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ALL SECURITY IS LOCAL

ARCTIC DEFENSE POLICIES AND DOMAIN AWARENESS

by David Auerswald

Scowcroft Center for Strategy and Security

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Cover: A US Marine stands sentry near Moen, Norway as part of Exercise White Claymore in February 2018. During the exercise, Marines with Marine Rotational Force-Europe honed their winter warfare skills with UK Royal Marines with 45 Commando. (NATO/Flickr)

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EXECUTIVE SUMMARY

This report assesses the defense policies of Canada, Denmark, Finland, Norway, and Sweden as they apply to the Arctic, and the important role of domain awareness as a foundational concept in those strategies.¹ This report's first section sets the stage for the assessment that follows. Russia's annexation of Crimea, its militarization of the Kola Peninsula, and its opposition to the liberal international order forced Arctic states to revisit their defense policies. Some focused attention on the Baltic Sea. Others focused on territorial defense. Still others focused on the Arctic. By 2021, however, each state had a relatively well-defined defense policy for the Arctic.

This report's second section details each policy's content, trends over time within each country, and areas of convergence or divergence across countries. The report then places the concept of domain awareness within the context of Arctic defense strategies. Each country's defense strategies emphasize Arctic domain awareness to some extent, though there are few consistent patterns when we compare strategies beyond utilizing more unmanned or remotely manned systems. The report concludes with recommendations on acquiring and using manned and unmanned systems, data links, distributed basing, and military exercises to ensure a secure and stable Arctic.

¹ Eight countries have territory or an exclusive economic zone that extends into the Arctic: Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States (the so-called Arctic Eight). This study focuses on the other Arctic countries besides Russia and the United States, the regional great powers. Iceland is not included as it has no military forces or defense strategy.

I. THE MILITARY-SECURITY THREAT ENVIRONMENT



U.S. and Italian soldiers ascend a mountain during Steel Blizzard, a multinational mountain and arctic warfare training exercise, in Usseaux, Italy, Feb. 15, 2022. Army Staff Sgt. John Yountz (via defense.gov)

Today's Arctic defense policies are to some extent encumbered by the period between roughly 1990 through the Russian annexation of Crimea in March 2014.² Before that annexation, the belief across Europe and in much of the developed world was that armed conflict in Europe was something that belonged to a bygone era. Northern European politicians, government officials, and mass publics thought that international law and Western solidarity were the future of international politics. In short, the regional focus was increasingly on a post-Westphalian conception of international politics centered on international institutions like the European Union.

These beliefs had policy implications. Defense budgets were cut, as no one perceived a military threat to European territorial integrity or an attack on North America. Norway's defense budget went from 1.6 percent of gross domestic product (GDP) in 2005 down to 1.4 percent in 2013; Sweden's went from 1.4 percent of GDP to 1.15 percent; and Denmark's from 1.4 percent of GDP to 1.25 percent. Finland was the only exception to the rule, increasing from 1.3 percent to 1.4 percent of GDP over the same period, largely because of its 833 mile border with Russia.³ Canadian defense expenditures fell over the same period as a percentage of GDP, from 1.11 percent in 2005 to 1.0 percent in

² The first portion of this section is based on David Auerswald, "The High North," Chapter 17 in *Charting a Course: Strategic Choices for a New Administration*, R.D. Hooker, ed., (National Defense University Press, 2016), 358-360.

³ Bergt-Goran Bergstrand, "Military Expenditure Trends in the Baltic Sea States, FOI Memo 5544," Swedish Defense Research Institute, December 9, 2015. Figures for NATO members are comparable to those reported by Jens Stoltenberg, *The Secretary General's Annual Report 2015* (Brussels, Belgium: NATO Public Diplomacy Division, January 28, 2016).

2013.⁴ Moreover, the focus within defense establishments was on expeditionary operations such as the International Security Assistance Force rather than territorial defense. The result was that Denmark gutted its armored, artillery, and air defense capabilities, and Sweden essentially dissolved its army and its anti-submarine capabilities, just to give two examples.

That all changed in early 2014 with events in Ukraine. Russian actions were seen by other Arctic states as a fundamental challenge to the European international order. Nordic states vocally condemned Russian actions. Carl Bildt, Swedish foreign minister at the time, said, “A new sense of being exposed and vulnerable has descended on the security debates around Europe.” Soon after, he noted, “Russia has emerged as a revisionist power violating and questioning the very foundations of the European order of peace and stability.”⁵ Each country backed up its rhetoric with actions, complying with EU and/or US sanctions on Russia even when such sanctions cost them domestically, as was the case with Norwegian fish and Finnish dairy and meat exports.

At the same time, Russia was quickly developing capabilities that could threaten Arctic states. Russia deployed advanced military capabilities across its Arctic territory, capabilities that support an anti-access, area-denial approach to defending their strategic assets. Russia refurbished or

built new military bases and capabilities along its northern and western borders. The Russian military deployed advanced air defenses, interceptor aircraft, anti-ship missiles, and offensive tactical weapons. Some of these capabilities could help with search and rescue efforts along the Northern Sea Route and serve the defensive purpose of protecting Russian strategic nuclear forces from US conventional attack. Yet Russian capabilities also created significant problems for the United States and NATO in defending the Baltic states from Russian coercion and potential invasion. For example, Russian air defenses located in Severomorsk, St. Petersburg, and Kaliningrad covered the airspace across Finland and the Baltic states, northern Sweden and Norway, southern Sweden, most of Poland, and parts of Germany. The deployment of Iskander-M, a nuclear-capable missile with a range of at least 700 kilometers, to Kaliningrad put the Baltic states, Poland, eastern Germany, and southern Finland and Sweden at risk. In short, Russian capabilities in the Arctic could be useful for operations in both the Arctic and against neighboring states.

This is the geostrategic context within which we begin our study. With that as background, the next section reviews the defense policies of Canada and the Nordic states, with particular attention on the Arctic. Some countries prioritize the Arctic. Others prioritize the Baltic Sea region. Still others prioritize national defense instead of regional concerns.

4 Canadian spending as a percentage of GDP rose sharply in 2008-09 as the Great Recession slowed the economy, meaning that defense spending rose when measured as part of GDP for those two years. Spending returned to prerecession levels in 2011 and declined through 2014. See *SIPRI Yearbook: Armaments, Disarmament and International Security*, Stockholm International Peace Research Institute, 2021.

5 Carl Bildt, “Statement at IISS, London,” September 19, 2014, and “Statement on the Ukrainian Crisis,” September 22, 2015. This was in marked contrast to Bildt’s praise for Russian cooperation with Europe before Moscow’s action in Crimea. See, e.g., his remark, “Russian foreign policy has also become oriented towards serving the goals of this cooperation, which is very welcome,” in “Russia and the World—A View from Abroad,” Speech at the Andrei Sacharov Foundation Conference, Moscow, May 21, 2011, <https://www.government.se/49b729/contentassets/9bbda6b81b16402bbab82aa0c02c2e16/speeches-2010-2014---carl-bildt>.

II. ARCTIC DEFENSE POLICIES

Canadian Defense Policy

Canada is an Arctic coastal state with the second largest Arctic territory after Russia. Roughly 25 to 30 percent of the Arctic is Canadian territory, and that territory represents about 40 percent of Canadian territory. Despite that size, only a small fraction (0.4 percent) of Canada's population, about 150,000 people out of a national population of 37 million, live in the Canadian Arctic. The living is not easy compared to other Arctic subregions. The Northern Territories cover just under 4 million square kilometers (km²), about 40 percent of the Canadian landmass. Winter

temperatures average between -20° to -35° Celsius. The region lacks infrastructure outside its few isolated population centers and the standard of living is well below that of areas closer to Canada's southern border.⁶

The conservative government of Stephen Harper (January 2006 to October 2015) set an assertive tone for Canadian Arctic defense policy. A theme running through government documents and public speeches from this era was the Arctic's symbolic importance for Canadian identity.⁷ "Canada's North is at the very heart of Canadian identity," is typical government rhetoric from this period.⁸ The



Canada. (Shutterstock/Rainer Lesniewski)

6 "Canada: Facts and Figures," The Arctic Institute (website), accessed February 27, 2022, <https://www.thearcticinstitute.org/countries/canada/>.

7 Mieke Coppes and Victoria Hermann, "First Past the Pole: Harper, Trudeau, and Canada's Arctic Values," The Arctic Institute, October 30, 2015, <https://www.thearcticinstitute.org/first-past-the-pole-harper-trudeau/>.

8 Canada's *Northern Strategy*, 39, released August 16, 2013, <https://www.canada.ca/en/news/archive/2013/08/canada-northern-strategy.html>.

Harper government coupled that narrative with several initiatives to increase Canada's presence in, sovereign control of, and awareness across its Arctic territories. In July and August 2007, Canada announced that it would build a new icebreaker and six Arctic patrol vessels, refurbish the port at Nanisivik for Arctic patrol vessels, and establish an army cold weather training base at Resolute Bay. In December, Canada launched a second Radarsat-2 satellite to monitor its Arctic territory from space. Yet there seemed to be little actual follow-through after these relatively splashy announcements, at least in terms of defense spending. Instead, defense spending patterns seemed to be tied to the election cycle. Canadian defense spending increased each year from 2007 to 2009, before and in the immediate aftermath of the October 2008 parliamentary elections, declined in 2010, only to increase in 2011 before the May 2011 parliamentary elections and the July end to Canada's combat mission in Afghanistan, followed by declining spending from 2012 to 2014, only to rise again before the 2015 elections.

The Harper government produced a bevy of Arctic policy documents midway through its tenure, all promising to increase Canada's military presence in and sovereign control over its Arctic territory. These are interesting priorities because none of the documents identify a military or security threat to Canada's Arctic territory.⁹ Instead, the documents seem aimed at bolstering the narrative of Canada having an Arctic identity and perhaps dispelling the perception that the Canadian Arctic was ungoverned territory. The latter point was perhaps sparked by a Russian expedition planting a flag on the ocean floor at the North Pole in March 2007, and a 2008 US Geological Survey report speculating on vast undiscovered oil and gas reserves in the Arctic.¹⁰

Canada's 2008 defense strategy, aptly titled *Canada First*, was released in May, just over four months before the October elections.¹¹ *Canada First* codified Harper's Arctic assertiveness into policy. The document reiterated Canada's commitment to the new Arctic patrol vessels,

the Nanisivik port, and the new army training center previously mentioned. It also promised to increase the size of the Canadian Arctic Ranger force and improve Canada's air surveillance capabilities with unmanned aerial vehicles (UAVs), more CP-140 Aurora maritime patrol aircraft, and the development of two satellite ground stations (called the Polar Epsilon program) near Vancouver and Halifax to receive satellite data from polar orbit satellites.

Canada's 2009 *Northern Strategy* and 2010 *Statement on Canada's Arctic Foreign Policy* both reiterated the Harper government's priority of maintaining sovereign control over Canada's Arctic territory. The *Northern Strategy* promised "the capability and capacity to protect and patrol the land, sea, and sky in our sovereign Arctic territory,"¹² and listed the military improvements detailed in the *Canada First* document. The *Statement on Canada's Arctic Foreign Policy* argued that "exercising sovereignty over Canada's North, as over the rest of Canada, is our number one Arctic foreign policy priority."¹³ That said, it would take another six years before the first new Arctic patrol vessel was in the water, largely because Canada instituted a buy-Canadian rule and had to rebuild its shipyards from scratch as a result.¹⁴

For some in the Canadian government, the capability improvements listed in these documents were aimed at deterring opportunistic behavior, especially from Russia.¹⁵ Peter MacKay, Canadian defense minister at the time, was quoted in August 2009 as saying, "We are going to protect our sovereign territory. We are always going to meet any challenge to that territorial sovereignty, and I can assure you any country that is approaching Canadian airspace, approaching Canadian territory, will be met by Canadians."¹⁶ At the same time, the *Northern Strategy* noted that all disagreements with other Arctic states "are well-managed and pose no sovereignty or defense challenges for Canada," a curious statement given the defense improvements contemplated in the document.¹⁷ The *Statement on Canada's Arctic Foreign Policy* partially solved this contradiction by saying, "This increased Canadian capacity demonstrates

9 The lack of a security threat to Canada in the Arctic from 2008 to 2013 was reiterated to the author several times in interviews with Department of National Defense staff in June 2016.

10 Interview with senior Canadian Coast Guard official, September 2020.

11 "Canada First: Defence Strategy," released in 2008, http://www.forces.gc.ca/assets/FORCES_Internet/docs/en/about/CFDS-SDCD-eng.pdf.

12 Canada's *Northern Strategy*, 9. The other three priority areas in the strategy were promoting development, protecting the environment, and improving and devolving power to local northern governments.

13 *Statement on Canada's Arctic Foreign Policy*, 2, https://web.law.columbia.edu/sites/default/files/microsites/climate-change/files/Arctic-Resources/Arctic-Council/01_02_Canadas%20statement%20on%20arctic%20foreign%20policy%20%28booklet%29.pdf.

14 Interviews with Canadian officials, May 2016. For more context, see "National Shipbuilding Strategy," Government of Canada (website), <https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/mer-sea/sncn-nss/index-eng.html>.

15 Interview with Hon. Peter MacKay, Canadian Defense Minister from 2007-13, Toronto, Canada, June 30, 2016.

16 Randy Boswell, "Canada Will Defend Arctic Border," Canwest News Service, August 1, 2009.

17 Canada's *Northern Strategy*, 13. For a similar statement, see *Statement on Canada's Arctic Foreign Policy*, 26. That contradiction was also evident in the Parliamentary Committee on National Defense's June 2010 report titled *Canada's Arctic Sovereignty*. It also said that there was no military threat to Canadian territory and that Canada must prevent the militarization of the Arctic, while at the same time arguing that Canada needed to increase its presence and domain awareness in the region. See *Canada's Arctic Sovereignty*, 5.

Canada's presence in the region and will ensure that we are better prepared to respond to unforeseen events."¹⁸

Canada assumed the chair of the Arctic Council from May 2013 to May 2015. That led to a complicated relationship between the Harper government and Russia after Russia's annexation of Crimea. The Arctic Council's mandate specifically excludes discussions of military security issues.¹⁹ According to interviews with two well-placed Canadian diplomats, Prime Minister Harper wanted to confront Russia over its actions in Ukraine but felt that doing so would give Russia an excuse to derail Canada's Arctic Council agenda, which was aimed at Arctic development, to say nothing of risking long-standing Council cooperation on a host of other nonsecurity issues. While the Harper government supported sanctions against Russia, Canada carefully tailored its actions to keep geopolitical disputes out of the Arctic. By all accounts those efforts succeeded, in that Canadian and Russian diplomats and scientists maintained good working relationships in the Arctic Council during this time.²⁰

There is one final thing to note about the Harper period. Prime Minister Harper objected to a NATO role in the Arctic, according to John Baird, Canada's foreign minister from 2011 until early 2015.²¹ From the foreign ministry's perspective, NATO was heavily skewed toward Europe and European priorities. The feeling was that NATO decision-making could undermine Canada's sovereign claims in an Arctic crisis, and Canada did not want to cede sovereignty to NATO in the Arctic.²² Moreover, Canadian officials believed a larger NATO role in the Arctic would antagonize Russia and provide non-Arctic states with unwarranted influence in the Arctic.²³ As James Bezan, an experienced Conservative Party member of Parliament (MP), told me in 2016, "the Canadian Arctic is Canadian territory and Canada will rely on Canadian forces and the US-Canada relationship to defend it. NATO operates in a European context, and the alliance looks to the east and

south, not to the north."²⁴ The Canadian Department of National Defense agreed. It much preferred working bilaterally with the United States on North American defense issues.²⁵ As Rob Nicholson, Conservative MP and former defense minister (2013-2015) and foreign minister (2015), told me, "There is no threat to Canada that is not a threat to the United States and vice versa."²⁶

Canada put great store in the North American Aerospace Defense Command (NORAD) as a foundational agreement with the United States on continental defense, and by extension the defense of the North American Arctic.²⁷ Created at the height of the Cold War to defend against long-range Soviet attacks, NORAD continues to provide both countries with aerospace and maritime warning and aerospace control, via an integrated binational structure.²⁸ As such, Canadian officials believe that NORAD will never have Arctic defense as its core mission.²⁹ A core component of NORAD's aerospace mission is the North Warning System (NWS), a constellation of manned and unmanned ground radars spread across Alaska and Northern Canada. Though Canada and the United States had not reached a decision on the future of the NWS and the associated costs for its renewal by the end of the Harper government, both countries acknowledged that the system was aging and needed upgrades.³⁰

Justin Trudeau became Canadian prime minister after the October 2015 parliamentary elections, and his tenure continues through today. Trudeau's government changed the tone of Arctic discourse on two fronts. The first was to de-emphasize the central role of the Arctic in Canadian identity. That is not to say that all such rhetoric disappeared. Rather, Arctic rhetoric was no longer the centerpiece of government statements.

The second was a public acknowledgement that Canadian officials needed to reengage diplomatically with their Russian counterparts beyond the Arctic Council,

18 *Statement on Canada's Arctic Foreign Policy*, 7.

19 "About the Arctic Council," Arctic Council (website), <https://arctic-council.org/about/>.

20 Interviews with senior Canadian diplomats, Ottawa, June and July 2016.

21 Interview with Hon. John Baird, Toronto, Canada, June 30, 2016.

22 Interviews with senior officials at Global Affairs Canada, Ottawa, June 2016. As one Canadian diplomat put it, Canadians have a general distrust of Europeans crashing the Arctic club on both defense and trade.

23 Interviews with Canadian officials, May 2016.

24 Interview with Hon. James Bezan, Ottawa, Canada, June 29, 2016.

25 Interviews with Department of National Defense staff, Ottawa, June 2016. The 2009 *Northern Strategy* (on page 39), called the United States "an exceptionally valuable partner in the Arctic."

26 Interview with Hon. Rob Nicholson, Ottawa, June 29, 2016.

27 Interview with Canadian defense official, Ottawa, April 2019.

28 Binational coordination works relatively seamlessly at the worker level, particularly on interdiction of increasingly frequent Russian long-range aircraft entering the US or Canadian Air Defense Identification Zones.

