

# समाचार पत्रों से चयित अंश Newspapers Clippings

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# India's Long Wait for Scorpene-Class Submarine May End Any Day Now

By Shaurya Gurung

**PROJECT-75 India is developing a total of six Scorpene-class submarines at the Mazagon Docks in Mumbai with technology transfer from French defence major Naval Group**

**Named after Tiger Shark, Kalvari to come at a time when China is beefing up presence in Indian Ocean**

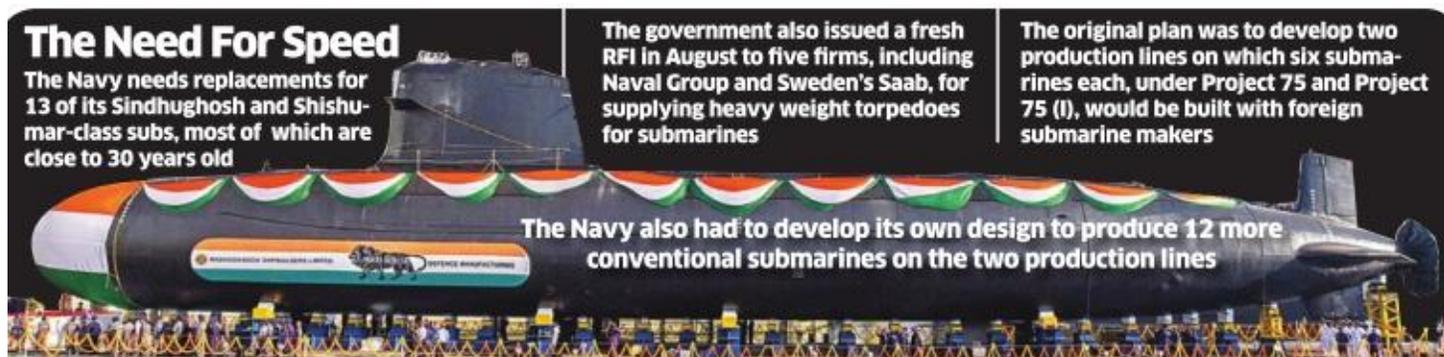
India is likely to get its first Scorpene-class submarine within days, naval and industry sources have told ET.

The Indian Navy, which has been struggling with an ageing submarine fleet, will get the new submarine-named Kalvari after the dreaded Tiger Shark--at a time when China has been beefing up its presence in the Indian Ocean Region.

“The delivery is to take place around the middle of September,” one of the people quoted above said.

The delivery means that the trials of Kalvari are over and the navy has accepted the boat, which is expected to be commissioned this month. The second of the Scorpene-class submarines, named Khanderi, is likely to be delivered in next year. India is developing a total of six Scorpene-class submarines at the Mazagon Docks in f Mumbai with technology transfer from French defence major Naval Group under a programme titled Project-75.

Project-75 was launched in October 2005 and the first submarine was to be delivered by 2012. But teething problems delayed the project.



The Cabinet Committee on Security had in 1999 approved a 30-year plan for indigenous submarine construction. The plan was to develop two production lines on which six submarines each under Project 75 and Project 75 (I) would be built with foreign submarine makers.

Meanwhile, the navy would develop its own indigenous design to produce 12 more conventional submarines on the two production lines. By 2030, the navy would have 24 modern conventional submarines. The plan was later amended to include nuclear submarines.

The government had in July also launched the process for Project 75 (I) by issuing a request for information (RFI) to six foreign firms.

The two projects are crucial for the Indian Navy because it needs re placements for 13 of its Sindhughosh and Shishumar class submarines, most of which are close to 30 years old. The government also issued a fresh RFI in August to five firms, including Naval Group and Sweden's Saab, for supplying heavy weight torpedoes for submarines, including those under the Project 75.

