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Russia offers to jointly design, build submarines

Manu Pubby,

NEW DELHI: India has received a joint submarine design and construction proposal from Russia to build on the technology transfer acquired while building the nuclear fleet, and promises to drastically reduce the cost of Navy's next-generation vessel plan.

Deep Discount & Much More

After nuclear submarine cooperation, Russian offer to jointly design, build prototype for next generation underwater vessels

Official proposal discussed at Sochi seeks to take forward technology transferred as part of Arihant project

Offers transfer of technology to any Indian shipyard after design phase, initial investment under \$200 m

Suggests government to govt-ment deal as alternative to \$10-billion global tender being planned by Navy

Govt to soon take call on going ahead with submarine acquisition plan



Offers to design new submarine to integrate Indian systems, including the Brahmos missile

The proposal, believed to have been discussed at the top level during the Sochi summit in May, offers an alternative to an upcoming \$10 b P 75I tender for six new diesel electric submarines that the Navy requires. These are to be fitted with an Air Independent Propulsion (AIP) system that significantly increases their ability to stay underwater. "The Russian side has offered a transfer of all intellectual property for the design and prototype construction. This will mean that there are also no limits to the number of submarines that can be built under the project..." officials familiar with the details told ET while the current plan is to go in for a global competitive process that will involve companies from Russia, France, Germany and Sweden, the official proposal from Moscow is for a government-to-government deal for joint design with the Advanced Technology Vessel Project (ATVP). This is the project that gave India its first nuclear armed submarine, the INS Arihant, which was constructed in Vizag with considerable assistance from Russia. Sources told ET that the proposal is for joint design and building of a prototype, following which the technical knowhow and papers would be transferred to the selected Indian shipyard for construction. The design consultancy for the project is pegged at under \$200 million, something that could result in savings of immediate payments for the Navy for its next-generation submarines. Under the competitive process, an initial payment of over \$ 2 billion (20% of total cost) might be necessary, which given the Navy's current budget projections, seems difficult. The proposal seeks to design the submarine to meet Indian requirements, including installation of the BrahMos missiles on board, as well as a jointly developed AIP system with the Defence Research and

Development Organisation. Sources involved in the Indian nuclear submarine project said that the proposal can build on the technology that has already been transferred to India but has to be scrutinized carefully to ensure that critical knowhow is not held back. Several parts required under the proposal are already being produced in India, including high strength steel for submarine hulls.

Mechanical Failures, crashes prompt China Develop new Fighter jets: Report

China is developing a new fighter jet for aircraft carriers, which will replace its J-15 planes after a series of mechanical failures and crashes, as it pursues global navy ambitions, a media report said today. China is currently building a third aircraft carrier after launching the second aircraft carrier for sea trials. Under the new military strategy, China has been ramping the strength of its navy to expand its global influence and feverishly

building aircraft carriers in the last few years. A late entrant to the use of aircraft carriers, China has been making use of its first aircraft carrier Liaoning, a refit of the former Soviet Union vessel to carry out extensive experiments including operating the aircraft from the deck. The Liaoning was launched in 2012.

Many of China's home-grown fighter jets have had problems with their engines, aircraft design and modifications, according to a report by Hong Kong-based South China Morning Post. With restrictive access to high tech military products of the US, EU and Russia, China had developed the J-15 planes, based on a prototype of the fourth-generation Russian Sukhoi Su-33 twin-engine fighter aircrafts. The design of the J-15 planes developed by Shenyang Aircraft Corporation, a unit of state-owned Aviation Industry Corporation of China, is over 30 years old. With a maximum take-off weight of 33 tonnes, the aircraft is the heaviest active carrier-based fighter jet in the world.

The need to develop a new fighter jet has become more pressing after a series of unpardonable mechanical failures that have killed one top PLA pilot and injured another, the report said.

The report also quoted Lieutenant General Zhang Honghe, deputy head of the PLA Air Force, as saying that a new carrier-based fighter to replace the J-15 was being developed. Beijing-based naval expert Li Jie said China needs to develop the new fighter jet as it plans to create at least four aircraft carrier groups to fulfil its global navy ambitions and defend its growing overseas interests.