29 Interview with senior Canadian military officer, Ottawa, April 2019.

30 NWS costs were divided on a 60-40 basis for the United States and Canada, respectively. That cost breakout worked well from the Canadian perspective, though Canada had not budgeted for the needed funds to cover its portion of the upgrade costs by the end of the Harper government. Interview with Canadian defense official, Ottawa, April 2019.



A B-52 Stratofortress, an F-16 Fighting Falcon, and two Royal Canadian air force CF-18 fighter aircraft, fly together over eastern Canada on an air intercept mission during Operation Noble Defender, a North American Air Defense Command arctic air defense operation, Sept. 20, 2020. Air Force Senior Master Sgt. John Rohrer (via defense.gov)

regardless of events in Ukraine. In the words of Stéphane Dion, Canada's foreign minister at the time, "Canada was speaking to the Russians even during the tough times of the Cold War. And now we are not speaking because of the former policy, of the former government. In what way is it helping our interests in the Arctic?"³¹ The Canadian Department of National Defense and Global Affairs Canada seemed in sync on this. Defense staff would tell me in June 2016 that they did not perceive a direct military threat to the Canadian Arctic in the immediate future. In the words of one official, "Russia is doing things in the Arctic that are

challenging and need to be watched, but Russia is not an immediate threat now."³²

The willingness to talk to Russia notwithstanding, the Trudeau government's official statements and documents led some observers to argue that Canada was essentially continuing in Harper's footsteps, with no large changes in Arctic policy from one administration to the other.³³ Two foundational Canadian documents support that impression: 2017's *Strong, Secure, Engaged*, and 2019's *Arctic and Northern Policy*.³⁴

31 Peter Zimonjic, "Stéphane Dion Signals Willingness to Re-engage with Russia," CBC News (website), January 26, 2016, <https://www.cbc.ca/news/politics/russia-canada-relations-diplomacy-dion-lavrov-1.3420781>.

32 Interviews with Department of National Defense staff, Ottawa, June 2016.

33 Greg Sharp, "Trudeau and Canada's Arctic Priorities: More of the Same," The Arctic Institute, December 6, 2016, <https://www.thearcticinstitute.org/trudeau-canadas-arctic-priorities/>.

34 *Strong, Secure, Engaged*, Canadian Ministry of Defence and Ministry of Foreign Affairs, 2017, <http://dgpaapp.forces.gc.ca/en/canada-defence-policy/docs/canada-defence-policy-report.pdf>; and "Canada's Arctic and Northern Policy Framework," Government of Canada, 2019, <https://www.rcaanc-cirnac.gc.ca/eng/1560523306861/1560523330587>.

Strong, Secure, Engaged is Canada's defense policy, a twenty-year plan aimed at making Canada strong at home, secure in North America, and engaged internationally. The first two priorities were relevant to Arctic security concerns: defending Canadian sovereign claims, echoing the Harper regime; and strengthening Canada's approach to continental defense. Arctic-related goals included developing "sophisticated awareness of [Canada's] operating environment," working "with the United States to ensure that NORAD is modernized to meet existing and future challenges," and increasing "presence in the Arctic over the long-term and work[ing] cooperatively with Arctic partners."³⁵ At no point, however did the document reference military threats to the Canadian Arctic.³⁶ The closest it came was the following: "Acknowledging rising international interest in the Arctic, Canada must enhance its ability to operate in the North and work closely with allies and partners."³⁷

The policy set out a series of ambitious goals for the Canadian Armed Forces. First was a 73 percent increase in proposed defense spending between 2017 and 2027.³⁸ That money was to be spent on quality of life issues for members of the armed forces, replacing all fifteen surface combatant ships in the Canadian Navy, replacing aging Army equipment, and acquiring eighty-eight advanced fighter aircraft to replace Canada's old CF-18 fighter planes, recapitalizing or replacing existing CP-140 surveillance aircraft, and improving special operations forces.³⁹ In terms of Arctic domain awareness, the document discussed linking surveillance aircraft, UAVs, and satellite information for an integrated picture of the Arctic operating environment.⁴⁰ In sum, then, *Strong, Secure, Engaged* was a defense renewal agenda rather than a response to specific Arctic threats.

Canada took a consistent line in a September 2019 publication, titled *Canada's Arctic and Northern Policy Framework*. The framework was codeveloped with Indigenous partners and covers all aspects of government policy and priorities toward Canada's North and Arctic. Its chapter on safety,

security, and defense highlights the challenges presented by modern threats to Canada's Arctic. The vast majority of the document described domestic or nonmilitary initiatives. There was one exception, echoing the previous Harper regime: "The government of Canada is firmly asserting its presence in the North. Canada's Arctic sovereignty is long-standing and well established."⁴¹ At the same time, most of the document's international chapter emphasized Arctic cooperation via the Arctic Council and existing international organizations, close bilateral relations with the United States, and coordinating activities at the subnational level with Alaska and Greenland. Continuing with its cooperative tone, the document called for restarting bilateral dialogue with Russia on nonsecurity or soft security issues like economic development for Indigenous peoples, environmental protection, and search and rescue.

Beyond these policy documents, Canada has not acted as if the nation perceived an urgent threat to the Canadian Arctic. In early 2019, experienced Canadian military officers told me that Canada had an adequate ability to interdict Russian aircraft, but that Canada's military had little ability to operate on the ground or at sea in the Arctic. Though that was not an ideal situation, particularly with regard to maritime domain awareness, they argued that Canada did not want to militarize or garrison the Arctic. Canada was not postured for Arctic military operations, they said, but it did not need a warfighting presence because they did not see Russia as a military threat in the region.⁴²

Though talks continued between Canada and the United States on modernizing NORAD and replacing the North Warning System, there was no tangible, public progress on either issue during the Trudeau period until the government committed to a five-year, C\$252.2 million initial investment in NORAD modernization.⁴³ Areas of informal agreement include neither country wanting NORAD to take on maritime interdiction.⁴⁴ From the Canadian perspective, maritime interdiction was the job of the Canadian Joint Operations Command (CJOC).⁴⁵ Different US and Canadian defense philosophies that extend beyond the

35 *Strong, Secure, Engaged*, 14.

36 *Strong, Secure, Engaged*, 50-51.

37 *Strong, Secure, Engaged*, 57.

38 As of late 2021, the Canadian government had shown little sign of reaching that commitment. Spending stayed relatively flat at just over US\$22 billion between 2017 and 2020, as displayed in Annex 1.

39 *Strong, Secure, Engaged*, 13, 65.

40 *Strong, Secure, Engaged*, 15, 63-64.

41 *Canada's Arctic and Northern Policy*.

42 Interviews with a dozen Canadian military officers, early 2019.

43 Senior Canadian defense official, March 2021. For context, however, speculative estimates have put total modernization costs at anywhere between US\$12 to US\$100 billion, depending on system architecture.

44 Neither side was willing to relinquish sovereign control of their territorial waters or exclusive economic zones. Interview with Canadian defense official, early 2019.

45 Interview with Canadian defense officials, early 2019. Note that a senior official of Transport Canada, a federal institution, told the author that Canada does not yet have the capacity to inspect ships in Arctic waters; Ottawa interview, April 2019.

NWS or NORAD have also complicated any agreement. The Canadians see the US national missile defense system as a prelude to nuclear warfighting and arms races, two things that Canada wanted no part of. The Canadians much preferred to focus on arms control and confidence building measures.⁴⁶

Overall, Canada has had relatively consistent Arctic policies over the last decade. Despite big promises, Canada has made modest improvements to military capabilities in the Arctic. The fact that Canadian officials do not want to militarize the region is evident in their focus on economic development and soft security initiatives and their relatively flat defense budgets over the last several years. The largest changes have been in tone, with the Trudeau government emphasizing Arctic sovereignty less often and less vocally than did the Harper government, and seemingly being more open to multilateral cooperation on non-security issues.⁴⁷

Danish Defense Policy

Denmark is an Arctic coastal state by virtue of Greenland. It also is a NATO member. For most of the 2000s, Denmark, alongside other NATO allies, focused its defense policy on out-of-area NATO operations to the exclusion of other missions closer to home, all in an effort to be a good alliance partner. The focus translated into action. Throughout NATO operations in Afghanistan, Denmark had a reputation for punching above its weight.⁴⁸ Denmark's combat mission in Helmand province ended in late 2013, when that presence transitioned to a much smaller contingent focused on training and mentoring Afghan security forces. At that point Danish officials took stock of a military trained and equipped for a counterinsurgency mission that no longer existed, and cut their defense budget accordingly in the first three years of the 2013-17 Parliamentary Defense Agreement, as displayed in Annex 1.⁴⁹

The Danes saw the Arctic as an area of peaceful cooperation during this early period. Denmark's 2011 *Strategy for the Arctic* was emblematic of that desire.⁵⁰ The strategy represented a whole-of-government effort to adapt to the relatively nonthreatening security conditions of the time.



Denmark. (Shutterstock/Rainer Lesniewski)

The strategy called for preventing international conflicts and avoiding the militarization of the Arctic.⁵¹ The strategy identified a series of regional concerns, including environmental degradation, loss of Indigenous lifestyles and cultures, and the breakdown of peaceful and cooperative resource extraction from the Arctic.⁵² The result was a strategy that wanted “a peaceful, secure, and safe Arctic, with self-sustaining growth, respect for the Arctic’s fragile climate, environment, and nature, in close cooperation with international partners.”⁵³

The strategy emphasized multilateralism. Peace and security would be gained by working through international law and norms and through the inclusion of as many viewpoints as possible.⁵⁴ Yet there was a tension in the strategy. Denmark wanted to be inclusive in a multilateral sense while still reserving priority of place for the five Arctic

46 Lt. Gen. Guy Thibault (former Canadian vice chief of defense), Presentation at the Atlantic Council, March 5, 2021.

47 Domestically, the Trudeau government has also emphasized federal reconciliation with and the importance of Indigenous peoples in Canadian policy.

48 David Auerswald and Stephen Saideman, *NATO in Afghanistan: Fighting Together, Fighting Alone* (Princeton, New Jersey: Princeton University Press, 2014).

49 The 2013-2017 Defense Agreement reduced the Danish defense budget in each of those five years. One possible cause of the budget increase in 2016 was Denmark’s response to the European refugee crisis of 2015-16.

50 The Kingdom of Denmark’s *Strategy for the Arctic* was a joint strategy of Denmark, Greenland, and the Faroe Islands.

51 *Strategy for the Arctic*, 10.

52 *Strategy for the Arctic*, 9.

53 *Strategy for the Arctic*, 11.

54 *Strategy for the Arctic*, 4, 49-53.

coastal states (Canada, Denmark, Norway, Russia, and the United States; the so-called Arctic Five),⁵⁵ and cooperation with Denmark's Arctic neighbors.⁵⁶

The strategy did not mention a military-security threat to Danish interests in the region, and limited the kingdom's armed forces to monitoring its Arctic territory, "to ensure that no systematic violations of territory can take place."⁵⁷ The strategy required minimal changes to the composition or missions of the armed forces and did nothing to upset the military status quo with other Arctic nations. This led to mostly cosmetic military changes, to include a small, multi-service Arctic Command headquartered in Nuuk, Greenland, and an Arctic Response Force drawn from existing Danish military units. There were no plans in the strategy for significant increases in Arctic-capable equipment or redeployments to Greenland. The intent was to avoid the perception that Denmark was militarizing the Arctic.⁵⁸

In interviews with the author from 2015 to 2018, Danish officials continued to stress the lack of security threats to their interests in the Arctic. Official documents supported that position: "Since 2008," said the 2013 Danish *Intelligence Risk Assessment*, "Russia has pursued a cooperative policy in the Arctic."⁵⁹ With regard to China, the assessment argued, "China has demonstrated both capability and willingness to use investments and other kinds of economic instruments as a lever to obtain political objectives."⁶⁰ Neither country's behavior merited major defense investments in the Arctic, according to Danish sources.⁶¹

The Danes were much more concerned about the Baltic Sea. Russia's invasion of eastern Ukraine and annexation of Crimea represented a fundamental dislocation to conceptions of European security in Danish eyes.⁶² Russia now posed a threat to European stability and to the security of the Baltic states. "There is a risk that Russia might initiate intimidating military pressure on especially the Baltic States," said the 2014 Danish intelligence assessment.⁶³

A similar theme runs through subsequent Danish assessments. The Danes responded by supporting EU sanctions on Russia as well as signing onto the Nordic Defense Pact in April 2015, a voluntary agreement on information sharing, military exercises and training, and related issues (see Annex 2).⁶⁴

Outrage at Russia's actions, coupled with concern over US foreign policy intent as articulated by then-President Donald Trump, led to Danish defense policy changes in 2018. In early 2018, Denmark reoriented its defense policy on the Baltic Sea in general, and on the security of the Baltic states in particular. Internationally, Trump repeatedly cast doubts on US commitments to NATO defense, which led some in Copenhagen to contemplate acquiring more European defense capabilities, even though Denmark had opted out of EU defense structures. Domestically, Prime Minister Lars Løkke Rasmussen's government faced pressure from opposition parties in Parliament to do more to deter Russia's aggressive actions in northern Europe, perhaps as a result of perceived American disengagement in European security.⁶⁵ These pressures resulted in two significant Danish policy statements.

The first was a cross-party, five-year defense agreement in early 2018. This six-party parliamentary agreement represented a broad political consensus within Denmark to increase defense spending by 20 percent from 2018 to 2023. Then-Defense Minister Claus Hjort Frederiksen previewed the agreement in a January interview when he said, "Our obligation is to help the Baltic countries [because] sentiment toward the Baltic countries is very warm in Denmark." He concluded that, "strengthening our own security in the Baltic Sea region . . . is our priority now."⁶⁶

The 2018 agreement not only increased the top line of the defense budget but refocused Danish forces on a potential European conflict rather than on out-of-area counterinsurgency missions. The first priority listed in the agreement

55 *Strategy for the Arctic*, 52-54.

56 *Strategy for the Arctic*, 49.

57 *Strategy for the Arctic*, 21.

58 Arctic Command has since served as an interface with the US Second Fleet and the US Air Force, though that was not necessarily its original intent.

59 Government of Denmark, *Intelligence Risk Assessment 2013*, November 13, 2013, 14.

60 Government of Denmark, *Intelligence Risk Assessment 2013*, 15.

61 Interviews with Danish officials in the Ministries of Foreign Affairs and Defense, Copenhagen, 2016.

62 For an example, see Danish Foreign Minister Martin Lidegaard, "The International Situation and Danish Foreign Policy," *Danish Foreign Policy Yearbook*, 2014, 11-20.

63 Government of Denmark, *Intelligence Risk Assessment 2014*, October 30, 2014, 9. In a curious turn of events, the Danish government did not bat an eye when Russia launched a mock nuclear attack aimed at a 90,000-person political convention on Denmark's Bornholm Island in June 2014.

64 The pact took the form of a nonbinding op-ed in the Norwegian newspaper *Afterposten*, signed by the five Nordic defense ministers. Despite its informal nature, the pact garnered attention in defense circles at the time.

65 Gerard O'Dwyer, "Special Forces, Allies to Benefit from Denmark's Defense Spending Deal," *Defense News*, February 5, 2018, <https://www.defensenews.com/global/europe/2018/02/05/special-forces-allies-to-benefit-from-denmarks-defense-spending-deal/>.

66 Evelyn Kaldoja, "Danish Defense Minister Does Not Believe in Reaching Two Percent," *Post Times*, January 16, 2018, <https://news.postinees.ee/4378151/danish-defense-minister-does-not-believe-in-reaching-two-percent>.

was to strengthen “Denmark’s contributions to NATO’s collective deterrence and defense”; and said “NATO remains the cornerstone of Danish defense and security policy.”⁶⁷ So while significant funds were aimed at internal improvements in Danish military resilience, such as cyber and information technology (IT) security, Home Guard development, and logistical improvements, the lion’s share of the money was aimed at deployable capabilities for NATO territory. The agreement prioritized three specific theaters: the Baltic Sea and North Atlantic, then international operations outside NATO territory, and lastly Arctic operations. The dollar amounts are instructive. The agreement earmarked roughly 5,647 million Danish kroner (DKK) (US\$889 million in September 2021 dollars) for Baltic Sea and North Atlantic capabilities, 1,879 million DKK (US\$296 million) for out-of-area capabilities, but only 239 million DKK (US\$38 million) for Arctic capabilities, mainly to improve Danish monitoring and mapping around Greenland and the Faroe Islands. In short, Denmark’s focus was on its NATO responsibilities in the Baltic and North Atlantic areas rather than the Arctic. Indeed, the February 2018 defense agreement was at pains “to maintain the Arctic as a low-tension area.”⁶⁸

For Denmark’s Army, the focus was most definitely on the Baltic states. Specific areas targeted for improvement included the creation of a 4,000-person deployable brigade for NATO territorial operations, with a specific focus on defending the Baltic states, and a separate 500-person light infantry battalion for out-of-area missions. The intent of the First Brigade was to have a deployable force by 2024, with one of its light infantry battalions able to deploy in days, a battalion battle group in weeks, and the full brigade soon after that. To ensure that the First Brigade could get to the fight, senior Ministry of Defense and Danish intelligence officials told me that arrangements have been put in place with Maersk shipping and with allies, including Norway, Sweden, and Germany, for the needed strategic sealift and ground transportation. Denmark, in conjunction with Estonia and Latvia, also took command of the new NATO Multinational Division North headquarters, located in Latvia with a mirrored command center in Denmark, charged with command of six NATO brigades in the defense of Estonia and Latvia.

The agreement also prioritized improving naval capabilities across three areas of responsibility. One naval squadron

was aimed at the North Atlantic and the waters around Greenland and the Faroe Islands, a second was organized for international operations including in the Baltic Sea, and a third was meant for national operations. The defense agreement’s intent was to arm navy frigates with area air-defense missiles (SM-2s and eventually SM-6s), increase naval anti-submarine warfare (ASW) capabilities with new sonar, anti-torpedo defenses, and new helicopters armed with dipping sonar and torpedoes.

