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A large, abstract, grey graphic element that resembles a stylized submarine or a curved arrow, pointing downwards and to the right. It is positioned in the upper half of the page, behind the title.

Danish-German Submarine Cooperation: Opportunities and Challenges

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Executive Summary

Germany has invited the Royal Danish Navy to participate in training missions and exercises on board German submarines. This brief examines the benefits and challenges of this proposed cooperation for both Denmark and NATO more broadly.

Over the past decade Russia has pursued an increasingly interventionist and expansionist foreign policy in Eastern Europe, which has included increased naval activity in the Baltic Sea. In order to meet any potential Russian subsurface threat to regional Sea Lines of Communication (SLOCs), the Royal Danish Navy must reverse the degradation of its institutional Anti-Submarine Warfare (ASW) capabilities brought about, in part, by the decommissioning of its submarine fleet in 2004. Participation in submarine training and exercises with the German navy can help achieve this goal by providing Danish sailors with critical insights into submarine operations and tactics. As a stakeholder in Germany's submarine community, Denmark would also be able to demand increased participation in Combined Anti-Submarine Exercises (CASEXs) with the German navy. These exercises would allow Danish naval and air force personnel to hone their skills on equipment necessary for locating, monitoring and combatting submarines. Finally, this cooperation would maintain the Royal Danish Navy's institutional knowledge of subsurface operations, significantly reducing the time needed to re-establish a submarine fleet, if Denmark chose to do so in the future.

While important budget, personnel, sovereignty and mission mandate issues need to be addressed, these challenges can be mitigated through comprehensive agreements at the political, legal and technical levels. These agreements could be modelled on existing agreements, such as the ongoing Danish-German strategic sealift cooperation. The proposed cooperation is also consistent with the NATO concept of Smart Defence, which aims to lessen the problems caused by constrained European defence budgets by encouraging the pooling of resources to uphold key capabilities, like ASW.

Introduction

In keeping with the long history of Danish-German naval cooperation, Germany recently invited Royal Danish Navy personnel to take part in training missions and exercises on board German submarines.¹ This proposed initiative addresses a number of Denmark's needs, as the country has witnessed a decline in its ASW capabilities since the end of the Cold War — a decline exacerbated by the Danish submarine fleet's decommissioning in 2004. The German invitation comes at a time when ASW has again become a critical factor for regional security, particularly in the Baltic Sea. In recent years the Baltic has re-emerged as a vital security concern for Denmark, and NATO more broadly, as tensions with Russia have risen to the forefront. This brief examines the potential benefits and challenges of the proposed Danish-German cooperation.

The paper proceeds as follows: After a survey of the security environment in the Baltic Sea, it provides an overview of NATO's Smart Defence concept. In the next section it assesses Danish-German submarine cooperation, including the potential benefits of the project as well as some of the challenges. The conclusions found in this brief are based on a careful analysis of scholarly and media reports as well as interviews with military personnel and civilian experts.

