

India's 1st floating test range ready, ballistic missile defence trials on cards

Designed by the Defence Research and Development Organization (DRDO), the new FTR is a 10,000 tonne ship, 200 metres long and 60 metres wide, equipped with state-of-the art electro-optical missile tracking (EOTS), S-band radar tracking and telemetry devices apart from a launch pad, a launch control and mission control centre.

By Shishor Gupta

India is set to test its ballistic missile defence (BMD) Phase II interceptor missiles and other futuristic weapons next year with its first floating test range (FTR) in place to allow trials at different ranges without a land mass limitation or threat to the population. Only a select group of nations has FTR capability.

Designed by the Defence Research and Development Organization (DRDO), the new FTR is a 10,000 tonne ship, 200 metres long and 60 metres wide, equipped with state-of-the art electro-optical missile tracking (EOTS), S-band radar tracking and telemetry devices apart from a launch pad, a launch control and mission control centre.

While the missile establishment is tight-lipped about the FTR, Hindustan Times has learnt that the ship will be able to launch conventional missiles upto a range of 1,500 kilometres from a distance of 400 to 500 nautical miles in the sea without fear of the weapons threatening any populated area on India's east coast.

The FTR will not be used for testing the Agni series of ballistic missiles as it is not designed to handle the thrust of a long-range weapon. "The FTR has all the capabilities of Interim Test Range (ITR) with the capability to test missiles in deep sea with minimum safety precautions as the latter allows only a cone of two to three degrees to launch a missile. It is for testing all missiles including BMD," said a senior official who didn't want to be named.

According to authoritative sources, the idea behind FTR is to test missiles from a range of 100 kilometres to 1,500 kilometres without any land mass or sea lanes limitations. This means that the FTR will be used for the BMD Phase II system, which is designed to destroy enemy missiles mid-air at different altitudes and different ranges with a long-range DRDO missile.

Phase II of BMD envisaged intercepting and destroying enemy missile with a range of 2,000 kilometre. The FTR will be also used to test tactical missiles like Prahar and other futuristic missiles.

With the FTR allowing live tests, not simulations, to interdict long-range missiles fired from the APJ Abdul Kalam Island off the Odisha coast, the Indian BMD system will become more efficient with improved single -hot kill probability (SSKP) ratio, a term used for surface-to-air weapons.

"The FTR will speed up missile projects as it provides a ready-made safety corridor without getting caught into the advances notices to ships and aircraft flying in the area as well as the fear of hitting populated areas while testing BMD system. With this we can use interceptor missile to interdict enemy missiles both endo and exo-atmosphere," said a second senior official.

<https://www.hindustantimes.com/india-news/new-age-weapons-set-to-add-to-india-s-arsenal/story-SUCRAjtwyZRej8Fq0SHSJJ.html>

New-age weapons set to add to India's arsenal

India is set to test its ballistic missile defence (BMD) Phase II interceptor missiles and other futuristic weapons next year with its first floating test range (FTR) in place to allow trials at different ranges without a land mass limitation or threat to the population. Only a select group of nations has FTR capability.

Designed by the Defence Research and Development Organization (DRDO), the new FTR is a 10,000 tonne ship, 200 metres long and 60 metres wide, equipped with state-of-the art electro-optical missile tracking (EOTS), S-band radar tracking and telemetry devices apart from a launch pad, a launch control and mission control centre.

While the missile establishment is tight-lipped about the FTR, Hindustan Times has learnt that the ship will be able to launch conventional missiles upto a range of 1,500 kilometres from a distance of 400 to 500 nautical miles in the sea without fear of the weapons threatening any populated area on India's east coast.

The FTR will not be used for testing the Agni series of ballistic missiles as it is not designed to handle the thrust of a long-range weapon. "The FTR has all the capabilities of Interim Test Range (ITR) with the capability to test missiles in deep sea with minimum safety precautions as the latter allows only a cone of two to three degrees to launch a missile. It is for testing all missiles including BMD," said a senior official who didn't want to be named.

According to authoritative sources, the idea behind FTR is to test missiles from a range of 100 kilometres to 1,500 kilometres without any land mass or sea lanes limitations. This means that the FTR will be used for the BMD Phase II system, which is designed to destroy enemy missiles mid-air at different altitudes and different ranges with a long-range DRDO missile.