In order to improve the combat effectiveness of the Chinese aircraft carrier strike groups, it is necessary to develop a new carrier-based fighter, he said, adding that the FC-31 stealth fighter could be used as a model to replace the J-15.

China's FC-31 is a newer generation stealth fighter that made its first flight in 2012, and is smaller and lighter than the J-15. The Post quoted two sources close to the military as saying that there had been at least four crashes involving the J-15, although only two of them have been reported by state media.

The J-15 is a problematic aircraft its unstable flight control system was the key factor behind the two fatal accidents two years ago, one of the sources said.

Pilot Zhang Chao, 29, died in a crash in April 2016 as he tried to save his J-15 fighter jet, whose flight control system was breaking down during a mock landing on an aircraft carrier, according to state media reports. Three weeks later, his colleague Cao Xianjian, believed to be in his 40s, was seriously injured as he tried to deal with the same problem on a J-15. It took him more than a year to recover. All the J-15s were grounded for three months after the crashes, which undermined morale in the air force and navy, the report said. The aviation experts at first refused to acknowledge that the J-15 has design problems...They only agreed there were problems after Cao encountered the same trouble, the report quoted one of the sources as saying.



Fri, 06 July 2018

Isro conducts first crew escape test for India's manned mission to Space

By Surendra Singh

Highlights

- The crew escape system is being developed as part of the proposed human spaceflight programme Thursday's test lasted 259 seconds, and involved aborting the shuttle after launch in an emergency .
- situation. Test on Crew Bailout System or 'Pad Abort' at Sriharikota a success: Isro chief .

New Delhi: Taking a first step towards the country's human space flight programme, Indian Space Research Organisation (Isro) on Thursday morning successfully tested a capsule that will carry an Indian astronaut to space in future. The experiment on 'Pad Abort' or crew bailout system was conducted at a test facility in Sriharikota. Explaining the nature of the test, Isro chairman K Sivan a told TOI: "The experiment on the 'Pad Abort' or crew bailout system a at 7 am in Sriharikota was a grand success Instead of a person, a crew

model was used. The model was kept in a capsule and This was attached to a rocket engine When the solid engine motor was fired and launched into air, the crew capsule got detached from the engine in air after some time, moved away from it, a parachute was deployed and the capsule landed safely at a designated spot on the sea. The 259-second test on the crew capsule was significant as this would be a crucial component of of the indigenous human space flight programme.

The experiment on the critical technology was meant to check the safety mechanism of the human space capsule and to see if the crew can bail out easily if any untoward accident happens during the test-flight of the spacecraft." On the upcoming tests related to the manned mission, Sivan said, "Our next test will focus on aborting the capsuule at flight mode. Like today's test, many components needed for the country's first manned mission will be tested in near future." Casting a light on various systems required for the manned mission, the Isro chairman said, "A human space programme focuses on taking a human to space and bringing him back to the Earth safely.

For that purpose, we will have to provide a life support system to our crew within the spacecraft Therefore; we will have to make arrangement for continuous oxygen supply, controlled pressure and environment system, food supply, human waste discharge charge system and crew protection system involving the escape capsule." On the project budget, Sivan said, "After today's successful successful test, we will now prepare a project report and submit the same to the government for approval.

पंजाब केसरी

Fri, 06 July 2018

स्पेस फ्लाइट से यात्रियों को सुरक्षित निकालने का टेस्ट कामयाब

एजेंसी/चेन्नई

भारतीय अंतरिक्ष अनुसंधान संस्थान (इसरो) ने गुरुवार को एक ऐसे मॉड्यूल का कामयाब परीक्षण किया, जिसके जरिए स्पेस फ्लाइट से अंतरिक्ष यात्रियों को सुरक्षित निकालने में इस्तेमाल किया जा सकेगा। इसरो के मुताबिक, इस मॉड्यूल को स्पेस फ्लाइट के साथ जोड़कर भेजा जाएगा। किसी भी तरह का हादसा होने की स्थिति में यह मॉड्यूल स्पेसक्राफ्ट से अलग हो जाएगा और पैराशूट के जरिए पानी या जमीन तक पहुंच जाएगा।