Background

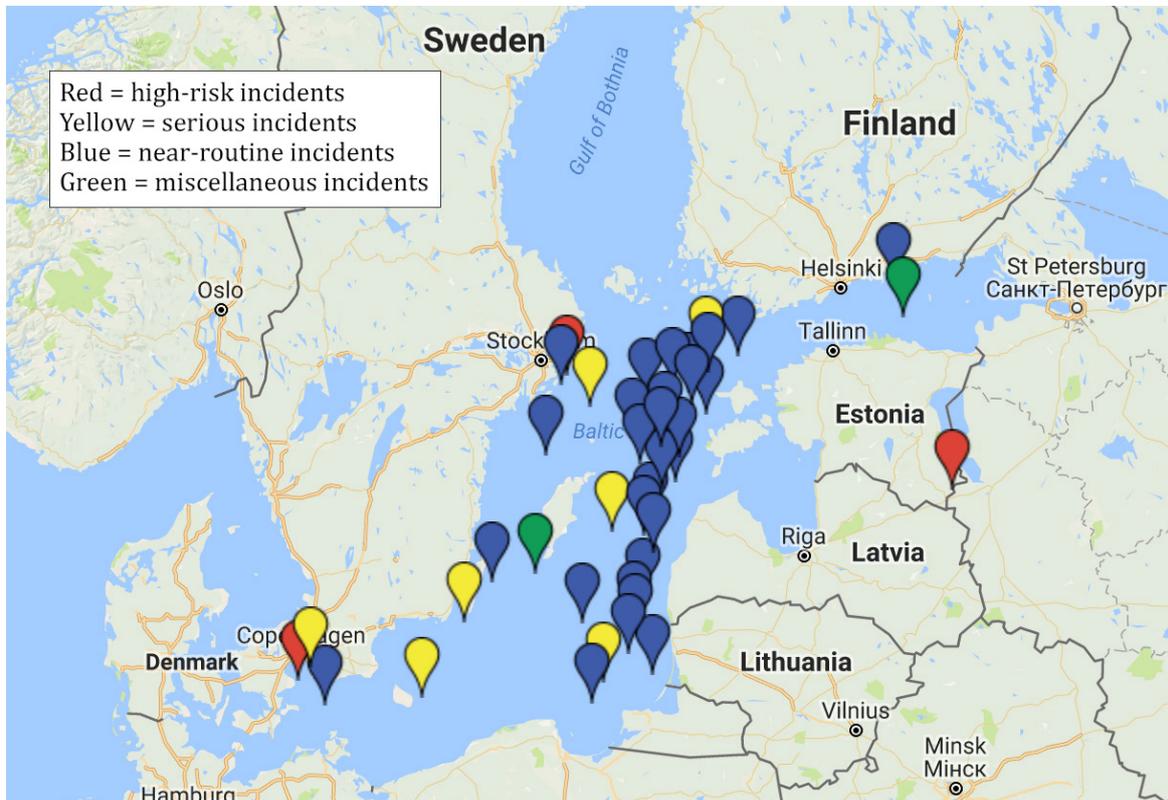
At the end of the Cold War, the Baltic region ceased to be an area of significant concern for NATO, as alliance members no longer viewed Russia as an imminent security threat. Over the past decade, however, Moscow has returned to an interventionist, expansionist foreign policy. This has included increased Russian naval activity in the Baltic Sea and has led to numerous incidents involving NATO, and Russian military forces (see figure 1).² As a result, the Baltic region is once again a critical national security concern for both Denmark and NATO, as expressed in the Danish Government's 2017-2018 foreign and security policy strategy.³

1) Rasmussen, Peter Ernstved. Tyskland inviterer Danmark med i samarbejde om ubåde. 2017. <http://olfi.dk/2017/04/03/tyskland-inviterer-danmark-samarbejde-ubaade/> Accessed: 27.06.2017.

2) Kramer, Franklin D. and Nordenman, Magnus. *A Maritime Framework for the Baltic Sea Region*. Atlantic Council – Brent Scowcroft Centre on International Security. 2016. P. 2.

3) Danish Government. *Udenrigs- og Sikkerhedspolitik Strategi 2017-2018*. 2017. P. 14f.

Fig. 1 – Map showing incidents involving Russia and NATO 2014-2015.⁴



The Baltic Sea constitutes a unique area of operations that requires forces trained and equipped to operate in its particular maritime environment. This is critically important for ASW, as the ‘Baltic Sea presents an almost uniquely complicated space for submarine and anti-submarine warfare, due to its geography and hydrographic characteristics.’⁵ NATO’s reduced subsurface and ASW capabilities since the end of the Cold War have created an unmet need for maritime forces specifically trained for Baltic operations.⁶ This is particularly true for Denmark, which abolished its Submarine Force in 2004. Since then the Royal Danish Navy has relied solely

4) Map showing incidents involving Russia and NATO, direct link: <https://www.google.com/maps/d/viewer?mid=1Ej8J6co9zyTRASIEv33Cy-GoUYU&ll=59.559375073496085%2C20.69824217500002&z=5>, via European Leadership Network. *Dangerous Brinkmanship: Close Military Encounters Between Russia and the West in 2014*. 10.11.2014. http://www.europeanleadershipnetwork.org/dangerous-brinkmanship-close-military-encounters-between-russia-and-the-west-in-2014_2101.html Accessed: 29.10.2017.