Phase II of BMD envisaged intercepting and destroying enemy missile with a range of 2,000 kilometre. The FTR will be also used to test tactical missiles like Prahar and other futuristic missiles.

With the FTR allowing live tests, not simulations, to interdict long-range missiles fired from the APJ Abdul Kalam Island off the Odisha coast, the Indian BMD system will become more efficient with improved single -hot kill probability (SSKP) ratio, a term used for surface-to-air weapons.

"The FTR will speed up missile projects as it provides a ready-made safety corridor without getting caught into the advances notices to ships and aircraft flying in the area as well as the fear of hitting populated areas while testing BMD system. With this we can use interceptor missile to interdict enemy missiles both endo and exo-atmosphere," said a second senior official.

<http://defencenews.in/article/New-age-weapons-set-to-add-to-India%E2%80%99s-arsenal-737670>

Indian Army will get US-made Sig Sauer rifles by year-end, says General Bipin Rawat; postal stamp on 'Siachen Warriors' released

- *General Bipin Rawat said that the Indian Army is treading on that path to empower soldiers to ensure they are well-equipped and well provided with operational capabilities*
- *He said that the best rifle available in the world, Sig Sauer from the US will be made available to the infantry by the end of this year*
- *The DRDO is also moving forward on indigenously developed Man Portable Anti-tank Guided Missiles (MPATGM), the Army Chief said*
- *General Rawat also said that a manufacturing unit for AK-203 rifles, an India-Russia joint venture, will start production and first set of rifles are expected to be available by the end of this year.*

New Delhi: The Indian Army is working to empower its infantry forces, and one of the world's best rifles, manufactured by firearm major Sig Sauer, will be made available to them by the end of this year, Army Chief General Bipin Rawat said on Friday.

In his closing remarks at the Field Marshal KM Cariappa memorial lecture in New Delhi, General Rawat said a manufacturing unit for AK-203 rifles, an India-Russia joint venture, will start production and first set of rifles are expected to be available by the end of this year.

"To ensure there is no slippage in production, for the first time, the ordnance factory in Amethi is being headed by a serving Major General of the Army, who will be its CEO. We are confident the first set of rifles coming in a dismantled state and assembled here will be available by the end of the year," General Rawat said.

"The infantry soldiers are ever-ready to go into battle on short notice, and the army wants to empower them. And the empowerment happens by giving the soldier the right kind of war-waging material necessary for a soldier to accomplish its mission," Rawat said.

He said the army is treading on that path to empower them to ensure they are well-equipped and well provided with operational capabilities.

"And, let me assure you, the best rifle available in the world, Sig Sauer from the US will be made available to the infantry by the end of this year," he said.

The DRDO is also moving forward on indigenously developed Man Portable Anti-tank Guided Missiles (MPATGM), the Army Chief said.

A hundred soldiers, mainly from the infantry division will be sent to Young Soldiers Training Wing, established at the Officers Training Academy (OTA), Chennai and trained for six months. "We hope a large number of them would then join us as young officers," he said.

General Rawat said, as part of a new initiative, information regarding India's borders and boundaries with neighbouring countries would "soon be put in the public domain".

"So, that soldier and other people get the right perspective and know the history behind these borders. A soldier standing at the frontline should know exactly why he is guarding it," he added.

At the event, the Army Chief also released a postal stamp on 'Siachen Warriors'.

<https://www.firstpost.com/india/indian-army-will-get-us-made-sig-sauer-rifles-by-year-end-says-army-chief-bipin-rawat-postal-stamp-on-siachen-warriors-released-7557191.html>

Indian defence sector opens up to start-ups

By Pratyush Deep Kotoky

New Delhi: As India opens up its defence sector for private sector industries, it is going to witness a massive boom in the domain of defence technology. The defence sector, which was earlier mostly dominated by mega companies and the Defence Research and Development Organisation (DRDO), is currently experiencing a technological boom provided by these start-ups.