## सैन्य खरीद मामलों पर धूल नहीं जमने देंगी निर्मला

जागरण ब्यूरो, नई दिल्ली : नई रक्षा मंत्री निर्मला सीतारमण ने तीनों सेनाओं के प्रमुखों के साथ रोजना बैठक का सिलसिला शुरू कर दिया है। निर्मला ने रक्षा सचिव के साथ भी अलग से नियमित बैठक भी मंगलवार से ही शुरू कर दी। शीर्षस्थ सैन्य और रक्षा अधिकारियों के साथ अपनी पहली ही बैठक में निर्मला ने यह साफ कर दिया कि सेना के लिए हथियारों और साजोसामान की खरीद की लंबी प्रक्रिया को रफ्तार देनी ही होगी। रक्षा मंत्री का आशय साफ था कि रक्षा खरीद की फाइलों पर धूल जमने देना उन्हें कुबूल नहीं होगा।

रक्षा मंत्री ने सैन्य बलों की जरूरतों और रक्षा चुनौतियों के मद्देनजर सोमवार को ही तीनों सेनाओं के प्रमुखों के साथ रोज सुबह बैठक



रक्षा मंत्री ने सेना प्रमुखों के साथ नियमित बैठक का शुरू किया सिलसिला, हथियारों खरीद की लंबी प्रक्रिया को देंगी रफ्तार

करने का फैसला किया था। उन्होंने मंगलवार को ही इस पर अमल शुरू कर दिया और सेना प्रमुखों के साथ बैठक के अलावा रक्षा सचिव को भी बैठक के लिए बुलाया। सीतारमण के साथ बैठक में सेना प्रमुख

जनरल बिपिन रावत, नौसेनाध्यक्ष एडमिरल सुनील लांबा के साथ वायुसेना प्रमुख की गैरमौजूदगी में वाइस एयरचोफ मार्शल एसबी देव मौजूद थे। बताया जाता है इन दोनों बैठकों में रक्षा मंत्री ने कहा कि देश की रक्षा आवश्यकताओं को प्रक्रिया में विलंब के कारण टाला नहीं जा सकता। इसलिए जरूरी है कि सैन्य खरीद से लेकर सुधार के लंबे समय से विचाराधीन प्रस्तावों पर त्वरित गति से फैसले लिए जाएं। मालूम हो कि रक्षा मंत्री ने सोमवार को इसी मकसद से रक्षा खरीद परिषद (डीएसी) की बैठक हर 15 दिन में बुलाने का भी सैद्धांतिक फैसला किया। डीएसी ही सेना के हथियारों और उपकरणों की खरीद को लेकर अहम फैसला करती है।

**The Tribune**  
[VOICE OF THE PEOPLE]

## Howitzer's barrel bursts during trials in Pokhran

*Two ultra-light guns were imported from US in May*

### First guns after bofors

- 145 M777 howitzers to be procured by Army
- Rs 4,700-cr deal inked with US firm BAE Systems
- 25 guns are to be imported in next two years

One of the first two M777 ultra-light howitzer guns that were imported from the US in May malfunctioned and its barrel burst during trials at the Pokhran firing range in Rajasthan on September 2. No injury was reported.

A joint inspection team of the manufacturer, BAE Systems, and the Army is at the site to examine the gun to ascertain the reason behind the accident. A spokesperson from BAE Systems said it was aware of an

irregularity recorded during routine field firing of the M777 ultra-light howitzer gun. “We are working closely with the Indian Army and the US government to explore the incident. The company stands ready to provide assistance as required,” the spokesperson said.

Put to trial from June to compile a “firing table”, these guns are the first new artillery for the Indian Army since the Bofors guns that came in the late 1980s. The trial was to continue till September-end.

During the firing, the Indian-made ammunition exited the barrel in multiple pieces, causing the accident. “The barrel of the gun has been damaged, the extent of which is being assessed by the joint investigation team,” said an official. Further firing of the gun to complete the “firing table” would commence only after a report from the probe team was received, he said.

In December 2016, India signed the \$737 million (about Rs 4,700 crore) deal with the US to purchase 145 of these guns from BAE Systems in a government-to-government contract. While the first 25 guns are to be imported in next two years, the rest would be assembled at a factory at Faridabad that Mahindra had set up in partnership with BAE System. The entire order is to be executed in 54 months.

At half the weight of other 155 mm towed howitzers, these ultra-light weight guns provide a rapid reaction capability. For the Army, the guns would be useful while in the mountains. These can be carried by Chinook helicopters — which too India is buying from the US — and can be quickly moved to areas close to the border.



