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AatmaNirbhar in Defence Production

**India's Journey Towards Creation of a World Class
Defence Industrial Complex**

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AatmaNirbhar in Defence Production

India's Journey Towards Creation of a World Class Defence Industrial Complex

On August 27, at a webinar organised by India's Ministry of Defence, Prime Minister Narendra Modi's speech on his roadmap for the country's defence sector reiterated his vision of converting crises into opportunities. This has been the hallmark of the Modi Government's 'Atmanirbhar Bharat Abhiyan' that redefined India's quest for internal metamorphosis, defiant refusal to get bogged down by the Covid pandemic and instead use the moment to develop resilience, encourage inner reengineering and ensure a holistic transformation of the Indian economy.

To put things in perspective, India, a near USD three trillion economy and having one of the world's largest industrial manufacturing bases with considerable proficiency in manufacturing of automobiles, consumer durables and industrial products, ironically continues to be one of the biggest importers of defence equipment in the world. A country that has sent space missions to Mars and the Moon, and is among the select few with proficiency in sending satellites into orbit, has been unsuccessful in producing quality tanks and assault rifles.

Prime Minister Modi, during his speech, ruminated over this issue, when he mentioned, "When India got Independence, it had enormous capability as a defence producer. At that time, there was a defence production ecosystem that had been established more than a century earlier."

He further stated, "There were few countries that had the capabilities and potential that India had. But it

is India's misfortune that for decades nobody gave this matter the attention it deserved... and many countries that started after us, overtook us and have gone far ahead in the last half century.."

Why Self Reliance in Defence Manufacturing is a Must:

It is necessary first to remember that while battles are won by soldiers on the ground, in the case of prolonged wars, a nation with its own military industrial complex stands a better chance of winning a conflict as compared to a country that is dependent on import of defence equipment for its security. One only has to look back in history to notice that both the USA and Germany, which led the 'Allied' and 'Axis' blocks respectively during WW II, had the ability to sustain themselves in conflicts because they had sufficient and efficient military industrial capacities of their own.

In fact, one of the first things the Allied Forces did while launching a counter assault against Nazi Germany's occupation of Europe, was to bomb the latter's military industrial complexes in cities like Dresden to neutralise its war fighting ability. Towards the end of the Second World War in 1945, the U.S.-led Allied Forces won because their combat-related industrial capacities were bigger, unhampered and more proficient than those of the Axis Block.

In South Asia, given the challenges India faces from both China and Pakistan, and the possibility of future conflicts being prolonged, it is necessary for New Delhi to develop its own military industrial complex.

The second reason for giving importance to

developing a domestic defence industrial production capacity is the enormous contribution it can make to the economy, in terms of job creation and contribution to the Gross Domestic Product (GDP), thus ensuring a greater say in the global supply chain and securing geopolitical leverage through defence industrial capability and defence deals.

