

# ARCHIVED REPORT

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## Project 956 (Sovremenny)

### Outlook

- Cutting off the supply of Ukrainian gas turbines has ended any Russian construction of large surface combatants
- Diesel-powered alternative is the only practical solution
- Any future destroyers likely to be entirely new designs
- This report will be archived next year

### Orientation

**Description.** A destroyer oriented toward anti-ship warfare, with anti-air and anti-submarine capabilities restricted to self-defense. Russian sources designate these ships as *eskhadrennyy minonosets*, literally translated as "fleet minelayer," which is actually the Russian term for destroyer.

#### Sponsor

Severnoye Project Design Bureau  
St. Petersburg  
Russia  
(Design authority)

#### Rosvooruzhenie

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**Licensees.** No production licenses have been granted, although there are reliable reports of negotiations with China.

**Status.** In service.

**Total Produced.** Soviet planning is believed to have originally envisioned the construction of 28 ships of this class. Of these, construction was started on 21 hulls, some 17 of which were completed for the Russian Navy. Thirteen were withdrawn from service during the 1990s, but four were returned to service during 2005-2006. Two Russian destroyers of this class were stricken in 2008.

The Chinese have acquired two ships by completing suspended Russian hulls and ordered two as new-build ships, both of which were delivered and are in service.

### List

<u>Name</u>	<u>Shipyard</u>	<u>Laid Down</u>	<u>Launched</u>	<u>Commissioned Date</u>
China				
DDG-136 <i>Hangzhou</i>	Severnaya Werft	11/1988	5/1994	12/25/1999
DDG-137 <i>Fuzhou</i>	Severnaya Werft	2/1989	4/1999	1/16/2001
DDG-138 <i>Taizhou</i>	Severnaya Werft	6/2002	4/2004	12/28/2005
DDG-139 <i>Ningbo</i>	Severnaya Werft	6/2003	6/2004	9/28/2006

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<u>Name</u>	<u>Shipyard</u>	<u>Laid Down</u>	<u>Launched</u>	<u>Commissioned Date</u>
<b>Russia</b>				
715 <i>Bystry</i>	Zhadanov North	10/1985	11/1987	9/30/1989
754 <i>Bezboyaznenny*</i>	Zhadanov North	1/1987	2/1989	11/28/1990
620 <i>Bespokoynyy</i>	Zhadanov North	4/1987	2/1992	12/29/1993
610 <i>Nastoychivy</i>	Severnaya Werft	4/1988	2/1991	3/27/1993
434 <i>Admiral Ushakov</i>	Severnaya Werft	4/1988	12/1991	4/17/1994

\* This ship is reported to have been decommissioned.

**Note:** Information from Russian sources is inconsistent and details change frequently. Thus, the above list is liable to change without notice.

**Application.** These ships are tasked with anti-ship missions, including medium- and short-range attacks on heavily defended groups of enemy ships. These ships do come equipped with minelaying rails and can carry up to 40 mines each, but minelaying is not a primary role. They have minor anti-submarine warfare (ASW) and anti-air warfare (AAW) roles, primarily for self-defense.

**Price Range.** The manufacturer is quoting prices for these ships ranging from \$450 million to \$800 million. The former price is believed to represent the completion cost of a hull already under construction, and the latter a new hull built to customer specifications.

## Contractors

### Prime

<b>Severnaya Werft</b>	<a href="http://nordsy.spb.ru/">http://nordsy.spb.ru/</a> , Ulitsa Korabelnaya 6, St Petersburg, Russian Federation, Tel: + 7 812 3242959, Fax: + 7 812 7847678, Email: <a href="mailto:info@nordsy.spb.ru">info@nordsy.spb.ru</a> , Prime
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Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 22 Commerce Road, Newtown, CT 06470, USA; [rich.pettibone@forecast1.com](mailto:rich.pettibone@forecast1.com)