In the recently held “Indian Defence and Aerospace Summit 2019” organised by NewsX and The Sunday Guardian (iTV Network), Dr Ajay Kumar, Defence Secretary, praised the start-ups for their technological innovation in the defence sector. He said: “We have seen more and more start-ups entering the defence sector and what is very heartening to see is the quality of work that has been taken up by these start-ups. While some big international companies are joining with start-ups, even our forces are showing great interest in the work of these start-ups. Several government agencies, the forces and the DRDO are working with these start-ups. It is amazing to see how small start-ups come out with such astonishing technological solutions.” He also added that since the forces are now more willing to try out the Make-in-India technologies, the amazing innovations by start-ups must be integrated into specific platforms as per the needs of the forces. According to Kumar, Indian defence exports have been increasing in the last three years. It went from Rs 1,500 crore, which was three years back, to Rs 10,500 crore in 2018-19 and is expected to cross Rs 15,000 crore in 2019-20.

The Narendra Modi government has been focusing on developing indigenous defence technology for strategic independence and autonomy since it came to power in 2014. The government has also allowed start-ups to bid for contracts valued less than Rs 150 crore without the burden of providing financial credentials. Balbir Singh, retired Lt. Col. of Defence Industry Consultancy Services, said: “Our defence imports are very high. We import nearly 70% equipment for defence and only 30% are produced domestically. As the government wants to reduce imports, it is focusing on indigenisation of our defence products and defence acquisition. Unfortunately, our domestic industry is still unaware about this new avenue despite the government’s efforts.” Start-ups developing indigenous defence technology in India include Tonbo Imaging, CRON Systems, Aadyah Aerospace etc. An official of CRON Systems said: “The forces are open to incorporating new technology and there is no issue whether the technology is being developed by a private company or a public sector enterprise. As long as your technology is good and functional, the army is willing to give you an opportunity.”

<https://www.sundayguardianlive.com/news/indian-defence-sector-opens-start-ups>

Ministry of Defence gives exemption to IAF on Pilatus business suspension

PC-7 basic trainer aircraft of IAF faced shortage of spares and maintenance issues

By Dinakar Peri

The Ministry of Defence (MoD) has partially revoked suspension against business dealings with Pilatus Aircraft Ltd of Switzerland following representation from the Indian Air Force (IAF) as its fleet of PC-7 Basic Trainer Aircraft (BTA) was deprived of spares and maintenance.

“The service headquarters concerned requested for review of the order for sustaining of flying training on PC-7 MK-II BTA. In view of the fact that the IAF needs spares and maintenance support for 75 BTA already in use and appreciating its dependence on Pilatus Aircraft Ltd. for spares and maintenance for 75 BTA, it has been decided to review the suspension order...” an MoD note dated October 7 said.

In July this year, the MoD suspended all business dealings with Pilatus over allegations of corruption and violation of the pre-contract integrity pact of April 9, 2010 for a period of one year.

The Ministry’s exemption is applicable to the following: progress case to finalise the follow-on support contract (FoSC) on the revenue channel; to continue with the ongoing spares and maintenance supply cases on the revenue channel, where supply orders have already been placed; to progress cases for supply of spares and maintenance support that are “necessary to ensure uninterrupted sustaining” of the PC-7 Mk-II aircraft and its associated equipment, including simulators.

India signed a ₹4,000 crore deal with Pilatus in 2012 for 75 PC-7 MK-II aircraft and deliveries were completed by the end of 2015.

The MoD stated that the exemption from operation of suspension order is being granted subject to certain stipulations. “Air headquarters should obtain mean time between failures (MTBF) linked warranty within 3-4 months,” it stated.

Stipulations also state that the vendor discharges offsets without further loss of time as the prescribed time period has already elapsed and contractual obligations by the vendor is immediately undertaken and completed. “Exemption from operation of suspension order will have no impact on various probes by investigation agencies,” it further added.

The BTA is used for Stage I flying in the three-stage training schedule of the IAF to train rookie pilots. Second-stage training is done on Kiran trainers and third-stage on the BAE Hawk advanced jet trainers before the trainees move on to fly supersonic fighter jets.