Wed, 13 Sep, 2017

## Defence Takes Centre Stage in Japan Ties

By DipanjanRoy Chaudhury

*Govts identifying areas of collaboration in defence items and tech for military platforms*

### **Abe's visit will increase the military engagement under bilateral special strategic framework**

Defence is emerging as a major area of partnership between a hitherto pacifist Japan and an emerging India that is seeking state-of-the-art technology. Delhi and Tokyo have agreed to collaborate closely in defence production, including on dual-use technologies and PM Shinzo Abe's visit will increase the overall military engagement under the bilateral special strategic framework.

India and Japan are also keen on research collaboration in the areas of unmanned ground vehicles and robotics. Everybody will keenly follow Thursday's annual summit on the US-2 Shin Maywa amphibious aircraft that India wants to buy from Japan for its navy: discussions on this and subsequent production in India have been going on for the past few years. The decision by India and Japan to boost defence ties comes amid escalating tension in the region in the wake of the nuclear test by North Korea and of China's growing assertiveness in f Asia. Ahead of his India trip, Abe on Monday called for boosting the country's defences in the face of North Korean threats, warning that Tokyo c needs to be able to protect itself. This has set the stage for furthering Indo-Japan defence collaboration amid regional challenges.

Abe has long advocated a stiffening of Japan's military posture, despite the pacifist nature of the constitution. Japan plans to introduce Aegis Ashore, a land-based version of the maritime Aegis missile-defence system against threats from North Korea.

Last week, outgoing defence minister Arun Jaitley and his Japanese counterpart Itsunori Onodera held wide-ranging talks as part of the India-Japan annual defence ministerial dialogue in Tokyo during which issues relating to the US-2 amphibious aircraft also figured, according to officials. Last year, China had reacted angrily to reports that Japan plans to sell weapons to India at cheaper prices, saying that such a move is disgraceful.

Jaitley and Onodera had also deliberated on the current security situation in the Indo-Pacific region and condemned North Korea's latest nuclear test. The annual summit might also witness the two sides ramping up counter-terror cooperation, besides deepening engagement among navies, air forces and ground forces of the two countries. Japan has been a victim of terror attack in Bangladesh and West Asia and seeks to learn from India's experience and expertise. India and Japan are also in the process of identifying specific areas of collaboration in the field of defence equipment and technology cooperation for production of various military platforms.



Wed, 13 Sep, 2017

## On Friday, end of a 20-yr journey of discovery and wonder

*Cassini, among the greatest of interplanetary explorer, heads to fiery death on Saturn*

The Cassini spacecraft that has orbited Saturn for the last 13 years would weigh 4,685 pounds on Earth and, at 22 feet high, is somewhat longer and wider than a small moving van tipped on its rear. Bristling with cameras, antennas and other sensors, it is one of the most complex and sophisticated spy robots ever set loose in interplanetary space.

On Friday morning, the whole world will hear it die.

At the Jet Propulsion Laboratory in California, the scientists of the Cassini mission will figuratively ride their creation down into oblivion in the clouds of Saturn. They will be collecting data on the makeup of the planet's butterscotch clouds until the last bitter moment, when the spacecraft succumbs to the heat and pressure of atmospheric entry and becomes a meteor.

So will end a decades-long journey of discovery and wonder.

The Cassini-Huygens mission, as it is officially known, was hatched in the 1980s partly to strengthen ties between NASA and the European Space Agency and partly because, well, where else in the solar system would you want to go? With mysterious, mesmerizing rings and a panoply of strange moons (62 and counting), Saturn was the last outpost of the known planets before the discoveries of Uranus, Neptune and Pluto.

As launched in 1997, the spacecraft consisted of two parts: an orbiter, built by NASA, and a lander, the Huygens probe, built by the European Space Agency to explore Saturn's largest moon, Titan. The names were a testament to a golden age of European Renaissance astronomy.

Giovanni Domenico Cassini was a sharp-eyed 17th century astronomer who first discerned a dark gap in Saturn's enigmatic rings and then discovered four moons. Christiaan Huygens discovered Titan and recognized Saturn's rings for what they are.

The orbiter and lander arrived in July 2004 like wide-eyed tourists at Saturn, the realm of mystery and rings. Shortly thereafter, in December 2004, Huygens departed the mother ship and made the first landing on an alien moon, touching down in the hydrocarbon slushes of Titan three weeks later.

Cassini was just settling in for a long stay, circling Saturn like a pesky interplanetary paparazzo.

