

Indian Army to induct 300 Prospina (Nag) ATGMs

Indian Army is all set to induct 300 of Prospina (earlier known as Nag, in Hindi for "Cobra") ATGM, a third-generation, fire-and-forget, anti-tank guided missile system. It is one of five missile systems developed by the *Defence Research and Development Organisation (DRDO)* under the *Integrated Guided Missile Development Program (IGMDP)*, which also involved the development of four other missiles that are Agni, Akash, Trishul, and Prithvi.

"A high-level meeting of the defence ministry will consider a proposal to acquire 300 Prospina (Nag) missiles and around 25 Nag Missile Carriers (NAMICA) worth around Rs 500 crore for induction into the Indian Army in the next few days," government sources **told** to a local Indian newspaper.



In February 2018, 190 mm Prospina (Nag) was **successfully tested** in desert conditions (at Pokhran Testing Range in Jaisalmer district) against two tank targets at different ranges and timings, paving the way for its induction into the Army. There is a speculation; the last test has **jeopardized a potential deal** to purchase Spike anti-tank guided missiles (ATGMs) from Rafael

of Israel worth US\$500 million. India had expressed interest in buying Spike missiles through the *government-to-government (G-to-G)* route in January, two months after it decided to cancel a deal to procure the weapons after the DRDO expressed confidence of producing the indigenous Nag ATGM.

The missile system has been undergoing series of trials (*in quick succession*) since last two years at various test ranges in the state of Rajasthan.

In recently concluded DefExpo 2018, Dr. S. Christopher, Chairman, DRDO, in a press conference held by DRDO at the venue in Chennai had **said** - *"The remaining trials of this missile will be finalized until the end of 2018 and production will start next year onwards."*

The Prospina (Nag) ATGM is equipped with an indigenous high-resolution imaging infrared seeker



developed by *Bharat Dynamics Limited (BDL)*, capable of operating during day and night, which provides passive homing guidance for engaging static/moving tank targets. It has a flight speed of 230 meters per second and is armed with an 8kg tandem shaped-charge warhead. It has a rocket motor using a nitramine-based smokeless extruded double base sustainer propellant, has a single-shot hit probability of 0.77 and a CEP of 0.9 meters, and has a 10-year maintenance-free shelf-life. The missile is equipped with four foldable wings and has a length of 1.85m, a diameter of 0.20m, a

wingspan of 0.4m and weight of 43kg.

The missile will be based on *NAMICA* (*Nag Missile Carrier*), which is an improved version of the Soviet-designed *BMP-2 infantry fighting vehicle (IFV)*, licensed manufactured in India as "*Sarath*". The carrier weights 14.5 tonnes in full combat load and is capable of moving 7 km/h in water. It is equipped with *nuclear, biological and chemical (NBC)* protection, independent gunner and commander sights, silent watch capability, and a fire suppression system for crew safety and comfort. The NBC system provides dry, temperature-controlled filter air to the crew. The *NAMICA* has a retractable armored launcher that can carry 12 *Prospina (Nag) ATGMs*, with 8 of them in ready-to-fire mode at a distance of 4km. The *NAMICA* carrier was put through transportation trials covering 155 km during 2008 summer trials.



The Army reportedly has a current requirement for around 68,000 ATGMs of various types and over 850 launchers over the next 20 years.

DRDO is also developing the helicopter-launched version of the NAG, known as *HELINA*. The helicopter-launched configuration, designated as *helicopter-launched NAG (HELINA)*, using the "*Rudrastra*" canister-encased twin-launcher system, will arm both the *HAL "Rudra" (ALH WSI)* helicopter-gunships as well as the *HAL Light Combat Helicopters (LCHs)* of both the Indian Army and the Indian Air Force.

<https://www.indrastra.com/2018/04/Indian-Army-to-induct-300-Nag-ATGMs-004-04-2018-0029.html>

MAIL TODAY

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300 anti-tank missiles to be inducted into Indian Army soon

In a major success for Prime Minister Narendra Modi's 'Make in India' in the defence sector, the long-delayed Nag anti-tank guided missile is all set to see the light of day in the Indian Army as 300 of the land attack version of this missile are going to be inducted into the force soon to tackle the enemy armoured forces.

Nag was one of the five missile systems planned to be developed in the 1980s by the Defence Research and Development Organisation under the Integrated Missile Development Programme (IMDP) and has been stuck due to one problem or the other.