In November 2018, Denmark followed the defense agreement with a new *Foreign and Security Policy Strategy*. The strategy warned of an increasingly unstable world, with Russia threatening its neighbors, China demanding more influence, and the United States embracing nationalism and retreating from its traditional leadership role. The strategy listed Russia’s aggressive behavior across Europe, with specific mention of Russia’s actions in the Baltic Sea, and called out Russia for its “opposition to the rules-based world order.”⁶⁹ With regard to China, the strategy pointed out that Danish companies were interested in Chinese markets, but that China demanded a mode of cooperation and trade that could harm Western interests. In that respect, the strategy called for greater screening of foreign investment. The strategy focused attention on the importance of the United States for Danish security, warning that it was “essential to maintain American engagement in Europe through NATO.”⁷⁰

The strategy highlighted both the growing geopolitical importance of the Arctic and the need to keep the area one of low-tension.⁷¹ In that sense, the strategy was little different than past Danish Arctic policies that focused on Denmark’s symbolic Arctic presence, monitoring of their Arctic territories, and continuing dialogue with Russia about the Arctic.⁷²

By early 2019, however, Danish officials admitted in not-for-attribution conversations that they were increasingly concerned about the Arctic security situation. According to senior Danish military officers, the Danish government had two security concerns in the Arctic. Regarding Russia, the Danes were increasingly of the opinion that the Baltic, North Atlantic, and Arctic regions were interconnected. Military preparations in one region, to say nothing of actual conflict, could quickly spill across

67 2018 Danish Defense Agreement, 1-2, <https://www.fmn.dk/globalassets/fmn/dokumenter/forlig/-danish-defence-agreement-2018-2023-pdf-a-2018.pdf>.

68 2018 Danish Defense Agreement, 10.

69 *Foreign and Security Policy*, 13, https://www.dsn.gob.es/sites/dsn/files/2018_Denmark%20Foreign%20and%20security%20policy%20strategy%202019-2020.pdf.

70 *Foreign and Security Policy*, 11.

71 *Foreign and Security Policy*, 25.

72 *Foreign and Security Policy*, 13.

all three regions. Privately, some in the Danish military and intelligence services voiced the belief that the threat of instability was actually *higher* in the Arctic than in the Baltic region, given that Russia would want to avoid a direct military conflict with NATO in the Baltics and had a tremendous military advantage over the West in the Arctic.

Publicly, however, the Danes maintained that the Arctic remained an area of low tension. Some in Copenhagen believed that to do otherwise would threaten the scientific and soft security gains made by the Arctic Council. According to some senior Defense Ministry officials who spoke off the record, Denmark also was loath to ratchet up Arctic tensions with Russia because that would imperil the peaceful resolution of Russian, Danish, and Canadian claims to the undersea Lomonosov Ridge that runs between Siberia and northwest Greenland. Finally, acknowledging rising Arctic tensions would highlight the need for a greater NATO role in the region. Truth be told, some in Copenhagen were reluctant to increase NATO's role in the Arctic because that might antagonize Russia, and also slow decision-making during crises by bringing non-Arctic states into Arctic affairs and complicating existing security cooperation between the Danes, the United States, the United Kingdom, and Norway in the North Atlantic. Others worried that southern European members of NATO would resist Danish (and Norwegian) efforts to prioritize the Arctic in Alliance discussions.

The second concern focused on the security implications of Chinese investments in Greenland and to a lesser extent in the Faroe Islands, both locally autonomous entities within the Kingdom of Denmark.⁷³ Though never official policy, parts of the Danish government worried that the government in Nuuk, Greenland, was desperate for foreign investment and would be less than diligent when it came to vetting projects or the financial terms behind those projects.⁷⁴ The fear was that Greenland could be manipulated into taking anti-Western positions by promises of Chinese foreign direct investment in airports, mining of rare earth minerals, iron, and uranium, or predatory loans that the

Greenlanders could not repay. In the words of one Danish official who spoke on a not-for-attribution basis, elements in Copenhagen worried that China would “get Greenland into a corner from which they could not escape.”

Copenhagen responded to the new Arctic reality with significant changes in the government's public Arctic defense posture. By late 2018, then-Defense Minister Frederiksen said, “By increasing situational awareness and early warning in large swaths in and around Greenland, the Kingdom of Denmark contributes both to defending the lines of communication across the Atlantic and to the defense of North America.”⁷⁵ The overall focus for the remainder of the Rasmussen government was acquiring better Arctic surveillance systems and command, control, and communications capabilities for more Arctic-capable units.⁷⁶

The renewed focus on the Arctic held true through a government turnover after June 2019 national elections. Mette Frederiksen of the Social Democrats crafted a single-party minority government with the acquiescence of three other left-leaning parties (the Social Liberals, Socialist People's Party, and the Red-Green Alliance).⁷⁷ In late September 2019, Trine Bramsen, the new Danish defense minister, told an Atlantic Council delegation that Russia was getting more aggressive in the Arctic and that Denmark was increasing its military presence in Greenland as a result.

The Royal Danish Navy and Air Force played key roles in that effort. On the naval front, the navy's First Squadron had responsibility for the North Atlantic, with intent to have at least two ships in the waters from Greenland to the Faroe Islands throughout the year demonstrating presence and conducting surveillance missions, among other tasks.⁷⁸ Denmark is in the process of acquiring an additional Rasmussen-class vessel and nine ship-based Seahawk helicopters. The Danish Air Force operates Challenger maritime patrol aircraft from Kangerlussuaq airfield, roughly 200 miles north of Nuuk in western Greenland. The problem comes in transmitting and integrating airborne, ground, sea, and satellite data. Denmark is quietly exploring the

73 David Auerswald, “China's Multifaceted Arctic Strategy,” *War on the Rocks*, May 24, 2019, <https://warontherocks.com/2019/05/chinas-multifaceted-arctic-strategy/>.

74 Interviews with multiple Danish Foreign Ministry and Defense officials, 2016-2019.

75 Claus Hjort Frederiksen, “Denmark's Defense Minister: NATO at 70—Not a Time to Retire,” *Defense News*, December 9, 2018, <https://defensenews.com/outlook/2018/12/10/denmarks-defense-minister-nato-at-70-not-a-time-to-retire/>.

76 Danish Ministry of Defense, “Tasks in the Arctic and North Atlantic, January 31, 2019, <https://fmn.dk/eng/allabout/Pages/TasksintheArcticandtheNorthAtlantic.aspx>.

77 The Social Democrats held only forty-eight of the 179 parliamentary seats in the Folketing, well short of a majority. Their party platform emphasized the need for stable international relations, the importance of the EU for Denmark's economy, and operating through the United Nations and with NATO when it came to political-military affairs, roughly similar foreign policy priorities as held by the previous, center-right Rasmussen government. See “Foreign Policy and the EU,” Social Democrats (website), accessed September 2021, <https://www.socialdemokratiet.dk/english/foreign-policy-and-the-eu/#>.

78 Thetis-class ships are double-hulled, 4000 ton displacement vessels capable of breaking through ice up to 80 centimeters (cm) thick. They have a 60-person crew. See “Thetis Class,” Naval Technology (website), <https://www.naval-technology.com/projects/thetis/>. Rasmussen-class ships are 1700 tons in displacement and can move through 40 cm of sea ice. They have a twenty-person crew. See “Knud Rasmussen-Class Ocean Patrol Vessels,” Naval Technology (website), <https://www.naval-technology.com/projects/knud-rasmussen-class/>. Both classes of vessels have a rapid-fire gun and ASW capabilities. The Rasmussen-class vessels are equipped with surface-to-air and surface-to-surface missiles.

idea of basing F-35s in a refurbished airfield in Greenland and using the aircraft's advanced data collection and transmission capabilities to link systems together.⁷⁹

A more significant change came in February 2021, when multiple parties in Parliament agreed to increase military spending on the Arctic and North Atlantic by 1.5 billion DKK, a significant addition to the Arctic defense funds contained in the 2018-2023 defense agreement. The increase was a response to Russia's regional military buildup and "increased economic and research-related activities" from unspecified countries, though China seems the likely concern on that front.⁸⁰ The agreement funded air surveillance and tactical radars and long endurance unmanned drones in both Greenland and the Faroe Islands, data integration and intelligence processing, and satellite systems covering the Arctic and the North Atlantic. Finally, the agreement funded increased training and exercises in and around Greenland. In short, the Danish military broadened its focus from the Baltic Sea into the North Atlantic and the Arctic.

Finnish Defense Policy

Finland is an Arctic state without a coastline above the Arctic Circle. Finland remains in a formally nonaligned but Western-oriented status internationally. Finland's defense policy over the last several years had been guided by international law, sustained territorial defense forces, and close military collaboration with neighboring Sweden. Finland's consistent defense focus is on its 830 mile border with Russia as well as on Finnish islands and shipping routes through the Baltic Sea. As a result, defense spending levels have been relatively constant over time, as displayed in Annex 1. Arctic security, for the Finns, centers around the protection of Lapland in northern Finland, stability across the European Arctic, and environmental stewardship.

The precursor to current Finnish defense policy in the Arctic can be traced back to a May 2015 document, titled *The Strategic Programme of the Finnish Government*. This was the first major foreign policy document of Finnish Prime Minister Juha Sipilä's government, the center-right coalition that led the country from May 2015 until June 2019.⁸¹ The *Strategic Programme* set out the government's thinking on foreign and defense policy. The document reviewed a deteriorating security situation in Europe and the Baltic Sea region because of Russia's actions in Crimea and the return of great power politics.⁸² As a result, the



Finland. (Shutterstock/Rainer Lesniewski)

Sipilä government promised to increase defense spending and improve defense capabilities, strengthen Nordic defense cooperation, particularly with Sweden, work

79 Major General Anders Rex, "Multidomain Capabilities Are Key to Securing the Arctic," *Defense News*, August 6, 2020, <https://www.defensenews.com/opinion/commentary/2020/08/06/multidomain-capabilities-are-key-to-securing-the-arctic/>.

80 Danish Ministry of Defense, "Agreement on Arctic Capabilities," February 11, 2021.

81 The Sipilä government included the Center Party, the National Coalition Party, and the Finns Party, the latter of which was replaced in June 2017 by the Blue Reform party. The document represented the government's foreign policy platform.

82 *Strategic Programme of the Finnish Government*, May 27, 2015, 6-7, 35.

more closely with the United States, maintain sanctions on Russia as long as the EU did so, and “maintain the option to seek NATO membership,” should circumstances warrant.⁸³

Part of this focus can be attributed to Finland’s nonaligned status and the need to provide for its own defense. There is also a significant economic component to Finland’s thinking, in that Finland is heavily dependent on Baltic Sea shipping, with roughly 80 percent of exports and 90 percent of imports transported by sea.⁸⁴ Finally, there was a long-standing belief across the Finnish national security and foreign policy establishment that relatively small countries like Finland had to rely on international law and multilateral institutions like the EU if they were to have any influence on the world stage.

The government had mixed success implementing the *Strategic Programme* agenda. Politically, Finland avoided the question of NATO membership. Instead, it entered into a series of voluntary agreements on defense cooperation with Sweden, the United States, and neighboring Nordic states. In 2016 Finland and the United States signed a bilateral statement of intent, a voluntary agreement on coordinated training and exercises, strategic communications, and situational awareness in the Baltic Sea region. This was followed in May 2018 by a US, Finnish, and Swedish trilateral statement of intent, and the November 2018 Nordic Defense Vision 2025, a voluntary agreement on political dialogue, information sharing, and interoperability among Nordic Defense Cooperation (NORDEFCO) member countries in peace, crisis, and war.⁸⁵

On the defense budget, the government’s proposal for 2018 was only slightly higher than the 2017 budget and actually declined when measured as a percentage of GDP.⁸⁶ That said, the military was given permission in late 2015 to begin two major acquisition programs. The first was a naval program known as Squadron 2020. Its intent was to

acquire four new navy corvettes by 2024. Each ship would be capable of operating in ice-covered waters, have advanced intelligence, surveillance, and reconnaissance (ISR) capabilities to monitor activity above, at, and below the surface, and be armed with sea mines and missiles. The military estimated that Squadron 2020 would cost €1.2 billion (US\$1.36 billion). In addition to those costs, the navy penned a mid-2018 deal to acquire new anti-ship and surface-to-surface missiles, as well as light torpedoes.⁸⁷ The second big acquisition program was run by the air force and called the HX Fighter Project. Its aim was to replace Finland’s aging F/A-18s with advanced aircraft by 2025. The HX program was expected to cost between €7 and €10 billion. Both programs would require funds outside the normal defense budget, something that Parliament would need to decide closer to an acquisition decision.

On the political front, Finland released an updated Arctic strategy in March 2017, just prior to assuming the two-year chairmanship of the Arctic Council in May 2017. The strategy prioritized solidifying Finland’s and the EU’s leadership role in the Arctic, as well as increasing sustainable tourism, the commercialization of Finnish Arctic expertise, and infrastructure development across Finland, between Finland and its neighbors, and with regard to satellites.⁸⁸ In that sense, the 2017 strategy was consistent with past official statements of Finland’s Arctic policies that stressed the economic development of Finland’s Arctic territory in an environmentally sustainable manner, the business opportunities associated with Finnish expertise in cold weather climates, the importance of the Arctic Council as a regional forum, and the need for a stronger EU role in the region.⁸⁹

The 2017 strategy made no specific mention of defense capabilities or collaboration. According to two senior Finnish officials involved with the 2017 update, speaking off the record, the update was aimed at providing the government with a few achievable things to tout before Finland’s April 2019 parliamentary elections.⁹⁰

83 *Strategic Programme of the Finnish Government*, 2015, 35-36.

84 Janne Helin, Finnish Defense Ministry, Presentation at the Swedish Defense University, Stockholm, May 22, 2019.

85 NORDEFCO includes Denmark, Finland, Iceland, Norway, and Sweden. See *Nordic Defense Vision 2025*, <https://www.nordefco.org/Files/nordefco-vision-2025-signed.pdf>.

86 For details, see: Ministry of Defence, Government of Finland, “The Budget Proposal of the Ministry of Defence Follows the Defence Policy Report,” August 10, 2017; and Ministry of Defence, Government of Finland, “Implementation of the Government’s Defence Report Was Started,” August 14, 2017.

87 See Finland’s Ministry of Defense (website), https://www.defmin.fi/en/topical/press_releases/2018/9612_m=9399; and Gerard O’Dwyer, “Finland Moves to Boost its Naval Power in the Baltic Sea Hotspot,” *Defense News*, October 19, 2018, <https://www.defensenews.com/global/europe/2018/10/19/finland-moves-to-boost-its-naval-power-in-the-baltic-sea-hotspot/>.

88 See Prime Minister’s Office, “Government Policy Regarding the Priorities in the Updated Arctic Strategy, September 26, 2016; and Prime Minister’s Office, “Action Plan for the Update of the Arctic Strategy,” March 27, 2017. Finland’s Arctic Council chairmanship agenda included improving environmental protection, electronic connectivity, climate and oceanographic cooperation, and education of Arctic peoples.

89 See, for example, *Finland’s Strategy for the Arctic Region 2013*, August 23, 2013; “Prime Minister Jyrki Katainen’s Speech at the Arctic Cooperation Seminar,” March 12, 2013, <http://statsradetskansli.fi/ajankohtaista/puheet/puhe/en.jsp?oid=401393>; “Developing Strong Northern Communities,” Foreign Minister Tuomioja’s Speech in Arctic Frontiers Conference, January 21, 2014, <http://www.formin.fi/public/default.aspx?contentid=297181>; “Speech by President of the Republic of Finland Sauli Niinistö at the Arctic Circle Opening Session,” October 31, 2014, in Reykjavik, Iceland, <http://www.presidentti.fi/public/default.aspx?contentid=315257&culture=en-US>; and Minister for Foreign Affairs Erkki Tuomioja, “The Arctic Policy of the European Union, Seminar on Arctic Know-how as a Strength,” March 18, 2015, <http://www.formin.finland.fi/public/default.aspx?contentid=323134&contentlan=2&culture=en-US>.

90 Interviews with the author, Helsinki, August 2018.



F-35A flying over Ørland air station. Benjamin Sørslett/Forsvaret (via Norwegian Army media)

Those elections would begin a turbulent time in Finnish domestic politics, with Prime Minister Antti Rinne leading a fragile center-left parliamentary coalition from June to December, and for a few weeks in December in a caretaker status when his political coalition dissolved.⁹¹ Antti Kaikkonen, the defense minister at the time, stressed that Finnish security policy was marked by continuity and not subject to the vagaries of domestic politics. He emphasized the need to maintain “real, large-scale military capabilities for deterrence and, if deterrence fails, for war-fighting.”⁹² The major defense policy paper released during his tenure, titled *Government Report on Finnish Foreign and Security Policy*, bore out that claim.

Finland released the *Foreign and Security Policy* in late October 2019. The strategy echoed themes that could

have been seen during the previous Sipilä government. The strategy characterized a weakened international order dominated by great power competition, particularly between the United States and China but also including Russia.⁹³ The largest security threat to Finland, however, was from Russian attempts to rebuild its sphere of influence, particularly in the Baltic Sea region, which had led to regional instability.⁹⁴ “The security situation in the neighboring areas of Finland and Europe is unstable and difficult to predict,” said the document. Russia did not pose a direct military threat to Finland, but security crises in any part of the Nordic-Baltic region would affect the region as a whole. “Any shifts in the security situation in the Baltic Sea region, the Arctic neighborhood of Finland, and on the North Atlantic are closely connected.”⁹⁵ This made perfect sense from the Finnish perspective. Any conflict pitting the

91 The Rinne cabinet included members of the Social Democratic Party, the Center Party, the Green League, the Left Alliance, and the Swedish People's Party.

92 Antti Kaikkonen, “Finland’s Defense Minister on the Future of National Security,” *Defense News*, December 2, 2019, <https://defensenews.com/outlook/2019/12/02/finlands-defense-minister-in-the-future-of-national-security/>.

93 *Government Report on Finnish Foreign and Security Policy*, October 29, 2019, 11, 16, <https://valtioneuvosto.fi/en/-/government-report-on-finnish-foreign-and-security-policy-2020-security-and-global-responsibility-sharing-go-hand-in-hand-1>.

94 *Government Report on Finnish Foreign and Security Policy*, 2019, 21-22, 32-33.

95 *Government Report on Finnish Foreign and Security Policy*, 2019, 19, 22, 40. Other threats described in the document reflected either natural (e.g., climate change) or grassroots phenomenon (e.g., nationalism).