## Technical Data

	<u>Metric</u>	<u>U.S.</u>
<b>Dimensions</b>		
Length, Overall	155.7 m	510.8 ft
Length, Waterline	145.0 m	475.7 ft
Beam, Overall	16.8 m	55.2 ft
Beam, Waterline	12.2 m	40.0 ft
Draft, Normal	6.0 m	19.7 ft
Draft, Maximum	8.8 m	28.9 ft
<b>Displacement</b>		
Standard	6,500 tonnes	
Full Load	7,940 tonnes	
Maximum	8,480 tonnes	
Aviation Fuel Stock	5 tonnes	
<b>Performance</b>		
Speed, Cruising	33 kmph	18 kt
Speed, Maximum	60 kmph	32 kt
Range	7,200 km at 33 kmph 2,500 km at 60 kmph	3,920 nm at 18 kt 1,345 nm at 32 kt
Endurance	30 days	
Crew	30 officers, 296 enlisted	

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	<u>Type</u>	<u>Quantity</u>
<b>Armament</b>		
Guns		
Medium Caliber	AK-130 130mm L70 multipurpose	2x 2
Point Defense	AK-630 AD 30mm Gatling	4
Missiles		
SSM	Raduga Moskit	8
SAM	Altair 9M-38M1 Smerch	48
Torpedoes		
Tubes	533mm	2x 2
Torpedoes	TEST-71ME anti-ship	4
	TEST-96 anti-submarine	4
Mine Rails		2
Mines/Depth Charges		40
Aircraft	Ka-27 Helix or Ka-25 Hormone B OHT	1
<b>Electronics</b>		
Radar		
Air/Surface Search	MR-760 Fregat-MP	
P-80/P-270 Fire Control	Ehkran	1
Smerch Fire Control	Orehk	6
130mm Fire Control	MR-184 Uragan	1
30mm Fire Control	MR-105 Turem	2
Navigation	MR-212 Volga	3
Sonar		
Hull Mounted	MG-335 Platina	1
Electronic Warfare		
Surveillance ESM	MP-405M Start	2
OTH-T ESM	MR-407	4
Barrage Jammers	Krab-13	2
Deception Jammers	Krab-14	2
SIGINT	Cross Loop	1
COMINT HF/DF	Sprage Star	1
Decoy Launchers	RK-2 for active decoys	2x 2
	RK-10 chaff/flares	8x 10
Anti-Torpedo System	RBU-1000	2
Laser Warner	Spektr-E	10
Command & Control Systems		
Datalinks	Princep	2
	Bell Crown	2
IFF	Nichrom	1
	Salt Pot	2
Command System	Sapfir-U Second Captain	1
<b>Propulsion</b>		
Steam Turbines	GTZA-674 (geared)	2x 50,000 shp
Boilers	KVN-98/64 pressure-fired	4
Electrical Power Generation	Diesel engines	2x 1,250 kW
		4x 600 kW
Propellers	4-bladed, fixed pitch	2
	Transverse thrusters	2

**Design Features.** The Project 956 Sovremenny class is a direct derivative of the Project 1134A (Kresta II) class BPKs. It retains the hull lines and powerplant arrangements of the older design, and much of the internal layout. The primary visual differences are the enlargement of the foredeck into a proper forecastle, significantly larger and more capacious superstructure areas, and, most noticeably, the installation of two twin

automatic AK-130 130mm L70 gun mounts, one forward and one aft.

The hull design is a standard Russian full waterplane design with exaggerated sheer and flare to the bows. The forecastle deck ends abeam of the bridge, where the two large quadruple launchers for P-270 Moskit missiles are located. Extensive shielding from rocket blasts is located at this point. A telescopic helicopter

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hangar is located on the 02 level, 3/4 aft. As is common with similar installations, this hangar is mechanically unreliable and leaks badly. The helicopter deck itself is located too high in the ship and is subject to excessive ship motion. For these reasons, the Ka-27 helicopter intended for these ships is rarely carried, and the helicopter deck is used by the crew for sporting and other recreational activities. The hull terminates in a squared-off stern section.

