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Confident of doubling range of the Astra, will be the most lethal air to air missile: DRDO Chief

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By Manu Pubby

In this second part of an interview with ET's Manu Pubby, DRDO Chief G Sateesh Reddy describes the indigenous ASTRA missile as ready for induction and detailed how all components for the Ballistic Missile Defence system are now ready.

Two new missile projects by DRDO have stood out – the ASTRA air to air missile and the ballistic missile defence system designed to protect India against a nuclear attack. Where do we stand on these?

ASTRA initially had some technological challenges which have been overcome successfully. With our persistent effort and with active IAF support, all the user evaluation has been completed and ASTRA is now ready for induction. We are very confident of extending the range to nearly double of its existing range, making it the most lethal BVR missile.

India is one of the few countries which has its own active and successful BMD programme. We have demonstrated our capability through both simulation studies as well as live target engagements in both endo and exo regions. All essential technologies required for BMD, like propulsion system, sensors, precision control systems and terminal intercept technology with kill vehicle development have matured and have been proven through various tests.

After the success of the Anti-Satellite test, what are the next plans for DRDO in the field of space?

With the ASAT test, DRDO has demonstrated the capability to neutralize enemy satellites. We are not in favour of weaponization of space. However, we need to have technological capabilities to defend our national interest. DRDO will keep working in the area of advanced technologies for air and missile defence systems. Future activities will depend on the guidelines of the government.

Another focus area for the government is encouraging defence exports. What steps need to be taken for this?

The government has come out with several policies to promote exports. We are creating awareness of DRDO-developed products and systems by showcasing them in international defence and aero shows. Many countries have shown keen interests for different systems. We will support the industry with technologies to enhance their export competitiveness. Royalty has been reduced for DRDO products being exported to friendly nations. Free handholding support has been extended for the industry for absorbing the technology.

Is there a possibility of the Arjun Tank and its advanced variants also being ordered in significant numbers in the near future?

MBT Arjun is one of the most potent fighting platforms in its class. Mark I is inducted and being used by Army. Mark IA has gone through extensive use trials. Two Regiments of upgraded Arjun Mk IA are in the process of being inducted.

On talent acquisition, how has DRDO fared, especially as private companies offer attractive financial options for bright young scientists and engineers.

Nowadays DRDO is a preferred employer and we are able to get talent from prestigious institutes. Prospects for career growth are good with schemes like Merit based flexible Complementing Scheme. Financial incentives are also good with provision of variable increment based on performance. Scientists are also sponsored for higher studies and are deputed abroad for various conferences, seminars etc. There are various awards in recognition to performance of scientists.

Can you please share an update on the Agni program and the next steps planned for it.

Development of Agni Series of missiles has been completed and are in the process of induction.

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View: India must tap private sector for closing tech gap with global military powers

Defence production and R&D will not make the desired leap unless MoD proactively supports the private sector in manufacturing and R&D, and revamps the DRDO. It is time the MoD tapped the entrepreneurial energies of the private sector to bridge the...

By G Mohan Kumar

The appointment of a chief of defence staff (CDS) in the Ministry of Defence (MoD) is bound to energise decision-making as defence planning will get rationalised through an objective evaluation of demands put forth by the services for modernisation. Under the leadership of the CDS, the long-term integrated perspective plans, the mainstay of the modernisation programme of the services, have a great opportunity to take off in the right direction. But the plans will fail if India continues to rely heavily on imports without indigenous production of major equipment such as fighter aircraft, helicopters and submarines backed by robust research and development.

The recent speech by the defence minister calling upon the Defence Research and Development Organisation (DRDO) to concentrate on high-end, futuristic areas of technology is a pointer to the infirmities of our defence R&D. Defence production and R&D will not make the desired leap unless MoD proactively supports the private sector in manufacturing and R&D, and revamps the DRDO.

Domestic defence manufacturing has to survive in a monopsony (government is the sole buyer). This necessitates specialisation and longterm commitment to investment in product development and maintenance. The strategic partnership (SP) policy was incorporated in the defence procurement procedure to harness the latent capabilities of the private sector for production of major equipment by nurturing a sophisticated ecosystem of small and medium component manufacturers.

In advanced countries, defence production is dominated by a small group of private companies backed by a plethora of small firms. They have longterm partnerships with their governments in both R&D and production. The governments exercise strong regulatory control over their activities in both manufacturing and export. But a monopolistic private sector is unthinkable in our country, which has given constitutional protection to public sector monopoly. Article 19(6)ii provides for restricting fundamental rights in favour of the public sector. This could perhaps be extended to the private sector also by legitimising monopolies in strategic areas like defence in larger national interest.

It is time the MoD tapped the entrepreneurial energies of the private sector to bridge the technological gap between India and the advanced military powers. Some years ago an expert committee had recommended a system of recognising competent private firms as 'udyog ratnas' to be treated on a par with the public sector. Later the Atre committee, which laid the foundation for the SP policy, strongly recommended selection of private firms for long-term partnerships and contracts on the basis of costplus pricing. This met with stiff resistance both at the bureaucratic and political levels and the SP policy was framed after substantially watering down the original recommendations.

