

Arctic innovation: Military developments in the High North

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Climate change has heightened focus on the Arctic in recent years, with newly accessible sea routes and resources attracting the attention of neighbouring countries. Armed forces are responding in a number of ways, boosting training efforts and investing in specialised equipment, writes *Gerrard Cowan*

Melting sea ice has made the Arctic a growing focus for armed forces. While much of this is concentrated on naval assets and physical infrastructure, there are a range of areas of technological progress, from weather dynamics to equipment and training for individuals.

Changes in the region are opening up new sea routes for longer periods of the year. Climate change is also increasing accessibility to the rich minerals, oil and gas, and other resources the Arctic holds. These developments have naturally increased the military focus from regional powers, such as Canada, Denmark, Norway, Russia, and the United States.



Personnel from different countries take part in the COE CWO's Allied Winter Course in Norway. (Norwegian Army/Frederik Ringnes)

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The changes to the region present an opportunity and a threat, said Dr Sidharth Kaushal, research fellow, sea power, military sciences at the Royal United Services Institute (RUSI). On the one hand, there are the potential economic benefits, while on the other, sections of territory could become more vulnerable and accessible to rivals, forcing countries to take defensive action. “It’s a classic security dilemma: as one actor takes steps to improve its security, it makes the others less secure, and vice versa,” Kaushal told *Jane’s* .

The Arctic covers significant distances and includes many different types of territory, therefore creating varying demands on cold-weather operations. However, Kaushal noted that many of the core problems are consistent: the difficulty of moving through relatively thick ice, for example, or operating unmanned aerial vehicles (UAVs) and other aircraft in extremely cold weather. Military assets often rely upon civilian and coastguard platforms to a greater degree than is the case in other regions, as many icebreakers are non-military but are necessary to clear paths for naval ships.

Danish defences

For Denmark, the Arctic has always been a priority as a large part of the country’s territory is within the region, said Commander Jens Heine Grauen Larsen, senior staff officer (SO1) – Arctic Desk within the Operations staff at Defence Command Denmark. The effect of climate change means “we see and experience first hand how the operational environment is shifting”, he told *Jane’s* . The decline of the ice cap is making the region more accessible.

The Danish Ministry of Foreign Affairs published an Arctic Strategy in June 2016, Cdr Larsen noted, and it announced the establishment of an Arctic Response Force (ARF) designed to strengthen the armed forces’ ability to conduct operations in that environment.

Cdr Larsen said work is ongoing on drafting plans for the ARF in various areas, from deployment to sustainment. This force will primarily be deployed to support civilian authorities, he said, in handling natural disasters and man-made accidents, for example. While it will not be deployed in support of “classical military tasks ... the force will be tailored based upon the existing capabilities of the Danish Armed Forces”, he said. It will be pieced together on a case-by-case basis, requiring specific equipment (such as tents or mobility assets), although he noted that it is still early days in terms of actual procurement.

Beyond the ARF, the armed forces have conducted a comprehensive analysis of their likely future tasks in the Arctic. This defines three courses of action in the region and a number of focused objectives under those three categories.

First, the military will invest in surveillance systems such as satellites. Second, it will boost its command, control, and communications systems and the ability to process the gathered information, along with increased manning at its Joint Arctic Command headquarters and naval assets. Finally, Denmark will bolster its presence through various means. This includes surveillance aircraft and deploying an additional frigate (either Absalon or Iver Huitfeldt class) for up to two months during the Arctic summer, along with a new mobility concept for the Sirius Dog Sled Patrol

elite naval unit that will involve the increased use of leased DHC-6 short take-off and landing (STOL) aircraft from Norlandair. Cdr Larsen also noted that presence has been boosted by the country's Knud Rasmussen class of Arctic offshore patrol vessels (OPVs), three of which entered service between 2008 and 2017.

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(666 of 2916 words)

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