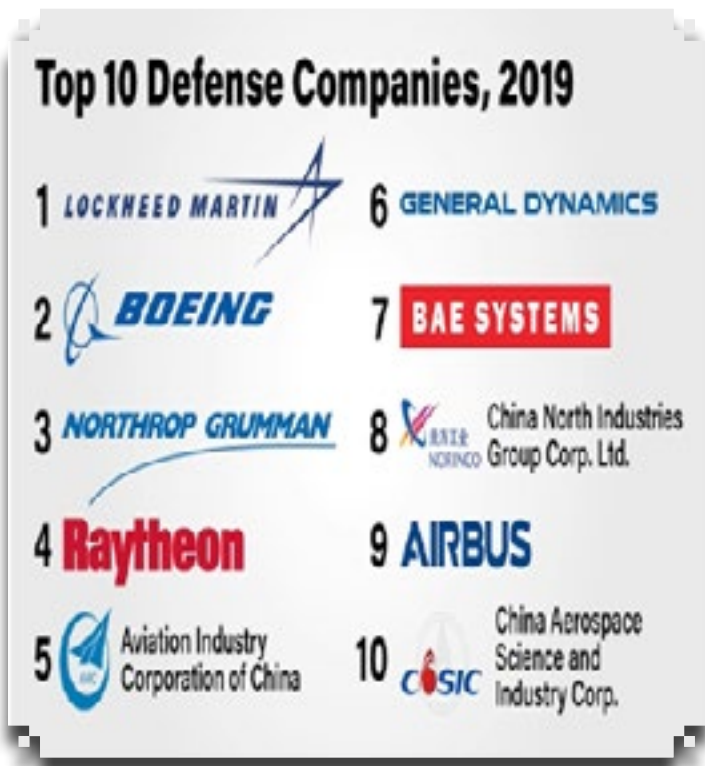


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For example, the annual revenue of the world’s top ten defence and aerospace companies is in excess of USD 200 billion, of which, six belong to the U.S.A. alone and interestingly, all are private sector companies. Revenue from defence sales is a critical component of these companies, but potential exists for a spill-over effect in terms of some quality products being sold in civilian markets.

To put things in perspective, as per the Stockholm International Peace Research Institute (SIPRI), total sales of weapons systems and services by world’s top

100 defence companies, excluding those from China, stood at USD 420 billion in 2018. Interestingly, even countries like Singapore and Turkey now have their own comprehensive defence manufacturing sectors meeting not only their respective domestic requirements, but also, pitching for global tenders and significantly contributing to their respective economies. The Koreans and Chinese are globally established and sought after aerospace and defence manufacturing entities..

The Indian Scenario: Floundering for Decades

For decades, India’s policymakers have known the importance of developing an indigenous defence industrial capacity by co-opting the private sector and making the defence public sector undertakings (PSUs) more accountable in terms of performance and delivery. There perhaps, however, was a well-entrenched syndicate that preferred to keep the private sector at bay and prevent the defence PSUs from improving their performance. This resulted in a situation where the armed forces for decades had no option but to depend on imports. Needless to say, arms dealers and lobbies benefitted from this quagmire for decades at the cost of Indian exchequer and military modernization, allowing many other countries to move ahead in the defence manufacturing development race. Sadly, India now procures from those who were behind India even a few decades back.

The Curious Case of Bullet Proof Jackets

Shockingly, even in areas where India has had proficiency, its companies were not been encouraged, or rather, not given priority. A case in point is the procurement of bulletproof jackets. For years, India’s armed forces have faced a severe shortage of bulletproof jackets. In 2009, Indian Army had a requirement for 3,53,755 bulletproof jackets, yet nothing much was done. This, despite domestic companies like MKU, SMPP and Tata Advanced Systems exporting their

products to law enforcement and other security agencies across the world. Though successive parliamentary committees have taken a grim view of the severe shortage of bulletproof jackets for the armed forces, the resolution of the issue remained stuck in the corridors of power.

It was only after the National Democratic Alliance (NDA) Government led by Prime Minister Narendra Modi came to power in 2014 that efforts were made to meet the armed forces' requirement for bulletproof jackets, especially, during the tenure of former Defence Minister Late Manohar Parrikar. In 2016, the Indian Army signed a Rs140 crore contract with Tata Advanced Materials to acquire 50,000 bulletproof jackets. This was followed up with another contract worth Rs 639 crore signed with Indian private sector company SMPP in 2018 for acquisition of 1.86 lakh bulletproof jackets. SMPP is globally well known for making body armour.

Systemic Reforms Initiated since 2014

In August 2014, Prime Minister, Narendra Modi had criticized the Defence Research and Development Organisation (DRDO) for its 'Chalta Hai' approach. As was reported in The Economic Times, the Prime Minister had told DRDO officials then, "The time demands; the world will not wait for us. We have to run ahead of time. That is why whatever we do; we should try hard to do it before time. It should not be so that a project is conceived in 1992 and in 2014 (we say) it will take some more time. The world will go ahead."

It is a well known fact that while the DRDO has been reasonably successful in certain areas, time and cost overruns have become the norm rather than the exception. Proverbial delays in some critical projects have severely impeded India's efforts to develop in-house capacity building and compelled the armed forces to import equipment to maintain operational

capability.