पहले परीक्षण में लॉन्चिंग पैड से छोड़े गए स्पेसक्राफ्ट में इंसानों की जगह इस मॉड्यूल का इस्तेमाल किया गया। इसके तहत 12.6 टन भारी मॉड्यूल को श्रीहरिकोटा (आंध्र प्रदेश) स्थित सतीश धवन स्पेस सेंटर से गुरुवार सुबह 7 बजे छोड़ा गया। यह टेस्ट करीब 259 सेकंड चला। लॉन्चिंग के बाद टेस्टिंग मॉड्यूल कुछ



मानव मिशन की तैयारी

गुरुवार सुबह 7 बजे लॉन्चिंग पैड से टेस्टिंग मॉड्यूल छोड़ा गया भारत के मानव अंतरिक्ष मिशन के लिए इसरो ने किया परीक्षण

मिशन में अहम भूमिका निभाएगा ऐसा मॉड्यूल... इसरो ने बताया कि यह मॉड्यूल भारत के स्वदेशी मानव अंतरिक्ष मिशन में अहम भूमिका निभाएगा। इस टेस्ट में यह देखने की कोशिश की गई कि स्पेस फ्लाइट की उड़ान के दौरान अप्रत्याशित घटना या दुर्घटना के वक़्त क्रू को कैसे सुरक्षित बाहर निकाला जा सकता है। पहला टेस्ट लॉन्चिंग पैड पर किया गया। देश के पहले मानव अंतरिक्ष मिशन के लिए आज के प्रयोग की तरह कई कम्पोनेंट्स की जरूरत होगी, जिनका परीक्षण भविष्य में किया जाएगा।

देर तक हवा में रहा और बंगाल की किलोमीटर की दूरी तय करके खाड़ी में गिरने के बाद पानी में 2.9 श्रीहरिकोटा पहुंच गया।

NASA's Parker Solar Probe will 'touch sun'

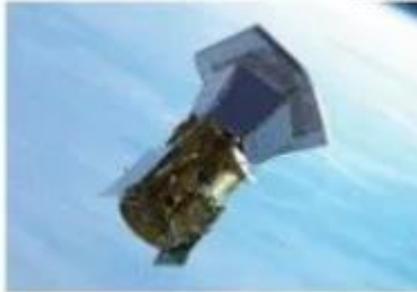
NASA will launch its long-anticipated space probe that hopes to 'touch the sun' from the Cape Canaveral Air Force Station next month.

The Parker Solar Probe will fly at speeds of up to 430,000mph (700,000kph) in an attempt to get closer to the surface of the star than any other mission before it.

Experts hope this proximity will provide vital information on the life of stars and devastating solar flares which can buffet Earth. At their worst, the solar storms they create can create havoc with power networks and disrupt the operations of satellites.

The Parker Solar Probe (PSP), which is roughly the size of a car, will launch aboard a United Launch Alliance Delta IV Heavy rocket from Space Launch Complex 37 at Cape Canaveral Air Force Station in Florida on August 4.

It will provide unprecedented infor-



FACEBOOK

The Parker Solar Probe will fly at the speed of up to 430,000mph.

mation about our Sun, where changing conditions can spread out into the solar system to affect Earth and other worlds. The spacecraft will fly directly into the sun's atmosphere and make its observations from a safe distance of approximately four million miles (6.5 million

km) from the surface.

From there, the Nasa spacecraft will trace how energy and heat move through the sun's atmosphere and explore what accelerates the solar wind and solar energetic particles.

The launch will be streamed live via Nasa's website. After its launch next

Spacecraft will be sent within four million miles of the sun

month, the probe will travel for almost seven years before it eventually reaches its destination in 2024.

A spokesman for Nasa said: "Parker Solar Probe will also make critical contributions to our ability to forecast changes in Earth's space environment that affect life and technology on Earth."

Daily Mail