



Indigenous Technology Driving the Indian Defence Sector

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With India maturing as a regional power and aligning its focus on transforming into a global power, the defence sector is increasingly occupying a larger mindshare in the country's long-term strategic plan. The 'Make in India' drive is a reflection of this pivot. Indigenous Technology will be the driving force for the Indian defence sector to truly mature and address the demands of the armed forces.

Wars are becoming technology intensive. The proxy and asymmetric warfare calls for a very high level of preparedness in terms of gathering Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR). India also has a long border with high rise Himalaya Mountains in the north and north-east, a combination of slush and desert in the west and north-west and deep jungles in the east and the rest of India is bound by large oceans which poses even higher order of threat, notwithstanding the claims by many adversaries on the ownership of deep oceans. The infiltration across the border and home grown terrorism also needs to be addressed.

To counter the perceived threats, Indian Defence Forces must be in possession of diverse range of weapons including various class of missiles, an excellent networked ISTAR system, a strong Air Force with flying assets well supported by Early warning systems, a strong army supported by ground based weaponry with a powerful logistics support and definitely a strong naval fleet to protect the littoral waters and carry out deep sea offensive operations. The last but not the least is to develop very strong training mechanisms to ensure all-time preparedness as well as to reduce the cost of training using live platforms.

The first step that needs to be taken by the Indian defence industry is to enhance its technological capability either through access to foreign military technology or indigenous development. To ensure that the indigenous technological base grows it should also be commercially viable. There is therefore a need to identify maximum number of R&D projects with a good mix of low, medium and high technologies that are not only in line with India's strategic vision for defence but also have dual use potential.

There is no lack of R&D in the defence sector, however the knowledge has been left underutilized due to various reasons, which has compelled India to source technology from outside. India is one of the largest defence equipment importers, accounting for more than 14 per cent of global arms imports during 2009-13, Stockholm International Peace Research Institute (SIPRI). True indigenization starts with developing home-grown technology which is commercially viable and easily deployable.

The government has taken some crucial steps in the right direction by prioritizing indigenization of the defence industry and acquiring advanced technologies wherever possible. There is definitely a policy undercurrent which is attempting to steer the defence value chain towards indigenization.

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One of the serious constraints faced by private sector in development of large systems is in the huge initial investments in terms of building technical infra structure, design tools and test facilities. This is where probably the collaboration with an experienced system-house from advanced countries could also come in handy. Notwithstanding this, the Defence users also look for NCNC (No Cost No Commitment) based procurement policy which would severely pinch the private sector especially the Medium Scale & Small Industries (MSSI). It is also required to set up a sizeable R&D force in the private industry to develop the requisite advanced technologies. The Ministry of Defence (MOD) has brought out the Technology Perspective and Capability Roadmap (TPCR) document based on the capabilities envisaged in Long Term Integrated Perspective Plan (LTIPP) 2012-27 of Indian armed Forces and approved by the Defence Acquisition Council in April 2012. Though the objective of the TPCR is to give private industry an opportunity to plan and build technologies and products required by Indian armed Forces based on LTIPP, it is yet to take finer shape as private industries now need to discuss with the armed forces on exact requirements in terms of capabilities, required quantity, and funding etc.

A few thoughts, which have been circulating in the corridors of the defence ministry to promote indigenization, are-

Buy Indigenously Designed and Developed: This category needs to be introduced and should be given the maximum preference. The heart of any weaponry and related system is the technology, the software, the algorithms that run the system. Where Indian companies develop technology that meets the requirements of the Indian forces, these products should be bought from that company at the same international prices (as per standard benchmarking done now) at which they would have been procured from foreign companies.

Buy Indian for Existing Requirements: Create a list of products for existing defence equipment. If there are any indigenously designed and developed products available to match the specs then place an order with the same firm. The minimum indigenous content for such procurements should be 75 percent.

There is visible enthusiasm amongst the private defence stakeholders and there is a need for the government to capitalize on the positive eco-system by reducing the red tape surrounding the Indian defence sector. Vision, mission, de-bureaucratization, indigenization and determination should be the key pillars of any future defence policy outlook. The government must ensure that the local defence industry is geared and incentivised enough to rise up to the expectations and make the government's 'Make in India' initiative a success story.

To summarise, "Make and Made in India concept" is very good but it should result in designing and developing the product in India to the user requirements by the Indian Industry either by using the resources available in India or possibly with support from collaborative partner from abroad. This indigenous technology will be the key driver in ensuring that India reaches the status of a global power by 2025.



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