Internally, watertight cross-deck bulkheads are restricted to the minimum number required for structural integrity. Where a Western design would have additional watertight bulkheads for extra strength and damage control, the Sovremenny has non-load-bearing wooden partitions. Damage control capabilities are strictly limited, with only a single firehose point amidships, no fog nozzles or sprinkler systems, and no centralized damage control station. Fires on Russian warships frequently spread out of control very quickly and become ship-threatening. Such fires have reportedly left two ships of this class damaged beyond repair. Construction standards are variable, with extremely crude welding and rough castings evident in many places; however, more critical areas do reflect higher construction standards.

Living accommodations are surprisingly good. The enlisted crew is provided with sleeping compartments for between six and 13 sailors. Senior ratings get the smaller, more private compartments; officers are provided with two- or three-berth staterooms. The mess decks can accommodate 110 members of the crew at a single sitting. In contrast to the days of the Soviet Union, the food served to the officers is now identical to that served to enlisted personnel. One of the mess decks can be converted into a movie theater. The Volna-S antenna system, probably including an omnidirectional COMINT receiver, also functions as a wideband television receiver that feeds TV sets in the recreational areas.

Propulsion machinery is the standard steam turbine layout adopted by the Project 1134 and 1134A classes. Four pressure-fired boilers, operating at 640 kg/cm<sup>2</sup> and 500°C (915 psi and 930°F), drive two GTZA-674 steam turbine sets, each generating 50,000 shp. The ship has two shafts, each with a four-bladed, fixed-pitch screw. The Sovremenny class is probably the last major surface combatant to be built with steam turbine propulsion. The lower temperature and pressure conditions used probably make for a safer and more reliable installation than the notorious U.S. 1,200-psi plant, although the decline in safety standards over the last decade has resulted in a number of Russian ships with this powerplant being burned out after explosions. The problems in maintaining this steam plant are reputedly

the reason for the withdrawal of most of this class from active Russian service.

The sonar/ASW fit of these ships is focused on self-defense. Effectively, these ships have far less ASW capability than the American FFG-7 class frigates. The MG-335 Platina sonar can be loosely compared to the U.S. SQS-56 on the FFG-7s, while their 53-centimeter torpedo tubes fall between the U.S. Mk 32 and ASROC in capability. There is no provision for a towed array and no internal volume for the processing equipment associated with such sensors.

**Operational Characteristics.** The Sovremenny class is undeniably a substantial design. It is well equipped and well armed, yet the hull size is enough to carry its armament without ill effects on seakeeping. Ships serving with the Northern Fleet are reported to have been able to accommodate the heavy seas and adverse weather conditions encountered in the Arctic and midwinter North Atlantic. Living conditions aboard these ships are reputed to be comparatively good, a major reason for their retention at a time when the Russian Navy is moving to an all-volunteer structure.

The limitations of the design are also marked, however. The retention of a steam turbine powerplant limits the appeal of the ships on manpower requirement and safety grounds. Normally, steam turbine ships have larger crews than their gas turbine equivalents; this is not the case with Sovremenny, though, which implies that the steam plant is highly automated.

The primary armament of the Sovremenny class is the battery of eight Raduga 3M-80 (NATO code name SSN-22) Moskits, held in two quadruple launchers abreast of the bridge. No reloads are carried. This is an active radar homing fire-and-forget weapon believed to be fired in ripples of four. Moskit has a launch weight of 4 metric tons and a warhead weighing 300 kilograms. It has a range of 120 kilometers at a speed of Mach 2.5.

The secondary anti-ship armament consists of two twin AK-130 130mm L70 gun mounts. These are fully automatic, water-cooled guns with a sustained rate of fire exceeding 65 rounds per minute per barrel and a short-duration burst capability of 90 rounds per minute. This latter option causes rapid barrel wear. The AK-130 fires a 27-kilogram shell to a range of 28 kilometers. Magazine capacity is 500 rounds. Munitions options include semi-armor-piercing explosive, semi-armor-piercing incendiary, proximity-fuzed explosive, fragmentation, and light-cased explosive.

There is also an electronic jamming shell that carries a jammer with an effective radius of 700 meters and operates between 1.5 and 120 MHz. The guns are controlled by an MR-184 Lev (NATO code name Kite

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Screech) combined electro-optic and radar fire control system. The full system of guns and fire control is designated Yakhont-M, Yakhont being the combination of MR-145 radar and 100mm gun.