West against Russia, whether in the North Atlantic, Ukraine, in the Baltic states, or elsewhere would affect the 833 mile border between Finland and Russia, to include the portions of Finnish Lapland north of the Arctic Circle, as well as its Baltic Sea coastline and offshore islands.

The Finnish strategy called for an “active policy of stability” that would maintain a pragmatic relationship with Russia, and a robust defense against attack or if another state tried to use Finnish territory as a launchpad “for hostile purposes against other states.”⁹⁶ To complement national defense, the strategy emphasized international cooperation and sharing foreign policy responsibilities through EU mechanisms. Though Finland is a non-aligned country, the strategy noted Finland’s commitment to European stability, saying: “As a member state of the European Union, Finland could not remain an outsider should threats to security emerge in its vicinity or elsewhere in Europe.”⁹⁷

The strategy emphasized cooperative defense with Western partners, consistent with Finland’s participation in the agreements listed in Annex 2 and discussed earlier.⁹⁸ Most importantly, the 2019 strategy discussed intense security cooperation with Sweden, “without any predetermined limitations”; in Finland’s view, the two countries shared the same threat assessments and objectives in the Baltic Sea region. They would share intelligence, jointly use logistics and infrastructure, and strengthen their ability to safeguard their combined territories.⁹⁹ The strategy gave attention to Finland’s role as a NATO partner nation, the importance of interoperability gained from participating in NATO exercises, and the possibility of future membership.¹⁰⁰ Finally, the strategy talked about Finland’s partnership with and expectations of the United States as a transatlantic leader, Finland’s good bilateral relations with

Norway, and Finland’s close defense and foreign policy cooperation with other Nordic states.¹⁰¹

The Rinne government was succeeded in 2020 by Prime Minister Sanna Marin, also from the Social Democratic Party.¹⁰² Marin kept the same basic Arctic priorities as her predecessor. Consider Finland’s 2021 *Strategy for Arctic Policy*. In some respects, the strategy repackaged familiar priorities from previous Finnish documents, including climate change mitigation, improving living standards in the Finnish Arctic, Arctic expertise and research, and improving infrastructure and logistics. The overall goal of the strategy was to maintain the Arctic as a peaceful, stable region.

With regard to security and defense, the strategy once again acknowledged that the Arctic could not be compartmentalized from security issues in northern Europe and the North Atlantic.¹⁰³ The strategy noted that Finland had little control over regional outcomes imposed by the great powers. “Turmoil in international policy and military tensions in the rest of the world are also reflected on the Arctic region, where the political interests of great powers may result in confrontations.”¹⁰⁴ The strategy specifically called out Russia’s aggressive actions in Europe and the high priority Russia gave to the Arctic. The strategy also noted that China’s aspirations to influence the Arctic created conflicts of interests with Arctic states. The result, according to the strategy, was that Western powers have increased their military presence and military readiness in the region, leading to a potential spiral of instability.¹⁰⁵

Finland’s new defense policy is described in more detail in the September 2021 *Government Defense Report*.¹⁰⁶ The document built on 2019’s *Foreign and Security Policy* and is aimed at informing debate within Finland’s Parliament as they consider the next eight years of defense policy.

96 *Government Report on Finnish Foreign and Security Policy*, 2019, 26. One reading of that statement is that it was designed to reassure Russia that Finland would not allow NATO to use Finnish territory to attack Russia.

97 *Government Report on Finnish Foreign and Security Policy*, 2019, 10, 28. Both Finland and Sweden pledged to come to the aid of EU members that are subject to external attack, though both countries are vague about the exact nature of that assistance. Their positions are consistent with Article 42.7 of the Lisbon Treaty, which states: “If a Member State is the victim of armed aggression on its territory, the other Member States shall have towards it an obligation of aid and assistance by all the means in their power, in accordance with Article 51 of the United Nations Charter. This shall not prejudice the specific character of the security and defense policy of certain Member States. Commitments and cooperation in this area shall be consistent with commitments under the North Atlantic Treaty Organization, which, for those States which are members of it, remains the foundation of their collective defense and the forum for its implementation.”

98 The precursor Finnish document from the Foreign Ministry is the lengthy *Review of Finland’s Security Cooperation*, released on February 13, 2015.

99 *Government Report on Finnish Foreign and Security Policy*, 2019, 29. These were not new Finnish goals. They were previewed in *Action Plan for Deepened Defense Cooperation between Sweden and Finland*, signed on May 6, 2014, https://www.defmin.fi/files/2833/ACTION_PLAN_FOR_DEEPENED_DEFENCE_COOPERATION_BETWEEN_SWEDEN_AND_FINLAND.pdf.

100 *Government Report on Finnish Foreign and Security Policy*, 2019, 31.

101 *Government Report on Finnish Foreign and Security Policy*, 2019, 25, 32.

102 The Marin government was to some extent a continuation of Rinne’s center-left coalition. It included the Social Democrats, the Center Party, the Green League, Left Alliance, and Swedish People’s Party.

103 *Finland’s Strategy for Arctic Policy*, Prime Minister’s Office, 2021, 12, 18, <https://julkaisut.valtioneuvosto.fi/handle/10024/163247>.

104 *Finland’s Strategy for Arctic Policy*, 2021, 17.

105 *Finland’s Strategy for Arctic Policy*, 2021, 18.

106 See *Government’s Defence Report*, Publication of the Finnish Government, 2021, https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/163407/VN_2021_80.pdf?sequence=4&isAllowed=y.

A theme running through the document is the threat of hybrid warfare, what Finland calls broad-spectrum influencing.¹⁰⁷ That necessitates creating “more comprehensive situational awareness,” to ensure sufficient early warning.¹⁰⁸

Internal priorities included having the ability to mobilize their entire society for national defense and improving Finland’s territorial defense forces. Finland will establish local defense forces capable of responding to a full-spectrum of contingencies, and do more to protect “society’s infrastructure” from hybrid attacks.¹⁰⁹ At the same time, Finland intends to maintain its defense ability to operate in larger formations. Internationally, the report noted, Finland had “deepened defense policy dialogue with its partners, and signed multiple bilateral and multilateral agreements, especially with countries operating in the Baltic Sea region.”¹¹⁰ The report singled out Finland’s intense defense collaboration with Sweden, Norway, and the United States, and its participation in multilateral defense cooperation through the EU and NATO.¹¹¹

Finally, Finland recently announced that it has picked the F-35 for its HX Fighter Program, with new aircraft entering service in 2025. As discussed later, that choice should facilitate regional defense integration in terms of ISR, data links, weapons procurement, and general interoperability. Funding for four Squadron 2020 naval corvettes and for F-35 acquisition, in addition to all the other improvements listed in the 2021 report, will have to be sustained if Finland hopes to maintain its heretofore robust national defense capability.¹¹²

Norwegian Defense Policy

Norway is another coastal Arctic nation, and like Denmark, a member of NATO. That membership and the transatlantic link to the United States are cornerstones of Norwegian defense policy. Norwegian defense strategy has prioritized an Arctic military presence, investments in new military capabilities for northern Norway, and a doctrine inviting greater NATO attention be paid to the Arctic region.¹¹³ In the last five years, in particular, there has been a surge in Norwegian defensive measures in its Arctic territory, well above and beyond the efforts of Nordic neighbors.



Norway. (Shutterstock/Rainer Lesniewski)

It is useful to divide Norwegian thinking on defense in the Arctic into two periods, divided by the winter of 2013-2014. Russian actions in Crimea in March 2014 heightened concerns in Norwegian thinking about the nation’s security situation that began in the mid-2000s, when Russia launched a concerted rearmament program and used force in Georgia. Domestically, the October 2013 Norwegian elections ushered in the conservative-leaning government of Prime Minister Erna Solberg, replacing the left-leaning government of Jens Stoltenberg that had ruled Norway for the previous eight years. Solberg remained prime minister until

¹⁰⁷ *Government Defence Report*, 19.

¹⁰⁸ *Government Defence Report*, 20.

¹⁰⁹ *Government Defence Report*, 30. This localized approach represented a change from Finland’s earlier focus on regional forces.

¹¹⁰ *Government Defence Report*, 21.

¹¹¹ *Government Defence Report*, 41-45.

¹¹² Gerard O’Dwyer, “Finland Tweaks 2022 Budget to Accommodate HX Fighter Purchase,” *Defense News*, October 7, 2021, <https://www.defensenews.com/air/2021/10/07/finland-tweaks-2022-budget-to-accommodate-hx-fighter-purchase/>.

¹¹³ Nina Græger and Kristin Haugevik, “The Revival of Atlanticism in NATO? Changing Security Identities in Britain, Norway, and Denmark,” *Norwegian Institute of International Affairs, Report*, 2009, 8, 11.

September 2021.¹¹⁴ Her government took a different approach to defense spending, as discussed below.

Stoltenberg's coalition government established Norway's early thinking about Arctic defense in the 2000s. Stoltenberg served as prime minister from September 2005 until September 2013. His government released two iterations of Norway's Arctic strategy in 2006 and 2009, and an Arctic white paper in 2011.¹¹⁵ The 2006 document set out a new strategy for its northern region, referred to as the High North: "Norway's most important strategic priority area."¹¹⁶ The 2009 document served as a progress report given events during the intervening three years. The 2011 white paper took stock of what had been achieved and projected those possibilities into the future.

The Norwegian Government's High North Strategy of 2006, as amplified by the 2009 *New Building Blocks in the North*, framed the Arctic largely in terms of economic threats facing Norway. Threats included the improper management of fisheries and petroleum deposits by Russia as well as the continued tension and economic losses caused by the unresolved demarcation of the Norwegian-Russian maritime border.¹¹⁷ Note, though, that these were largely optimistic documents that also listed opportunities associated with joint Norwegian-Russian fishery management, Barents Sea petroleum extraction, and an economic and cross-border industrial cooperation zone if the aforementioned challenges could be resolved.¹¹⁸

The 2006 strategy was emblematic of Norway's thinking regarding Russia: maintain pragmatic cooperation but

prepare militarily just in case. The strategy's overarching economic goal was sustainable growth and development of the Norwegian High North. This would be achieved by strengthening government-to-government cooperation with Russia.¹¹⁹ On the security front, however, the strategy prioritized strengthening Norwegian authority in the High North through a strong military, police, and alliance presence in the region.¹²⁰ That would prevent and deter other nations from taking advantage of a political, military, or private-sector vacuum anywhere in Norwegian territory.

Norwegian assessments of the High North in the 2011 white paper incorporated progress in settling border disputes with Russia and in the successful negotiation of the 2011 Arctic Search and Rescue Agreement. In September 2010, Russia and Norway agreed on a maritime demarcation agreement that delineated fishing rights and access to offshore oil and gas fields. Both sides apparently walked away satisfied.¹²¹ The 2011 strategy noted this progress. "During the past few decades, political initiatives have helped to ensure peace and stability, clarify and confirm the legal framework for national jurisdiction and activity in the High North, and develop sound political cooperation structures and extensive people-to-people cooperation."¹²² Soft security threats remained, but the white paper described them as solvable challenges.

The white paper took a very careful tone when discussing military threats from Russia. Norwegian defenses were repeatedly, if irregularly, probed by the Russian military between 2010 and 2012, and the trend was increasingly worrisome.¹²³ The paper mentioned large numbers of

114 Solberg led a minority coalition of her Conservative Party and the Progress Party from October 2013 until the election of September 2017. After winning reelection, Solberg added the Liberal Party to her coalition in January 2018. The Christian Democratic Party joined the coalition government in January 2019, giving Solberg a parliamentary majority.

115 The governing coalition included Stoltenberg's Labor Party, the Center Party, and the Socialists.

116 *The Norwegian Government's High North Strategy*, 2006, 7.

117 See *High North Strategy*, 2006, 16-18, 45-54; and *New Building Blocks in the North*, Norwegian Ministry of Foreign Affairs, March 12, 2009, 74-77. The latter elaborated on progress toward solving these conflicts of interest.

118 *High North Strategy*, 19. There were promising signs for responsible joint gas extraction between the 2006 strategy and the 2009 update. In October 2007, for instance, the partially state-owned petroleum companies of Norway and Russia (Statoil and Gazprom, respectively) signed an agreement to develop the Shtokman gas fields in Russian waters. See *New Building Blocks*, 59-71, regarding additional initiatives related to bioprospecting, tourism, transportation hubs, and oil and gas extraction that the Norwegian government believed were opportunities for the future.

119 *High North Strategy*, 9.

120 *High North Strategy*, 19-20; and *New Building Blocks*, 13-17, 37-41, 54.

121 Alex Anishyuk, "Norway, Russia Strike Deal to Divide Arctic Undersea Territory," *Moscow Times*, April 28, 2010, <http://www.themoscowtimes.com/business/article/norway-russia-strike-deal-to-divide-arctic-undersea-territory/404939.html>; and "Russia, Norway Reach Agreement to Divide Arctic Territories," RIA Novosti (defunct state-operated Russian news agency), April 27, 2010, <http://en.ria.ru/world/20100427/158768499.html>.

122 *The High North: Visions and Strategies*, Norwegian Ministry of Foreign Affairs, 2011, 6, https://www.regjeringen.no/globalassets/upload/ud/vedlegg/nordomradene/ud_nordomrodene_en_web.pdf. This white paper was an optimistic document. It discussed the possibility that the Barents Sea could "become an important European energy province." Norway could become the center of a new industrial hub that included the Nordic states and Russia due to the low cost of Norwegian natural gas-based manufacturing. The paper posited that future cooperation on fisheries and marine management was possible via the multinational Arctic Council and through bilateral arrangements with Russia. Money could be made on servicing the increased shipping traffic sailing past Norwegian shores. Locating the Arctic Council's permanent secretariat in Tromsø, Norway, would ensure that Norway remained the leader in Arctic knowledge. In addition, the Arctic Council could be strengthened through the inclusion of new permanent observers.

123 Norwegian fighter jets intercepted thirty-seven Russian military aircraft in 2010, forty-eight in 2011, and seventy-one in 2012. See Trude Pettersen, "More Russian Military Aircraft Outside Norway," *Barents Observer*, January 3, 2013, <http://barentsobserver.com/en/security/2013/01/more-russian-military-aircraft-outside-norway-03-01>. Russian planes also buzzed Norwegian planes and approached the border in attack mode. See, for example, Thomas Nilsen, "Mig-31 Uncomfortably Close to Norwegian Orion," *Barents Observer*, May 9, 2012, <http://barentsobserver.com/en/security/mig-31-uncomfortably-close-norwegian-orion>.

Russian nuclear forces stationed in the region, Russian military exercises, and the need for stable and predictable security policies by all parties. In public, though, Norwegian officials downplayed direct Russian threats to their territory. Their private threat assessments, however, focused on Russia.¹²⁴

Norwegian officials worked to improve their military capabilities and bring NATO into this northern area.¹²⁵ They started the acquisition process for new frigates, littoral combat ships, submarines, counter-mine vessels, and icebreakers. They opened a new High North Operations Center, buried a kilometer inside a northern mountain, and hosted annual, large-scale Norwegian-NATO exercises beginning in 2006.¹²⁶ In the words of former Defense Minister Grete Faremo, “It is important to strengthen cooperation with Russia in areas including defense. At the same time, we must allow for the possibility that situations may arise in which we have conflicting interests.”¹²⁷ Norway’s overall defense spending numbers show a mixed trend, however, as displayed in Annex 1. Spending stayed relatively flat in the 2010-2012 period after a brief jump in 2009.

The white paper tried to put a nice gloss on its assessment of Russian and Norwegian corresponding military moves, saying that Norway was in no way trying to provoke a security dilemma with Russia through these actions. The Norwegian catchphrase was “High North—low tension.” Taglines notwithstanding, the 2011 white paper’s declaration that “the armed forces will focus increasingly on their tasks to the north,” was hard to overlook.¹²⁸

Norwegian policy statements took on a more urgent tone in 2014 with a new conservative government in place and Europe still reeling from Russia’s annexation of Crimea. Børge Brende, the new foreign minister, warned that “a new phase in Russia’s relations with the rest of the world

has begun.”¹²⁹ Ine Eriksen Søreide, the new defense minister, echoed those sentiments in early 2015: “We are in a completely new security situation where Russia shows both the ability and the will to use military means to achieve political goals. It demands that we be more watchful of their activities.”¹³⁰ Those concerns were not alleviated a year later, when Søreide remarked, “There is no going back to some sort of normality [with Russia] because it does not exist.”¹³¹

Those concerns remained in 2020 when Norway published *The Defense of Norway: Capabilities and Readiness*, the long-term defense budget program through 2028. “The strategic environment is characterized by rapid change, increased unpredictability, and uncertainty,” said the 2020 report, because of Russian and Chinese rivalry with the United States, and their attacks on the rules-based order, technological change, and hybrid warfare.¹³² Note, though, that Norwegian officials never call Russia a direct military threat to Norway in official documents or in public remarks. To say that, warn Norwegian officials in off-the-record remarks to the author, would be to provoke a Russian attack.

The Norwegians had two broad, complementary responses to these changed circumstances. The first was to increase defense cooperation with allies and like-minded states.¹³³ The second was to improve their own defense capabilities.

Since the 1980s, Norway has focused its defense cooperation efforts first and foremost on the United States. Foreign Minister Brende continued that tradition by identifying the United States as Norway’s most important ally very early in his tenure.¹³⁴ Coordination with the Americans has only grown since then. The Norwegians have hosted a battalion-sized rotational contingent of US Marines and their prepositioned equipment since 2016.¹³⁵ In late 2020,

124 Norwegian military officials in interviews with the author, May 2013.

125 *The High North: Visions and Strategies*, 12-13.

126 Terry Macalister, “US and Russia Stir Up Political Tensions over Arctic,” *Guardian*, July 6, 2011.

127 Macalister, “US and Russia.”

128 *The High North: Visions and Strategies*, 12.

129 Børge Brende, “Foreign Policy Address to the Storting,” March 25, 2014, https://www.regjeringen.no/en/aktuelt/address_storting/id753809/.

130 Gwladys Fouche, “Wary of Russia, Norway Urges NATO Vigilance in Arctic,” Reuters, May 20, 2014, <http://www.reuters.com/article/2014/05/20/us-norway-defence-russia-idUSBREA4J0HE20140520>.

