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Russia seeks ₹125 crore to carry out repairs on INS Chakra

Josy Joseph

NEW DELHI, February 13, 2018 02:28 IST

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irreversible that happened there. That is what I am aware of," he said. The Defence Ministry did not respond to queries from *The Hindu*. Meanwhile, government sources indicate that they want responsibility fixed for the damage suffered by **INS Chakra**. As part of the firm stand taken by the government, it is believed to have put on hold the proposal to appoint Inspector General of Nuclear Safety Vice Admiral Srikant as the new Commandant of the New Delhi-based National Defence College (NDC), until responsibility is fixed for the Chakra mishap. Vice Admiral Srikant is the senior most naval officer responsible for nuclear submarines. Lt. Gen. YVK Mohan moved out as NDC commandant early in January to take over as the General Officer Commanding IX Corps headquartered at Yol in Himachal Pradesh. Denying any specific knowledge of the Ministry's move, Navy officials admitted that a series of appointments in the Navy are currently waiting to be cleared by Defence Minister Nirmala Sitharaman and Vice Admiral Srikant's is also among them.

Centre trying to fix responsibility for damage to nuclear submarine

Russian authorities have demanded over \$20 million for rectifying the damage suffered by nuclear submarine **INS Chakra**, which was dry-docked last week, even as the government is seeking to fix responsibility for the accident. According to defence sources, Russia has quoted \$20 million (approximately ₹125 crore) for fixing the front portion, which was damaged while the submarine was entering the harbour in Visakhapatnam. The details of the accident emerged in early October last year. The developments around **INS Chakra** come even as the indigenously built nuclear ballistic missile submarine **INS Arihant**, which had suffered extensive damage because of human error over a year ago, is yet to be back to active sailing. After extensive flushing and replacement of many of its pipes, Arihant was floated recently but sailing it will take more time, the defence sources said. On **INS Chakra**, Russian officials have conveyed to India that they would be making all the replacement panels in their own facility and would not be using any Indian facilities. The almost 5x5 ft. panels of the sonar dome would be brought to Visakhapatnam and fitted on to the leased submarine. **'Nothing irreversible'**

In an interview to *The Hindu* last week, Russian Ambassador Nikolai Kudashev said he was not aware when the nuclear submarine would sail again. "As far as I know the submarine is under repairs as of now but in the near future it is expected to be back in operation. There is nothing

Costly affair

India leased the Akula-II class nuclear attack submarine from Russia for a 10-year period in 2011 for over \$600 million. It was inducted into service as **INS Chakra** in April 2012

THE DAMAGE

- **INS Chakra** suffered damage while entering the harbour in Visakhapatnam
- A large hole was formed in the sonar dome in the forward portion
- Damage to **INS Chakra** was reported in October 2017



KEY STATS

Weight: **8,140** tonnes

Length: **114** metres (approx.)

Grand entry: The induction of the submarine into the Navy in Visakhapatnam • FILE PHOTO

THE PROBE AND AFTER

- A Russian team visited India for a joint investigation in October 2017
- Russia has quoted \$20 million (approximately ₹125 crore) as the repair cost

Source: <http://www.thehindu.com>



ATLANTIC OCEAN (Feb. 5, 2018) An F/A-18F Super Hornet prepares to land on the flight deck aboard the aircraft carrier **USS Harry S. Truman (CVN 75)**. *Truman* is underway conducting a composite training unit exercise (**COMPTUEX**), which evaluates the strike group's ability as a whole to carry out sustained combat operations from the sea, ultimately certifying the Harry S. Truman Carrier Strike Group for deployment. (U.S. Navy photo by Mass Communication Specialist 2nd Class Tyrell K. Morris/Released)

Secretary of the Navy Names Navy's Newest Expeditionary Fast Transport Ship

Release Date: 2/13/2018 5:45:00 PM

From SECNAV Public Affairs



WASHINGTON (Feb. 13, 2018) Graphic illustration of the future Expeditionary Fast Transport (EPF) ship **USNS Newport (T-EPF 12)**. (U.S. Navy illustration by Mass Communication Specialist 1st Class Raymond Diaz/Released)

WASHINGTON (NNS) -- On Feb. 13, Secretary of the Navy Richard V. Spencer announced the next Expeditionary Fast Transport (EPF) ship will be named **USNS Newport (T-EPF 12)**. This is the fourth ship to bear the name honoring the

Rhode Island city. Newport is home to several Navy activities, including Naval Station Newport and the Naval War College. The Expeditionary Fast Transport (EPF), formerly named the Joint High Speed Vessel (JHSV), is a shallow draft, all aluminum, commercial-based catamaran that is designed for High Speed Intra-Theater Surface Lift and serves in a variety of roles for the military branches to include support of overseas contingency operations, conducting humanitarian assistance and disaster relief missions and supporting special operations forces. Austal USA in Mobile, Alabama, will build the new EPF, which will be 338 feet in length, have a waterline beam of 93.5 feet, displace approximately 2,362 tons and operate at speeds of approximately 35-plus knots.