The First Critical Step: Allowing Private Sector to Make Ammunitions for Armed Forces

In 2016, in a path breaking step, India's Ministry of Defence came out with a Request for Information (RFI) seeking Indian private sector's participation in manufacturing ammunitions ranging from 125 mm ammunition for T-90 and T-72 tanks to 155 mm ammunition for M46 and Bofor Howitzers to 23 mm ammunition for Strela Air Defence Systems. Private sector participation was also sought for manufacture of 40 mm ammunition for grenade launchers, ammunition for multi-barrel rocket launchers and 30 mm ammunition for BMP armoured vehicles.

This was an extremely critical step as till now ammunition production for the Indian Armed Forces had remained the monopoly of the Ordnance Factory Board (OFB), which perhaps was falling short of fulfilling all requirements of the armed forces, resulting in India being forced to import critical ammunition from abroad. This key move, preceded by the granting of licenses to several private sector players to make ammunition in the country, was seen as a major step towards self-reliance in defence manufacturing and utilizing the industrial proficiency of India's private sector to attain self-reliance in defence manufacturing.

The Second Critical Step: Towards More Efficient Procurement of Non-Core Items

In 2019, it was reported that the Ministry of Defence had allowed the armed forces to procure as many as 275 types of non-core items from the private sector, which were hitherto a monopoly of the ordnance factories. Previously, the armed forces needed a no-objection certificate or NOC from the Ordnance Factory Board every time they wanted to buy something from the open market. This allowing of direct purchase from the private sector not only provided an opportunity for

the private sector, but also, critically ensured efficient procurement of products by the armed forces.

Often it has been alleged about the OFB that it either produced extremely shoddy products of low quality in its own factories and sold them to armed forces at a much higher price than prevailing market rates of same items of much better quality, or sourced items from the private sector and sold to armed forces at a hefty mark-up price, far more than prevailing market price, despite scant value addition. As was reported by India Today in an article titled “Repainting the White Elephant”, on June 11, 2017, a V-neck woolen jersey priced at Rs 690 in the market was sold by the OFB to the armed forces at Rs 1900. Similarly, a pair of ankle high boots costing Rs 1090 in the open market was sold to the armed forces by the OFB for Rs 2900. Shockingly, in the case of Stallion trucks manufactured by Bangalore-based private sector firm Ashok Leyland, which are used in thousands by the Indian Army, were shipped to the Vehicle Factory in Jabalpur for assembling of Completely Knocked Down (CKD) parts and then sold to the army after raising the original price by a sizeable margin. Who benefitted from all this? Certainly not the armed forces.

Corporatisation of Ordnance Factory Board: A Bold and Necessary Reform

Linked to previous reforms, the Ministry of Defence has begun restructuring and corporatising the Ordnance Factory Board to make it more accountable and flexible in an everchanging environment.

Contrary to what naysayers and critics have been saying, the Modi Government has not privatised or shut down the OFB, but has been striving to make it more accountable and adept in the making of quality and innovative products within a given time frame. Given the nature of today’s warfare and the threats India faces from its adversaries, the country’s armed forces

cannot be dependent on a slow-paced organisation such as the OFB.

In an era, when global defence corporations like Dassault, Boeing, Lockheed Martin, or even Indian private sector companies like Larsen & Toubro and Tata Group companies are setting incredible benchmarks in innovation, on-time delivery and after-sales service, India’s state-owned defence production entities must embrace change or become irrelevant. The armed forces cannot be at mercy of their idiosyncrasies forever.

Meanwhile, the Modi Government has already signed a USD 2.8 billion (Rs 20,000 crore) deal with the OFB to produce 464 additional T-90 tanks. This was followed by another order in June this year to make 156 additional BMP Infantry Combat Vehicles. The OFB would also be partnering its Russian counterpart, the JSC Rosoboronexport, to make AK-203 assault rifles in India. All these reaffirm the Modi Government’s support towards the OFB, but with a very clear mandate i.e. that the OFB has to restructure itself, develop higher accountability, ensure timely delivery and develop capacities to absorb technology more efficiently. Hopefully, in times to come, the government would also end the nomination process for defence PSUs and make procurement of all equipment through competitive routes compulsory.

The Strategic Partnership and Public Private Partnership Model

One of the biggest game changers initiated by the Modi government is the Strategic Partnership Model (SP Model). The whole idea behind it has been to kickstart the development of an indigenous defence industrial ecosystem by identifying reputed private sector organisations and declaring them “Strategic Partners” for developing “big ticket” military platforms in India for the armed forces. These military platforms can be created by the Indian private sector on their own,

or with the help of foreign OEMs (Original Equipment Manufacturers).