131 Mick Krever, “Norway: ‘We are Faced with a Different Russia,’ ” CNN, February 26, 2015, <http://www.cnn.com/2015/02/25/world/amanpour-norway-in-eriksen-soreide/>.

132 Government of Norway, *The Defense of Norway: Capabilities and Readiness, Long Term Defense Plan 2020*, 8-9, <https://www.regjeringen.no/contentassets/7d48f0e5213d48b9a0b8e100c608bfc/long-term-defence-plan-norway-2020---english-summary.pdf>.

133 Norway’s 2020 long-term defense plan further breaks collaboration into collective defense within NATO and bilateral defense support.

134 Brende, “Foreign Policy Address,” 2014. According to Defense Minister Søreide, the previous Norwegian government had a rocky relationship with the United States. “There was of course one party in the last government which, on principle, made a point of being critical of the United States, regardless.” Ine Eriksen Søreide, “A More Open Defence: A More Sustainable Defence Policy,” New Year Address to the Oslo Military Society, January 6, 2014, <https://www.regjeringen.no/en/aktuelt/a-more-open-defence--a-more-sustainable-/id748832/>.

135 Gina Harkins, “Major Changes Coming to Marines’ Norway Deployments,” *Military.com*, August 7, 2020, <https://www.military.com/daily-news/2020/08/07/major-changes-coming-marines-norway-deployments.html>.

Norway would open a military facility to port calls from US nuclear submarines and airfields to US military aircraft.¹³⁶

Norwegian documents and official speeches repeatedly call NATO vital to Norway's security.¹³⁷ Yet, there were concerns that NATO would not act in a timely manner during a crisis. As Defense Minister Søreide would say, "The decision structure in NATO is working quite slowly if something was to happen. That is something that we need to work."¹³⁸ Norwegian officials have expended considerable effort toward focusing NATO attention on the nation's High North and lessening the chances that some NATO members might object to NATO action there.

Hosting military exercises, particularly 2018's large-scale Trident Juncture, and encouraging allies to show the NATO flag in the Norwegian and Barents Seas appeared to be Norway's short-term strategy to get the alliance more involved in Norway's defense. That said, numerous Norwegian officials have stressed privately that NATO exercises must be predictable and transparent lest they create an incident or unexpected countermove by Russia. Trident Juncture walked that line perfectly from Norway's perspective. "The exercise demonstrated our will and determination to come to each other's aid, should it ever be necessary," said the new defense minister, Frank Bakke-Jensen, and was a signal to friend and foe alike.¹³⁹

In the longer run, Norwegian officials have been careful in the language they use with NATO allies, to draw allies in rather than accentuate an ally's red lines. For example, Norway stopped talking about the "Arctic" with Canadian counterparts, because Canada objects to a larger NATO role in the Canadian Arctic. Instead, Norway talked more about threats to the North Atlantic because that resonated with Canadians.¹⁴⁰ As *The Defense of Norway, 2020*, discussed, Norway emphasized its role in providing the

alliance with situational awareness of Russian naval activity and a venue for the alliance to practice cold weather defense operations.¹⁴¹ The next large-scale exercise, Cold Response 2022, continues Norway's efforts.¹⁴²

Defense cooperation was not limited to the United States or NATO. Norway's 2014 *Arctic Policy* said that "Norway is further developing its military cooperation and ability to cooperate with key allies and Nordic partner countries in the north."¹⁴³ A tangible sign of that was the 2015 Nordic Defense Pact involving Denmark, Finland, Iceland, Norway, and Sweden. It called for information sharing on maritime and airspace activities, joint cyber defense, more frequent Nordic military exercises, the use of each other's airbases in limited circumstances, and the exploration of joint acquisition and air policing. That coordination was not without caveats, at least from Norway's perspective. My private discussions with Norwegian officials in 2013, 2015, and 2018 revealed that Norway did not feel the nation could fully rely on nonaligned Sweden and Finland during a military crisis or conflict. Peacetime coordination was all well and good for improving interoperability and familiarity, but full alliance partners like the United States were Norway's default when it came to protecting Norwegian territory.

Norway's second response to changed international circumstances was to unilaterally rearm. As Annex 1 shows, the Norwegian defense budget had been relatively flat for the first two years of the Solberg government (2014-15) when measured in US dollars. Then-Defense Minister Søreide previewed the government's future plans in a February 2015 speech,¹⁴⁴ calling for improvements in defense responsiveness and sustainability so that the military could defend against attack, build up reserve forces during a conflict, and receive allied support even under fire. The solution, she said, was to increase the defense budget, acquire more modern equipment, and prioritize

136 Paul McLeary, "Norway Expands Key Arctic Port for More US Nuke Sub Visits," *Breaking Defense*, September 3, 2020, <https://breakingdefense.com/2020/09/norway-expands-key-arctic-port-for-more-us-nuke-sub-visits/>.

137 For example, State Secretary Oystein Bo was quoted as saying, "Allied military peacetime activity in Norway and the North Atlantic remains an important part of a credible and robust policy. Therefore, we would definitely like to see a more frequent peacetime presence of allied forces in the High North and in the North Atlantic." Bo is quoted by Dr. Lee Willett in *IHS Jane's Defence Weekly*, June 1, 2016, http://www.janes.com/article/60881/udt-2016-norway-calls-for-revitalised-nato-collective-defence-increased-alliance-presence-in-northern-waters?utm_source=Saithru&utm_medium=email&utm_campaign=New+percent20Campaign&utm_term=percent2ASituation+percent20Report. Also see Oystein Bo, "Speech on Norwegian Security Defense Policy," Poland, September 3, 2015, <https://www.regjeringen.no/en/aktuelt/state-secretary-oystein-bos-speech-on-norwegian-security-and-defense-policy-at-mspo-2015-in-poland/id2438200>.

138 Krever, "Norway: 'We are Faced with a Different Russia.'"

139 Frank Bakke-Jensen, "Norway's Defense Minister: Ensuring Collective Defense and Deterrence in the Northernmost Corner of Europe," *Defense News*, December 9, 2018, <https://www.defensenews.com/outlook/2018/12/10/norways-defense-minister-ensuring-collective-defense-and-deterrence-in-the-northernmost-corner-of-europe/>.

140 Atlantic Council meeting with Norwegian officials, Oslo, November 4, 2019.

141 *The Defense of Norway*, 16.

142 Cold Response 2020 is slated to involve roughly forty thousand NATO soldiers and multiple aircraft and ships operating in northern Norway. Thomas Nilsen, "Norway to Host Biggest Exercise Inside Arctic Circle since Cold War," *Barents Observer*, April 14, 2021, <https://thebarentsobserver.com/en/security/2021/04/norway-host-biggest-exercise-inside-arctic-circle-cold-war>.

143 "Norway's Arctic Policy for 2014 and Beyond – a Summary," Ministry of Foreign Affairs, October 11, 2014, https://www.regjeringen.no/en/dokumenter/report_summary/id2076191/.

144 Ine Eriksen Søreide, "Strengthening and Renewing Our Armed Forces for the Future: Hard Choices and Dilemmas," Address to Oslo Military Society, February 9, 2015, <https://www.regjeringen.no/en/aktuelt/-et-forsterket-og-fornyett-forsvar-for-fremtiden--vanskelige-valg-og-dilemmaer/id2395220/>.



Royal Navy Type 23 frigate HMS Northumberland crosses the Arctic Circle shortly after sunrise north of Iceland while transiting to NATO exercise Trident Juncture 2018. With around 50,000 participants from 31 nations, Trident Juncture 2018 is one of NATO's largest exercises in recent years. Around 250 aircraft, 65 ships and more than 10,000 vehicles are involved in the exercise. PO(Phot) Jim Gibson, Royal Navy Reserve (via NATO Flickr)

operational capabilities and readiness. Specific systems Søreide named included buying more F-35s to replace Norway's fleet of F-16s, new armored combat vehicles, new submarines, and systems for situational awareness of Norway's maritime areas and airspace.

The government proposed a series of defense budget increases beginning in 2016 to flesh out that vision. That first year brought only a modest increase (at least when converted into US dollars), but much more significant increases were forthcoming for 2017, 2018, and 2019 as part of the *Long Term Defense Plan 2017-2020*. The focus of the 2016 budget was to fund six more F-35 aircraft beyond the twenty-two already funded, begin

upgrading the Orland airfield to house the F-35s, increase the Intelligence Service's budget (an agency within the military), and fund more submarine and P-3 Maritime Aircraft patrols.¹⁴⁵ The focus seemed to be on bringing existing capabilities up to a higher standard and asserting presence in Norwegian waters.¹⁴⁶ The 2017 budget increase was more substantial and represented the first year in a new 2017-2020 multiyear defense plan approved by Parliament. The 2017 budget focused on purchasing an additional twelve F-35s and the initial acquisition costs for three Coast Guard vessels as well as improving maintenance and equipment stocks across the military.¹⁴⁷ Shortly after that budget passed, the government further decided to acquire five P-8A Poseidon aircraft to replace Norway's

¹⁴⁵ Government of Norway, "Norwegian Government Proposes Significant Defence Budget Boost," Press Release No. 43/2015, October 8, 2015, <https://www.regjeringen.no/en/aktuelt/betydelig-og-reell-styrking-av-forsvarsbudsjettet/id2456637/>.

¹⁴⁶ Ine Eriksen Søreide, "New Long Term Plan for Armed Forces—A Monumental Political Challenge," January 22, 2016, <https://www.regjeringen.no/en/aktuelt/new-long-term-plan-for-the-armed-forces--a-monumental-political-challenge/id2471559/>.

¹⁴⁷ Government of Norway, "Long Term Defence Plan Adopted," November 18, 2016, <https://www.regjeringen.no/en/topics/defence/ltf/ny-langtidsplan-for-forsvarssektoren/langtidsplanen-for-forsvarssektoren-er-vedtatt/id2520659/>.

six aging P-3 planes.¹⁴⁸ Though the decision did little to bolster Norwegian capabilities in the immediate term, it would significantly increase Norway's long-term situational awareness and ASW capabilities. The 2018 budget carried this trend one step further, funding three Coast Guard vessels, more naval personnel, Army air defenses, creation of a new ranger company in Sør-Varanger, in Finnmark county, and further improvements to Ørland and Evenes air stations, among other items. In addition, the 2018 budget covered Norwegian costs associated with NATO's Trident Juncture exercise.¹⁴⁹

The Defense of Norway: Capabilities and Readiness in 2020 reiterated many of the themes in earlier policy statements. The document emphasized the importance of NATO collective defense as well as bilateral and Nordic defense arrangements for support and reinforcement of Norway during crises and conflicts. Norway advanced the latter goal in two agreements signed that year: the Nordic Agreement Concerning Cooperation in the Defense Material Area, and the Trilateral Statement of Intent with Finland and Sweden (see Annex 2).

The 2020 plan also represented the culmination of the budget trends begun in 2016. The plan advanced a multi-year budget blueprint with a series of improvements to Norway's armed forces.¹⁵⁰ The Army would expand its footprint in Finnmark with Brigade North, comprised of four mechanized battalions (up from two mechanized battalions and a light infantry battalion), each equipped with new tanks, air defense systems, and long-range precision fires. The Finnmark Land Defense headquarters was also formed, with command of the aforementioned Sør-Varanger ranger company, a new cavalry battalion in Porsanger, the border guards along the Russian border, and Finnmark's Home Guard forces.¹⁵¹ The plan calls for the Navy to get more personnel, the delivery of the three aforementioned Coast Guard vessels, unmanned mine countermeasure vessels, and ultimately four new submarines by 2030. The Air Force is to continue acquiring the planned fifty-two F-35 and five P-8A aircraft, along with upgrades to existing area air defenses, a new short-range

air defense system for point protection, and new helicopters. The plan calls for the special forces to get new helicopters and more people. Finally, the long-term budget envisions strengthening the national intelligence service. In total, the 2024 defense budget, compared to the 2020 budget, would be 8.3 billion Norwegian kroner (NOK) more on an annual basis, if realized, and the 2028 budget would be 16.5 billion NOK (US\$1.9 billion given September 2021 conversion rates) higher on an annual basis.

With regard to the Arctic, the Norwegian government published a new *Arctic Policy* in January 2021.¹⁵² The foreign and security chapter reiterated many of the points in the *Defense of Norway* document from 2020 regarding threats, defense cooperation, and unilateral defense capabilities and how Norway must balance deterrence and reassurance of Russia. A few items were noteworthy. The document pointed out that allies are interested in increasing presence in the High North in order to monitor Russian military activities in the region, and that Norway welcomes that interest. Another was the compartmentalization, or lack thereof, of the Arctic from the rest of geopolitics. Back in 2015, then-Foreign Minister Brende broke with past precedent, saying: "The Arctic cannot be viewed in isolation from events elsewhere."¹⁵³ This would become a consistent, if quiet, refrain from Norwegian military officials in the intervening years. The 2021 *Arctic Policy* publicly reiterated that point when it said, "Nor can the possibility be ruled out that increased tensions in other places will affect the situation in the Arctic."¹⁵⁴ That said, the foreign and security chapter in the 2021 *Arctic Policy* is best read as a summary statement of the main points in the 2020 *Defense of Norway* document.

The new government of Prime Minister Jonas Gahr Støre has yet to publish a new Arctic or defense strategy.¹⁵⁵ Early signs, however, suggest that government officials will continue the trends set by their predecessors.¹⁵⁶ The question is whether the Støre government will reopen the debate over budget allocations or stick with the amounts in the current long-term spending plan. Given the continued uncertainty over the effects of COVID-19 on government

148 Government of Norway, "The Norwegian Government Has Decided to Procure Five P-8A Poseidon," December 1, 2016, <https://www.regjeringen.no/en/aktuelt/the-norwegian-government-has-decided-to-procure-five-p-8a-poseidon/id2521783/>.

149 Government of Norway, "Norwegian Government Proposes Significant Boost in Defence Expenditures," October 12, 2017, <https://www.regjeringen.no/en/aktuelt/norwegian-government-proposes-significant-boost-in-defence-expenditures/id2575083/>.

150 *The Defense of Norway: Capabilities and Readiness*, 14.

151 Thomas Nilsen, "Norway Rearms Finnmark for New Security Landscape," *Barents Observer*, April 17, 2019, <https://thebarentsobserver.com/en/security/2019/04/norway-rearms-finnmark-new-security-landscape>.

152 "Norwegian Government's Arctic Policy," Norwegian Government (website), January 26, 2021, https://www.regjeringen.no/en/dokumenter/arctic_policy/id2830120/.

153 Brende Borge, "The Arctic: Important for Norway, Important for the World," *Harvard International Review*, April 16, 2015.

154 Government of Norway, *Arctic Policy: People, Opportunities, and Norwegian Interests in the Arctic*, January 26, 2021, https://www.regjeringen.no/en/dokumenter/arctic_policy/id28301120/#tocNode_16.

155 Prime Minister Støre leads a minority coalition government of his Labor party and the Center Party, formed on October 14, 2021, following the September 13 parliamentary elections.

156 "The Government Platform," Government of Norway, <https://www.regjeringen.no/no/dokumenter/hurdalsplattformen/id2877252/?ch=18>.

spending and commodity prices, it would be no surprise if the Støre government lets sleeping dogs lie.

Swedish Defense Policy

Sweden is an Arctic nation by virtue of the Lapland region in northern Sweden. Sweden has no Arctic coastline. Sweden remains in a formally nonaligned but Western-oriented status internationally. Despite a lack of defense treaties, successive Swedish governments have pledged to come to the aid of EU members or Nordic states suffering from a disaster or attack since late December 2007.¹⁵⁷ Before that, there were apparently secret defense plans and intelligence sharing between Sweden and NATO throughout the Cold War.¹⁵⁸

Sweden's support for the liberal international order, never in doubt, was apparent in the contents of the nation's 2011 Arctic strategy. The strategy prioritized climate research, environmental protection, sustainable development, human security in the region, and multilateral solutions to Arctic challenges. Indeed, a theme running through Swedish foreign policy documents at the time was (and remains) the prioritization of international law and a rules-based order as the foundations of stable international relations. It was no surprise then that the strategy did not mention security concerns in the Arctic. According to Karin Enström, defense minister from 2012 to 2014, Sweden's 2011 Arctic strategy reflected the intent of the military to keep the Arctic a low-tension area with cooperation centered around nonmilitary issues.¹⁵⁹

International crises from late 2012 into the spring of 2014 brought security debates front and center within the Swedish defense establishment. The period began with the chief of defense announcing that the Swedish military could only defend the country militarily for a week, even in the case of a limited attack.¹⁶⁰ In April 2013, Russia conducted a mock nuclear bomber attack against Swedish territory and the Swedish Air Force failed to launch interceptor aircraft because it took place on the Good Friday holiday, creating a political firestorm in Stockholm.¹⁶¹ That was followed in succession by the Russian occupation of Crimea and an alleged October 2014 submarine intrusion into the waters near Stockholm. Some in the Swedish defense establishment worried that these incidents, and



Sweden. (Shutterstock/Rainer Lesniewski)

Sweden's lack of preparation, meant that they had no ability to prevent Russia from occupying Gotland and Finland's

¹⁵⁷ This language was first incorporated into the December 2007 Swedish Defense Commission report, language that was then included in corresponding 2009 legislation. Interview with former Defense Minister Karin Enström, Stockholm, December 10, 2015.

¹⁵⁸ Mikael Holmström, *The Hidden Alliance: Sweden's Secret Ties to NATO* (Atlantis, 2011).

¹⁵⁹ Interview with MP Karin Enström, Stockholm, December 10, 2015.

¹⁶⁰ For a discussion, see Justyna Gotkowska, "Swedish Security in Crisis," *Osrodek Studiów Wschodnich* (the Center for Eastern Studies is a Warsaw-based think tank), February 13, 2013.

