



Arkitka is the first of a new class of Russian nuclear icebreakers. She's designed to smash through Arctic ice up to 3 metres thick or more. But her long-delayed maiden voyage followed on a series of failed trials – and was marred by an inability to find thick enough ice to demonstrate her full potential, and equipment failures.

Instead of sailing the Northern Sea Route in splendour, last November she was back in her home port of Murmansk for more repairs. Like much in modern Russia, she has over-promised, under-delivered, and finding out what really happened is obscured by an anxious State, writes Robin Ashby.

But Project 22220 is an important exemplar of unique Russian capabilities which have been world-leading in their time, such as the AK47 rifle and the T34 tank. It is a clear statement of their investment in both defending their own Arctic interests and positioning themselves to benefit from the consequences and opportunities of climate change. These consequences have changed the economic and security perspectives of all the potential players as well. Military build-up, exercises and activities have increased. Russia has announced Zapad-2021 will take place this September. Zapad-2017 was an umbrella term which included substantial naval and other assets in the Arctic.

Military power projection is already serious, as further evidenced by the landing of a US B-1 bomber north of the Arctic Circle, at Bodo Military Air Station in Northern Norway, in early March 2021. White, windswept and icy it may be, but the Arctic can no longer be considered in isolation.

Despite its impoverishment, with an economy in size between those of Italy and Spain, Russia seeks to simultaneously collaborate in civilian and security domains, modernise their defence forces, and secure their large territory from potential threats.

Any analysis of military – strategic policy would quickly conclude that what is under way in Russia now meets at least three principal aims: Homeland defence; securing currently exploited and potentially emerging economic opportunities; and dominating the space for possible three-ocean power projection against its two principal rivals.

So this article outlines the context and some technological developments which will give it advanced capabilities to do so: "military icebreakers", air and missile defence; aviation; precision missiles; and infantry fighting vehicle. In a race in a fast-changing environment, Russia is certainly first out of the starting blocks.

Strategically the Arctic Ocean is the Silk Road for the 21st century. Given the country's historic preoccupation with ice free routes, it is extremely aware of what it means to be astride – and in control of - the emerging shortcut through the Arctic Ocean's Northern Sea route, joining the North Atlantic and onwards towards the Baltic Sea, the home of the Russian Baltic Fleet to the west; and to Asia and Vladivostok the home of its Pacific Fleet in the east. The Northern Fleet became Russia's 5th Military District on 1st January 2021.

THE PROTECTIVE DOME

In 2015 it was reported that Russia had plans to build 13 aerodromes and six cantonments along a 20,000 km coastline in the Arctic. The string of new and refurbished bases was described by then Northern Fleet commander Admiral Nikolay Yevmenov as a "protective dome", and which sums up the Russian approach now being implemented. (This is described more fully in a sister paper ZASHCHITNYY KUPOL - A 3-OCEAN "PROTECTIVE DOME" – Russian military bases in the Arctic, published at

https://www.academia.edu/45143268/Russian_military_bases_in_the_Arctic)

Many of the installations with radar detachments, missile defences and 2,500-metre runways described therein can receive Russian fighter aircraft, some being built on permafrost. During the Cold War forward deployment and staging of strategic bombers, even in winter, was often practiced. Such experience will not have been forgotten.

The radars improve domain awareness in Arctic airspace, and many bases are already equipped with modern sophisticated weaponry including the modernised 4K51 Rubezh coastal and ship-based missile systems (NATO reporting name – NRN – Styx) and the Pantsir-S1 medium altitude anti-aircraft weapon systems (NRN Greyhound, an example of which was captured in Libya in mid 2020). An Arcticised Pantsir-SA started to enter service in 2019.

A UNIQUE CAPABILITY - DUAL-USE MILITARY ICEBREAKERS

For many years, Russia has owned more icebreakers than a multiple of the rest of the world combined. The idea of using dual-use "military icebreakers" to secure Russian strategic dominance in the Arctic region has been seen before in Moscow's military-strategic calculations. But the scale and speed of the current investment in greater capabilities is very significant.

As well as Project 22220 (conventionally-ruled commercial and military route clearance Arktika and her four sisters), Russia is moving forward on its 3-strong Project 10510 Lider-class ("Leader") Steel for Rossiya, was cut on 6 July 2020 at the refurbished Zvezda shipyard north of Vladivostock. This is the first of these massive 69,700 tonne, 120 MW, nuclear-powered icebreakers (under contract by the Rosatom Corporation and due for completion in 2027).

According to Russian sources, icebreakers of this type "should raise transportation capabilities [in the Arctic] to a qualitatively new level." Moreover, this type of icebreaker (primarily intended to transport hydrocarbons) will facilitate the navigation of both civilian and military vessels.

This will be possible due to technical characteristics which include (according to Topwar.ru, January 29):

- Year-round operational capabilities ("practically unconstrained length of sea voyages" and the ability to operate for up to eight months with 130 people on board);
- Ability to overcome various types of ice up to two metres thick;
- New technological solutions, including spaces for helicopters and "special munition as well as

weaponry", assumed to be modular.

– The latest in radio-electronic equipment, which will secure steady navigation under even the most challenging geographic and climactic conditions.