"A high-level meeting of the defence ministry will consider a proposal to acquire 300 Nag missiles and around 25 Nag Missile Carriers (*NAMICA*) worth around Rs 500 crore for induction into the Indian Army in the next few days," government sources told Mail Today.

The *NAMICAs* are the launch vehicles of the Nag missiles and can carry six missiles at a time, which can destroy enemy tanks and infantry combat vehicles from a distance of 7 to 8 kilometers.

Sources said the army will carry out more trials of the Nag missile as its requirement is of around 3,000 such missiles. "If the army is satisfied with the performance of the weapon system, it will place more orders for the weapon system," they said.

After the NDA government started giving push to 'Make in India' in the defence sector, Nag missile would be the second long-pending project of the DRDO to see the day of light in armed forces after the successful induction of the *Tejas Light Combat Aircraft* into the Air Force.

The major success in the Nag programme was achieved after the DRDO missile complex developed the indigenous seeker for the Nag missile, which helped it in hitting targets successfully.

"The earlier seeker used in the missile could not differentiate between the tank and its surrounding desert sand as the temperature difference between the two was almost negligible during the summer season. However, the indigenous seeker has the capability to differentiate between the two and has consistently hit targets during the trials in the last two years," the sources said.

"The fire-and-forget Nag missile with the indigenous seeker can successfully target enemy tanks even in the worst desert conditions during summer with great accuracy," the sources said.

The seekers imported from a European country were developed as per the weather conditions there and were not able to adapt to the extreme weather conditions in the desert terrain in India.

Defence minister Nirmala Sitharaman has also been laying special stress on developing Indian defence products which can be used for improving the export of military hardware from here as it is almost negligible at this time.

In the recent times, the DRDO missile complex has helped in reducing dependence on imported missile systems due to successful development of various indigenous weapon systems such as the Akash air defence system. According to estimates by the government agencies, the Akash missile system alone has helped the government save around Rs 34,000 crore worth of foreign exchange in defence deals.

<https://www.indiatoday.in/mail-today/story/300-anti-tank-missiles-to-be-inducted-into-indian-army-soon-1217403-2018-04-22>



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Higher defence management with Indian characteristics

Could the new Defence Planning Committee headed by Ajit Doval be a creative answer to the gridlock that has prevented real reform in the higher defence management system?

By Manoj Joshi

Are we now in the process of establishing a higher defence management system with 'Indian characteristics'? This could well fit the description of the new Defence Planning Committee (DPC) headed by national security adviser Ajit Doval that was created recently.

According to reports, Doval's new committee comprises the army, navy and air force chiefs, and the defence, expenditure and foreign secretaries. The chief of the Integrated Defence Staff would be its member secretary and the outfit its secretariat.

The DPC will author the country's national security strategy, plans for building a defence manufacturing system and boosting defence exports, and prioritise capability development plans. These will be submitted to the defence minister who will presumably seek the approval of the Cabinet Committee on Security to authorise action on them.

The committee will have four sub-committees to look at four key areas — policy and strategy, plans and capability development, defence diplomacy and the defence manufacturing system.

The reports say that the committee will also prepare military doctrines and, in line with this, establish the strategic objectives of Indian military power. Future operational directives of the defence minister will emerge from the doctrine and strategy worked out by the committee.

Some have seen this as a revived version of the 1977 Committee on Defence Planning, but its roots lie in the Strategic Policy Group set up under the National Security Council in 1998. Formed to promote inter-ministerial coordination, the group comprised of the cabinet secretary, the three service chiefs, the key secretaries dealing with foreign, finance, defence and home affairs, as well as the heads of the intelligence services. For some reason, this body never really functioned effectively.

By creating a group with the NSA at its head, and a weak defence minister to take care of the legal issues relating to the cabinet, we have an institution that will not only promote defence procurement, industry and exports, but provide higher strategic direction to the country. Its composition makes eminent sense since it is compact and national strategy requires effective use of all the instruments of national power. But it does beg a number of other questions.

Is it being seen as a substitute for the long-standing requirement for a chief of defence staff for the three services and the need for closer integration between civilians and uniformed personnel in the Ministry of Defence? The fact that the IDS headquarter is the anchor of the DPC would suggest that, indeed, that is what the government is thinking.

If the DPC is just a band-aid to avoid deep restructuring and reform needed by the military system in the country, it could lead to trouble. Not in the least because of the fact that while they may hone the best national security strategy document, the military instrument they need to execute it may not function in the most optimal manner because it is in dire need of top-down reform.