Source: www.navy.mil

Secretary of the Navy Names Two Littoral Combat Ships

Release Date: 2/13/2018 5:42:00 PM

From SECNAV Public Affairs

WASHINGTON (NNS) -- On Feb. 13, Secretary of the Navy Richard V. Spencer announced the next Freedom and Independence variant Littoral Combat Ships will be named **USS Nantucket (LCS 27)** and **USS Savannah (LCS 28)**. The future **USS Nantucket (LCS 27)**, a Freedom-variant Littoral Combat Ship, will be the third commissioned U.S. Navy ship to honor the maritime history of Nantucket. The future **USS Savannah (LCS 28)**, an Independence-variant Littoral Combat Ship, is the sixth ship to bear the name of the oldest city in Georgia. **Nantucket** will be built by Fincantieri Marinette Marine in Marinette, Wisconsin. **Savannah** will be built by Austal USA in Mobile, Alabama. LCS is a modular, reconfigurable ship, designed to meet validated fleet requirements for surface warfare (SUW), anti-submarine warfare (ASW) and mine countermeasures (MCM) missions in the littoral region. An interchangeable mission package is embarked on each LCS and provides the primary mission systems in one of these warfare areas.

Source: www.navy.mil

All unequal numbers refer to the Freedom-class while equal numbers refer to the Independence-class. (trimaran)

Modi effect: India secures deal to use Duqm port in Oman for military access

Written By [DNA Web Team](#)

Updated: Feb 13, 2018, 04:05 PM IST



Prime Minister Narendra Modi visits the Sultan Qaboos Grand Mosque in Muscat, Oman on Monday , PTI

During Prime Minister Narendra Modi's visit to Muscat, India managed to secure access to the Duqm port for military access – a move seen by many as strategic and one that sees India expand its footprint in the Indian Ocean region. This was one of the key takeaways of Prime Minister Narendra Modi's visit to Oman over the last two days. He met Sultan of Oman Sayyid Qaboos bin Said Al Said and an annexure to the Memorandum of Understanding on Military Cooperation was signed between the two countries. According to a report by [The Economic Times](#), The port will act as India's entry point for wider West Asia and Eastern Africa, a welcome development at a time when China has deployed strategic assets in the Indian Ocean Region. The two sides also signed annexure to the MoU on military cooperation. According to Oman News Agency, it envisages the services of Duqm Port and dry-dock for maintenance for Indian military vessels. Secretary-General of Oman's Ministry of Defence Mohammed bin Nasser al Rasbi said there are many areas of cooperation with the Indian side, whether in the field of joint exercises, training or courses, as well as exchange of experiences between the two sides and some defence purchases and projects. India's Ambassador to Oman Indra Man Pandey said that signing the MoUs will promote cooperation between the two friendly countries. He said that the Indian companies have a strong presence in Oman and have significant investments in the Omani free zones and ports in Suhar and Salalah. He said Indian investments are estimated at USD 1.8 billion in two projects in Special Economic Zone in Duqm (SEZD). According to the Economist, Duqm's strategy is important, as its development may challenge Dubai's dominance as the region's trading hub". Duqm has a geographically favourable location that links to Asia, Europe and Arabia, that also avoids the tensions of the nearby Persian Gulf. Recently, Duqm has seen a rise in Indian activities. In September last year, India deployed an attack submarine to this port in the western Arabian Sea. A Shishumar-class submarine entered Duqm along with naval ship **INS Mumbai** and two P-8I long-range maritime patrol aircraft. India gets access to strategic Oman port for military use, reconnaissance aircraft. The naval units were on a month-long deployment with the aim of enhancing surveillance and cooperation. Earlier, India and Oman signed eight agreements, including an MoU on legal and judicial cooperation in civil and commercial matters. They also signed an agreement on mutual visa exemption for holders of diplomatic, special, service and official passports and an MoU on cooperation in the field of health, tourism and peaceful uses of outer space. India's Ambassador to Oman Indra Man Pandey said that signing the MoUs will promote cooperation between the two friendly countries. He said that the Indian companies have a strong presence in Oman and have significant investments in the Omani free zones and ports in Suhar and Salalah. He said Indian investments are estimated at USD 1.8 billion in two projects in Special Economic Zone in Duqm (SEZD). The volume of trade exchange during this year is expected to reach USD 5.5 billion, Pandey was quoted as saying. The two countries also signed an agreement on cooperation between Foreign Service Institute, Ministry of External Affairs, India and Oman's Diplomatic Institute. An MoU on academic and scholarly cooperation between National Defence College, Sultanate of Oman and the Institute for Defence Studies and Analyses. Modi today met Oman's Deputy Prime Minister for the Council of Ministers Sayyid Fahd bin Mahmoud Al Said and Deputy Prime Minister for International Relations and Cooperation Affairs Sayyid Asa'ad bin Tariq Al Said. Modi and the two leaders exchanged views on intensifying ties in the areas of energy, trade and investment, food security, defence and security, mining and other sectors. He also had a meeting with leading business leaders and investors

Source: <http://www.dnaindia.com>

And so the diplomatic wrestling between China and India for supremacy in the Indian Ocean continues. Fortunately at this stage still peaceful, but one never knows.