Air defense is provided by the Altair 9M-387M1 Smerch (NATO code name SAN-7 Gadfly) missile system. This is a developed version of the land-based 9K-37 Gang (NATO code name SA-11), and can be loosely compared with the U.S. Navy Standard SM-1MR/New Threat Upgrade. A simplified export version is designated 9M-38ME Shtil and lacks the features associated with NTU. The Smerch missile is a single-stage weapon with a speed of Mach 3, and a range of up to 25 kilometers for approaching targets and 6 kilometers for crossing targets. Maximum attainable altitude is 15,000 meters, with a minimum engagement altitude of 10 meters. The Smerch weighs 690 kilograms, with a warhead of 70 kilograms. It uses combined programmable autopilot command and semi-active radar homing guidance (semi-active only in Shtil). Maximum target speed is 3,000 kmph (1,867 mph).

The magazine arrangement consists of two oval 12-missile carousels that feed a single rail launcher. The carousel is loaded via two dedicated hatches to the rear of the launcher assembly. The launcher itself has a rate of fire of one round every six seconds. Six Orekh guidance radars (NATO code name Front Dome) are provided. Time elapsed from cold condition to ready-to-fire is less than three minutes. The missile fire control system has an automatic handover system, which allocates targets leaking through the defense screen to the point defense systems.

Point defenses consist of four AK-630M2 Gatling guns controlled by two MR-105 Turem (Bass Tilt) fire control radars. These have a maximum range of 4,000 meters – effective range is less than 1,500 meters – and a rate of fire of 4,000 rpm. The guns work in two pairs; the fire control system attempts to place the target in the crossfire from the two guns. Ammunition stowage is 8,000 rounds.

The final component of the main armament consists of two twin 533mm torpedo tubes, one on each side of the ship. These may fire either TEST-71ME passive homing anti-ship torpedoes or TEST-96 active/passive homing anti-submarine torpedoes. Official literature lists the outfit as being four of each, but it is not clear whether the ship actually carries reloads for its tubes; it may well be that the two sets of four are alternates. A wake-homing alternative guidance system for the TEST-96 is under development that will be suited to anti-ship work. The TEST-71ME is 7.935 meters long, weighs 1,820 kilograms, and has a warhead weighing 205 kilograms. It is electrically powered, and has a

range of 15 kilometers and a speed of 35 knots. It is probable that this weapon is a self-defense torpedo and fulfills much the same function as the U.S. ASROC. The time-to-distance figures are quite similar, allowing for ASROC's long set-up time.

There are also two sets of rails on the stern, which can be used either for minelaying or for dropping depth charges, and two RBU-1000 anti-torpedo rocket launchers with 120 rounds.

The anti-submarine equipment is cued to target by an MG-335 Platina sonar, a hull-mounted medium-frequency set very similar to the U.S. SQS-56 or the British Type 2016. This is primarily a defensive system. It acts as a close-in controller for the 53-centimeter torpedo tubes and also warns of approaching hostile torpedoes. A last-ditch anti-torpedo defense is provided by the two RBU-1000 rocket launchers, which are intended to countermine the approaching torpedo. There are, apparently, no torpedo decoys similar to those deployed by Western navies; Russian doctrine prefers hard kill for this role.

The radar suite includes an MR-760 Fregat MP (NATO code name Top Plate) 3-D radar operating in the E/F-band. This consists of two canted phased arrays used for air search. The Fregat complex also feeds situational data to the second captain. Fregat operates with 30-kilowatt peak power when pulse-compressed and has a four-second data rate. Maximum elevation is 55°. Maximum range against an air target is 130 kilometers. The associated automatic data extraction computer can carry up to 20 target tracks.

Fire control for the Moskit missiles is provided by an Ehkran (NATO code name Band Stand) combined radar/datalink system. The version installed on the Sovremenny class operates in the D-band, tracking the outbound missiles and receiving ISAR telemetry from them.