For nearly 20 years, the system has been kicking two cans down the road. The first is called the “chief of defence staff” and the other “civil-military integration”. Two committees — the Group of Ministers in 2001 and the Naresh Chandra Committee in 2012 — felt that a CDS-like institution was vital to ensure the integrated functioning of the three armed forces. Further, they felt that for a more professional defining of the country’s security challenges and more effective ways of dealing with them, there was need for closer integration between the uniformed personnel and the civilians who ran the Ministry of Defence.

But the proposal has been resisted both by politicians and civilians in the government, primarily IAS bureaucrats. Their opposition has been subtle, since it is not based on any reasoned argument, but the belief that a CDS could diminish their power and pelf.

In his outstanding study on the Indian military and the state, Steven I. Wilkinson has shown that beginning with the 1950s, higher defence management in the country was deliberately structured “to minimise the risk of military intervention in politics.” Disappointingly, even by 2015 when his study was published, there had been no major change, even though such strategies were seen “as an increasing drag on the country’s military efficiency and antiterrorist strategies.” So India’s national security decision-making processes remain archaic, as indeed does its military organisation.

Could Doval’s new committee, then, be a creative answer to the gridlock that has prevented real reform in India’s higher defence management system? For the present we must keep an open mind — if only because there is no other alternative. The politicians and *babus* will never allow the CDS to come up, so, in lieu of it, we may as well as have Doval as the “CDS with Indian characteristics”, one who will not spook the system the way a military person seems to be able to do. But the proof of the pudding will be in its eating: The NSA will have to show that he can crack heads to push through needed changes in the system.

The country has lived with a higher defence management system with Indian characteristics for a while. Shaped by the experiences of the 1960s, this gave us a system where the military is kept out of the civilian decision-making system, while politicians steer clear of interfering in what are classed as purely operational or tactical affairs. Going by the experience of other countries, this is not the best way to manage the country’s higher defence management. Each country must follow its own path, provided it is able to achieve the ends it seeks.

Just what this “Indian” system is can be seen by the way we handle our nuclear deterrent. In contrast to other nuclear weapons states, India’s nuclear weapons are in the custody of civilians – the Department of Atomic Energy and the Defence Research and Development Organisation (DRDO). It is only when it comes to delivery that the armed forces are involved through the Strategic Forces Command which are embedded within the military, but under the effective command of the NSA.

As Clausewitz put it, war is nothing but the continuation of politics with other means. The importance of close political supervision, if not leadership, in military affairs has always been important and has become even more salient in the contemporary era. Prime Minister Narendra Modi probably sees it instinctively, as evidenced by his use of the “surgical strikes” to corner Islamabad.

So if Modi wants to run the show through his NSA, it could actually have a positive outcome in certain areas by taming parochial interests in our governmental system. But they should not be under the illusion that

the creation of the DPC will be a solution to all the ills that afflict our defence system. Reforming and restructuring our antiquated military and its command system is a problem in itself that would require several years, if not a decade, of work to overcome.

Then, having a national security strategy that is approved at the highest level would be a boon because it will get the whole system on to the same page in dealing with issues, but prioritising the challenges and, more importantly, reshaping the means with which to deal with them, require hard work and concentrated attention in the coming years.

Doval's is an agile mind who has thought a great deal about some of the issues his new responsibilities will bring, especially defence research and industrial reform. But he is an extremely busy man. As of now, the NSA is not only the principal security adviser to the prime minister, but the effective supervisor of all three intelligence services. He has heavy foreign policy responsibilities, primarily those relating to Pakistan and China. He is also the head of the executive council of the National Nuclear Command Authority and in that sense, the custodian of the country's nuclear deterrent.

So, the bottom line is: Will he be able to provide effective leadership for this new body, or only token authority?

<https://www.orfonline.org/research/higher-defence-management-indian-characteristics/>



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Bharat Dynamics stock rises on signing agreement with DRDO

The stock signed an agreement with Defence Research Development Organisation (DRDO) for Astra MK-1 Weapon System.

Bharat Dynamics stock rose over 2% after it signed an agreement with Defence Research Development Organisation (DRDO) for Astra MK-1 Weapon System.

The stock is currently trading at Rs413.15 up by Rs8.8 or 2.18% from its previous closing of Rs404.35 on the BSE. The scrip opened at Rs409 and has touched a high and low of Rs421.90 and Rs407 respectively.

The stock listed at Rs360 on BSE, a discount of 15.89% to its initial public offer price of Rs428 per share. The company saw a subscription of 1.3 times. The price band for the issue was Rs413 to Rs428 per share.