Italy's Augusta Naval Shipyard dry docks first submarine in 14 years



Sauro-class submarine ITS *Prini* at the Augusta Naval Shipyard. Photo: Italian Navy

The Italian Navy shipyard in Augusta has completed a two-year modernization process and is now ready to offer extensive services for the navy fleet, including submarines. As a result of the upgrade, a Sauro-class submarine is dry docked in Augusta for an overhaul for the first time in 14 years. The last time a submarine was repaired here was when **ITS Longobardo** completed its overhaul in 2004. The choice to invest in the Sicilian base was mainly driven by the decision to invest in the local dock maintenance, notably enhancing the efficiency of a number of accessory services, relaunching the workshops' technical capabilities, and recovering the vocational qualification of the shipyard workers, who will be entrusted with repair works on the engines of submarine **ITS Prini**, in the engine workshop of the shipyard. *"In the Italian Navy's strategic vision for Sicily, the initiatives undertaken by the Augusta Naval Shipyard Command are aimed at relaunching the shipyard's productivity, of such great interest and source of potential development not only for the Italian Navy but also for the territory, boosting local employment and economy"*, commented Rear Admiral Nicola de Felice, Sicily Maritime Commander. In 2017, the Augusta Naval Shipyard's 2 floating docks have provided repair and maintenance works for 9 naval vessels and a civilian tug, increasing the capacity utilization rate of its production facilities. The naval shipyard also manages power plants and power supply services both for ships undergoing refurbishment or extensive repairs, and units moored at the *"Banchina Tullio Marcon"* of the Patrol Forces Command, besides all careening activities.

Source: Naval Today

Behind the Scenes / How advanced are Chinese nuclear subs?

8:58 pm, February 13, 2018

By Kojiro Tanikawa and Tatsuya Fukumoto / Yomiuri Shimbun Staff Writers

In mid-January, a submarine of the Chinese Navy entered the contiguous zone around the Senkaku Islands in Okinawa Prefecture. The Japanese government released a photograph and concluded that the submarine was a Shang-class nuclear-powered attack submarine. Chinese submarines are becoming more active in waters near Japan, but how advanced are their capabilities? We examined the submarines' current state and strategy, as well as the challenges they pose for Japan.

A veil of secrecy

"What is this?" A Japanese security expert was surprised when he saw a photo of the Chinese submarine, which was taken by the Maritime Self-Defense Force and released by the Defense Ministry on Jan. 12. The shape of the vessel was unlike any Chinese submarine they had encountered before. Between the protruding superstructure called the *"sail"* and the vertical rudder at the stern of the submarine was a bulging deck. Retired Vice Adm. Masao Kobayashi, former commander of the Maritime Self-Defense Force's Fleet Submarine Force, analyzed the photo and said: *"This is probably an improved variant of the Shang-class submarine that is equipped with vertical launching tubes. Such launching tubes would allow the submarine to fire a dozen anti-ship cruise missiles at once. This is an invaluable picture."* Both the United States and Russia have already commissioned a large number of nuclear-powered submarines equipped with vertical launching tubes. However, while the existence of the improved Shang-class Chinese submarines equipped with vertical launching tubes had been reported in some overseas media over the past few years, the vessels had been shrouded in a veil of secrecy until now. The improved submarine has finally made an appearance before the MSDF, which had been tracking it. Submarines equipped with horizontal launching tubes can fire only a limited number of torpedoes at a time. Chinese submarines equipped with vertical launching tubes like the ones on U.S. and Russian submarines would be capable of launching a large number of missiles from the deck simultaneously, thus gaining the ability to make a concentrated attack on a target. The Defense Ministry has refrained from confirming whether the Shang-class vessel that was caught on camera is an improved variant. However, Defense Minister Itsunori Onodera said, *"Cruise missiles loaded onto a submarine of this class are long-range."* The cruise missiles carried by Shang-class submarines are thought to have a maximum range of 540 kilometers.

Sound detected

Chinese submarines' largest targets would be U.S. carrier strike groups. China is aiming to become a great maritime power capable of opposing the U.S. military, and values its submarines as a pillar of its **"A2/AD"** (see below) strategy. For U.S. aircraft carriers, the question of how to protect themselves from attacks by Chinese submarines is becoming crucial. The widest of the routes through the **"First Island Chain"** that the Chinese Navy can use to leave the East China Sea is a more than 250-kilometer stretch between Okinawa Island and Miyakojima island, both in Okinawa Prefecture. It is an area of great strategic importance, where vessels of the Chinese military have actively come and gone in recent years. The MSDF keeps Chinese submarines under surveillance in seas around the area. On the night of Jan. 10, sonar from the MSDF destroyer Onami and an acoustic detector dropped from a P-3C patrol plane detected the sound of the Chinese nuclear-powered submarine. Although the Onami repeatedly issued warnings, the nuclear submarine ignored them and entered the contiguous zone around Taishojima island. A nuclear-powered submarine can stay submerged for longer periods than a regular diesel-powered submarine. It can also move faster and can carry more weapons in its larger hull. However, its weakness is that it produces a loud noise. China's nuclear submarines are still thought to be significantly louder than those of the United States. If the submarine that appeared this time was an improved Shang-class vessel, the MSDF could have confirmed that fact by comparing the new sound data it collected over an extended period of time against the physical appearance of the submarine when it appeared on the surface. What did China intend by deploying its latest nuclear-powered submarine regardless of the risk of being detected? *"There is a possibility that China was attempting to discover Japan's detection capabilities. The Chinese side also likely obtained valuable data, just like the MSDF. China now knows where and how their submarine was detected,"* Kobayashi pointed out.