The electronic warfare suite on the Sovremenny comprises four large Wine Glass ESM (electronic support measures) antennas. These are high-resolution systems intended to provide over-the-horizon targeting (OTH-T) information to the P-270 missiles. The primary defensive ESM suite is controlled by two Start (Bell Shroud) ESM systems intended to provide early warning of hostile radars, as well as situational data, to the second captain. The jammers are the well-known Krab-13 (Bell Squat A) noise jammers and Krab-14 (Bell Squat B) deception jammer. The ship is equipped with two RK-2 150mm twin-barreled decoy launchers. These launchers fire either a parachute-deployed offboard radiating decoy (similar in concept to the British Siren or U.S./Australian NULKA systems) or chaff rounds cut to size in a below-decks chaff-cutting

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room. There are also eight RK-10 10-barreled 120mm decoy launchers firing SR-50 chaff rounds, SOM-50 IR flare/anti-laser aerosol rounds, and SK-50 cartridges that dispense a mixture of chaff, flares, and anti-laser smoke.

The Light Bulb datalink is the Russian equivalent of Link 16/JTIDS. It receives targeting data from shore command stations, as well as data relayed from brigade

flagships. Presumably, it is not the receiver datalink from the P-270 missiles. On brigade flagships, Light Bulb operates in both receive and transmit mode, while in other ships it operates in receive-only mode. It is not apparent whether this is a difference in the equipment or simply in tactical usage. Bell Crown is the Russian equivalent of Link 11 and is primarily used for communication with aircraft and helicopters.



Project 956 Sovremenny Class

Source: Russian Northern Fleet

## Variants/Upgrades

**Project 956A.** The most recent units of the Sovremenny class differ from the preceding 14. The anti-ship missile tubes are longer and have a significantly modified end-cap. This reflects the adoption of an enlarged and improved version of the Raduga Moskit with a 320-kilogram warhead and an active radar homing system.

The missiles will cruise to the target at Mach 2.5 and accelerate to Mach 3.5 for the final attack run. Range has been increased from 250 kilometers to over 300 kilometers. The 956A also carries a modernized version of the 9K-37 Smerch missile with extended range. This is the naval equivalent of the land-based SA-17 missile. Original plans were to build hulls 15 to 21 to 956A standards; only three such ships were completed, and the balance has been sold to China.

**Project 956E.** Export derivative of the Sovremenny supplied to the Chinese Navy, differing in that it is armed with the Raduga Moskit anti-ship missile, lacks the Light Bulb datalink system, and has a Harpun radar in place of the Ehkran set under the Band Stand antenna

radome. These ships appear to have been obtained by modifying Project 956A hulls under construction.

**Project 956M.** This variant has nearly the same technical description as the Project 956A, the only significant difference being the installation of the Kortika gun-missile close-in weapon system (CIWS). Recently, the designation Project 956U has been used for these ships, suggesting that the original Project 956U (see separate listing) has been discontinued.

**Project 956U.** A drastically modernized version of the Sovremenny originally intended for the last ships of the series. The hangar and helicopter platform were enlarged and lowered one deck, the aft AK-130 turret and 9K-37 launcher were removed, and a 64-round vertical launch system that is interchangeable with the U.S. Mk 41 VLS was installed. This system appears to have been designed to carry the 3M-55 Klub missile, but the Russians claim that this launcher can also fire versions of the 9K-37 missile. In various exhibitions, the Russian designers have claimed that all U.S.

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missiles compatible with the Mk 41 VLS, specifically the Tomahawk, Harpoon, VL-ASROC, and Standard SM-2 Block IIIs and IVs, would be fully compatible with this VLS. They also state that the vertical launch derivatives of 9K-37 are fully compatible with the U.S. Mk 41.

On this version, the forward single rail launcher was removed and replaced with a second VLS box, probably 16- or 32-round capacity. The large box launchers beside the bridge were also to be eliminated, and replaced by an extended bridge structure offering enlarged command and control spaces. This version appears to have been suspended, along with plans for the last seven hulls of this class.