The key areas identified include combat aircraft, helicopters, submarines and armoured vehicles to name a few. Even though it has taken some time to come out with guidelines for establishing such platforms, the government's intent of developing an indigenous defence industrial ecosystem has never been in doubt.

Two major projects on anvil in this regard are "Project 75-I" for development of six more submarines in India as follow-up to P-75, (wherein six submarines are currently being made by Mazagon Docks Limited), and the Indian Navy's proposed acquisition of 111 Naval Utility Helicopters. Hopefully, both projects would witness conclusion on time and set a benchmark for replication and stand as testimony to the success of the SP Model. Among others, the acquisition of 114 aircraft in the MMRCA (Medium Multi-Role Combat Aircraft) category is also expected to be under the Strategic Partnership Model.

Meanwhile, the development of the Advanced Towed Artillery Gun System (ATAGS) by Bharat Forge in collaboration with the DRDO is in its final lap of trials and the Indian Army is expected to issue orders for its procurement soon. Likewise, the Indian Army has expressed interest in the TATA WhAP (Wheeled Armored Personnel Carriers) developed by Tata Motors in collaboration with the DRDO. There are many such collaborations currently working on developing platforms that vindicate the success of the Public Private Partnership (PPP) model with the DRDO, centered on absorption of technology, quality product development and on-time delivery. This is something India's defence PSUs need to emulate fast enough.

In the case of India's development and production of Light Combat Aircraft (LCA Tejas), for which a contract for supply of 83 LCA MK1A is expected to

be signed before December 2020, HAL (Hindustan Aeronautics Limited) has already tied up with prominent private sector players like Larsen & Toubro (L&T), Dynamatic Technologies and Alpha Designs to outsource manufacture of critical sub-components and wherein HAL will play the role of systems integrator eventually. For example, the wings of the Tejas LCA would be made by L&T, the front fuselage would be made by Dynamatic Technologies, while the middle and rear sections would be manufactured by VEM and Alpha Designs. This is indicative of India's growing confidence in its PPP model based defence industrial ecosystem.

A case in point is of L&T, one of India's leading engineering and construction companies, with global repute and impeccable quality performance. Incidentally, the hulls of India's indigenously developed nuclear submarines have been made by L&T. The company has been supplying a large number of fast interceptor crafts to the Indian Coast Guard (ICG) and has also been given the contract for constructing offshore patrol vessels. It is also supplying the K-9 Vajra self-propelled howitzers, of 155 mm category, to the Indian Army, is also bidding for Project 75I for making submarines in India. The likes of L&T, Bharat Forge, Tata Advanced Systems, Mahindra Defence Land Systems, Godrej Aerospace and many others have immense potential to become global defence players from India.

Why Defence Import Embargo Will Be a Game Changer for Indigenous Defence Manufacturing

The development of a defence industrial ecosystem is essentially capital intensive and if the private sector is to be involved, it would require some assurances from both the government and the armed forces that any investment in capacity building or development of defence production infrastructure would ensure

contracts flowing towards it. It is for this reason the Modi Government came out last month with a list of 101 defence items that would gradually be put in the negative import list and their acquisition requirement would be met by domestic industry.

As part of the proposal, by December 2020, 69 defence items are expected to be included in the negative import list. This would be followed by 11 more in December 2021, four in December 2022, eight each in December 2023 and 2024, and the remaining one in December 2025.

The list includes rifles, artilleries, cruise missiles, bullet proof jackets, patrol vessels, rocket launchers,

radars, electronic warfare systems, fixed wing UAVs and helicopters to name a few. The negative import list has been calibrated in a manner to allow domestic defence players the room to indigenously deliver artillery, tanks and missiles proficiently, and thereafter, gradually scale up to more critical systems, including combat jets at a later stage. If domestic defence industry was looking for a catalyst to kickstart itself indigenously and thereafter catapult itself to global scalability, then this phased introduction of a negative import list by the Modi Government is the exact potion for realization of that aspiration.