Japan-U.S. alliance vital

Submarines traveling underwater in the contiguous zone do not violate international law. However, since China continues to unilaterally assert territorial rights over the Senkaku Islands, such navigation increases tensions between China and Japan. What will happen in the future if Chinese submarines intrude into Japan's territorial waters around the Senkaku Islands? Under international law, submarines are obliged to surface when crossing through the territorial waters of another country. If a submerged submarine belonging to another country traverses Japan's territorial waters, the government will issue maritime security operations and demand that the submarine surface with its flag displayed. If the submarine does not comply with the demand, the government will order it to leave Japan's territorial waters. When a Chinese submarine was discovered navigating underwater in territorial waters around Taramajima island in Okinawa Prefecture in 2004, the Self-Defense Forces undertook maritime security operations, tracking the submarine using a P-3C patrol plane and other means until the sub returned to the high seas. Such incidents near the Senkaku Islands pose the risk of an accidental confrontation between the SDF and the Chinese military. In order to prevent a contingency from occurring in the area, it is vital that the Japanese government check its guidelines for emergency response while maintaining its close alliance with the United States. (From The Yomiuri Shimbun, Jan. 20, 2018)

■ A2/AD

A2/AD is a Chinese military strategy aimed at preventing intervention by the United States. It is an abbreviation of "Anti-Access" and "Area Denial." It comprises two stages: preventing the U.S. military from operating in and deploying reinforcements to the area called the "Second Island Chain," which stretches from the Izu Islands to Guam, followed by preventing the U.S. military from entering the area, called the "First Island Chain," which stretches from the Nansei Islands to the Philippines.

Source: <http://the-japan-news.com>

Chinese building new maritime proving ground for unmanned vessels

By [C. Danielle Bizier](#) 02.13.2018

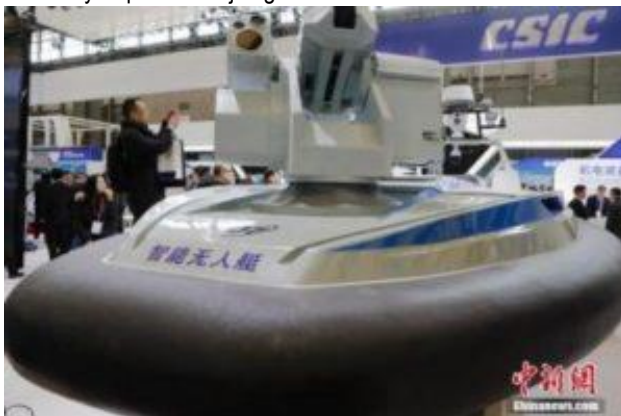


Creation of the world's biggest test site for unmanned drone ships is underway in the waters around Zhuhai, in the southern Chinese province of Guangdong. The Wanshan Marine Test Field facility is currently under construction and when completed will cover 771.6 sq km.

Unmanned naval vessels can generally be used for surveillance, maritime law enforcement, and in other situations where personnel might otherwise be put at risk.

Their applications are both military and commercial in nature. The announcement

comes a few days after the Chinese military media outlet, *PLA Daily*, confirmed the PRC sent an unmanned surface vehicle (USV), on its first outing in January. In December of 2017 they also unveiled the Tianxing-1 USV at the fifth China Marine Economy Expo in Zhanjiang and at the All China Maritime Conference and Exhibition (Marintec China) in Shanghai.



Tianxing-1 USV on display. Photo courtesy of Twitter

According to Jane's the Tianxing-1 has a purported top speed of more than 50 knots (92.6 kilometers per hour), a length of 12.2 meters and a 7.5 ton displacement. It is propelled by a hybrid electric-gasoline engine. Its

weapons options have not been publicized, but in released images, the demonstration unit appears to have a range of swiveling sensors and may potentially be able to carry small weapons. Previously the speed record for an USV was held by the British [Royal Navy](#)'s Autonomous Surface Testbed Vehicle (MAST). The MAST is equipped with radar, electro-optical, infrared, and digital sensors for intelligence, surveillance, and reconnaissance applications. They may eventually also have an anti-submarine warfare role, but that remains in the development stage for now. Another project from the Royal Navy, the Sensor Hosting Autonomous Remote Craft (SHARC), has shown ability to detect and track manned and unmanned