Kramer, Franklin D. and Nordenman, Magnus. *A Maritime Framework for the Baltic Sea Region*. Atlantic Council – Brent Scowcroft Centre on International Security. 2016. P. 2.

5) Kramer, Franklin D. and Nordenman, Magnus. *A Maritime Framework for the Baltic Sea Region*. Atlantic Council – Brent Scowcroft Centre on International Security. 2016. P. 8.

6) Hendrix, Jerry. *NATO Must Strengthen Its Anti-Submarine Capabilities to Meet the Russian Threat*. National Review. 2017.

on surface operations and training with allied submarines to develop and maintain the skills required to conduct proficient ASW. As a result, Denmark's ability to monitor and control what happens below the surface within its territorial waters has declined.⁷ Given its critical geographic location controlling access to the Baltic Sea, Denmark's reduced ASW capabilities also have wider security implications for NATO and European security.

As Denmark is unlikely to reintroduce a submarine fleet in the near future, it must find other ways to strengthen the navy's ASW capabilities. One way to accomplish this is through increased cooperation with allied submarine forces. This approach is consistent with Denmark's broader foreign and national security goals, which seek greater multinational cooperation,⁸ including in the Baltic Sea region.⁹ It also conforms with the NATO concept of Smart Defence (see below), which aims to mitigate the challenges of reduced capabilities and constrained defence budgets by encouraging increased inter-state cooperation to uphold key warfighting competencies like ASW.

Smart Defence

Smart Defence is meant to enhance NATO member state cooperation, facilitating greater efficiency and tackling financial constraints. The concept was implemented at the 2012 NATO Chicago Summit, where member states 'pledged to create modern, tightly connected forces equipped, trained, exercised and commanded so that they can operate together and with partners in any environment'.¹⁰ This description, highlighting modernised cooperative forces, however, does not directly address one of the principal reasons for Smart Defence: the limited defence budgets of many NATO member countries. Smart Defence is intended to create value for money in defence spending. This can be achieved through several means such as 'cost savings, as capability and inter-operability increases; or even in more intangible forms, such as mutual trust and understanding'.¹¹ The concept was developed to tackle: financial restraints from budget austerity, ongoing operational challenges and a security environment characterised by uncertainty.¹²

In keeping with Smart Defence, Germany introduced the Framework Nations Concept (FNC) in 2013.¹³ The FNC aims to tackle the challenges of European NATO states' limited budgets

7) Danmarks forsvar mod ubåde er svagt. Berlingske. 20.10.2014. <https://www.b.dk/nationalt/danmarks-forsvar-mod-ubaade-er-svagt> Accessed: 24.04.2017.

8) Danish Ministry of Defence. *The Danish Defence Agreement 2013-2017*. 2012. P. 2; 7; 32.

9) Danish Government. *Udenrigs- og Sikkerhedspolitik Strategi 2017-2018*. 2017. P. 16.

10) Giegerich, Bastian. NATO's Smart Defence Agenda: From Concepts to Implementation. *Dynamic Change*. 2012. p. 20.

11) Giegerich, Bastian. NATO's Smart Defence: Who's Buying? *Survival* 54, no. 3. 2012. P. 70.

12) NATO Website. http://www.nato.int/cps/en/natohq/topics_84268.htm?selectedLocale=en Last updated: 20.02.17. Accessed: 15.03.17.