The elemental fear of the trinity comprising the CVC, CBI and CAG once again put paid to a highly ambitious reform effort. After the unseemly political spat over the offsets of the Rafale deal, the RFI (Request for Information) for the single-engine fighter project was recalled and revised in a kneejerk fashion to allow the public sector also to compete. With the HAL struggling to honour the deadlines for delivery of Tejas – for which it has a good order from the MoD – its capability to deliver another single-engine aircraft within the stipulated time is questionable. So much for progressive policymaking – often starting with a bang and ending in a whimper. The imperatives of national security are overridden by incurable conservatism.

The defence minister's exhortation to the DRDO raises questions on the trajectory of defence R&D. With China challenging the USA in contemporary technologies such as the 5G, artificial intelligence, fifth generation fighter aircraft and electronic warfare, do we have the resolve to narrow the technology gaps?

We have to reflect deeply on defence R&D being a monopoly of the DRDO. While the DRDO has done excellent work in some advanced areas, its unfocused organic growth in all directions has rendered it unwieldy. India has made little headway in developing high-tech materials like high grade alloys for use in defence equipment. Unless we achieve a breakthrough in this field, development of aero-engines and other high performance equipment will remain a pipe dream.

Advanced countries have successfully harnessed the energies of the private sector for R&D. The most wellknown example is the Defence Advanced Research Projects Agency (DARPA) of the US Department of Defence which created a transformational innovation ecosystem in partnership with the private sector with regulatory control over Intellectual Property Rights (IPR) and export.

In India, when a private company develops products even for the DRDO, there is no system to guarantee orders to the developer to make manufacturing commercially viable. A conscious effort is needed to downsize the DRDO and earmark substantial funds to involve the private sector in R&D with clear demarcation of the rights and responsibilities. While the DRDO could handle areas such as strategic systems and missile technology, it has to be a facilitator for research in other areas through public-private partnership with the active oversight of the three services. There is a need to enact a legislation to facilitate such partnerships and to safeguard IPR and national interests. The DRDO needs to have the flexibility to hire worldclass talent. The final answer may lie in the DRDO being converted into an autonomous research foundation, overseen by an independent board of distinguished scientists and senior members of the three services.

(The writer is a former defence secretary)

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How Defence Minister Rajnath Singh would boost defence sector with global investors

Rajnath Singh on Monday invited global investors to invest in aerospace and defence goods and services in order to raise employment and reduce import dependence

By Vinayak Sharma

While addressing the gathering at (ADMM-plus) ASEAN Defence ministers' meet n Bangkok, Defence Minister Rajnath Singh invited global defence majors and investors to India's defence sector. He stated that India has planned to set a target of being the nation to export military equipments worth $5 Billion by 2025.

Employment

Eyeing the employment count, Singh stated that targeting the aerospace, defence goods and services areas, India is planning to invest around $10 Billion in these sectors which would bring a jump in the employment percentage of the country. According to Business Today, Singh mentioned that around 2 to 3 Million people would get jobs in these sectors as the demand for goods and services will rise along with the major investment in specific work spheres.

ToT (Transfer of Technology)

Introducing the new policy at the Bangkok meet, Defence Minister mentioned that new policy of ToT (Transfer of Technology) was being formulated to ease the process of transferring the technology developed by DRDO (Defence Research and Development Organisation) to the defence industry. Recently, DRDO has signed 30 agreements related to ToT with 16 Indian companies which also include 3 start-ups. Indian Armed Forces are procuring ready-to-eat meals, survival rations and emergency flying ration products from companies which have acquired ToT from DRDO. And now, Defence Minister has made global players familiar with ToT and invited them to engage in the process.

Reduce Import dependence

At the meet, Singh said that Defence Sector has been prioritized under 'Make in India' initiative and it is aimed at reducing the import dependence and driving the nation to become the net exporter of defence equipments and services. According to export.gov, at present India imports around 60 per cent of the defence needs. In comparison to the export figures, India has imported defence requirement worth around $10, 819 Million in 2019 from $6,770 Million in 2016. Export figures reached to $7,461 Million in 2019 from $5,395 Million in 2016. To reduce the import count, Singh urged the global and domestic manufacturers to be a part of 'Make in India' initiative and fulfil the defence needs. 'Make in India' is one of the biggest initiatives of Indian government to attract investors to invest in India for defence requirements.

New Defence Category (Buy Indian-IDDM)

Defence Minister Rajnath Singh also described the new defence policy upgrades that have been helpful in the sector'ss' development. Singh mentioned the defence procurement procedure was transformed in 2016 to encourage the domestic defence industry. A new category Buy Indian - IDDM (Indigenously Designed, Developed and Manufactured) was introduced to forge ahead with the design and development of defence equipment. He introduced it at the Bangkok meet for the global interest and also to increase domestic involvement in the category.

About ASEAN (ADMM-Plus)

Rajnath Singh is in the Bangkok to attend ASEAN defence ASEAN Defence Ministers' Meeting-Plus (ADMM-Plus) grouping, a platform including ASEAN and its eight dialogue partners including India. At the meet Singh stated the government's decision to promote self-reliance in defence sector with five 'I'-Identification, Incubation, Innovation, Integration and Indigenisation. Defence Minister invited global and domestic speculators to be a part of the upcoming DefExpo to be held in Lucknow in February 2020.

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