submarines. Anti-submarine warfare continues to be an active area of research and development for the Chinese Navy as regional naval forces continue to add subs to their maritime arsenals in Southeast Asia. USVs could yet provide a promising platform for undersea surveillance. Have no fear, the US Navy is in the game as well. In fact they are winning on this front—[taking delivery](#) recently of the largest crew-less surface ship in the world. The Sea Hunter Anti-Submarine Warfare Continuous Trail Unmanned Vessel, or ACTUV, is a 132 foot long, 140 ton drone warship perfectly suited for hunting down enemy submarines. Early reports from Dayoo.com, a *Guangzhou Daily* news site did not say when the Wangshan Test Field would be fully functional but said it would eventually comprise a telecommunications network, navigation radars and automatic mooring systems on islands in the Pearl River Delta. China has used some of the world's biggest and most advanced dredging vessels to create and expand artificial islands in the [South China Sea](#). The location for the test site is contentious in nature since Zhuhai itself faces the South China Sea—China claims over 90 per cent as their own sovereign waters but face overlapping claims with Brunei, Malaysia, the Philippines, Taiwan and Vietnam. This test site for unmanned vessels is part of China's overall plans to continue development of autonomous systems for both civilian and military applications—researching various unmanned technologies, including aircraft and underwater drones.

Source: <https://sofrep.com>

A pump-jet for the future submarine? Not so fast (or slow)

14 Feb 2018 | [Aidan Morrison](#)



Image courtesy of Pixabay user [SarahRichterArt](#).

A couple of months ago Andrew Davies offered some [comments](#) on the pump-jet propulsion system that's proposed as a key feature of the Shortfin Barracuda. As he observed, there seems a clear case for propellers being more efficient at low speeds—which is very important for conventional submarines. [Comments](#) from Naval Group's director of the future submarine program seemingly confirmed this. Andrew raised two important questions that might help resolve the apparent contradiction between Defence's confidence in the pump-jet solution and seemingly credible evidence that its low-speed inefficiency makes a pump-jet an odd choice for a diesel-electric submarine. The **first** was that the cross-over point—where a pump-jet becomes more efficient than a propeller—was unknown. If the pump-jet was actually more efficient at plausible higher transit speeds, on balance that may offer a benefit over the entire mission profile, even if the pump-jet is marginally worse at very low patrol speeds. The **second** was the effect of the 'hotel load'. Since the square law for drag means that the energy required for propulsion becomes extremely small at very low speeds, underwater endurance might be more affected by the power required to keep the lights, sonars and air conditioning running than by the power necessary to move forward. Both of these arguments really require some better understanding of the likely efficiency curves in order to be answered with any confidence, as Andrew notes. But it's quite possible that sufficient evidence does lie in the public domain to rule some possibilities in or out. The **first question** requires the establishment of a plausible cross-over point. Here, all available evidence points firmly against the idea that the cross-over could lie anywhere near the plausible transit speeds of submarines (around 10 knots). For surface vessels, open propellers are adopted essentially universally by all ships that work at speeds up to around 30 knots, including relatively [fast ferries](#). Only extremely fast vessels (35 knots plus) tend to have waterjets. Australian companies specialising in such very-fast vessels have spent considerable effort [investigating](#) the prospect of using jets in the 20–30 knot range and discovered that the efficiency penalty of jets in this range is substantial, up to a factor of two. And at low speeds the penalty can be very high indeed. Other [research](#) shows that the propulsive performance of waterjets falls off towards zero as craft velocity decreases. Marine enthusiasts may observe that 'waterjets', which eject water on or above the surface, are not quite the same as the completely submerged pump-jets often found on the aft end of submarines and torpedoes. But the more I dived into the [literature](#) on fully submerged pump-jets, the less advocacy I found for efficiency in any speed range. In fact, it seemed that pump-jet efficiency had to be traded-off to eliminate cavitation at higher speeds. The method by which this occurs is simple enough to warrant mentioning. The role of the duct in a pump-jet is to slow the water down before it reaches the spinning rotor that adds energy to the flow. This slowing of the water stream also increases its pressure, and the elevated pressure helps reduce cavitation. Problems arise when you try to slow down water that's not going very fast in the first place, which is what happens at low speeds. The result is predictable: some of the water stops, or actually starts moving in the other direction, spinning around in eddies and vortices in a phenomenon called 'flow separation'. The slower you go, the more that occurs, and the worse the efficiency becomes. The more the duct acts to raise the pressure to eliminate cavitation, the more slowing occurs, and so the sooner flow separation begins, further worsening efficiency. Consequently, it seems unlikely in the extreme that the acoustic advantage offered by pump-jets at higher speed can be decoupled from an efficiency penalty at lower speeds. It also seems highly unlikely that pump-jets are more efficient than propellers at submarine transit speeds of around 10 knots. The **second question** requires some quantitative assumptions about the curve and hotel load, as well as a more generalised [model](#) to be built out of the algebra described in Andrew's 'geeky annex'. A good [reference](#) for plausible curves is a 2008 BMT and Rolls-Royce study of a pump-jet concept for a very quiet anti-submarine warfare surface ship. While the precise jet