Bharat Dynamics Ltd. (BDL) is one of the leading defence public sector undertakings (PSUs) in India. It manufactures Surface to Air missiles (SAMs), Anti-Tank Guided Missiles (ATGMs), underwater weapons, launchers, counter measures and test equipments. BDL is the sole manufacturer for SAMs, torpedoes, ATGMs in India. It also undertakes refurbishment and life extension of missiles. It has three manufacturing facilities located in Hyderabad, Bhanur and Vishakhapatnam. Its customers are the MoD (Ministry of Defence), other defence PSUs, government bodies under MoD and other countries.

https://www.indiainfoline.com/article/news-top-story/bharat-dynamics-stock-rises-on-signing-agreement-with-drdo-118041900022_1.html



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India Displays Big Missiles at Defense Show

By Vladimir Karnozov

Two significant long-range missile programs were showcased at India's DefExpo2018 event held in Chennai from April 11 to 14. India's defense ministry and its Defense Research and Development

Organization (DRDO) displayed a full-scale mockup of the ground-launched Nirbhay cruise missile. The Indo-Russian BrahMos Aerospace joint venture showed the “Next Generation” version of its supersonic missile.

The Nirbhay is similar in size and performance to the U.S. Tomahawk and Russia’s Caliber 3M54/3M14 cruise missiles. It is six meters (19.7 feet) long and has a cylindrical body with diameter of 0.52 m (67 inches). According to local sources, the Nirbhay can carry a conventional or nuclear warhead over a distance of 1,500 km/808 nm. Its production should have commenced last year. Separately, the DRDO put on display an indigenously developed “Small Turbofan Engine” that might power the Nirbhay.

Clearly, this missile is a strategic weapon that will supplement ballistic missiles already in the Indian service. These include the K-15/B-05 series with a range of 750 km/405 nm developed for the S73 Arihant nuclear-powered submarine that was commissioned in 2016. The follow-on K-4, now in the testing, has a range boosted to 3,500 km/1,890 nm. According to local sources, this missile is larger, at 12 m (39.4 ft) long and 1.3 m (51 in) in diameter, and weighs 17 tons. Between these two naval systems there is the Dhanush intended for launch from a mobile land platform. Weighing 5,600 kg (12,346 lb), this missile has a length of 8.56 m (28 ft) and a body diameter of 1 m (39.4 in).

The Dhanush’s reported maximum range is 300 km/162 nm, which is similar to the original cruise missile from the BrahMos joint venture, which is designated PJ-10. The BrahMos-NG that is now in development is smaller in diameter and length than the PJ-10, and can therefore fit the standard 533mm torpedo tubes in widespread use on submarines and surface warships. It is primarily intended for submarines, although an air-launched version is also planned. The Brahmos-NG seems to have replaced the hypersonic Brahmos-II that was previously a focus of development by the joint venture.

The Brahmos-NG is considerably smaller than earlier versions of the Indo-Russian missile. (Photo: Vladimir Karnozov)

However, the Brahmos-NG is still faster than the PJ-10 (Mach 3.5 versus Mach 2.8) and has a longer range (more than 300 km/162 nm versus a maximum 290/157 nm km).

Moreover, the BrahMos-NG will have a newly developed AESA radar seeker in place of the mechanically scanned one on the PJ-10.

The Indian air force would benefit from adopting the Brahmos-NG, since three of them could be carried by its Su-30MKI multirole fighters, instead of one PJ-10. Besides, the aircraft would be able to land with one or two missiles on wing pylons, whereas landing safely with a standard missile attached to the center fuselage pylon is not possible.

Meanwhile, flight-testing of the air-launched Brahmos is being conducted using a pair of specially modified Su-30MKI. The first midair firing was successfully accomplished in November 2017.

BrahMos Aerospace believes it can develop, test and put the Brahmos-NG into production as a follow-on to the PJ-10. By that time, the number of surface warships in service with the Indian navy and armed with these missiles would rise from the current 11 to 20. Production for the Indian army, of the version that fits in mobile transporter-erector-launchers, would also have been completed by that time.

Also at the test-firing stage is the BrahMos-ER, suffix for “Extended Range,” which is reportedly increased to 450 km/243 nm. The first launch was in March of last year. Development of this version for ground, ship and submarine launch, became lawful following India joining over 30 other nations that signed the Missile Technology Control Regime.

<https://www.ainonline.com/aviation-news/defense/2018-04-19/india-displays-big-missiles-defense-show>