[45] South Korea, aiming at a "complete missile sovereignty", is also determined to improve its missile capabilities and attempts to lift ballistic missile range restrictions imposed by the United States.[46]

In Germany, the Medium Extended Air Defense System (MEADS), initially a joint project between the United States, Germany and Italy, also faces soaring costs problems. From the initial estimate of 900 million USD in 2005 the cost rose to 4 billion USD in 2015; today it stands at least 8 billion USD as of 2020, and there is a risk that the German government might eventually cancel the project.[47] Instead of MEADS, Germany is increasingly weighing in greater "European autonomy" to develop a new sixth generation French-German fighter jet as part of a European combat system as well as its own national hypersonic missile project which might be developed into a future European hypersonic missile program.[48] Based on recent debates on missile defense, Germany foresees a trend across Europe towards a greater emphasis on offensive capabilities rather than focusing on defensive measures. Unbehauen and Decker (2020) make an incisive point in stating that previous BMD skepticism and criticism that missile defense does not work altogether, has paradoxically become the foundation and justification for the acquisition of offensive weapons, and that "Japanese military's pivot to address offensive capability is prescient and likely a harbinger for many, if not all, American allies".[49]

"Missile defense is financially costly, compounded, and complicated, and often unproven. In comparison, offensive capabilities are more economical, less complex, and faster and easier to implement into national militaries. New developments in offensive capabilities, like extensively improved precision missiles with greater ranges, make them an attractive option for many militaries."[50]

After the abrupt suspension of Aegis Ashore in June 2020, the succeeding Suga administration is considering, as a possible solution to the policy quandary, deploying radar and other equipment items for the Aegis Ashore on offshore locations such as a commercial vessel, on a destroyer, or on a mobile rig.[51] This is simply out of fear of canceling a 178.7 billion-yen (1.69 billion USD) contract with the United States and of a massive cancellation penalty, in spite of potential technical problems and lack of a rational operational plan. Nonetheless, Japan's suspension of Aegis Ashore and increasing emphasis on building up offensive missile capabilities certainly symbolize a new shift of military orientation from missile defense to offensive capability as a means of deterrence.

The reason for the shift, as mentioned earlier, is that North Korea recently demonstrated a new capability of firing missiles in a highly lofted trajectory, which the Aegis Ashore cannot effectively engage. Consequently, it may be argued that North Korea has made all traditional missile defense options obsolete with the introduction of saturation attacks and highly lofted missile trajectories. On the other hand, it may well be recalled that recent missile technology innovations such as the hypersonic glide vehicle and missiles in a lofted-trajectory were invented to make even robust missile defense systems obsolete. This is a déjà vu of President Reagan's SDI address in March 1983:

"As a result, their (Soviet) missiles are much more powerful and accurate than

45 *Unbehauen and Decker 2020, 118.*
46 *Ibid.*
47 *Unbehauen and Decker 2020, 119.*
48 *Ibid.*
49 *Unbehauen and Decker 2020, 123.*
50 *Unbehauen and Decker 2020, 121.*
51 *"Editorial: Alternative to aborted Aegis Ashore needs a fresh rethink", Asahi Shimbun, 5 October 2020.*

they were several years ago, and they continue to develop more, while ours are increasingly obsolete. (...) I call upon the scientific community in our country, those who gave us nuclear weapons, to turn their great talents now to the cause of mankind and world peace, to give us the means of rendering these nuclear weapons impotent and obsolete" (emphasis added by the author).[52]