design may not be identical, this jet was at least fully submerged, unlike most surface ship jets. The study replicates the same efficiency curve one would expect from theory, with efficiency rising to its peak at around 30 knots, and declining towards zero at very low speeds. With a hotel load of 100kW (consistent with Andrew's assumption that it might equal propulsion power at patrol speeds), it appears that in general the impact of the low efficiency of a pump-jet will still be very significant in most of the important speed ranges for a submarine, particularly around 3–7 knots. Altering a range of assumptions doesn't generally change that conclusion, as can be seen in the full discussion [here](#). Switching back to a propeller could realistically result in improvements in dived range and endurance of 60% or more at these lower speeds. This could amount to a couple of days dived endurance, or hundreds of miles additional dived range, and credibly five or ten times that difference if air-independent propulsion was included in the submarine.

Unless the French have achieved a quantum leap in pump-jet technologies in the past few years and none of the previous physics or experimental results apply, it seems that the choice of a pump-jet is curious indeed. Exactly what kind of advantage would justify accepting such a penalty in terms of dived range, dived endurance, indiscretion ratio and overall range is quite hard to imagine when building a 'regionally superior' submarine. Defence has made crucial errors of judgement with grave long-term consequences in acquisition projects [before](#). We would do well to make sure that the same doesn't happen with the future submarine.

Author: Aidan Morrison is a graduate of the Australian National University with Honours in Physics and the founder and managing director of Rubber Ducky Defence and co-founder of Trendlock. Source: <https://www.aspistrategist.org.au>

This is very interesting indeed, and makes me wonder whether this study was done before accepting waterjet propulsion in our frigates. It also questions the wisdom of going that route when the technology was still in its baby shoes.



Norway's Navantia built Nansen class frigate **HNOMS Helge Ingstad** leaves Devonport Feb 12 in the second week of training up to warzone certification.

photo : Raymond Wergan, Newton Ferrers. (c)

More proof that Navies hold BOST in very high regard.

Fincantieri outlines sovereign shipbuilding plan

Defence Connect has been given an insider's perspective to the Fincantieri SEA 5000 Future Frigates bid, with Fincantieri Australia director Sean Costello taking us through its offering to the Royal Australian Navy and Australian industry. Costello, the former CEO for Naval Group Australia, said Fincantieri's industry program presented to the Australian government has three sub-programs designed to establish and sustain a sovereign shipbuilding industry. "There's work that goes over and above of just building the ship, and that's what we call our industry program," Costello explained. The first two programs are centred on ship design capabilities and building up a skilled workforce, which Fincantieri is looking to do through the upcoming Naval Shipbuilding College. "Within the industry program, we've decomposed the government's strategic objective into three sub-programs, a program to build the design capability, a program to institutionalise the shipbuilding workforce skills, and that's in partnership with the Naval Shipbuilding College, where we create an institution that everyone can use to access shipbuilding skills built from Fincantieri's know-how, at least in part," Costello said. The third sub-program is the Italian shipbuilders technology transfer program that is designed to create an autonomous shipbuilding industry, as Fincantieri did in Wisconsin following the collapse of the state's automotive industry, as well as an industry that can be sustained through exports. "The third string there, our supply chain technology transfer program," Costello said. "If you have design capability, the concept design, the functional design, the detail design, and the ability to integrate, and if you have that in an open and collaborative frame with your skills and with your supply chain, you have an industry, one that can then design and build new vessels, modify vessels, or export whole ships or components thereof, particularly the technical services and components thereof." Costello also revealed the ship designer is offering a mechanical integration facility, modelled on what the company has in its Riva Trigosa shipyard in Italy, as part of achieving technology transfer and technology development for the SEA 5000 project. The facility would house CAD CAM machines, layers, equipment and

information technology. Fincantieri already has test orders in place in Australia and is building cruise ship blocks in Adelaide that will go to Fincantieri's other shipyards across the globe. The Italian shipbuilder has offered its FREMM Frigate for the project, while competitor BAE Systems has offered its Type 26 Global Combat Ship and Navantia has offered its F-500.

Source : Defence Connect

'No Need to Hide the Ambition': China Hints at Plans for Global Military Bases



[AFP STR](#)

by [Frances Martel](#) 13 Feb 2018 92

China's state-run *People's Daily* published a defense of expansive maritime military plans on Sunday grounded in the need to protect the One Belt, One Road (OBOR) program, which uses infrastructure to grant Beijing a foothold in nearly every region of the world.