**Project 956.1.** A rather odd export variant of 956U, apparently a 956/956U hybrid. This design has the cleared stern and aft VLS of Project 956U combined with the single rail launcher forward and box launchers beside the bridge of the 956. No additional superstructure volume is provided. This variant has not been seen since it was announced during the 1993 Abu Dhabi Defense Exhibition, and may have represented a hurried attempt to have a VLS-equipped ship available at that show. The sales prospects of this variant are not convincing.

**Project 956EM.** The designation applied to the latest pair of Project 956 class destroyers ordered by China. These ships have a new combat control system, a 9M38 (SA-N-12) SAM (range 45 km), 3M80MBE Moskit SSMs (range 240 km), and two Kashtan CIWS replacing the AK-630 mounts. Each Kashtan system comprises a 3R86E1 command module and two 3R87E combat modules. Each 3R87E combat module has two 30mm GSh-30k six-barrel automatic guns (range 0.5~4 km) and two four-round packs of 9M317 (SA-N-11) air defense missiles. The aft 130mm main gun turret has been removed. A second Band Stand radar is installed on top of the helicopter hangar, providing the target acquisition capability for the Kashtan CIWS.

**Project 21956.** Announced by the Severnaya Shipyard at the end of 2007, the Project 21956 destroyer represents a combination of the Project 956EM and the Project 1155 Udaloy class destroyers. The hull superstructure forward of the funnels is that of the Project 956EM, while the propulsion plant funnels and superstructure aft to the fantail are that of the Project 1155. The twin 130mm mount forward is replaced by a single mount, and the single-tail missile launcher in B position has been replaced by a vertical launch system. The bridge is extended sideways, occupying the area previously used by the two large quadruple launchers for P-270 missiles.

The surface-to-surface missile battery is relocated aft to a vertical launch silo just forward of the helicopter hangar. The changed machinery plant is shown by the replacement of Project 956EM's two funnels with the two-pairs-of-two layout used by Project 1155. Aft of these funnels is a hangar for two helicopters. Project 21956 is specifically intended for the export market.

Even when it was first announced, this design was criticized by Russian sources as being old-fashioned (citing the old revolver-type missile launchers as an example) and equipped with obsolescent systems. Despite this criticism, the Project number was also applied to a new-generation destroyer for the Russian Navy. It appears unlikely that a new warship would be equipped with weapons and systems that were considered obsolete five years ago.

A more likely scenario is that the failed export design was taken as the basis for a radical revision and updating effort that integrates the latest available weapons and sensors into a hull that incorporates current design practices. According to figures released by the Severnoye Design Bureau, the new design is some 8 meters longer than the original and weighs 2,000 tons more. Thus, it is obvious that considerable design development has taken place.

Looking at graphics of the new Project 21956, the hull of the old design is clearly visible but has been topped by an entirely new superstructure, the first deck of which runs bow to stern. This full-length deck is faired inward and appears to accommodate the ship's batteries of guided weapons. It also includes the flight deck that was previously raised above the main deck. The old telescoping hangar has been replaced by a larger structure holding two helicopters. Also, the midships area around the two pairs of funnels has been faired into the hull, as has the forward superstructure.

This new Project 21956 would appear to be a valid warship design, but there is no solid evidence that the design has moved beyond a paper project.

**Other, Minor Variants.** The first three Sovremenny ships mounted the older MR-700 Fregat radar rather than the MR-760 Fregat-MP, while numbers four and five mounted an interim system designated Fregat-M. These variants reflect the nonavailability of the older systems. Some ships also do not have the Wine Glass ECM system, again reflecting production problems. An undesignated design, released in 1995, shows reloadable tubes for P-270 Moskit missiles next to the bridge, with an extended superstructure aft to hold the reload magazine. It is not known if this represents an actual design or just a theoretical proposal.

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### Program Review

**Background.** The first Sovremenny class ship was laid down in 1975 and started to run trials in 1980. The construction pattern established was for each brigade flagship to be ordered in one year, with the three two-ship battalions to be ordered in successive years. This pattern was followed for the first two brigades, all of which were completed. Then followed a three-year gap while an improved version of the design was prepared. The construction cycle started again in 1984 with orders for the first of the Project 956A version. These ships suffered serious delays, and only three were ever to appear.