¹⁶¹ Gerard O'Dwyer, "Russian 'Attack' Raises Questions Over Sweden's Readiness," *Defense News*, May 2, 2013.

demilitarized Åland Islands, effectively giving the Russians military control over much of the Baltic Sea.¹⁶²

This combination of events caused Sweden's defense establishment to rethink the nation's defense posture. Beginning in 2016 and continuing into 2018, the military produced a series of reports to set the defense agenda in preparation for the next five-year, parliamentary defense agreement.¹⁶³ The reports covered international defense cooperation, personnel, logistics, research and development, and procurement.¹⁶⁴ The themes running through these reports were that Sweden had underinvested in defense and that the focus should be on the Baltic Sea region.¹⁶⁵ For example, the personnel report recommended that Sweden increase conscription and create a more robust military reserve system if the military is meant to defend Swedish territory.¹⁶⁶ The research and development report recommended that military R&D funding increase by 200 to 300 million Swedish kronor (SEK), or US\$21 to US\$32 million.¹⁶⁷ The procurement report detailed capabilities and budgetary shortcomings that had to be addressed if Sweden was to maintain the ability to defend itself for more than a few days. The report proposed a massive infusion of money (168 billion SEK, or US\$17.9 billion) into the defense budget over the 2021-2030 period.¹⁶⁸

At the time of these reports, Sweden was led by Prime Minister Stefan Löfven of the Social Democratic Party.

Löfven headed a left-leaning minority coalition government comprised of the Social Democrats and the Green Party.¹⁶⁹ His coalition was not willing to spend those large amounts. Instead, Defense Minister Peter Hultqvist publicly committed to increasing defense spending by a more modest amount in early 2016, and to deepening military ties with Finland so that the two countries “will have the possibility to act together in case of crisis or war.”¹⁷⁰ By mid-April of 2017, the governing coalition increased the defense budget by 500 million SEK (US\$53.3 million). The focus was on improving the readiness of territorial defense units and acquiring air defense assets for Gotland Island off the southeastern coast.¹⁷¹ By late August 2017, the governing coalition negotiated a parliamentary agreement to increase defense by an additional 2.3 billion SEK (US\$312 million) and civil defense by an extra 400 million SEK (US\$46 million).¹⁷² The intent was to improve army capabilities and readiness, with significant focus again being given to Gotland.¹⁷³ For example, the most significant investment in new equipment to that point was the purchase of Patriot air defense batteries.¹⁷⁴

Sweden published its first *National Security Strategy* in early 2017 during these budget deliberations.¹⁷⁵ The strategy was motivated by Russia's threat to Sweden and the fact that “Sweden is more dependent on the outside world than ever before.”¹⁷⁶ According to the strategy, “Russia has breached key parts of the European security order,” and “is

- 162 Interviews with Swedish defense officials, Stockholm, 2015 and 2018. Concerns increased in 2016 when Russia's Gazprom tried to lease Gotland harbor space to facilitate Nord Stream 2 construction.
- 163 Parliamentary defense agreements set the defense budget and provide broad guidelines for military policy for a five-year period. They are crafted to maximize cross-party, parliamentary support, giving future government coalitions little incentive to change them midstream. Interviews with Defense Commission staff, Stockholm, June 2018.
- 164 Col. Oscar Hull (chief of staff in the Policy and Plans Department, Joint Military Headquarters, Stockholm), in discussion with the author, June 8, 2018.
- 165 Off-the-record interview with a senior Swedish defense official, Stockholm, late 2015; and Tommy Akesson (principal secretary of the Swedish Defense Commission), in discussion with the author in Stockholm, April 10, 2018.
- 166 Swedish Ministry of Defense, “Official Report of the 2015 Commission Inquiry on the Manning System of the Military Workforces,” Press Release, September 28, 2016, <https://www.government.se/press-releases/2016/09/the-2015-commission-inquiry-on-the-manning-system-of-the-military-workforces-presents-the-official-report/>.
- 167 Government Offices of Sweden, “Research and Development in Areas of Defense Needs to be Strengthened Says Inquiry,” February 17, 2017. Conversion as of February 20, 2022.
- 168 See “Inquiry on Swedish Armed Forces' Long-term Equipment Needs Presented,” Ministry of Defense, Press Release, February 20, 2018, <https://www.government.se/press-releases/2018/02/inquiry-on-swedish-armed-forces-long-term-equipment-needs-presented/>, and “Summary (of the Inquiry Report),” Swedish Commission, Ministry of Defense, 2018, <https://www.government.se/492373/globalassets/government/dokument/forsvarsdepartementet/2018/summary-sou-7-2018.pdf>. Conversion as of February 25, 2022.
- 169 Kjell Stefan Löfven served his first term as prime minister from 2014 through January 2019, with the last three months in a caretaker capacity. He then began a second term that lasted until the government lost a confidence vote on June 28, 2021.
- 170 Government Offices of Sweden, “Speech by Defense Minister Peter Hultqvist at the Unveiling of the First Gripen E Test Aircraft,” May 18, 2016 <https://www.government.se/speeches/2016/05/speech-by-defence-minister-peter-hultqvist-at-the-unveiling-of-the-first-gripen-e-test-aircraft/>.
- 171 Government Offices of Sweden, “Total Defence Receives SEK 500 Million in Additional Funding,” April 18, 2017, <https://www.government.se/articles/2017/04/total-defence-receives-sek-500-million-in-additional-funding/>.
- 172 Government Offices of Sweden, “Agreement Strengthens the Defence by 2.7 Billion per Year,” Press Release, August 16, 2017, <http://www.government.se/press-releases/2017/08/defence-agreement-strengthens-the-defence-by-2.7-billion-per-year/>. Conversion as of February 25, 2022.
- 173 Government Offices of Sweden, “Budget 2018: Increased Military Capabilities and Enhanced Total Defence,” Press Release, September 20, 2017, <https://www.government.se/press-releases/2017/09/budget-2018-increased-military-capabilities-and-enhanced-total-defence/>.
- 174 Government Office of Sweden, “Agreement Strengthens the Defence by 2.7 Billion per Year.”
- 175 The strategy's main themes were reiterated in the government's 2018 statement of foreign policy priorities. See “The Government's Statement of Foreign Policy 2018,” Ministry of Foreign Affairs, Press Release, February 14, 2018, <https://www.government.se/speeches/2018/02/the-governments-statement-of-foreign-policy-2018/>.
- 176 Swedish Prime Minister's Office, *National Security Strategy*, January 2017, 5.

now openly questioning this order.” The strategy continued, “As a result of Russia’s actions, the security situation in our neighborhood has deteriorated over time.” More specifically, the strategy identified the Baltic Sea region as “one of the primary points of friction between Russia and NATO.”¹⁷⁷

As the defense minister had already previewed, the strategy highlighted security cooperation with regional partners, both because Sweden did not have the unilateral capabilities to defend itself and in their view, “it is inconceivable that military conflicts in our region would affect only one country.”¹⁷⁸ The strategy highlighted close defense coordination with Finland, but also mentioned Sweden’s growing defense relationships with Denmark, Norway, Poland, the UK, Germany, and the United States.¹⁷⁹ The strategy called for unilateral improvements in Swedish military capabilities and, in an oblique nod to the important role of Saab as the main supplier of Swedish defense material, made special mention of needing homegrown aircraft and submarine capabilities.¹⁸⁰

The sense of palpable urgency in the 2017 security strategy regarding Russia’s threat to the Baltic Sea region in general, and Swedish territory in particular, did not translate into the Arctic. For example, in a February 2017 speech at the Munich Security Conference, Defense Minister Hultqvist catalogued Russia’s increased military presence in the Arctic in some detail. His response, however, was limited to regular military exercises with partner nations and coordinating conferences and forums. In his words, “To some extent there is a necessity for Arctic nations to cooperate on a military level to discuss the strategic situation and, in addition, to cooperate with coast guards and civilian maritime agencies in search and rescue operations.”¹⁸¹ More forward-leaning defense activities and planning were missing from his statement.

Following the security strategy’s release, the military again pushed for significant increases in the defense budget, with the intent to double the number of Army brigades, more than double the overall size of the military,

and continue to modernize Sweden’s Air Force and Navy.¹⁸² The problem for the military, however, was that the parliamentary elections in the summer of 2018 derailed the political urgency for additional defense spending. In the words of one Defense Ministry official, “no one wins elections on defense issues,” and the uncertainty as to who would run the next government led to inertia.¹⁸³ In November 2018 remarks in Washington, the Swedish chief of defense, Air Force General Micael Bydén, shared his frustration with stagnant budgets. While noting modest increases in the defense budget, he argued that the military still needed a significantly larger infusion of cash to increase military capabilities, fund Total Defense preparations across society, and broaden international partnerships.¹⁸⁴ Other senior military officers shared his concerns.¹⁸⁵

The 2019 Swedish Defense Commission report, aimed at setting the ground work for the 2021-2025 parliamentary defense agreement (including the five-year budget), echoed the military’s demands. The commission recommended that the Army expand to at least four brigades, create two Arctic ranger battalions, and acquire better air defenses, upgraded vehicles, tanks, and artillery. The commission also recommended that an Army brigade should be prepared to operate in Finland during a crisis. Regarding the Navy, the commission recommended it upgrade its air defense and ground- and sea-based anti-ship missiles, acquire three additional submarines, improve anti-submarine capabilities with upgraded helicopters, data links, and torpedoes, and improve mine-laying capabilities. The Air Force, it said, should integrate new Gripen fighter planes into Sweden’s six fighter squadrons, and improve air- and ground-based sensors. These new capabilities and increased training would cost an additional 5 billion SEK (US\$578 million) annually.

The Defense Ministry seemed to take these recommendations to heart, at least when it came to territorial defense needs. Defense spending took a real jump in the 2020 budget as measured in US dollars, as shown in Annex 1. The other noteworthy trend was the increasingly close

177 Swedish Prime Minister’s Office, *National Security Strategy*, 2017, 12.

178 Swedish Prime Minister’s Office, *National Security Strategy*, 2017, 6, 17.

179 Swedish Prime Minister’s Office, *National Security Strategy*, 2017, 12-13. That said, the strategy was careful to reiterate Sweden’s nonaligned status, and repeated the aforementioned assertion that Sweden would aid other Nordic or EU states if those states were attacked.

180 Swedish Prime Minister’s Office, *National Security Strategy*, 2017, 18.

181 “Speech by the Swedish Minister for Defence Peter Hultqvist at the Munich Security Conference 2017 on Arctic Security,” Government of Sweden (website), February 18, 2017, <http://www.government.se/speeches/2017/02/speech-by-the-swedish-minister-for-defence-peter-hultqvist-----at-the-munich-security-conference-2017-on-arctic-security/>.

182 Gerard O’Dwyer, “New Swedish Government Advocates for Greater Defense Spending,” *Defense News*, September 12, 2018, <https://www.defensenews.com/global/europe/2018/09/12/new-swedish-government-advocates-for-greater-defense-spending/>.

183 Interview with Swedish Defense official, Stockholm, May 2019.

184 Remarks by General Micael Bydén, Washington, November 15, 2018.

185 Helen Warrell and Richard Milne, “Swedish Navy Chief Says Military Cutbacks ‘Wrong Decision,’” *Financial Times*, December 20, 2020, <https://www.ft.com/content/40220d72-a0b1-4254-ab82-9e09104bc774?desktop=true&segmentId=7c8f09b9-9b61-4fbb-9430-9208a9e233c8#myft.notification:daily-email:content>.

defense coordination between Sweden and Finland. As Defense Minister Hultqvist said in early 2021, “It covers operational planning in peacetime, crisis, and wartime situations. This is a historic new normal between our relations. Interoperability between our armed forces is improving day by day.” Anders Persson, the deputy chief of Sweden’s Air Force, went so far as to say that the Swedish-Finnish air forces “would be as one, but with two commanders.”¹⁸⁶

To this point, Sweden’s military focus had been on territorial defense and the Baltic Sea. They finally addressed Arctic security policy in their 2021 *Arctic Strategy*. The security chapter began by reiterating Sweden’s desire to preserve Arctic peace, stability, and international cooperation, and defined the threat as “attempts to exert influence in and destabilize the region.”¹⁸⁷ The former is a nod to China while the latter is aimed at Russia.¹⁸⁸ Tensions in the region may rise, noted the strategy, as a biproduct of great power competition, and that could create “a risk of an arms race and incidents.”¹⁸⁹

The strategy spoke of the need to revisit Swedish security policy in the Arctic: “Swedish strategic thinking has taken far too little account of security policy and military developments in the Arctic and how they can affect Sweden.”¹⁹⁰ The country needed usable military capabilities in northern Sweden and deepening defense cooperation in the European Arctic and North Atlantic. The strategy went on to specifically mention the need for Swedish ISR capabilities to detect malign influence attempts in the region.¹⁹¹ That was, however, the extent of the strategy’s security discussion.

The Arctic strategy and the defense improvements that preceded it suggest that for Sweden, Arctic security concerns are focused on Lapland for ground forces, and the broader Scandinavian airspace when it comes to air defense. Sweden has expressed no public interest in taking a larger role in Arctic security discussions regarding North America, the North Atlantic, or the high Arctic. This should come as no surprise given the nation’s more immediate security concerns in the Nordic-Baltic region, the focus of its recent policy documents.

186 Both officials are quoted in Pekka Vanttinen’s article, “Sweden Envisions Common Military Cooperation with Finland,” *EURACTIV.com*, February 18, 2021, https://www.euractiv.com/section/politics/short_news/sweden-envisions-common-military-cooperation-with-finland/?mc_cid=980db5c327&mc_eid=b2724009c8.

187 Foreign Ministry, *Sweden’s Strategy for the Arctic Region*, 2021, 21.

188 Foreign Ministry, *Sweden’s Strategy for the Arctic Region*, 23.

189 Foreign Ministry, *Sweden’s Strategy for the Arctic Region*, 23.

190 Foreign Ministry, *Sweden’s Strategy for the Arctic Region*, 24.

191 Foreign Ministry, *Sweden’s Strategy for the Arctic Region*, 25.

III. POINTS OF CONGRUENCE AND POINTS OF FRICTION

Before discussing points of congruence and points of friction across defense policies, it may be useful to summarize each country's defense policies and capabilities. Canada has had relatively consistent Arctic policies over the last decade. Canada has not followed through on early big promises; its defense budget has been relatively flat, and improvements to its military capabilities in the Arctic have only been modest. There are ongoing talks with the United States on NORAD modernization but no resolution on whether to link the NWS to US missile defenses or on how much each country is willing to spend on NWS upgrades. The largest changes to Canadian policy have been in tone, with the Trudeau government emphasizing Arctic sovereignty less often and less vocally than did the Harper government, and seemingly being more open to multilateral cooperation on non-security issues. Canada remains opposed to a NATO role in the North American Arctic.

Denmark transitioned from out-of-area operations to Baltic states' security to a late emphasis on Arctic security in the North Atlantic and around Greenland. The one constant has been that Denmark's actions are consistent with NATO priorities. In terms of budgets and capabilities, Denmark went through a period of low budgets and limited capabilities to an urgent focus on developing capabilities useful for deterring or fighting a Baltic conflict. Most recently, Denmark has also prioritized capabilities that enhance its presence and domain awareness in the North Atlantic and the Arctic.

Finland has had a consistent focus on Baltic Sea security and territorial defense. The nation maintains a pragmatic relationship with Russia given their long common border, and Finland has deepened and expanded its defense cooperation with Sweden, the Nordic countries writ large, the EU, and the United States. Finland's defense budgets have



An Air National Guard HH-60G Pave Hawk participates in combat search and rescue training during Noble Defender in Alaska, Jan. 21, 2021. The exercise is a North American Air Defense Command Arctic air defense operation. Photo by Air Force Senior Airman Kelly Willett (via defense.gov)

been relatively steady over time, largely because the Finns never enjoyed a post-Cold War peace dividend. Finnish officials will need to come up with relatively large amounts of money to fund two big-ticket naval and air force acquisition programs.

Norway has given Arctic security concerns more attention than any other nation in this study. Oslo's early focus on economic and environmental challenges has given way to military security concerns since 2014, if not before. Norway has prioritized its defense relationship with the United States and NATO, and has devoted significant resources to renewing its military capabilities, especially since 2017.

Sweden has historically prioritized international law and downplayed Arctic security concerns. The focus has instead been on Baltic Sea security and Russia's threat to the international order and Sweden's security. Officials have responded to those challenges with closer defense coordination with Finland, the United States, and to a lesser extent Norway and Denmark. Swedish defense spending stayed relatively low until 2017, much to the frustration of the military, and was almost nonexistent regarding the Arctic until recently.

Areas of Congruence

This summary and the more detailed information presented earlier suggest several areas of natural policy congruence among democratic Arctic nations. All of these states agree that the Arctic Council and its working groups do extremely good work and have produced results to improve understanding between Arctic states and so-called soft security across the region. There also is agreement that Chinese investment and economic penetration in the region, to say nothing of less overt influence attempts, do not pose a military security threat yet but must be carefully monitored.

There is widespread, though not universal, agreement that Russia poses a military security threat to the Nordic states, especially among each country's military establishment. That threat may not manifest in a direct, purposeful attack on any Arctic state or its Arctic assets. Instead, the consensus seems to be that a conflict with Russia could spill over into the Arctic from a Baltic Sea crisis, an accident or incident in the Barents or Norwegian Seas, or an escalatory move arising from a conflict somewhere else such as the war in Ukraine. There is agreement that any such conflict

might only affect parts of the Arctic (i.e., portions of the transit route known as the GIUK Gap,¹⁹² or the Norwegian Sea, or the Kola Peninsula) rather than the whole of Arctic territory and maritime area. Finally, and perhaps most importantly, no country in this study believes it can deter or survive a military confrontation by acting alone. Finland is perhaps the state that comes closest to self-reliance, but even Finnish leaders have been open to defense collaboration. Other states have embraced shared defense, whether it be via NATO, the EU, or bilateral or mini-multi-lateral means.

Areas of Difference

That is not to say that these states agree on everything. They do not. They differ in their characterization of the security threat from Russia.¹⁹³ Canada, Norway, and Finland each argue that Russia does not pose a direct military threat to their country (though they are prepared should that occur). Elements within Denmark's defense establishment, if not its intelligence service, worry about possible conflict in the Baltic Sea region if NATO shows signs of disunity or Moscow sees the need to send a clear signal, but not necessarily about an attack against Denmark or its associated territories in Greenland and the Faroe Islands.¹⁹⁴ Sweden is very concerned about the Russian military threat along Sweden's southwest coastline and to Gotland Island.