<https://www.thehindu.com/news/national/ministry-of-defence-gives-exemption-to-iaf-on-pilatus-business-suspension/article29807504.ece>

The submarines strengthening Indian Navy

India's lethal submarines

The Scorpene submarines, designed by the French Naval Group (Formerly DCNS), are being built by Mazagon Dock Limited (MDL) in Mumbai as part of Project-75 of the Indian Navy. According to MDL, the technology being used for construction of the Scorpene class submarines has ensured superior stealth features such as advanced acoustic silencing techniques, low radiated noise levels and hydrodynamically optimized shape. "These stealth features give it invulnerability, unmatched by most submarines," said MDL. The submarines also have the ability to launch a crippling attack on the enemy using precision guided weapons. "The attack can be launched with both torpedoes and tube launched anti-ship missiles, whilst underwater or on the surface," MDL had said.

INS Kalvari

It is India's first Scorpene-class submarine and was commissioned into the Indian Navy in December 2017 by Prime Minister Narendra Modi. On the occasion, PM Modi had said Kalvari was an excellent example of 'Make in India' and will boost the Navy's might. Kalvari is named after the dreaded Tiger Shark, a deadly deep sea predator of the Indian Ocean. The first Kalvari, commissioned on December 8, 1967, was also the first submarine of the Indian Navy. It was decommissioned on May 31, 1996, after nearly three decades of service.

INS Khanderi

INS Khanderi is India's second Scorpene-class attack submarine. It is a diesel-electric attack submarine which is designed by French naval defense and energy company Naval Group (Formerly DCNS) and was manufactured at Mazagon Dock in Mumbai. The submarine can attack with torpedoes as well as tube-launched anti-ship missiles whilst underwater or on the surface. Defence Minister Rajnath Singh commissioned it in September 2019.

INS Karanj

The Scorpene-class submarine Karanj was launched at Mazagon Dock Shipbuilders Limited (MDL) in Mumbai in January 2018. Karanj is the third of the six Scorpene-class submarines built by MDL under the Project 75 programme.

INS Vela

The INS Vela is the fourth of the six submarines of Scorpene class that has completed its out fittings at Mazagon Dock Limited (MDL) Mumbai. MUMBAI: The Indian Navy in May 2019 had launched the submarine with an aim to boost Indian capability to defend and secure the strategic sea lanes. The first INS Vela was first commissioned on August 31, 1973 in the Indian Naval Service and continued to serve for 37 years. It was the country's oldest submarine when it was decommissioned on June 25, 2010, MDL had said in a statement.

<https://economictimes.indiatimes.com/news/defence/the-submarines-strengthening-indian-navy/indias-lethal-submarines/slideshow/71772060.cms>

Navy chief reviews air base in A&N islands

New Delhi: Navy chief Admiral Karambir Singh on Friday reviewed the operational facilities at the strategically-located INS Baaz, which is the southernmost air station of the armed forces and overlooks the Malacca Strait, at Campbell Bay in the Andaman and Nicobar archipelago. INS Baaz is currently equipped to operate light to heavy aircraft capable of “short-field operations” from a runway of about 3,500-feet. But work is currently underway to increase the runway length by another 1,000-feet, with another 6,600-feet to be added at a later stage, to enable unrestricted operation of all categories of aircraft including fighters and heavy-lift aircraft.

Spending a day with the personnel stationed in various units in Campbell Bay, Admiral Singh reiterated the A&N Islands were “strategically important for national security and would provide critical capability to monitor sea areas” in the region.

“INS Baaz will also be upgraded with modern airfield instruments and navigation aids. One of the primary functions of the base is to provide information based on airborne maritime surveillance through aircraft and UAVs (unmanned aerial vehicles),” said an officer.

The plan to develop INS Baaz, which also dominates the Six-Degree Channel, is in keeping with India’s overall policy to counter China's strategic moves in the Indian Ocean Region (IOR) as well as ensure security of shipping lanes, as was reported by TOI earlier.

The Navy has also been progressively increasing the number of its warships, including missile corvettes, amphibious ships, patrol vessels and fast-attack crafts, in the tri-Service Andaman and Nicobar Command (ANC), which was established as the country’s first theatre command in 2001.

Apart from countering Chinese moves, the stepped-up military presence in the archipelago will provide a strong security cover to India's 600,000 sq km of Exclusive Economic Zone (EEZ) spread out in this region, which is around 30% of the country's total EEZ of 2.01 million sq km.

<https://timesofindia.indiatimes.com/india/navy-chief-reviews-air-base-in-andaman-islands/articleshowprint/71769078.cms>