In 1991, the construction of this class slowed to almost a standstill. This partly reflected the critical decay of the Russian military/industrial infrastructure, and partly the rapidly accelerating political crisis. At this time, it was reported that one of the ships was being sold to Cuba; this never took place, however.

#### *The First Export Variants*

The Sovremenny class was released for export early in 1993, with diagrams of the ship being shown at the Abu Dhabi Defense Exhibition. One new variant shown at that time had a modified stern section, incorporating a clone of the U.S. Mk 41 VLS capable of handling both Russian and U.S. missiles. These export efforts appear to have met with some success. The Chinese commenced negotiations for the purchase of two Sovremenny units then under construction, and also for a local production license. The Chinese eventually finalized the deal for two ships during Premier Li Peng's visit to Moscow in December 1996, although the license production aspect remains unconfirmed.

The current version offered for export is the Project 956E, a simplified variant of the original 956 armed with the Moskit missile and a revised radar fit. The 956.1 variant exhibited at Abu Dhabi appears to have been discontinued – in any case, it bore every mark of being very much an ad hoc solution – and there were reports that it would be replaced with a version that sported an enlarged helicopter facility aft and a VLS forward.

Rather than increasing, the Russian Navy inventory of this class started to decrease. At least seven Project 956 class ships were withdrawn from service due to poor maintenance and, in two cases, to onboard fires that damaged the ships beyond repair. By mid-1999, the Russian Navy was down to seven Project 956 and three Project 956A class ships in service, with no prospect of any more being completed. This number declined still

further in 2000-2001, with the fleet falling to five in-service ships.

#### *Chinese Orders Start*

The first of China's pair of Project 956 class destroyers, now named the *Hangzhou*, was delivered to the Chinese Navy in December 1999 and sailed for China in March 2000. The second ship, the *Fuzhou*, followed in December 2000. At that time, there were reports from a number of sources of a possible \$500 million deal for the two remaining Project 956A class ships that were still unaccounted for. These reports were confirmed in early 2002, although the details of the deal were quite different from earlier reports. The ships ordered were to be new construction and built to a modified standard that would include long-range Klub missiles to supplement the medium-range Moskits. The deal also included options on two more ships. It has been reported that the Chinese new-construction Project 956 class ships incorporated components taken from existing Russian ships now withdrawn from service.

The Chinese Sovremennys are reported to have played a role in the events leading to a mid-air collision between a Chinese J-8-II Finback fighter and a U.S. Navy EP-3E Aries II electronic reconnaissance aircraft. According to reports of the incident, the *Hangzhou* was on exercises, with the EP-3E observing (and presumably recording) whatever electronic emissions were to be obtained. The collision took place when the Aries was buzzed by the Chinese fighter. The incident, if nothing else, shows the level of concern raised by Chinese ownership of these powerful destroyers.

The next pair of Chinese destroyers was launched in 2004. The first ship, *Taizhou* (pennant number 138), was launched in April 2004 and delivered to China on December 28, 2005. The second ship (pennant number 139) was delivered in August 2006. A press report published in late 2007 stated that China planned to purchase an additional six Project 956EM class destroyers as part of a naval procurement package that would also include eight submarines. This never happened.

#### *Back to Russia*

In 2004, one of the Russian Project 956 destroyers that had been stricken for scrapping was refitted and restored to the active fleet, the first time this happened to a warship listed in this service. With the refitting of the ship, the number of Project 956 destroyers in the Russian fleet then stood at five. A further destroyer of



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this class was returned to service in 2005, and two more followed in 2006.

With the addition of these ships, the number of Project 956 destroyers in the Russian fleet peaked at eight. However, the number quickly started to decline again when two ships were withdrawn from service in 2008. In that year, the Severnoye Design Bureau released news of an updated version of the Project 956EM class. Designated Project 21956 (21 presumably for the 21st century), this is a merger of the Project 956 and the Project 1155 Udaloy class destroyers. It features the basic hull of the Project 956, but with the four funnels (in two side-by-side pairs) of Project 1155. This indicates a shift to gas turbine propulsion, eliminating a weakness in the original 956 design. The twin turret forward has been replaced by a single mount and the single rail launcher by a VLS. The large box launchers beside the bridge for P-270 missiles have been removed, and the ship's anti-surface weapons are housed in a VLS box.

