

Thu, 02 Jan 2020

PM to inaugurate 5 DRDO young scientists' labs

New Delhi: Prime Minister Narendra Modi will be in Karnataka on January 2 and 3 when he will inaugurate five DRDO Young Scientists' Laboratories, a statement said on Wednesday.

The development is a boost to indigenous research capabilities in the defence sector, the statement added.

"Prime Minister Narendra Modi will dedicate five DRDO Young Scientists Laboratories to the nation on Thursday, January 2, 2020," the statement said.

Modi will also visit the Sree Siddaganga Mutt, where he will unveil a plaque to mark the laying of the foundation stone for a memorial museum of Shri Shri Shivakumar Swamiji.

He will also distribute Krishi Karman Awards and Commendation Awards to states at a public meeting in Tumkur, Karnataka on Thursday, another statement said.

The PM will also give away the Agriculture Minister's Krishi Karman Awards for Progressive Farmers.

The event will also witness the release of the third installment of PM-Kisan (Pradhan Mantri Kisan Samman Nidhi) of Rs 2,000 for December 2019-March 2020. This will benefit approximately 6 crore people.

The Prime Minister will also hand over certificates to beneficiaries under PM-Kisan from eight states/UTs.

At the same event, the Prime Minister will also handover the Keys of Deep Sea Fishing Vessels and Fishing Vessel Transponders to select farmers from Tamil Nadu.

He will also distribute Kisan Credit Cards (KCC) to select farmers from Karnataka, the statement said.

<https://www.deccanherald.com/national/national-politics/pm-to-inaugurate-5-drdo-young-scientists-labs-790588.html>

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Procurement: One hell of a tank

Indian defense experts were surprised when, at the end of 2019, the government signed a licensing agreement with Russia for Indian production of another 464 Russian T-90 tanks. India already has a little over a thousand of these tanks, most of them assembled in India from Russian made components. The new batch of tanks will cost \$3.12 billion, or \$6.73 million per tank. However, 62 percent of that amount will be paid to Russia for licensing fees and Russian made components. The licensing fees alone are 38 percent of each T-90s cost. The Indian Ministry of Defense is demanding that India be allowed to produce 80 percent of the tank components versus the current 40 percent. Russian and many Indian manufacturing experts believe using a higher proportion of Indian components is not practical. There have already been a lot of problems with the T-90 and the cause is often the quality of Indian made components. The most expensive imported T-90 component is the engine and associated mechanical devices. The current force of T-90s was built under the terms of agreements signed in 2001, 2006 and 2007. Because of current sanctions the Russians will be paid in Russian rubles, obtained from the sale of Indian products to Russia or currency markets.

Currently, India has about 3,500 tanks in service. Two-thirds of them are improved Cold War era Russian T-72s. Most of the rest are T-90s, which are also based on the T-72 but given a new designation to reflect all the new components and features. Russia itself does not use many T-90s as the Russian army prefers another improved (more than the Indian version) T-72B3M that is cheaper than the T-90. More reliable and more user-friendly. Most of the T-90s Russia did buy are in storage.

Since 1990s India has had one problem after another with its tank fleet. A major problem was the effort to develop and produce the locally designed Arjun tank. The army was forced to buy the first 120 of these in order to keep an Indian tank factory going. After several years of use, over 70 percent of those Arjuns were inoperable because of technical problems, mostly relating to imported spare parts. Over half the Arjun components are foreign made and the procurement bureaucracy, the army and the Arjun factory cannot agree on specifications and quantities of these parts. In addition to that, there were dozens of unresolved technical problems with Arjun. All this added up to about a hundred separate problems that had to be resolved to increase the readiness rate. The government seems to agree that Arjun was a failure but the project had a lot of political support and another 120 “Improved Arjun” were built and delivered in 2016.