Another step in this progression was on October 25, 2019, when the Ivan Papanin (Project 23550) military icebreaker/patrol ship was officially launched. According to Russian sources, the two icebreakers under construction for the Russian Navy at the Admiralty Shipyard in St Petersburg are diesel-powered, can penetrate 1.5 metre thick ice, and are to be equipped with a helicopter; 2 small boats; a naval gun; 8 Kalibr 3M-54 anti-ship missiles; and radio-electronic defence.

Trials are under way of modular weapons for different missions, including the Poliment-Redut ship-borne anti-aircraft weapons system. This includes the 9M69 with a 1200 km range and the 9M100 for short-range against aircraft, missiles and drones. They can be "quad packed" with 4 types in a single silo cell. Commissioning is now expected in 2023 and 2024. The Purga ("Blizzard"), of slightly modified design, is under construction for the FSB Border Service at the Vyborg Yard for commissioning in 2024, and a further one is planned.

This icebreaker class could be equipped with the 3M22 Tsirkon (Zirkon) scramjet anti-ship and land-attack hypersonic (Mach 9) cruise missile, with a reported striking distance of up to 1,000 kilometres. It was test launched by the Northern Fleet Project 22350 frigate Admiral Gorshkov in 2019, and is believed to be capable of taking a nuclear warhead as an alternative to a conventional one.

The latter prospect is a little way off as the missile is still undergoing tests and will not become fully operable for at least "a couple of years" (Sputnik Radio, January 21, 2020). But by introducing the Ivan Papanin class, Russia has demonstrated its ability to produce adaptable vessels combining civilian and military functions—a capability Western naval forces currently do not have, and which they would find to be constitutionally difficult.

NEW AIR AND LAND CAPABILITIES

On 28 February 2020, Russian Defence Minister Sergei Shoigu announced that by the end of the year the Northern Fleet "will receive more than 180 pieces of military equipment specifically tailored for the harsh conditions of the Arctic region," which will include, among others, "the K-549 Knyaz Vladimir, a Borei-class nuclear-powered ballistic missile submarine, and the Admiral Flota Kasatonov frigate" as well as "four capital ships, submarines and motor ships" New capabilities being deployed or under development include:

- Air and Missile Defence

Moscow announced it will be deploying two Resonance-N radar complexes to the Kola Peninsula by the end of 2020. Resonance-N is able to detect over the horizon ballistic missiles, cruise missiles, hypersonic targets and stealth aircraft. According to one source, it "will allow Russia to increase the military potential of the Northern Fleet and secure uninterrupted monitoring of the most missile-dangerous directions controlled by the fleet.

Russian military expert and commentator Igor Korotchenko said "We have created [...] the TOR-M2DT (NRN Gauntlet), which is specifically designed for Arctic conditions. It is capable of targeting almost all flying objects". This navalised Gauntlet is said to be the first air defence system in the world designed from the start to shoot down precision guided weapons day and night, in bad weather and jamming situations

- Aviation

Russian sources refer to the upgraded Tupolev Tu-160 (NRN Blackjack supersonic strategic bomber), being deployed to Alexandra Land. It can carry Kh-101/Kh-102 air-launched cruise missiles, with either conventional or nuclear payloads. If these missiles are used, they "will make it impossible [for the United States] to ward off a potential strike against their Thule Air Base in Greenland," military commentator Aleksandr Frolov has argued. Kh-101/Kh-102 can also be launched from Bear long range turbo prop bombers, which have resumed patrols over the Atlantic, and Su-34 (NRN Fullback all weather strike fighter)

- Precision missiles

The Kh-47M2 Kinzhal ("dagger") nuclear-capable air-launched ballistic missile was first deployed to airbases in Russia's Southern Military District in 2017. In mid-November 2019, according to one source close to the Ministry of Defence, a MiG-31K (NRN Foxhound) for the first time fired the missile in the Arctic. The MiG reportedly destroyed a land-based target with the Kh-47M2 missile, which travelled at a speed of Mach 10 and a reported accuracy of 1 metre.

- Infantry fighting vehicles (IFV)

Russian Deputy Minister of Defence Aleksey Krivoruchko says that these are one of the main priorities for the Russian Armed Forces in general and the Arctic region in particular. He mentioned a year ago a new-generation Russian tracked IFV, the Rytsar ("Arctic Knight"), based on the T-15 chassis and specifically designed for operations in the High North. Some Russian sources have claimed that it will soon become "the main ground-based means of military operations in the Arctic" – especially in the hands of the crack 61st Naval Infantry Brigade, which has served in the Donbass and Syria – starting to replace or augment the Toros Arctic-adapted MT-LB tracked armoured vehicle. Not much is currently known about specification or quantities planned.

CONCLUSION

The Centre for Strategic and International Studies provides a pithy summation : 'Russia's renewed military presence in the Arctic [and with equipments like these – our addition] secures its territory and guarantees its freedom of operation. This increase in investment and capacity also restricts the movement and access of NATO and potentially China through interdiction capabilities in both the maritime and air domains. Most critically, Russia is signalling the military capability to potentially project power over the Arctic "avenues of approach" to the United States [and China] and shape the future of this increasingly vital and contentious region.'

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