The 21956 design is listed by Severnoye as being for export, with China claimed as a client, although there is no evidence to support this. Indeed, there is no word of

any export interest in this design. However, in 2013 there were reports that the Russian Navy was interested in the design, and some of these stories indicated that the Russian Ministry of Defense had ordered a destroyer of this class. The situation has been complicated by claims from Russian media sources that a nuclear-powered destroyer is to be built. There is no indication yet as to whether the destroyer in question is a new nuclear-powered design or a nuclear-powered adaptation of Project 21956, or whether, in fact, the nuclear-powered part of the reports is erroneous.

The current political and military confrontation between Russia and Ukraine has had a crippling effect on the prospect for building additional Project 956 destroyers. The gas turbines needed to power the modernized versions of this design are only obtainable from Ukrainian companies. In view of the de-facto invasion of Ukraine by Russian forces and the costly fighting that has been taking place for over a year, the chances of Ukraine allowing the supply of the required gas turbines are slim. It is probably significant that neither the alleged DDGN nor the Project 21956 proposals have appeared in current Russian construction schedules.

## Contracts/Orders & Options

<u>Contractor</u>	<u>Award (\$ millions)</u>	<u>Date/Description</u>
Northern Shipyard	800	Dec 1996 – Two Project 956E destroyers sold to China.
Northern Shipyard	1,000	Jan 2002 – Order for two new-build Project 956EM class destroyers for China.

## Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
	1964	Design studies begin
	1972	Decision made to initiate construction
	1974	First ship laid down
	1980	First ship completed
	1981	Trials completed
	1984	Upgraded Project 956A initiated
	1991	Construction activity suspended
Aug	1993	Construction of class resumed
Dec	1996	China purchases two ships
	1998	China's first ship launched
Apr	1999	China's second ship launched
Mar	2000	First of China's ships commissioned
Jan	2001	Second of China's ships commissioned
Jan	2002	Second pair of ships ordered
	2004	Second pair of Chinese ships launched
Dec	2005	Third Chinese Project 956 delivered
Aug	2006	Fourth Chinese Project 956 delivered
	2008	Project 21956 derivative announced

## Project 956 (Sovremenny)

### Worldwide Distribution/Inventories

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**China** Four hulls in service

**Russia** 17 originally commissioned, only five operational at time of writing (the status of one of these is questionable)

### Forecast Rationale

The current situation between Ukraine and Russia has firmly put to rest any hopes for additional production of the Project 956 class. Quite simply, there are no gas turbines available to power these ships or, indeed, any other large surface combatant. Although the Russians are attempting to establish a production line for propulsion gas turbines, it will be 2017 before the first prototypes are ready, and 2022 before production quantities can be delivered.

On paper, it might be possible to start building steam-powered versions of this design (essentially the 1970s version of these ships), but industrial reality is that this is implausible. Steam-powered warships haven't been built since the 1980s and the required infrastructure (both human and mechanical) is gone. The gas turbine famine may provide an additional incentive to keep the remaining steam-powered 956s in service, but that is all.

It is possible that a diesel-powered derivative of the 956 could be built. However, the low power density of diesels and the cramped spaces within the 956s are

likely to mean that the resulting ship will be slow, perhaps capable of no more than 20-22 knots. This would be adequate to support amphibious operations, but nothing more ambitious than that.

This leaves the question of nuclear power. Nuclear-powered ships offer design challenges that are radically different from those of their conventionally powered equivalents. It seems unlikely that converting a gas turbine ship to nuclear power would be a viable effort. Therefore, our assumption at this time is that the alleged nuclear-powered destroyer is a separate design study from Project 21956. It may be a serious effort to produce a nuclear-powered missile destroyer, but it also might simply be an exercise to show nuclear power enthusiasts why a nuclear-powered destroyer is a bad idea.

In view of the current situation and the age of the basic design, there is now virtually no chance that any further construction of Project 956 class ships will take place. This report will be archived next year.

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