ANNEXURE

IMPORT EMBARGO LIST OF DEFENCE WEAPONS/PLATFORMS

With Effect From Dec 2020

S.No	Name of Platform/ Weapon/ System/ Equipment	Indicative Year_ Import Embargo
1	120mm Fin Stabilised Armour Piercing Decending Sabot (FSAPDS) Mark II Ammunition	Dec 2020
2	7.62x51 Sniper Rifle	Dec 2020
3	Tracked Self Propelled (SP) Gun (105mm x 52 Cal)	Dec 2020
4	Towed Artillery Gun (105mm x 52 Cal)	Dec 2020
5	Short Range Surface to Air Missiles (Land variant)	Dec 2020
6	Shipborne Cruise Missiles	Dec 2020
7	Multi Barrel Rocket Launcher (MBRL) (Epsilon Variant)	Dec 2020
8	Simulators Presenting Smart Ranges And Multi-Function Targets	Dec 2020
9	Battalion Support Weapons Simulators	Dec 2020
10	Container-based Simulators for Live Fire Training	Dec 2020
11	Tailor-made Simulators for Counter Insurgency (CI)/Counter Terrorism (CT) based Training	Dec 2020
12	Force on force Live Tactical Simulators / Infantry Weapon	Dec 2020
13	Tank Simulators (driving, as well as, crew gunnery)	Dec 2020
14	155mm/39 Cal Ultra-Light Howitzer	Dec 2020
15	Successor of Flycatcher & Upgraded Super Fledermaus (USFM) / Air Defence Fire Control Radar (ADFCR)	Dec 2020
16	Component Level Repair Facility for Tank T-90	Dec 2020
17	Shipborne Close in Weapon System	Dec 2020
18	Bullet Proof Jackets	Dec 2020
19	Ballistic Helmets	Dec 2020
20	Missile Destroyers	Dec 2020
21	Multi-Purpose Vessel	Dec 2020
22	Offshore Patrol Vessel	Dec 2020
23	Next Generation Missile Vessels	Dec 2020
24	Anti-Submarine Warfare Shallow Water Crafts	Dec 2020
25	Water Jet Fast Attack Craft	Dec 2020
26	Ammunition Barges	Dec 2020
27	50ton Bolland - Pull Tugs	Dec 2020
28	Survey Vessels	Dec 2020
29	Floating Dock	Dec 2020
30	Driving Support Vessels	Dec 2020
31	Pollution Control Vessels	Dec 2020
32	Anti-Submarine Rocket Launchers	Dec 2020
33	Shipborne Medium Range Gun	Dec 2020
34	Torpedo Tube Launcher for Light Weight Torpedoes	Dec 2020
35	Magneto - Rheological Anti Vibration Mounts	Dec 2020
36	All variants of Depth Charges	Dec 2020
37	Shipborne Sonar System for Large Ships	Dec 2020
38	Hull Mounted Submarine Sonar	Dec 2020
39	Short Range Maritime Reconnaissance Aircraft	Dec 2020
40	Anti-Submarine Rocket	Dec 2020
41	Chaff Rockets	Dec 2020
42	Chaff Rocket Launcher	Dec 2020
43	Integrated Ship's Bridge System	Dec 2020
44	Light Combat Aircraft (LCA) MK I A - Enhanced Indigenised Content	Dec 2020
45	Light Combat Helicopters	Dec 2020
46	General Purpose Frs Fragmentation Bombs between 250-500 Kg	Dec 2020
47	Radar Warning Receiver (RWR) for Transport Aircraft	Dec 2020
48	Ground Based Mobile EDINT System	Dec 2020
49	Transport Aircraft (Light)	Dec 2020
50	GSAT 4 Satellite Terminals	Dec 2020
51	Aerial Delivery Systems for Transport Aircraft	Dec 2020

