ARCSAT

Improving tactical communication in the Arctic.

Satellite communication capacity for tactical use in the Arctic are at present not fully covered by available SATCOM systems due in part to limited coverage at high latitudes.

The Norwegian Defence Research Establishment (FFI) is carrying out a two year research project called ARCSAT aiming to solve these issues. The mission will demonstrate military Ultra High Frequency (UHF) tactical communications via a polar Low Earth Orbit (LEO) satellite. FFI has selected GomSpace to develop and build a test satellite. This satellite is to be launched in October 2021.

Mission objectives

The primary mission objective is to demonstrate the military use and relevance of an arctic satellite relay for tactical communication. The mission objectives include:

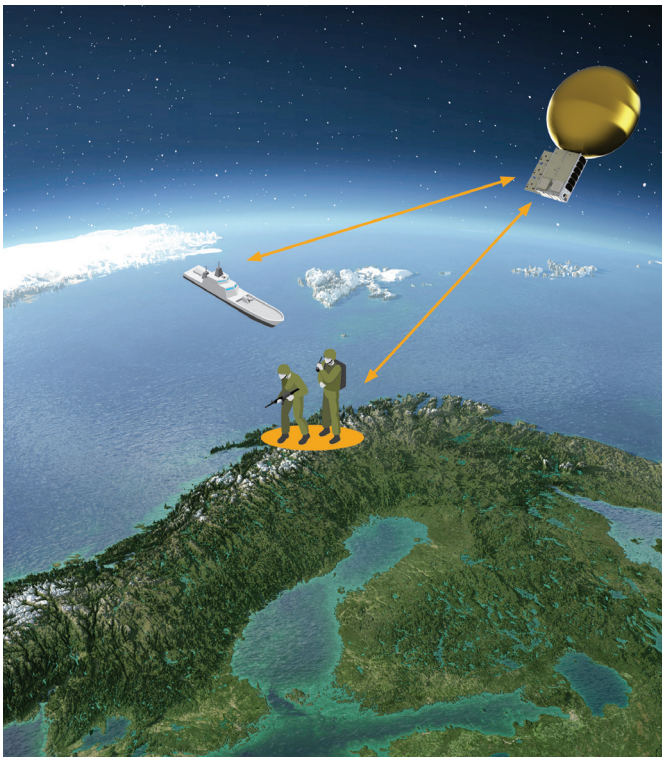
- Demonstrating a complementary UHF SATCOM service in the North Sea and the Arctic.
- Demonstrating in-orbit functionality, including real-time communications relay and store-and-forward communications services.
- Interoperability by supporting commercially available terminals.

Coverage

For a polar LEO orbit of 600 km altitude, the satellite will be able to cover any point on the Earth's surface at least four times per day. There may be as many as 15 daily passes at higher latitudes.

Fast track development

One of the project objectives is to test the ability to launch and start operations of a small satellite with an accelerated time schedule. The objective is to launch the satellite within 2 years from project start and 17 months after contract between the industry and FFI. The mission will function as a pathfinder, seeking current status and realistic views on the availability of technological components for small satellites.



The satellite itself is no bigger than a briefcase. An antenna will unfold once the satellite is in orbit. Illustration: FFI/GomSpace

Contact:
Lars Erling Bråten, FFI (Lars-Erling.Braten@ffi.no)