In 2010 when competitive tests involving in tests of mobility, endurance and gunnery were conducted at the urging of DRDO, the government defense research and development organization. This resulted in an unexpected victory by the Arjun. This was surprising because until then Arjun was considered an expensive and embarrassing failure. Development of the Arjun began in the 1980s and by 2006 the army had received only five of them, for testing and evaluation. The evaluation did not go well. Originally, the Arjun was to have replaced thousands of older Russian tanks, but after so many delays, the army only reluctantly accepted enough to equip one Armored Brigade. The new test reports resulted in renewed pressure on the army to buy more Arjuns.

One good thing came out of this competition and that was the agreement by the Arjun developers to address the many technical problems with Arjun. To spare government or military officials’ embarrassment this was described as an effort to develop the next generation battle tank. Called the FMBT (Future Main Battle Tank), this vehicle aimed to build on the “success” of the Arjun.

This pitted the Defense Ministry weapons development and procurement bureaucrats against the generals. The bureaucrats were under pressure to deliver because the competition was won by Arjun mainly because it was assumed that Arjun would have fixed all the problems it was having with its

electronics and some other components. The main problems were with the fire control system, the engine, and the fact that its size and weight prevented it from being used with current tank transporters. Thus the FMBT was to be lighter (50 tons) and based on what worked in the Arjun and other modern tanks. The FMBT is expected to replace older Russian tanks. The result was called Arjun 2 and it fixed most of the Arjun problems, including the size and weight issues. Arjun 2 weighs 50 tons and 60 percent of the components are Indian made. All this is optimistic, given what happened with the original Arjun and Indian developed weapons in general. The Arjun was originally intended as a replacement for most of the older T-72s and that still might happen. The problem with the FMBT effort is that the development of the Arjun went on for over three decades and DRDO has demonstrated an inability to do any better.

In 2009 the Indian-made T-90s cost about \$3 million each. India has already bought 700 Russian made T-90 tanks, at a cost of \$3.5 million each. The Arjun 2 is expected to cost over \$5 million each. The high price is due to a lot of high tech. This includes an active defense system to defeat anti-tank missiles, a much more powerful engine, lots of electronics and a hermetically sealed crew department to provide protection against chemical weapons and radiation. All this stuff is tricky to develop, just the sort of thing DRDO excels at screwing up. This is mostly the fault of the DRDO bureaucrats, who are not very good at using all the technical and manufacturing talent India has.

Back in 2006, India adopted the Russian T-90 as its new main battle tank. By 2020, India will have 2,000 upgraded T-72s, over 1,500 T-90s, and a few hundred other tanks, including over 240 Arjuns, depending on how the Arjun 2 works out in practice. This will be the most powerful armored force in Eurasia unless China moves ahead with upgrades to its tank force. The border between China and India is high in the Himalayan Mountains, which is not good tank country. India's tank force is mainly for use against Pakistan.

The T-90 is a highly evolved T-72. Originally, the T-90 was a fallback design. The T-80 was supposed to be the successor to the T-72. But like the T-62 and T-64 before it, the T-80 didn't quite work out as planned. So the T-72, with a much improved turret and all manner of gadgets, was trotted out as the T-90. Weighing 47 tons, its 7 meters (23 feet) long, 3.4 meters (11 feet) wide and 2.3 meters (7.5 feet) high. Same package, better contents. And with well-trained crews, it can be deadly. The original Arjun was a larger vehicle (59 tons, 10.7 meters long and 3.9 meters wide).

Arjun 2 is similar in size to the T-90. Indian armor experts, both military and civilian, are hoping the Arjun 2 is more like the T-90 than the Arjun. But the most worrisome aspect of the FMBT, or Arjun 2 project is DRDO which also developed Arjun. It's feared that the DRDO wonks have not learned from the many errors made with the Arjun. The hope is that the FMBT 2 will not be another DRDO disaster. That is optimistic as the development of the Arjun took over three decades and DRDO has demonstrated the same poor performance with numerous other weapons that are still in development or recently entered service.

<https://www.strategypage.com/htmw/htproc/articles/20200101.aspx>