



Russian Robot Ships in the Arctic

OE Watch Commentary: With self-driving automobiles under development, can self-sailing ships be far behind? This is not just a Russian idea. The Autonomous Ship Technology Symposium 2018 will be held in Amsterdam 27-29 June. Norway's Konigsberg Maritime and Britain's Rolls Royce Maritime are very involved in this concept as are several seafaring nations' governments. The Russians, however, are designing particularly for the Northeast Arctic Passage with ships that include thicker hulls and the elimination of quarters, passageways, mess, doors, stairs, HVAC, food and water, and the bridge for much more cargo capacity and better balancing and reduced ballast. Conventional fuel savings should be significant, but since Rosatom (Russia's State Atomic Energy Corporation) has the concept lead, the Russian model will probably be nuclear-powered. **End OE Watch Commentary (Grau)**

Source: Thomas Nilsen, "Russia to develop Unmanned Ships for the Arctic," *The Independent Barents Observer*, 5 April 2018. <https://thebarentsobserver.com/en/arctic/2018/04/russia-develop-unmanned-ships-arctic>

...Cargo can be placed in the bow, the dimensions of the vessels will be optimized in a more favorable way, all making the voyage more effective in icy waters. Still, one of the powerful nuclear powered icebreakers will sail first opening the ice for a convoy of unmanned vessels enroute either to or from a domestic Arctic port or in transit between Asia and Europe.

The next step in the study will be to develop digital models and create model simulations for such autonomous cargo ships. The researchers emphasize how unmanned vessels will be safer than vessels operated by on-board crew members. Some 60-80% of all incidents on ships are caused by human error, either in navigation or for other reasons. Instead of people, the new autonomous ships will navigate using computer systems linked with radio signals and digital monitoring of the ship's movements in the water.

"This will provide economic savings, especially in the difficult conditions of the Arctic region," according to nuclear researchers.

The study refers to Norway and other European countries where several similar studies of autonomous shipping are conducted. In southern Norway, the industrial company Yara is will open a route for shipping using full-electric, autonomous containerships running between the fertilizer plant at Herøya and the port of Brevik. The first voyage will sail the route in 2020.

“The researchers emphasize how unmanned vessels will be safer than vessels operated by on-board crew members. Some 60-80% of all incidents on ships are caused by human error, either in navigation or for other reasons.”

UAV Support for Military Mountaineering

OE Watch Commentary: Russian troops have a significant presence in Armenia and the neighboring countries of Turkey and Azerbaijan are aware of this. Armenian forces have modernized with Russian systems such as the Iskander tactical-range ballistic missile. The Russian troops are located primarily with the Armenian 4th Corps at the 102nd Military Base near Yerevan, and are part of the Russian Southern Military District. The 102nd has three motorized rifle battalions, a tank battalion, a reconnaissance battalion, an engineer battalion, a signal battalion, a maintenance battalion, a supply battalion, four artillery battalions and two air defense battalions. It also has an operational-tactical air defense regiment, long-range Smerch multiple rocket launch systems and the Iskander. The primary recipients of the military mountaineering training reported on in the accompanying excerpted article from *TV Zvezda*, a Russian Ministry of Defense news channel, were evidently from the reconnaissance battalion.

The use of UAVs to support military mountaineering is an innovative adaptation of this technology. Assistance with route selection is clearly an advantage, as mountain paths and approaches change with weather and rock slides and the Pambak Mountain Range is one of 16 mountain ranges in Armenia. UAVs have a long loiter time, which is ideal when supporting slow, difficult mountain treks. UAVs may also spot enemies, provide fire coordinates for mortars and artillery, conduct post-strike assessment, search for injured or missing climbers and provide radio retransmission support when properly equipped. **End OE Watch Commentary (Grau)**

Source: Roman Zakharov. "В Армении разведчики ЮВО осваивают мастерство альпинизма под наблюдением беспилотников (In Armenia Southern Military District Recon Scouts Master Mountaineering Proficiency under Observation by UAVs)," *TV Zvezda*, 1 April 2018. <https://tvzvezda.ru/news/forces/content/201804010323-y7e4.htm>

Over 300 servicemen are taking part in the practical mountaineering training at the Pambak Range in the Transcaucasus. They are supported by some 50 modern military systems, including the UAVs... Immediately prior to starting the mountaineering instruction course, the recon scouts studied the safety regulations, the fundamentals of mountaineering knots, and the rules of behavior in the mountains. The men are currently rehearsing the elements of movement along steep slopes, and negotiating descents and ascents with regulation gear, armament, and specialized mountain equipment. At a rocky sector of terrain and a mountain sports complex the recon scouts will be instructed in how to negotiate obstacles and to perform complex mountaineering techniques utilizing an individual safety harness.

“Over 300 servicemen are taking part in the practical mountaineering training at the Pambak Range in the Transcaucasus. They are supported by some 50 modern military systems, including the UAVs.”