The priority each nation places on Baltic Sea security versus Arctic security varies. The late Tip O'Neill, speaker of the US House of Representatives from 1977 to 1987, was famous for saying, "All politics is local." With regard to Arctic defense policy, perhaps all security is local. The Finns, Swedes, and Danes have prioritized Baltic Sea security because that is where their interests are most at stake. Norway has prioritized Arctic security, particularly in its maritime and air domains, because the nation relies so heavily on those domains not only for commerce but for economic and political viability as well.

These countries have differed on the pace and scope of their military acquisition programs. States make decisions regarding how much effort to devote to national defense based on threat perceptions, risk tolerance, values, national industrial policy, and competing demands for national treasure. For example, for domestic economic and political reasons, Swedish officials are under tremendous

192 The Greenland-Iceland-United Kingdom (GIUK) Gap is a strategic transit route. See "The GIUK Gap's Strategic Significance," *Strategic Comments* 25, no. 8 (2019): i-iii, DOI: 10.1080/13567888.2019.1684626.

193 Please note that this paper was written before the Russian invasion of Ukraine and these security assessments may be changing rapidly.

194 The Danish Defense Intelligence Service assessment for 2020 says: "Russia will highly likely refrain from military initiatives against the Baltic countries or other countries in the Baltic Sea region if, in Russia's view, such initiatives would carry a high risk of a direct military conflict with a unified NATO . . . However, Russia would ultimately be ready to disregard set rules if Russia deems that it is important to send a concrete and clear strategic signal to an individual NATO country or to the Alliance as a whole [emphasis added]."

pressure to buy equipment manufactured by Saab. Other countries might choose American or European products to bolster their defense ties to the United States or major EU countries. Coordination on defense planning or acquisition policies, something that could lead to economies of scale and increased interoperability, is made more difficult when potential partners have different preferences on acquisition priorities. That could explain why Nordic countries have been relatively unsuccessful at cross-national acquisition programs to this point.

The European Defense Agency (EDA) recently released a report that highlights the difficulties with multinational defense acquisition in the European context.¹⁹⁵ The EDA report noted that overall defense expenditures grew from 2014 to 2020 across EU states, as did defense investments in research, development, and defense acquisition. Those increases have not translated into an increase in collaborative acquisition programs, however. EDA data show that since 2016, after a brief increase in 2014-15, “the share allocated to European collaborative equipment procurement has been decreasing continuously, reaching a new lowest level in 2020.”¹⁹⁶ Trends in collaborative defense research and development are even worse, with collaborative projects falling to very low levels from their high in 2008.¹⁹⁷ So while collaborative acquisition holds great promise, implementing it on a large scale has been difficult. Unilateral decisions are still the norm.

These countries also differ in their approach to international institutions. Sweden and particularly Finland have

prioritized an EU role in the Arctic on the political, economic, and even military fronts. Other countries, like Norway and Denmark, prioritized the role of NATO in their defense policies, which makes sense given their local circumstances. Canada supports a strong NATO role in the European High North but objects to a NATO role in the North American Arctic. Canada instead prioritizes the role of NORAD as the more appropriate entity to handle defense of the North American continent. Negotiations over Arctic defense policy get complicated when countries advocate for a principal role for their favored institution and others disagree.

Finally, there is the question of intelligence sharing. All countries in this study have publicly committed to greater intelligence sharing. That said, Sweden and Finland’s non-aligned status puts a limit on how much sensitive information NATO members can share with them. The United States, for example, releases information to foreign partners differently depending on their status. A broad, unnuanced description might be that the most sensitive US information is not shared with other nations. Extremely sensitive US information is only released to the other countries in the so-called Five Eyes group (Canada, the UK, Australia, and New Zealand). Other information, perhaps not quite as sensitive, is released to NATO allies, and still other information is released to partner nations. Other countries have their own systems, of course, but unrestricted information sharing with nonallied countries is a nonstarter in many cases. The broader point is that differing intelligence pictures can lead to different policy prioritization, which can impede defense coordination.

¹⁹⁵ European Defense Agency, “Defense Data 2019-2020: Key Findings and Analysis,” 2021, <http://www.eda.europa.eu>.

¹⁹⁶ EDA, “Defense Data,” 8.

¹⁹⁷ EDA, “Defense Data,” 12.

IV. ARCTIC DOMAIN AWARENESS

The transatlantic community should be concerned about several troubling scenarios that could escalate into armed conflict in the Arctic. The first and most obvious scenario is of a Russia-NATO conflict in the Baltic Sea or Black Sea regions spilling into the Arctic. Russian military aggression against the Baltic states or against NATO forces near Ukraine would involve or could potentially involve elements of the Russian Northern Fleet, based in Severomorsk, which would immediately expand the conflict into the Arctic. Even if Russian naval assets did not immediately attack, NATO forces would have to act as if Northern Fleet elements were potentially hostile forces, meaning that NATO might launch precautionary attacks against them following a Russian incursion. In either instance, there would be significant risk of horizontal escalation into the Arctic. Having a detailed picture of Russian actions and movements would be crucial in this scenario.

A second scenario involves a misunderstanding or accident during military exercises or training. Russian forces are famous for launching mock attacks against Western military assets and for operating without activating their location transponders. They have launched mock attacks against the Vardo radar facility in Norway, Gotland Island in Sweden, Bornholm Island in Denmark, and against NATO ships and aircraft in other locales. Any one of these incidents could have escalated out of control had Western forces reacted differently or had Russian forces attacked without orders. Having better domain awareness would give Western forces better warning of Russian military movements and insight as to whether specific incidents were part of a larger military campaign.

A third scenario involves a dispute over mineral extraction or commercial fishing in Arctic waters escalating out of control. Russia and Norway disagree on whether Norway has sole jurisdiction over the waters and seabed around the Svalbard archipelago. Conflict could arise should Russia back up its claims with force. Or consider that nine countries plus the EU have agreed to a fishing moratorium

for the central Arctic ocean. Conflict could erupt should a large state-authorized fishing operation be caught harvesting in those waters. Appropriate domain awareness could give Western Arctic states warning of initial violations and potentially escalatory behavior in either maritime crisis.

Each scenario points to the need for robust air and maritime domain awareness in the Arctic. The most likely attack vectors are via air or sea. Scenarios involving overland aggression are much less plausible (though still of concern to the Finnish and Norwegian armies). That begs the question of the degree to which Arctic states possess the domain awareness capabilities needed to anticipate each scenario.

It is possible to piece together an admittedly imprecise picture of domain awareness inventories by examining each country's Arctic strategy and major acquisition programs.¹⁹⁸ The Canadians operate elements of the NWS air defense radars and the Radarsat constellation of polar satellites; have acquired Arctic offshore patrol vessels; hope to link their CP-140 Aurora maritime surveillance aircraft with their handful of RQ-21A Blackjack UAVs, perhaps through the integrated remote sensing for the Arctic (IRSA) project of IRSA Development Group (IDG);¹⁹⁹ and may acquire MQ-9 Reapers and/or Israeli Heron UAVs sometime in the future.²⁰⁰ The Danes possess eight AS-550 surveillance helicopters, nine MH-60 helicopters for ASW missions, and newly acquired F-35s, in addition to their First Squadron ships in the North Atlantic.²⁰¹ Finland relies on a variety of helicopters and short-range air defense units for border surveillance, a handful of converted civilian aircraft for ISR and electronic surveillance missions, and legacy F/A-18 Hornets. Norway operates four polar orbit satellites, and has six P-3 Orion maritime patrol aircraft, soon to be replaced by five P-8 Poseidon aircraft, as well as eight ASW helicopters, and a large number of coastal patrol boats, in addition to a growing number of F-35 aircraft. Sweden operates a small number of RQ-7 Shadow UAVs, different types of rotary-wing helicopters, and large numbers of

198 Demetrios Marinides contributed greatly to the gathering of this information. A primary source was the International Institute for Strategic Studies' *Military Balance*, February 24, 2021.

199 Integrated remote sensing for the Arctic (IRSA) is a dual-use system of systems for remote data acquisition, analytics, communications, and navigation purposes. See IRSA Development Group (IDG), <https://www.idg.network/index.html#about>.

200 See David Pugliese, "Heron and MQ-9 Drones Approved for Canadian Military Program," *Ottawa Citizen*, October 17, 2019, <https://ottawacitizen.com/news/national/defence-watch/heron-and-mq-9-drones-approved-for-canadian-military-program>; Branka Marijan, "Armed Drones on the Canadian Military Horizon," Project Ploughshares, Autumn 2020, https://ploughshares.ca/pl_publications/armed-drones-on-the-canadian-military-horizon/; and Tong Ong, "Canadian Military to Acquire Armed Drones Worth Up to \$5 Billion," *Defense Post*, May 6, 2021, <https://www.thedefensepost.com/2021/05/06/canada-to-acquire-armed-drones/>.

201 See "Denmark," EFAD, <https://www.efadrones.org/countries/denmark/>; "Alliance Ground Surveillance," NATO, February 23, 2021, https://www.nato.int/cps/en/natolive/topics_48892.htm#:~:text=Overview,Slovenia percent20and percent20the percent20United percent20States; and Dominika Kunertova, "Military Drones in Europe," Center for War Studies, Spring/Summer 2019, https://www.sdu.dk/-/media/cws/files/cws_military_drones_in_europe_report.pdf.

Gripen fighter planes with ISR capabilities; the nation also has a handful of converted civilian jets repurposed for ISR missions.

As this brief summary suggests, there seems to be no standard domain awareness package across Arctic countries. These nations are making do with what they have and can afford. Privately, officials from each of these countries admit that they lack comprehensive domain awareness capabilities; however, they will almost immediately point out that the Arctic confronts them with significant infrastructure, logistical, and command, control, communications, intelligence, surveillance, and reconnaissance (C3ISR) challenges.

Consider that the Arctic Ocean covers 15.5 million square kilometers, or roughly 6 million square miles, not including land above the Arctic Circle.²⁰² Factoring in land above the Arctic Circle yields a combined area about 2.5 times that of the continental United States. That is a lot of area to monitor. Most Arctic land territory is unpopulated or only sparsely populated. The exceptions are in the Nordic countries and northwestern Russia. Most of Greenland, northern Canada, and Alaska outside the Anchorage-Fairbanks corridor have few settlements, and those that exist were never connected to national or regional power, transportation, and telecommunications grids. Port facilities outside of the Norwegian, Barents, and Kara Seas are few and far between, particularly in the Greenland, Labrador, Beaufort, Chukchi, and Bering Seas. The combination of few people, fewer settlements, no large ports, and poor infrastructure means that Arctic activity could easily go unobserved or if observed, not be reported to national authorities in a timely manner. It also means that operating in the Arctic requires traversing long distances with little supporting infrastructure.

Long distances, in and of themselves, are not insurmountable challenges. After all, ships cross oceans and planes fly between continents on a daily basis. Yet Arctic travel, and Arctic military operations in general, are complicated by several other challenges. The lack of ground-based infrastructure means few radio or telecommunications towers, and perhaps none along large swaths of the coast in Greenland and North America. Thus, radio and cellular transmission is problematic when communicating over long distances or in difficult weather conditions. High frequency radio is a possible solution but suffers from bandwidth limitations. That lack of ground infrastructure also translates into few airfields with runways capable of

supporting military aircraft, as well as a lack of deep-water Arctic ports for naval vessels.²⁰³

Geosynchronous, and particularly geostationary, satellites do not cover areas above 70° north latitude.²⁰⁴ That means that most global positioning systems and satellite-based communications either get no coverage or only spotty coverage. Sun-synchronous or Molniya-Oblique polar orbits can provide episodic coverage, but continuous coverage requires a large constellation of satellites, and even then, there may be bandwidth issues.²⁰⁵

Finally, there is the weather and long periods of darkness to contend with. Poor weather and subzero temperatures are hard on equipment. Temperatures of -20°, -30°, or -40°F impose fundamentally different maintenance requirements to keep machines lubricated, fuel from freezing, and batteries from dying, to say nothing of the difficulties associated with fixing broken equipment in the field. Logistics are more challenging at extremely low temperatures too. If the equipment requires fuel, for example, that can often only be delivered in relatively small amounts by plane or in larger volumes by resupply boat in the summer months. Poor weather, frigid temperatures, and winter darkness are hard on people as well. Manned facilities and the movement of people and equipment are logistically challenging and risky in very cold weather. Search and rescue operations are challenging in the extreme. In short, the Arctic is a dangerous place to operate in during the best of times. Arctic operations in the winter and especially during a conflict would be even harder.

These are not insurmountable challenges. Indeed, countries have viable ways to increase Arctic domain awareness. None are mutually exclusive and all could complement one another. Yet, each has different resource requirements, strengths, and weaknesses. A country with limited capabilities or limited financial resources will have to decide which makes the most sense given its circumstances.

Increase Manned Contingents

Arctic nations could increase the number of forces stationed in the Arctic and their inventory of Arctic-capable equipment. With enough personnel and equipment, the Arctic could be like any other theater of operations when it comes to domain awareness. Developing Arctic-specific forces and military units would signal allies and adversaries of the

202 "Volumes of the World's Oceans," National Centers for Environmental Information, US National Oceanic and Atmospheric Organization, https://ngdc.noaa.gov/mgg/global/etopo1_ocean_volumes.html.

203 The Biden administration's recently passed infrastructure bill will earmark US\$250 million to create a deep-water port and jetty in Nome, Alaska.

204 Arctic Council, *Telecommunications Infrastructure in the Arctic: A Circumpolar Assessment*, Arctic Council Secretariat, April 28, 2017, <https://oaarchive.arctic-council.org/bitstream/handle/11374/1924/2017-04-28-ACSTelecomsREPORTWEB-2.pdf?sequence=1>.

205 Sun synchronous orbits are high velocity, low altitude orbits that travel from pole to pole in a roughly circular path. Molniya-Oblique orbits are highly elliptical orbits involving a high velocity, low altitude pass at one pole and a relatively low velocity, high altitude pass over the other pole.

nation's seriousness of purpose in the region. This option also keeps humans in the immediate decision loop rather than relying on autonomous systems or the potential lag between a remote signal and the decision to gather more data, withdraw from the area, or perhaps take kinetic action.

This option is particularly difficult, however, for the United States, Canada, and Denmark, each of which has vast territory above the Arctic Circle. Norway and Finland, and to a lesser extent Sweden, already have military forces stationed in their relatively small Arctic territories. For example, the Norwegian Border Guards already monitor Norway's shared border with Russia and their Brigade North is geared for Arctic operations. The same holds true with Finland.

As suggested above, this option is not without its shortcomings. It requires a significant investment in equipment and people, both of which may be too costly given where the Arctic stands in a nation's foreign policy priorities. Arctic personnel require specialized training to survive and successfully operate in a region with severe, very cold weather. Those challenges extend to resupply, which is difficult in winter but must be done if we are talking about significant numbers of people or extended periods of service. Then there is the psychological toll of cold, darkness, and isolation during winter months. Finally, there are limitations on human cognition and psychological limitations when faced with extended surveillance missions with a low likelihood of adversarial activity at any given moment.

For equipment, it is expensive to design and produce manned equipment specifically made for Arctic operations, which is a problem if a country has more pressing defense responsibilities in other parts of the world. The US Navy, for example, refuses to build surface ships with light ice-breaking capabilities because naval priorities are centered on the North Atlantic, the western Pacific, the waters near the Middle East, and the Mediterranean Sea. Finally, Arctic equipment tends not to be very versatile and performs less well than warm-weather systems when outside of very cold environments. Icebreakers, for example, are not efficient in other climates, being less fuel-efficient and stable than warm weather frigates when used in lower latitudes. For all these reasons, there is every reason to believe that Arctic domain awareness will increasingly depend on unmanned systems rather than sending people out into the elements.

Unmanned Stationary Sensors

An alternative to a country's manned presence is to use unmanned stationary sensors on land, undersea, and in surface buoys. Stationary sensors can monitor specific locales, shipping routes, and aerial approaches. Land-based air and missile defense radars and submarine

detection sensors anchored to the ocean floor are two examples of stationary sensors. Unmanned sensors can be programmed to record and/or send information, or take specific actions, when triggered by movement, electromagnetic or acoustical signatures, or by other criteria. Stationary sensors can withstand harsher environments than can people, with little or no need for resupply for extended periods of time. They can be placed in hostile environments such as extreme cold, deep underwater, and in remote locations. They also are relatively inexpensive compared to manned systems.

That said, stationary sensor systems are not a perfect solution in and of themselves. Perhaps most importantly, they are stationary, which means that they exist in known or knowable locations. A clever adversary could thus avoid them, assuming the sensors are not deployed in numbers that saturate an area. In addition, it would be difficult to protect stationary sensors from sabotage if they are placed in knowable, remote locations. They also are not invulnerable. They could be compromised by extreme Arctic weather, drifting snow and ice, freeze-thaw cycles, and by shifting tidal and ocean sediment. That poses maintenance challenges to keep them from breaking down or being dislodged from their original positions, fixing or repositioning them should either occur, or replacing those that are beyond repair. Finally, there is the challenge of communicating their information back to the national command authority. Electronic communications must cross large distances and be resilient in the face of potential jamming. Human collection and transport of remote information pose all the risks associated with manned Arctic operations and cause delayed receipt of said information.

Unmanned and Remotely Manned Mobile Systems

A third option is to make greater use of unmanned or remotely manned mobile systems such as UAVs, unmanned maritime vessels (UMVs), and their two subsets, unmanned underwater vessels (UUVs) and unmanned surface vessels (USVs). There are many advantages of such mobile systems in the Arctic environment. They can be deployed in weather that poses a risk for people. They typically have a longer loiter time when underway than do manned counterparts. They are often harder to detect by adversaries because they are mobile, are often smaller in size than an equivalent manned system, and sometimes incorporate stealth technologies into their design; relatedly, they require a smaller basing footprint than do manned systems. Finally, they do not risk a human crew if they sink or crash.

Consider UAVs, which include the large, high altitude, long-endurance RQ-4 Global Hawk from Northrop Grumman, the medium altitude MQ-20 Avenger, MQ-9 Reaper, and

MQ-1 Predator from General Atomics, the RQ-170 Sentinel stealth reconnaissance platform from Lockheed Martin, and the MQ-25A Stingray carrier-based refueling UAV from Boeing, among others. These are attractive platforms for Arctic domain awareness because of their long range, long loiter time, and the ability to bolt on or take off specific sensor, communications, or weapons packages depending on the needs of the moment. The Avenger, for example, has a range of almost 2000 miles and can stay aloft for more than twenty hours, depending on configuration and payload.