A list of its greatest hits would include movies of the six-sided storm that hugs the planet's north pole; detailed views of Saturn's spidery golden rings, woven into warps, braids and knots by the gravity of tiny moonlets; the discovery of plumes that look like snow-making machines shooting from the surface of the moon Enceladus. Not to mention postcards of lakes and seas on Titan.

NASA, not shy about sharing its accomplishments, recently released a blizzard of numbers summarizing the mission: 4.9 billion miles travelled, 294 orbits of Saturn completed, 2.5 million commands executed, 635 gigabytes of science data collected, 453,048 images taken, 3,948 science papers published, 27 nations participating and two oceans discovered.

To which must be added: \$2.5 billion to build and launch Cassini and Huygens, split between NASA, E.S.A. and the Italian Space Agency, and another \$1.4 billion to run them for 20 years in flight.

Like great scientific endeavours, Cassini raised as many questions as it answered. What, for example, is going on in those oceans on Titan and Enceladus?

Titan, the only moon in the solar system to have a thick atmosphere — even thicker than the Earth's — is now the only other body in the universe known to have liquid on its surface. That liquid is not water, but methane and ethane — hydrocarbons. The air on Titan is almost pure nitrogen. In addition, there may be an ocean of water or some other liquid substance deep under the surface.

If you think that *Life As We Don't Quite Know It* could be based on some liquid other than water — a possibility suggested by Steven Benner, a biochemist at the Foundation for Applied Molecular Evolution in Florida — Titan has the potential to be Exhibit Number One. In recent years, proposals have been floated to send balloons, boats and even a submarine to Titan to check out whatever chemistry might be going on in its frigid wastes.

Other astronomers have seized on Enceladus as the most likely place to find extraterrestrial critters. The plumes erupting from its southern region suggest that there is a warm salty ocean beneath the ice. Where there is water, so the mantra goes, there may be life.

Microbes might be hitching a ride to space on those plumes, free for the taking by a spacecraft designed to detect them. Which Cassini was not.

Nevertheless, Cassini flew right through one of the plumes in October 2015 and found evidence that chemical and thermal reactions deep in the ocean were producing energy in the form of hydrogen gas. Similar environments on Earth, like deep-sea vents, are hotbeds of microbial activity.

Thanks to Cassini, then, the far worlds of Saturn have leapt to the top of the lists of alien-life hunters. Recently NASA circulated a call for proposals for future missions out there.

But nothing lasts forever. The scientists could have left Cassini for dead when its time came, a derelict in space. But that would have risked contamination on Saturn's pristine and now very interesting moons, should the spacecraft hit them. So it had to go, and anyway there was still more to be learned by crashing it into Saturn. Cassini's fate was sealed last April. Using Titan's gravitational pull, Cassini changed course oh so slightly onto a trajectory that would take it on the first of 22 passes inside Saturn's rings, where no spacecraft has ever gone.

On September 11, Cassini will get one more "goodbye kiss" from Titan, a last fatal gravitational nudge directing the spacecraft into Saturn itself.

The cameras will turn off on the 14th, after one final look around the environs Cassini has called home for the last 13 years. But most of the spacecraft's instruments will keep working, gathering and analyzing samples of the planet's atmosphere as the spacecraft blazes into the clouds, which should tell us something about how the giant planet formed and evolved. Have the rings always been there, or are they a more (cosmically) recent addition?

Scientists and the press, in all its social media glory, will assemble at the Jet Propulsion Laboratory to witness the demise of Cassini, estimated to happen on September 15 at about 7:54 a.m. Eastern Daylight Time. Last week Cassini sent back what Carolyn Porco, of the Space Science Institute in Boulder, Colo., and imaging team leader on the project, called "one of our last best looks at Enceladus...that small moon at Saturn with the big possibilities."

"Brace yourselves," she added in an email. "The end is near." The news for all those gathered will arrive as a sudden silence. Cassini will break up and burn like a meteor into a wisp of stray atoms lost in the clouds. Dr. Porco said that the entry point would be visible from Earth and that some amateur astronomers were hoping to see some sign of Cassini's entry.

But the odds are against them. And so Cassini will wave goodbye with a flash of unearthly light that no humans, at least, may ever see. *The New York Times*