13) Major, C. and Mölling, C. *The Framework Nations Concept: Germany's Contribution to a Capable European Defence*. 2014. P. 1.

and capabilities by facilitating the formation of clusters of cooperation. The FNC envisions the larger European states, such as France, Italy or Germany, taking the lead role as Framework Nations. These states 'provide the group first and foremost with the military backbone, i.e. logistics, command & control, etc. Into this frame, smaller nations would plug their specialized capabilities.'¹⁴ ASW is one of the key specialised capabilities NATO must improve.¹⁵

Danish-German Submarine Cooperation

In December 2016 Germany officially invited Denmark to participate in increased security cooperation in the Baltic Sea, with a particular focus on submarine operations.¹⁶ The proposal presents both opportunities and challenges for the Royal Danish Navy. This paper looks at both of these in turn.

Opportunities

Improved ASW Skills

The Royal Danish Navy needs to reverse the degradation of its ASW knowledge and skills brought about, in part, by the decommissioning of its submarine fleet in 2004. The proposed cooperation provides a unique opportunity for Denmark to improve its atrophied underwater warfare skills. The experience would strengthen Danish ASW capabilities, as officers and sailors would gain important insights into submarine operations and tactics.¹⁷ To put it simply: You can better fight a submarine if you know how a submarine operates. Training on board German submarines would also help develop and maintain competencies in sonar operations and other equipment vital to successful ASW.¹⁸

More CASEX Time

A second opportunity arising from Danish-German submarine cooperation comes from the increased opportunity for Danish surface and air assets to participate in exercises with submarines. Because of the costs of operating submarines CASEX time is limited, as member states prioritise their own training needs over those of alliance partners. As a stakeholder

14) Major, C. and Mölling, C. *The Framework Nations Concept: Germany's Contribution to a Capable European Defence*. 2014. P. 2.

15) Smith, J. and Hendrix, J. *Forgotten Waters: Minding the GIUK Gap*. Center for a New American Security. 2017. P. 7f: 11.

16) Rasmussen, Peter Ernstved. Tyskland inviterer Danmark med i samarbejde om ubåde. 2017. <http://olfi.dk/2017/04/03/tyskland-inviterer-danmark-samarbejde-ubaade/>

17) Mørch, Thomas Alexander. Ekspert: Danmark vil ikke kunne håndtere Ubåde. 2014. <http://jyllands-posten.dk/international/europa/ECE7123087/Ekspert-Danmark-vil-ikke-kunne-h%C3%A5ndtere-ub%C3%A5de/> Accessed: 22.06.2017.

18) Letter from German Vice-Admiral Adreas Krause to Danish Rear Admiral Frank Trojahn. December 2016.

in Germany's submarine community, Denmark would be in a position to demand more opportunities to train with submarines for its surface and air assets. Training in simulators or with Expendable Mobile ASW Training Targets (EMATTs) cannot replicate the experience gained from operating with real submarines.

Sustained Institutional Knowledge in Submarine Operations

Denmark does not operate submarines and currently has no intention of reintroducing submarines in its navy; debating the pros and cons of reacquiring a submarine force falls outside the scope of this paper. While Denmark will not be operating submarines in the foreseeable future, the future is not always foreseeable. Even if unlikely, it is not outside the realm of possibility that changes in the strategic situation over the medium-to-long term could necessitate reinstating submarines into the Royal Danish Navy.