The *Global Times*, an English-language Chinese government newspaper, cites an article by Liu Jixian, former head of the People's Liberation Army (PLA) Academy of Military Science in Beijing, in the *People's Daily* this weekend unavailable on that newspaper's English-language site promoting exponential Chinese military expansion. *"It is reasonable and necessary for China to strengthen its maritime power as it is becoming stronger,"* Liu and other "experts" reportedly argued, according to government-controlled media. *"With the development of the Belt and Road initiative, massive personnel, resources and property are expanding to other countries and some countries are facing problems like war and terrorism,"* Liu reportedly argued, suggesting that China has no choice but to protect its assets in volatile regions. *Asia Times* [reports](#) that the official Communist Party newspaper printed a two-page spread with the article in its Sunday edition titled **"Time Is Ripe for a Maritime Great Power."** The piece uses the OBOR initiative as the crux of the argument for Chinese military colonialism — wherever China invests in an infrastructure or port project, the People's Liberation Army (PLA) should have a right to protect those assets. *"Building China as a maritime power fits China's development, the global trend and is the necessary choice for realizing the Chinese Dream of the national rejuvenation,"* the *People's Daily* argued, according to the [limited](#) *Global Times* translation. The *Times* then goes on to quote former PLA official Xu Guangyu as confirming that China will build multiple overseas bases around the world. *"There is no need to hide the ambition of the PLA Navy: to gain an ability like the U.S. Navy so that it can conduct different operations globally,"* Xu [told](#) the state newspaper. *"The U.S. is a global power with massive overseas interests. Considering that China has already become a global economic power, it is entirely reasonable for China to boost its maritime power."* China currently possesses only one overseas base in the eastern African country [Djibouti](#). Djibouti lies a short maritime distance from Yemen, providing China access to the most volatile part of the Middle East. It also grants the Chinese military access to the African continent, where Beijing has invested millions in infrastructure programs the U.S. government has described as *"predatory."* China grants millions in loans to African countries that cannot afford it, guaranteeing their dependence on Beijing in the long term. In the short term, China promises local jobs and development which, once completed, then return to Chinese control. In July 2017, when China announced the Djibouti base, Foreign Ministry Spokesman Geng Shuang [insisted](#) that the base *"is mainly aimed to enable China to better perform its escort missions in the Gulf of Aden and Somali waters as well as humanitarian relief and to make greater contributions to the peace and stability of Africa and beyond."* The Djibouti base does little to help China reach pivotal centers in the OBOR program, however. OBOR, consisting of the Silk Road Economic Belt and Maritime Silk Road, [spans](#) on land from Beijing to western Europe and via ocean from the South China Sea to Africa. China has developed hundreds of plans for ports, roads, and other transportation necessities across the Eurasian map, with the stated intention of recreating the ancient silk road. On the high seas, China has expanded its reach in the South China Sea by illegally colonizing territory belonging to the Philippines and Vietnam, placing military assets perilously near one of the most lucrative trade routes in the world. The land road between Beijing and western Europe is fraught with war and poverty, however, beginning with the situation on China's border with Afghanistan. The Taliban and other jihadist groups on the Afghanistan/Pakistan border are a threat to China's plans, and so China has hinted at the possibility of establishing its second overseas base on Pakistan. China is currently helping [build](#) a port in Gwadar, Pakistan, where the base may reportedly be built. Chinese sources told the *South China Morning Post* last month that Gwadar is currently *"a mess"* and would require a Chinese military presence to prevent piracy and criminal activity from taking hold there. Convincing Pakistan to grant China the access and control it needs for its port has been a struggle for Beijing. Chinese officials reportedly [froze](#) funding last year for Pakistan complaining that too much Chinese money was being lost to corruption.

Tensions cooled in January, however, when the United States announced a reduction in aid to Pakistan, leaving Islamabad to find alternate sources of revenue. China responded by complimenting the Pakistani government's efforts against terrorism and rekindling the OBOR conversation.

Source: <http://www.breitbart.com>

USCG cutter *Joseph Gerczak* arrives in Hawaii



The US Coast Guard's (USCG) base in Honolulu has received its second Sentinel-class cutter, ***Joseph Gerczak***. ***Gerczak*** is the second of three 154ft fast response cutters (FRC) to be stationed in Honolulu. The FRCs will primarily serve the main Hawaiian Islands. The FRCs feature advanced C4ISR equipment, including the ability to launch and recover standardised small boats from the stern. They will carry out missions including

search and rescue; ports, waterways and coastal security; national defence; fisheries enforcement and drug and migrant interdiction. The USCG received ***Joseph Gerczak*** on 9 November, 2017, in Key West, Florida. The crew then transited to Hawaii. The vessel is scheduled to be commissioned on March 9, 2018.

Source: **Maasmond Maritime**

Arctic sea routes could ease Malacca Strait security issue

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One of Asia's biggest security headaches since the end of World War II has been a potential choke point on crude oil shipments that sail through the Strait of Malacca. China receives more than half its oil imports via the strait from the Middle East. Japan gets 90%; South Korea about 80%. A hostile navy could block the narrow waterway between Malaysia and Indonesia, paralyzing a foe's economy. The 890 km strait that divides Indonesia and Malaysia is only 2.7 km wide (1.7 miles) at its narrowest near Singapore, forming a natural bottleneck. It is the second-largest oil trade choke point in the world after the Strait of Hormuz. Beijing has long