Unmanned maritime vessels have similar advantages. The *Wave Glider* USV, built by Liquid Robotics, can operate on the water's surface for up to a year before it needs to be refueled. The *Echo Voyager* is an autonomous, extra-large unmanned undersea vehicle (UUV) built by Boeing, capable of months-long operations. These are just two examples of maritime vessels that could augment or even someday replace manned vessels in the Arctic.

These advantages notwithstanding, UAVs and UUVs are not perfect solutions. They may be great at collecting data, but they do not demonstrate presence with the same gravitas as do boots on the ground, on deck plates, or in cockpits. Moreover, remotely manned systems require a data link to a human operator. The linchpin for truly unmanned systems is linking the data streams from each platform into a combined picture of the region or battlefield and then allowing commanders to direct military systems in real time. The US military calls this joint all-domain command and control (JADC2). It is an enormous technical and organizational effort that must overcome at least two challenges.²⁰⁶ The first is establishing the digital protocols and informational streams to link disparate systems (UAVs, UUVs, etc.) manufactured by different companies for different military services from potentially multiple countries, all with different needs, requirements, and legacy systems. The second is making those links impervious to electronic interference and intentional jamming.²⁰⁷

Satellite Systems

Polar orbit satellites are a third category of unmanned systems. They are mobile in that they move through an orbit rather than being fixed in space. Yet they are to some extent fixed, or at least predictable, in that they usually stay

true to an established orbital path. Satellites can provide stand-alone, sophisticated imaging and remote-sensing capabilities on everything from weather and pollution to ship movements. Polar orbit satellites are already being used by Arctic nations for these purposes. The United States, for example, already has at least ten Starlink communication satellites in polar orbit, with one hundred more planned for the future.²⁰⁸ The Norwegians created a public-private partnership to field four small, polar orbit satellites (AISSat-1, AISSat-2, Norsat-1, and Norsat-2) to monitor and in some cases communicate with the automatic identification systems (AIS) transponder systems aboard maritime vessels.²⁰⁹ Satellites can also serve as data hubs between terrestrial units, creating a system of systems. One example is IDG's IRSA Project, which is being developed and aims to integrate sensing and communications satellites with high and medium altitude UAVs, surface and subsurface UUVs, and ground stations in Canada.²¹⁰ In theory, the system will provide a layered picture of Arctic activity.

Polar orbit satellites are not without shortcomings, however. Most importantly, continuous sensor coverage of the Arctic requires a large satellite constellation, and data downloads either require linked satellites or multiple ground stations. Under constrained budgets, the choice therefore becomes launching a small number of sophisticated units that might at best provide gapped coverage, launching numerous smaller units for continuous coverage but with less sophisticated capabilities, or partnering with the private sector, as the Norwegians have done, to operate dual-use satellites serving both civilian and military clients to keep costs down.²¹¹

Information Sharing

Arctic domain awareness systems would provide a more complete picture if they could integrate information from multiple countries' domain awareness capabilities. As mentioned earlier, no country has the wherewithal to achieve robust domain awareness by going it alone in the Arctic. One country or another might possess the capabilities to acquire localized domain awareness, where it is known what is occurring near its borders or in its territorial waters. Norway comes to mind. Other states are struggling to make do with the Arctic capabilities they have. The United States, Canada, and Denmark all have vast Arctic territory

206 Patrick Tucker, *Joint All Domain Command and Control*, (Washington, DC: Government Media Executive Group, Defense One ebook, 2021), 8-15.

207 The Russians regularly engage in GPS jamming across northern Norway and used AIS spoofing in the Black Sea against the HMS *Defender* warship in mid-2021.

208 Frank Wolfe, "10 Starlink Satellites to Enhance Arctic Communications for NORTHCOM," *Defense Daily*, April 15, 2021, <https://www.defensedaily.com/10-starlink-satellites-enhance-arctic-communications-northcom/space/>.

209 "Norway's Satellites," Norwegian Space Center (website), <https://www.romsenter.no/eng/Norway-in-Space/Norway-s-Satellites>.

210 "IRSA Development Group: Connecting the Arctic," IDG (website), <https://www.idg.network/index.html#top>.

211 Civilian end users get weather and shipping data with potential military information stripped out, according to the author's conversation with a senior Norwegian military officer in November 2021, as well as "Norway's Satellites," Norsk Romsenter (Norwegian Space Agency website), <https://www.romsenter.no/eng/Norway-in-Space/Norway-s-Satellites>.

to monitor, inadequate capabilities with which to do so, and less than ideal Arctic situational awareness as a result. No country has adequate domain awareness when the aperture is opened to include larger areas like an Arctic subregion (the North American Arctic, the European Arctic, the Russian Arctic, or the central Arctic) or across domains (air, land, maritime subsurface and surface, and space).

As a result, intelligence sharing takes on a critically important role when it comes to Arctic domain awareness. This is true regardless of the country in question. That is, Western Arctic countries would ideally be capable of integrating the data from national systems into a multilateral whole, and then deconflicting subsequent actions based on that data. The potential is there for greater sharing. Many countries in the region have purchased or are in the process of acquiring similar or identical weapons systems with the theoretical ability to talk to one another. Denmark, Norway, and the United States all fly versions of the F-35, for example, as will Finland in the not-too-distant future. Norway and the United States operate the P-8 maritime surveillance and anti-submarine warfare plane.

The problem is that states are often reluctant to reveal their sources and methods to all but the closest allies, and sometimes not even to them. For example, the Norwegians regularly share information with neighboring Sweden and Finland but not sensitive intelligence because neither Sweden nor Finland are allies.²¹² The Canadians share most of the nation's intelligence on Russia with Five Eyes countries, but by mid-2019 were still debating how much information to share with Norway and Denmark on Russian activities in the Arctic.²¹³

The challenge in these and other examples is not necessarily a technical one, though there are certainly technical details to resolve across platforms. The challenge is of a more political nature: what does each state want to reveal as to what it knows, how it acquired that information, and its blind spots? The next step, of course, is then resolving the military coordination that flows from more complete information. This is an interoperability question for all Arctic militaries and a political challenge when it involves nonallied nations.

212 As part of NORDEFCO, the Nordic countries share radar information, for example. See "COPA Capabilities," NORDEFCO (website), <https://www.nordefco.org/COPA-Capabilities2>.

213 Interview with senior Canadian official, April 2019.

V. RECOMMENDATIONS

A number of recommendations flow from this assessment. They involve the use of unmanned systems, manned systems, data links, basing, and exercises. Each is briefly considered below.

Unmanned and Remotely Manned Systems

Manned systems are inherently risky in an Arctic environment, particularly when vast areas need to be monitored under very cold conditions. Unmanned terrestrial systems and more robust satellite constellations in polar orbit might be good substitutes for manned missions. Norway's plan to replace some of its smaller surface ships with unmanned vessels makes sense when thinking about maritime domain awareness or surface operations in dangerous conditions across the Norwegian and Barents Seas. Unmanned aircraft and maritime systems and better satellite surveillance

make sense in the high Arctic Ocean, the North Atlantic, and around Greenland, where the long loiter time and less sophisticated basing requirements for these systems are advantages compared to the requirements for manned systems, and where it is more likely to see adversarial military activity. Perhaps this is why Denmark has prioritized acquiring UAVs and funding satellite systems in its latest defense budget plans, and why satellite companies like OneWeb are in partnership with Arctic states to deploy satellite constellations for dual civilian and military use in the Arctic.

Manned Systems

There are times and places, however, when a manned vessel, boots on the ground, or a pilot in the cockpit are needed. A frigate demonstrates national or alliance



A U.S. Marine with Marine Rotational Force-Europe 20.2, Marine Forces Europe and Africa, launches a Raven Unmanned Aircraft System into the air during UAS training in Setermoen, Norway, June 1, 2020. MRF-E conducts various exercises, including arctic cold-weather and mountain-warfare training, as well as military-to-military engagements throughout Europe that enhance cooperation among partners and allies. U.S. Marine Corps photo by Lance Cpl. Chase W. Drayer (via DVIDS images)

presence in a way that an unmanned maritime vehicle does not. Part of this is symbolic and aimed at allies and partners. Sending a manned vessel or deploying soldiers or conducting joint air operations signals that a nation cares enough to put its people in harm's way. That can be reassuring to allies. Part of this is a deterrence signal to potential adversaries. Deploying manned assets raises the potential costs of backing down in a way that cannot be matched by unmanned systems, and those higher costs increase the credibility of one's commitment.

Western nations need to be careful, however, that they synchronize their actions and corresponding signals. There seem to be two competing visions within the NATO alliance on how to signal Russia, for example. On the one hand are the Norwegians, who want to be transparent and predictable in their military activities so as to avoid accidents or overreactions from their Russian neighbors. On the other hand is the US military's concept of dynamic force employment, with the goal being strategic predictability but unpredictable operations.²¹⁴ Each ally's concept of operations can undermine the other's intent unless carefully coordinated, with potentially catastrophic results if the Russians interpret those signals incorrectly.

Data Links

If manned systems are to operate efficiently and safely, they need to be able to navigate accurately and communicate over long distances. Until unmanned systems are fully autonomous, they too will need to do the same. There is little point in fielding these systems if they cannot talk to one another or with their national or alliance headquarters. Integration of all these systems will require data links that can transmit large volumes of information at speed. Some Arctic nations are preparing for that future. The Danes, for example, are exploring using the sensors, data integration, and transmission capabilities of their new F-35s to improve domain awareness and systems connectivity in Greenland. A shortcoming with this idea is the F-35's relatively short loiter time compared to a UAV. For that reason, one could imagine a similar role being played by unmanned systems at sea, in the air, and in space throughout the Arctic, with a manned aircraft like the F-35 filling gaps during a crisis or conflict.

Basing

Western Arctic nations should also consider moving to distributed basing, repair, and refueling/rearming infrastruc-

ture across the Arctic rather than concentrating forces in one or two places. Though potentially more costly to maintain and secure, distributed basing makes it less likely that an adversary could disable or destroy large parts of a nation's arsenal with one strike. It also means that smaller, distributed facilities would improve domain awareness and cut transit times for search and rescue, presence, reinforcement, or retrograde operations. This seems to be the thinking behind the US Marine Corps's Expeditionary Advanced Base Operations in the Pacific theater.²¹⁵

Applied to the Arctic, one could imagine a set of prepositioned supplies, equipment, ammunition, and fuel in select locations around the Arctic, with or without a small personnel footprint. Forces could surge into or out of the facility as circumstances dictate. Two potential candidate locations from the strategies discussed earlier might be the airfield on Norway's Jan Mayen Island, located between the Greenland and Norwegian Seas, and the Kangerlussuaq airfield in Greenland, north of Nuuk. One could imagine expanding the concept to additional mothballed military or underutilized civilian airfields in Greenland, to say nothing of various locations in Canada or Alaska.

A complementary action would be to negotiate more joint basing arrangements with NATO allies, either for limited refueling and resupply stops, or for rotational forces over longer durations. The former concept builds on the agreement between Norway and the United States that allows US military assets to use the Ramsund naval base and Evenes airfield in Norway on an episodic basis. The latter concept is similar to the US rotational deployments of P-8 maritime patrol aircraft, B-2 bombers, and refueling planes at Keflavik airfield in Iceland, and the US Marine Corps's rotational presence in Norway. One possible application of this concept would be for the United States to negotiate an agreement with Denmark whereby Danish F-35s and maritime patrol craft establish a permanent facility in Thule, Greenland, colocated with the US early warning and satellite tracking facility.

Exercises

More frequent and realistic training and exercises are a theme running through each of the defense strategies examined earlier. That emphasis flows from the realization that no one state can protect all its interests in the Arctic and related areas. Training and exercises improve cross-national familiarity and enhance military interoperability. As I have written elsewhere, doing these activities

214 Conor Rodihan, Matthew R. Crouch, and Ronald C. Fairbanks, *Predictable Strategy and Unpredictable Operations: The Implications of Agility in Northern Europe*, Atlantic Council, May 18, 2021, <https://www.atlanticcouncil.org/in-depth-research-reports/predictable-strategy-and-unpredictable-operations-the-implications-of-agility-in-northern-europe/>.

215 "Expeditionary Advanced Base Operations," US Marines Corps, Marines (website), News Story, August 2, 2021, <https://www.marines.mil/News/News-Display/Article/2708120/expeditionary-advanced-base-operations-eabo/>.



Dutch soldiers await orders during Exercise Scorpion Strike on Feb. 22, 2018. Dutch forces, along with those of six other NATO Allies, make up the enhanced Forward Presence battlegroup in Lithuania. Together with battlegroups in Poland, Latvia, and Estonia, they demonstrate NATO's commitment to collective defence. (NATO Flickr)

under the NATO imprimatur will only needlessly antagonize Russia.²¹⁶ Instead, Western allies and partners should consider holding bilateral, trilateral, or mini-multilateral

exercises and training rather than doing so as a NATO activity. In most cases the Alliance will benefit regardless of the formal naming convention.

²¹⁶ David Auerswald, "NATO in the Arctic: Keep Its Role Limited for Now," Commentary, *War on the Rocks*, October 12, 2020, <https://warontherocks.com/2020/10/nato-in-the-arctic-keep-its-role-limited-for-now/>.

Annex 1

Defense Spending, 2005-2020 (in millions of constant 2019 US dollars, except 2020 which is in 2020 USD)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Canada	15076	15777	17201	18537	19384	17508	18099	17211	15909	16169	18577	18823	22737	22632	22204	22854
Denmark	3824	4179	4031	4186	3936	4191	3906	4028	3695	3532	3496	3727	3802	4339	4557	4838
Finland	3325	3385	3190	3438	3610	3530	3586	3630	3653	3465	3543	3557	3496	3600	3630	3986
Norway	4818	4808	5116	5144	5458	5373	5474	5574	5703	5950	5907	6130	6766	7128	7520	7514
Sweden	5199	5118	5253	4672	4582	4958	4662	4760	4787	5072	5126	5194	5194	5365	5840	6234

Source: Stockholm International Peace Research Institute, "Military Expenditure by Country," 2021, [https://sipri.org/sites/default/files/Data percent20for percent20all percent20countries percent20from percent201988-2020 percent20in percent20constant percent20 percent282019 percent29 percent20USD percent20 percent28pdf percent29.pdf](https://sipri.org/sites/default/files/Data%20for%20all%20countries%20from%201988-2020%20in%20constant%202019%20USD%20pdf.pdf).

Annex 2

Cooperative Defense Agreements and Defense Forums in the Nordic-North Atlantic Region

2009, November 4:

NORDEFCO established (Denmark, Finland, Iceland, Norway, and Sweden) to discuss voluntary Nordic defense cooperation on training and exercises, best practices, and information sharing.

2010:

Arctic Security Forces Roundtable, a military-to-military forum at the flag and general officer level from nations operating in the Arctic, designed to promote regional understanding and enhance multilateral security cooperation in the Arctic. The ASFR is cochaired by Norway and the United States. Russia has not participated since 2014.

2012:

Northern chiefs of defense meetings begin, involving heads of the military from the eight Arctic states. The meetings were halted in 2014.

2014, May 6:

Action Plan for Deepened Defense Cooperation between Sweden and Finland, a voluntary agreement on peacetime coordination of secure communications, personnel exchanges, joint use of base infrastructure, more frequent military exercises, and possibly combined air force units.

2015, April 9:

Nordic Defense Pact (Denmark, Finland, Iceland, Norway, and Sweden), a public, nonbinding political statement calling for closer sharing of information on maritime and airspace activities, joint cyber defense, shared exercises, the sharing of air bases in limited circumstances, and the exploration of joint acquisition and air policing.

2016:

Bilateral Statements of Intent (United States and Finland, United States and Sweden), a voluntary agreement on coordinated training and exercises, strategic communications, and situational awareness in the Baltic Sea region.

2018:

- **May 8:** Trilateral Statement of Intent (United States, Finland, and Sweden), a voluntary agreement to connect the efforts of the 2016 Bilateral Statements of Intent.
- **November:** Nordic Defense Vision 2025 (Denmark, Finland, Iceland, Norway, and Sweden), a voluntary agreement on political dialogue, information sharing, and interoperability within NORDEFCO countries in peace, crisis, and war.

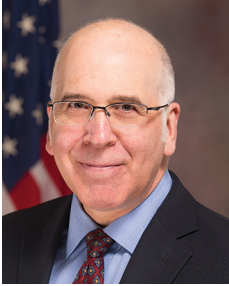
2020:

- June 11: Nordic Agreement Concerning Cooperation in the Defense Material Area, a treaty concerning security of supply on defense material.
- September 23: Trilateral Statement of Intent (Finland, Norway, and Sweden), a voluntary agreement on operational cooperation during crisis and conflict via a strategic planning group and discussions on security of supply.

2021, February 23:

Roadmap for a Renewed US-Canada Partnership (Canada, United States), outlining an agreement to expand cooperation on continental defense and in the Arctic, including by modernizing NORAD.

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- “NATO in the Arctic: Keep Its Role Limited, For Now,” *War on the Rocks*, 12 October 2020, available at <https://warontherocks.com/2020/10/nato-in-the-arctic-keep-its-role-limited-for-now/>.
- “Arctic Narratives and Geopolitical Competition,” chapter 15 in *Handbook on Geopolitics and Security in the Arctic*. Edited by Joachim Weber. (Switzerland: Springer Publishing, 2020): 251-271.
- “Now is not the Time for a FONOP in the Arctic,” *War on the Rocks*, 11 October 2019, available at <https://warontherocks.com/2019/10/now-is-not-the-time-for-a-fonop-in-the-arctic/>.
- “China’s Multifaceted Arctic Strategy,” *War on the Rocks*, 24 May 2019, available at <https://warontherocks.com/2019/05/chinas-multifaceted-arctic-strategy/>.
- “The High North,” chapter 17 in *Charting a Course: Strategic Choices for a New Administration*. (National Defense University Press, 2017): 355-375.

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- *Congress and Civil-Military Relations*. Edited with Colton Campbell. (Georgetown University Press, 2015).
- *NATO in Afghanistan: Fighting Together, Fighting Alone*. Co-authored with Stephen Saideman. (Princeton University Press, 2014).

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