While changes in the political and security environment can happen quickly, acquiring an operational subsurface force takes years. By developing and retaining an institutional knowledge of submarine operations, Denmark would reduce the time needed to re-establish a subsurface fleet by several years.¹⁹ The period needed to build a submarine fleet from scratch depends on the allocated funds. Strong cooperation with a partner state that employs submarines will speed the process; with the help and cooperation of the German Navy, the reintegration of submarines into the Danish Navy would likely still take several years, but it would be significantly more effective and faster than a project to reintroduce Danish submarines without strong cooperation.²⁰ In a related point, training on board submarines could prove critical for Unmanned Underwater Vessel (UUV) Operations, as skills honed on crewed submarines would be highly valuable for UUV operators. UUV technology is advancing at a rapid pace and will play an increasingly important role in ASW in the future.²¹

Key Points – Opportunities for Denmark:

- Maintain and improve operators' ASW skills
- Greater opportunity to train with allied submarines (e.g. CASEXs)
- Retain an institutional knowledge of submarine operations in the Royal Danish Navy

19) Interview with Michael Jørgensen, Lieutenant Commander, Naval Staff. 17.05.2017.

20) Interview with Søren Nørby, naval historian, [Institute for Military History and War Theory](#), Royal Danish Defence College. 24.10.2017.

21) Grant Turnbull. A new era for underwater drones. *Naval Technology*. 14.08.2013. <http://www.naval-technology.com/features/feature-new-era-underwater-drones-unmanned-systems/> Accessed: 27.10.2017.

Challenges

Personnel and Funding Shortages

The Royal Danish Navy suffers from a chronic shortage of personnel and funding. The proposed cooperation could exacerbate these shortages by drawing key personnel away from the surface fleet and straining already overstretched budgets. Even with the recent proposed increases in the Danish defence budget, financing and staffing will remain the principal challenge in pursuing this opportunity. Thus, any cooperation with Germany would first require detailed agreements at both the political and military levels to ensure that the specific costs – both financial and personnel – are not detrimental to the navy's overall capabilities.

Sovereignty and Trust

Mutual trust and respect for state sovereignty are critical components of any successful long-term military cooperation. The level of trust between two states determines the extent to which cooperation is possible. The same is true of sovereignty issues, as a state's ability to exercise ultimate control over its own armed forces is fundamental to the definition of statehood itself. As a result, states are often reluctant to give operational control of their military to other states.

In the Danish-German case several factors can mitigate the challenges arising from trust and sovereignty issues. The proposed submarine cooperation would actually strengthen Denmark's sovereignty by improving the navy's ability to exert control over Danish territorial waters through improved ASW capabilities. In terms of trust, the long history of cooperation between the two states demonstrates that the necessary level of trust needed for such a cooperation is already present at both the political and military levels. An example of ongoing Danish-German naval cooperation is the training of Danish navy personnel at the Einsatzausbildungszentrum Schadensabwehr Marine (EASZ) in Neustadt.²²

Mission Mandate

The clandestine nature of subsurface operations poses another challenge for Danish-German cooperation. Submarines are important intelligence-gathering assets, and this could hinder cooperation if combined crew submarines are used in real-world operations. Political and legal agreements between Denmark and Germany would need to specify the tasks and areas of operation for combined crew submarines. In some instances Germany may be reluctant to give specific information about its submarine missions; however, the Royal Danish Navy would need to know beforehand what tasks its sailors would be engaged in. This consideration

22) German Navy, official website. Gemeinsam trainieren – Dänen in Neustadt. 2016. http://www.marine.de/portal/a/marine/start/aktuelle/!ut/p/z1/hY9fC4IwFMW_kXdaS3vU_JMg11Kq7SWGdlvYJmNJD334JoFvOX04cM-593e5wOACTPFJ9txKrjfgeso21ySqmirYBkGVoxiVWUub2GJd-UazhBOD_I8zF6EfFCOpOAHWM8CdjFUANDEgnvFYrYWe1QlnptDfcuON2thhTp7GuMSTHVDkpwkKI1P-O06bXUUQwmmZHGfgnU_8tezydn4a6l2rbhAH3cZfy3zkESG4_wBs247a/dz/d5/L2dBISEvZ0FBIS9nQSEh/#Z7B8LTL2922LF0A0IEENH55IIG32 Accessed: 04.06.2017.

is more important on submarines than on other vessels, as crew sizes are relatively small. If a German frigate with Danish sailors on board intends to engage in an action not covered by the Danish mandate, then the Danish personnel could disembark from ship and let the relatively large number of (the now all-German) crew members carry on without them. Given the small crew size on a submarine, however, such scenarios are more complicated, as the loss of even a few crewmembers could severely hamper a submarine's operation readiness.