recognized this maritime Achilles heel, as do Tokyo and Seoul. It's one reason why China is building bases in the South China Sea and sending submarines into the Indian Ocean. The idea is to position military assets closer to the strait to deter potential foes like the US and India from closing the channel to oil shipments. However, some analysts say this long-standing security threat to Asia may moderate as the melting ice in Russia's Northern Sea Route and North America's Northwest Passage offers a shorter and less costly way to ship oil to Asia from Russia, Norway, Greenland and Canada. Global warming also makes it easier to ship oil from Alaska to China. "*The Arctic route reduces the risk of oil disruption for China, Japan and South Korea. You can bring it all through the Northern Sea Route, bypassing the Malacca Strait and its security problem,*" Arctic expert Rockford Weitz told Asia Times. Weitz is a professor of practice who directs the maritime studies program at Tufts University's Fletcher School in Medford, Massachusetts. The Northern Sea Route runs along the Russian Arctic coast from the Kara Sea, along Siberia, to the Bering Sea. The shift will occur gradually over the next 10-15 years, according to Weitz, with increasing amounts of Arctic oil and gas reaching China and other Asia nations via the polar route. Another choke point could form at the Bering Strait between Russia and Alaska. But in this case, Washington would risk angering Moscow if it tried to interfere with navigation.

Does the Arctic have more oil?

Scientists say the Arctic holds the world's largest remaining untapped gas reserves and its last undeveloped oil reserves. The US Geological Survey estimates the Arctic holds up to 90 billion barrels of untapped oil. They also reckon the region holds as much as 1.7 trillion cubic feet of natural gas and 44 billion barrels of liquid natural gas. But Weitz notes the energy reserves, especially in areas like Greenland, could exceed existing estimates. If true, this means the Arctic might start to overtake the Malacca Strait-reliant Middle East as a leading supplier of crude to Asia. "*The oil is there, it's just a question of how much,*" Weitz said, noting that the Arctic is still relatively unexplored and that test drilling in Greenland's fast-retreating ice cap and other northern sites is still being carried out. He sees a growing number of joint oil exploration and development projects between Moscow and Beijing, especially as global oil prices head higher and justify the costs of these ventures. One focus of these efforts, according to Weitz, will be the Siberian Plateau which is known to hold significant amounts of oil. Russia calculates that the Arctic territory it claims may hold up to 586 billion barrels of oil, though this is unproven.

Shorter than Suez

The capacity to ship oil and gas from ports along the Northern Sea Route also reduces the need to build costly pipelines across the tundra for land-based energy transport. The fact that rivers in Russian Siberia flow north to the Arctic Ocean also allows these waterways to be used to ship oil and other resources to coastal ports. Analysts say there will be a 40% reduction in sailing distance, and a 20% cut in fuel, if the Northern Sea Route is used to connect Northern Europe with China, Taiwan, South Korea and Japan versus the Suez Canal route via the Middle East. There are smaller but comparable

cuts in distance and fuel versus the Persian Gulf. Data from Russia's Arctic and Antarctic Research Institute shows the country's entire Northern Sea Route was virtually ice-free between June and September of 2017. Analysts say this suggests the transit will be increasingly easy to navigate for bulk carriers – even during winter months when ice levels are highest. "Ice-class" oil tankers with strengthened hulls that can negotiate Arctic waters are already being built. Weitz says more advanced bulk carriers of this type will be needed, along with new ice-breaking vessels. China's state oil firms and banks have underscored their interest in Russia's Arctic energy assets and the new shipping route by investing in the huge US\$27 billion Yamal LNG facility in Siberia. Asian buyers account for 54% of Yamal's contracted output. More Chinese cash is flowing into a newer Arctic LNG2 project that may be bigger than Yamal. A Chinese state policy paper issued in late January further confirms Beijing's interest in tapping Arctic oil and gas.

Risk of major oil spills

However, one dark cloud hovering over the new route is the possibility of a catastrophic oil spill. Arctic countries have limited search-and-rescue capability and fewer resources to cope with an oil spill from a big tanker in such remote and inhospitable waters. "The biggest barrier to oil production in the Arctic is the threat of a spill. Any clean up would be far worse than Deepwater Horizon," Weitz warned, alluding to British Petroleum's disastrous 2010 oil spill in the Gulf of Mexico which spewed more than 130 million gallons of oil and inflicted over US\$17 billion in environmental damage. The potential fallout from a similar mishap in the Arctic is enormous since today's supertankers are much larger than the Exxon Valdez, the oil tanker that caused history's worst Arctic oil spill in Alaska in 1989. Arctic oil drilling is another possible source of spills. The US Geological Survey reports that 84% of the Arctic's undiscovered oil and gas lies offshore. Activists like Greenpeace allege that there are ongoing spills from Russian oil companies in the Arctic that have never been reported. The Arctic Council, the inter-governmental body that oversees the Arctic and its eight member states signed a legally binding agreement on cooperating and responding to a major Arctic oil spill in 2013. But critics say such cooperative steps are only a start and that further action is necessary, given the lack of infrastructure, knowledge and preparedness to deal with a major Arctic oil spill.

Source: Asia Times via <http://www.hellenicshippingnews.com>

Workhorses of the sea



The *Arbol Grande* outbound from Willemstad-Curacao Photo : Kees Bustraan ©