Changing Landscape of India's Defense and Space Industry

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On August 25, Defense Minister Rajnath Singh "approved the transfer of DRDO-developed technologies of all conventional missile systems to the Indian defense industry for production within the country."

The government has not released the list of missiles that can be produced by the private sector, but news reports indicate that kinetic and explosive-based missile systems like Akash air defense missiles, Astra air-to-air missiles, Pralay surface-to-surface quasi-ballistic missiles, and Nag anti-tank guided missiles, among others, will see tech transfer, while strategic systems like Agni, K-series and BrahMos will remain out of the ambit of this announcement.

The Ministry of Defense said that the objective of this provision is to move conventional missile systems from development to industrial production, enhance domestic manufacturing capabilities, reduce import dependence, and create opportunities for Indian MSMEs and other actors. This

transfer will be as per applicable qualifications, certifications, and regulatory requirements laid out in the DRDO policy for Transfer of Technology 2025.

In the space sector, as of August 2026, NSIL has signed 118 technology transfer agreements for 83 technologies developed at ISRO and the Department of Space to the Indian industry. On August 23, IN-SPACe Chairman Dr Pawan Goenka remarked that ISRO will step back from day-to-day operations related to launch centers and the manufacturing of satellites and launch vehicles. These activities will progressively be handed over to the private sector, and eventually, ISRO will no longer manufacture launch vehicles. Instead, it will focus on R&D, specialized satellites for purposes such as deep-space research, and developing new technologies and infrastructure that the private sector cannot afford to build independently.

Both these developments reflect the ongoing restructuring of the defense and space sectors to overcome production capacity problems. The government cannot achieve its goals of India having a $44 billion space economy by 2033 and ~$35 billion (₹3 lakh crore) in annual defense production by 2029 exclusively through PSUs and government laboratories, given its hard budget constraints, and has the need to bring in private capital to enhance manufacturing capacity and innovation.

REMOVING MANUFACTURING BOTTLENECKS

Tech transfer matters because it will change the missile production model. Currently, manufacturing contracts for DRDO-developed technologies are awarded to a defense PSU on a nomination basis without any competitive bidding. Bharat Dynamics Limited, a DPSU, remains India's principal integrator of long-range missiles with various subsystems manufactured across a distributed industrial network.

Private companies do supply these components and subsystems,

but they do not perform complete missile production or integration. This provision aims to shift this model to one where qualified private players and DPSUs compete through bidding for complete system manufacturing and non-exclusive technology rights. The DRDO policy for Transfer of Technology 2025 envisions moving away from using private firms simply as suppliers of components or manufacturers post-prototype development to a Development-cum-Production partner through competitive bidding in order to reduce the gestation period and the learning curve that goes into manufacturing.

The decision also comes against the backdrop of lessons drawn from the ongoing wars: indigenously developed weapon-system technologies are not enough; the capacity to produce and replenish them at scale, without bottlenecks and supply chain shocks, is equally important.

Missiles, drones, and artillery ammunition are consumed at a rapid scale in a sustained conflict. India's missile production model has this bottleneck. BDL's order book, as the primary integrator of conventional missiles, stood at ₹26,176 crore, nearly 11 times its FY 2026 revenue of ₹2,442 crore. Although it is setting up two new manufacturing facilities at Ibrahimpatnam and Jhansi, this large gap between its order book and revenue suggests limited production capacity and delivery delays.

This is where bringing in private players makes strategic sense to overcome this bottleneck, as demand is sufficient for both private players and DPSUs to operate as complete missile-system manufacturers.

The government aims to expand the Indian space sector nearly fivefold by 2033, from its current valuation of $8 billion to $44 billion. It is worth noting that both the government and Indian industry severely underutilize space technology in key areas like agriculture, telecommunications, navigation and logistics, disaster management, finance, and defense, where

commercial potential is tremendous. But this exists alongside parallel supply-side constraints.

ISRO has significant technological capabilities, but its infrastructure and resources remain constrained in launch pads, launch-vehicle production, and satellite capacity to meet rising demand, leading to dependence on foreign capacity for services. The launch of GSAT N2, a 4.7-ton high-throughput satellite, from Florida in November 2024, due to the lack of an immediately available indigenous launch option, is illustrative.

The 410th report of the parliamentary standing committee on science and technology also noted that existing launch-pad infrastructure is not fully adequate for the requirements of next-generation launch vehicles. India's space industry is just 2% of the global space economy. Also, ISRO has multiple strategic and scientific missions in the pipeline, making it difficult for it to remain the sole manufacturer of commercial launch vehicles and satellites, given its financial and human-resource constraints. The budgetary allocation for the Department of Space was just ₹13,705.63 crore, which is just 0.26% of the Union Budget and 87% of its request. Therefore, DOS cannot run all projects in parallel and has to prioritize according to expenditure ceilings set by the Finance Ministry. The Indian Space Policy 2023 aims to overcome these very constraints by promoting an ownership model for private capital, allowing private players to commercialize services utilizing existing ISRO technologies while developing their own innovations.

A similar situation exists in defense. Capital expenditure has averaged 27% of the defense budget over the past decade, while standing committee recommendations call for 40%. Defense spending on R&D has also fallen from 4.7% in 2014-15 to 3.7% in 2026-27. However, in absolute terms, expenditure has risen. Any increase in the share of the budget allocated to these

sectors will require deductions from other sectors, making private capital useful for the state to multiply the resources available to these strategic sectors without assuming the entire cost.

EMERGENCE OF PRIME CONTRACTORS

Both the defense and space sectors are seeing increasingly large private participation. This is because the government has put in place policies to promote it, and the private sector sees these as strategic growth sectors where it can expand with government support.

The structural change that is over the horizon is the emergence of 'private sector corporations as prime contractors (like Lockheed Martin, Northrop, Thales, etc.) and complete systems integrators' alongside DPSUs and other public enterprises. Non-government entities such as Tata Group (Nelco & Tata Advanced Systems), Bharat Forge, Adani Defense and Aerospace, Larsen & Toubro, Godrej Aerospace, and Paras Defense and Space Technologies already play substantial roles in manufacturing, supplying subsystems and components to both defense and space PSUs. Moving on to complete systems integration is the next step on the manufacturing curve for these corporate groups.

The success of this process will largely depend on demand and avenues created by the government, as it will remain the largest consumer of defense and space products and services. These developments are in that direction, and more are likely to follow.