As this issue is likely to arise only in real-world operations, it does not challenge the potential for initial cooperation, which focusses on training, education and exercises. Nevertheless, Denmark and Germany would need to draft a memorandum of understanding outlining the mandate, aims and methods of the cooperation. For real-world operations, the document would need to outline the tasks to be conducted by the submarine and explicitly define the limitations of any missions. Regardless of nationality, the entire crew would remain under the direct operational authority of the submarine's commanding officer, though certain aspects, such as matters of military law and punishment, would likely remain under national authority. Again, it is critical that all such contingencies are taken into consideration when drafting cooperation agreements.

Conclusions

Denmark and Germany face common geopolitical challenges. As Baltic Sea states, Russian aggression in the region would threaten the vital national security interests of both nations. As any Russian military actions would include submarine operations, strong ASW capabilities are crucial for maintaining open SLOCs with NATO members in the eastern Baltic region as well as Finland, a NATO partner country. During the Cold War Denmark and West Germany's navies engaged in extensive cooperation, as both nations were first-line battlegrounds in the Baltic Sea region. Danish and German naval officers interviewed for this report highlighted the importance of this extensive cooperation during the Cold War²³ and expressed a desire to see continued close Danish-German partnership in the maritime realm, such as the 'Ark Project' that focusses on strategic sealift capabilities.²⁴ Closer Danish-German cooperation is also backed by many in Denmark's broader security community, such as the Danish Institute for International Studies (DIIS).²⁵

As noted above, the Royal Danish Navy has a deficit with regard to its underwater warfare capabilities. This deficit negatively affects Denmark's ability to enforce the sovereignty of its territorial waters and its ability to support NATO in ASW operations. Increased Danish-

23) Several interviews with members of the Danish and German naval forces undertaken by the author in April and May 2017.

24) Hartley, Peter L. Defense Update Website: The German Navy – The Way Forward? 2011. http://defense-update.com/20111129_the-german-navy-the-way-forward.html Accessed: 29.05.2017.

25) Barbin, Jérónimo and Runge Olesen, Mikkel. New winds in German security policy: Potentials for enhanced Danish-German defence partnership. Danish Institute for International Studies Policy Brief. 2015. P. 2.

German naval cooperation can significantly improve Danish ASW capabilities, particularly concerning Baltic Sea operations, by familiarising navy personnel with subsurface operations and increased CASEXs. Maintaining an institutional knowledge of subsurface operations would also prove critical if Denmark chose to re-establish a submarine fleet in the future. The proposed cooperation is also consistent with NATO's Smart Defence concept to uphold and strengthen core alliance capabilities, such as NATO's ability to conduct ASW in the Baltic Sea. In addition, the German navy is currently experiencing challenges in crewing its submarines. Danish personnel could mitigate the manning shortage, allowing the German submarine fleet to increase its operational tempo. In turn, this would augment NATO's presence in the Baltic Sea, with security benefits for Denmark and alliance members and partners.

Together with political agreements tackling financial and personnel challenges, both navies would require technical agreements to mitigate challenges arising from issues of sovereignty or mission mandate. Existing cooperation agreements, such as the strategic sealift 'Ark Project', could be used as a model for the cooperation. Initially, priority should be given to cooperation focussed on training and exercises, as they are the least complicated to facilitate from political and legal perspectives. These arrangements can then form the basis of further operational cooperation, such as conducting patrols with combined Danish-German crews. This project could also lead to increased cooperation between the Danish and German navies in other areas, for the benefit of both Danish and NATO maritime security more broadly.