

Multi Domain Operations in the Arctic

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The Arctic is a region of increasing great power competition. Warming temperatures and melting ice will increase freedom of navigation, resulting in shortened lines of communication and sea routes between Asia and Europe. This has prompted greater strategic competition for natural resources – resulting in geopolitical tension. The Arctic is a high priority for Russia in particular. The country has created new Arctic military units, reopened existing facilities, and invested in expanding and modernizing military capabilities. China is also active in the Arctic and sees itself as a “near Arctic state.”

The Arctic presents a vulnerable northern flank to the United States and Canada as well as to Europe and the North Atlantic Treaty Organization (NATO). It’s a region where the U.S. Department of Homeland Security, North American Aerospace Defense Command, U.S. Northern Command (NORTHCOM), U.S. European Command, and U.S. Indo-Pacific Command all converge. The Arctic security environment is complex and uncertain, and the risk of miscalculation is high.

Multi-domain operations (MDO) can contribute to safeguarding U.S. national interests in the Arctic. This concept includes the integration and synchronization of joint (and partner nation) capabilities and effects in space, air, land, sea, and cyberspace. The following is a way to consider MDO in the Arctic.

- National to tactical secure communications supported by a self-healing, resilient, defensible network architecture will be essential for connecting sensors to shooters, gaining access to, and sharing data between systems and mission partners (interoperability), to enable freedom of action. MDO will benefit from the Advanced Battle Management System and development of Joint All Domain Command and Control.
- Arctic domain awareness will require a persistent intelligence, surveillance, and reconnaissance

capability, including a combination of both active and passive sensors. Key will be connecting platforms, sensors, and data from space to seabed to facilitate collecting, analyzing, and disseminating information to decision makers at the speed of relevance.

- Arctic domain awareness will require a combination of both manned and unmanned air, land, and sea platforms equipped with a variety of payloads and sensors. Manned and unmanned teaming will present opportunities for increased situational awareness in potentially contested areas.
- Electronic warfare, signals intelligence, cyber, and counter-unmanned aircraft system capabilities will be essential to protecting and enabling distributed operations while supporting strategic deterrence.
- Artificial intelligence will be critical to observing, orienting, deciding, and acting at machine speed with less “human in the loop” and more “human on the loop” interaction. That capability will be important, whether responding to disasters or supporting strategic missile defense.

MDO expertise and technology can be developed through multilateral exercises such as NATO’s Trident Juncture and NORTHCOM’s Arctic Edge. The Joint Pacific Alaska Range Complex is also capable of supporting MDO training. Ground forces can enhance cold weather and mountain expertise through regional partners and the Army’s Northern Warfare Training Center and Marine Corps Mountain Warfare Training Center.

The Department of Defense will not be able to address MDO training and technology requirements without industry’s help. For industry to be successful, we must understand the concept of operations and the Arctic environment to develop ruggedized technology that is effective and survivable under its extremely harsh conditions. ■