



Russia Hedges Bets on Satellite Navigation

OE Watch Commentary: The accompanying excerpted article from *Izvestiya* discusses Russian plans to field a new terrestrial navigation system, the *Sprut-NI* (Спрут-Н1). The *Sprut-NI* is primarily for use by larger platforms (naval vessels, strategic air defense systems, aircraft, etc.), and is seen as a way of improving and diversifying navigation capabilities. This diversification of navigation capabilities is important for the Russian military, as they believe the satellite navigation provided by systems such as GPS and GLONASS could be unavailable or severely degraded in the event of a peer-level conflict. The diversification of navigation capabilities is also occurring elsewhere in the Russian Armed Forces, such as even with relatively small UAVs that are using terrain recognition technologies for this purpose. **End OE Watch Commentary (Bartles)**

“Alternative backup channels are vital to the military because, as has become clear, modern satellite navigation systems are vulnerable to electronic warfare devices.”

Source: Aleksey Kozachenko and Aleksey Ramm: “Когда спутник подавлен: флот получит наземную ГЛОНАСС (When Satellite Is Jammed: Navy to Get Ground-Based GLONASS),” *Izvestiya*, 19 February 2019. <https://iz.ru/843437/aleksei-kozachenko-aleksei-ramm/kogda-sputnik-podavlen-flot-poluchit-nazemnuu-qlonass>

A new-generation high-precision radio navigation system (RNS) -- Sprut-NI [Спрут-Н1]-- has been created for the Navy. It will make it possible to determine an object's geographical position, speed, and altitude with a degree of accuracy that significantly exceeds that of data from GLONASS or GPS. The determination of coordinates is carried out by ground-based RNS stations, which pass an encrypted signal to ships and planes. The main advantage of the new system over satellite navigation is that the high-tech RNS signal cannot be jammed.

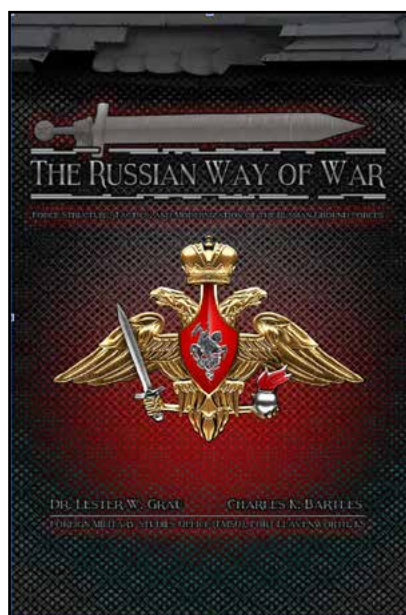
This year equipment for the Sprut-NI navigation system will start to be trialed on ships of one of the Navy's fleets, Izvestiya was told by the Defense Ministry. In the first phase, the RNS will operate over the territory of Russia and its coastal waters. Two ground-based stations will be deployed.

At present the Sprut-NI is the only Russian broadband RNS with ground-based stations, and in terms of accuracy it surpasses foreign analogues. The system comprises a series of ground-based stations for tracking and transmitting orders to a ship or plane, a receiver, and a computer center. It is known that the system has excellent functional capabilities in terms of data transmission speed and the security of the signal -- the precise technical parameters of the new system are being kept secret...

Alternative backup channels are vital to the military because, as has become clear, modern satellite navigation systems are vulnerable to electronic warfare devices. At the same time, the ground-based Sprut-NI RNS will continue operating autonomously even if an enemy manages to jam the satellite signal in a certain area. The idea is that broadband RNS stations will become an essential means of navigational support to ships and other vessels when an enemy is actively engaged in EW.

A modern warship sorely needs a navigation system that cannot be jammed, Izvestiya was told by Captain First Rank Sergey Batalin, former commander of a Pacific Fleet submarine.

“Knowing your precise location in real time is very important -- it makes it possible to assume an attacking course in timely fashion or to evade enemy strikes,” the expert reckons. “There are loads of methods of determining your location, but the most precise and quickest are special navigational systems that automatically plot a route. It is also important that navigational data are relied on by many of the ship's command and control systems, including the aiming and guidance of high-precision weapons.”



THE RUSSIAN WAY OF WAR by LESTER W. GRAU and CHARLES K. BARTLES

At any given time, assessments of the Russian Armed Forces vary between the idea of an incompetent and corrupt conscript army manning decrepit Soviet equipment and relying solely on brute force, to the idea of an elite military filled with Special Operations Forces (SOF) who were the “polite people” or “little green men” seen on the streets in Crimea. This book will attempt to split the difference between these radically different ideas by shedding some light on what the Russian Ground Forces consist of, how they are structured, how they fight, and how they are modernizing.

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