Here we see a classical dynamic of the action-reaction model, not different from the security dilemma during the Cold War era. In 1962-63, the Soviet Union began constructing the world's first working anti-ballistic missile (ABM) system designed to protect Moscow, but the system was unable to deal with countermeasures such as decoys and chaff, and could be overwhelmed by US missiles armed with Multiple Independently-targetable Reentry Vehicles (MIRVs) warheads, which were cheap compared to the cost of maintaining or expanding the defense system.[53] Indeed, the then Deputy Undersecretary of Defense for Strategic and Theater Nuclear Forces told the House Armed Services Committee in 1987 that although the Soviets had spent over 10 years and billions of dollars developing an ABM system, the United States could penetrate it with a small number of Minuteman ICBMs equipped with "highly effective chaff and decoys," and "if the Soviets should deploy more advanced or proliferated defenses we have new penetration aids as counters."[54] After the Cold War that the United States thought ended with a US victory, the situation was reversed: the United States started investing huge budgets for developing and deploying various missile defense systems to "protect its homeland as well as allies". In turn, Russia and China made heavy investments in developing countermeasures to render the US missile defense systems obsolete, such as "highly effective chaff and decoys" and finally the Russian "Iskander", a road-mobile short-range ballistic missile (SRBM) with a range of up to 500 km which flies on a depressed trajectory and can maneuver in the terminal stage acquiring a circular error probable (CEP) of 2-5 meters.[55] In short, the massive US investment in developing and deploying missile defense systems along with its allies has aggravated the security dilemma and triggered a strategic reorientation towards highly offensive missile capabilities.

Another adverse effect of missile defense would be that R&D on missile defense programs can be a source of lucrative R&D funds for the defense industry, a classical problem of the so-called military-industrial complex (MIC). Subrata Ghoshroy disclosed a very important point in his article for the Bulletin of the Atomic Scientists, namely, that the missile defense program has remained filed under research and development in a category called "RDT&E," even though the program has been in a de facto "procurement" phase since the early days of the G. W. Bush administration, when it was deployed to multiple sites in the United States and abroad, to avoid the stringent independent testing that is required for a system to enter "procurement."[56] According to Ghoshroy, the United States has spent more than $300 billion for missile defense research and design over three decades, while defense contractors have spent more than $20 million each election cycle in contributions to individual candidates and political action committees, and hundreds of millions of

52 *"President Reagan's SDI Speech, 23 March 1983" AtomicArchive.com. Available at:* https://www.atomicarchive.com/resources/documents/missile-defense/sdi-speech.html

53 *"History of Russia's Anti-ballistic Missile (ABM) System", Union of Concerned Scientists, 27 October 2002. Available at:* https://www.ucsusa.org/resources/history-russias-anti-ballistic-missile-abm-system

54 *Ibid.*

55 *"SS-26 Iskander", Missile Threat, CSIS Missile Defense Project (December, 20199. Available at:* https://missilethreat.csis.org/missile/ss-26-2/

56 *Subrata Ghoshroy, "Why does missile defense still enjoy bipartisan support in Congress?", Bulletin of the Atomic Scientists, 24 September 2020. Available at:* https://thebulletin.org/2020/09/why-does-missile-defense-still-enjoy-bipartisan-support-in-congress/

dollars per year on lobbying. For decades since the Reagan administration's Strategic Defense Initiative, the missile defense program has been "gold in a Wild West landscape" for defense contractors to exploit "uncontrollable and unaccountable programs with lax oversight, resulting in wasted taxpayer money and virtually no advancement in missile defense technologies".[57] Thus, it is not surprising that it was a Japanese major defense-related industry which led WESTPAC as part of the US-Japan joint TMD project in the 1990s, when the Japanese government itself was reluctant. In 2011, the U.S. government discontinued its participation because of the exploding costs and questions about the defense value of MEADS, but US defense firms remained the primary commercial developers.[58] In addition, missile defense programs would enhance proliferation of sensitive technologies as they are often organized as multinational collaboration programs between the United States and its allies, which eventually lead to missile proliferation on a global scale.

Initially missile defense was posed and presented as a galaxy of exotic concepts and technologies. Now we know, it was merely a phase of vicious escalation of weapons technology in the action-reaction model going on ever since the Cold War.

57 S. Ghoshroy, 2020.

58 Unbehauen and Decker 2000, 119.

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