SNo	Name of Platform/ Weapon/ System/ Equipment	Indicative Year- Import Embargo
52	Digital Traps Scatter/LOS Communication System	Dec 2020
53	Low Level Transportable Radar	Dec 2020
54	High Power Radar (HPR)	Dec 2020
55	CBRN Detection & Monitoring System	Dec 2020
56	CBRN Decontamination & Protection System	Dec 2020
57	Parachute Tactical Assault (PTA)- G2	Dec 2020
58	Dragonov Upgrade System	Dec 2020
59	PKMG Upgrade System	Dec 2020
60	Simulators for A Vehicles/ B Vehicles	Dec 2020
61	Simulators for Towed and Self Propelled/Guns of Air Defence	Dec 2020
62	Simulators for Correction of Fire by Observers	Dec 2020
63	Military trucks of 4x4 and above variants: 12x12, 10x10, 8x8, 6x6	Dec 2020
64	Fixed Wing Mini UAVs	Dec 2020
65	500 Ton Self Propelled Water Barges	Dec 2020
66	Software Defined Radio (TAC) for IN	Dec 2020
67	Next Generation Maritime Mobile Coastal Battery (Long Range)	Dec 2020
68	Advance Landing Ground Communication Terminals (ALGCTs) for AGLs	Dec 2020
69	Field Artillery Tractor (FAT) EX6 for Medium Guns	Dec 2020

With Effect From Dec 2021

SNo	Name of Platform/ Weapon/ System/ Equipment	Indicative Year- Import Embargo
70	Wheeled Armoured Fighting Vehicle (AFV)	Dec 2021
71	Light Machine Gun	Dec 2021
72	125 mm/In Stabilised Armour Piercing Discarding Sabot (FSAPOS)/New Generation Ammunition	Dec 2021
73	Assault Rifle 7.62 x 39mm	Dec 2021
74	30 mm Ammunition for Infantry Fighting Systems	Dec 2021
75	Mine Fragmentation	Dec 2021
76	Mine Anti-tank	Dec 2021
77	Mine Anti-Personnel Blast	Dec 2021
78	Multipurpose Grenade	Dec 2021
79	Inertial Navigation System for Ship Application	Dec 2021
80	Conventional Submarines	Dec 2021

Dec 2022 Onwards

SNo	Name of Platform/ Weapon/ System/ Equipment	Indicative Year- Import Embargo
81	40mm UBGL (Under Barrel Grenade Launcher)	Dec 2022
82	Lightweight Rocket Launcher	Dec 2022
83	155 mm Artillery Ammunition	Dec 2022
84	EW Systems	Dec 2022
85	Material Handling Crane 2.5 to 7.5 Tons (Vehicle Mounted)	Dec 2023
86	GRAD BM Rocket	Dec 2023
87	30MM HE/HET	Dec 2023
88	ASTRA-MK I Beyond Visual Range Air to Air Missile (BVR AAM)	Dec 2023
89	EW Suit for Mi-17 V5	Dec 2023
90	Communication Satellite GSAT-7C	Dec 2023
91	Satellite GSAT 7R	Dec 2023
92	Basic Trainer Aircraft (BTA)	Dec 2023
93	Expendable Aerial Targets	Dec 2024
94	Small Jet Engines with 120kgf thrust	Dec 2024
95	Light Low Level Terrain Radar (LLLWR)	Dec 2024
96	Close in Weapon System (Land based)	Dec 2024
97	23 mm ZU Ammunitions	Dec 2024
98	30mm VOG 17	Dec 2024
99	Electronic Fuses for Artillery Ammunitions	Dec 2024
100	Bi- Modular Charge System (BMCS)	Dec 2024
101	Long Range – Land Attack Cruise Missile	Dec 2025

Source-ANI

This negative import list would not just pave the way for developing India's defence industrial ecosystem, but also would act as a major boost for India's MSME sector, given the fact that many of India's industrial conglomerates would invariably outsource development of components and sub-components to the efficient MSME companies once production starts. As per reports, over the next five to seven years, the Indian Armed Forces are expected to procure weapon systems worth around Rs four lakh crore. If a majority of that gets produced or procured indigenously, then the positive multiplier effect of the same on the Indian economy would be stupendous.

Buy Global and Make in India

However, it does not mean that no product would be acquired from global market. There may be some systems which would necessitate sourcing from global market. For that, the category of Buy (Global-Manufacture in India) has been introduced wherein the product may be sourced from a global vendor but the organisation would have to necessarily manufacture the product in India with a 'minimum 50% indigenous content on cost basis of total contract value'. This too would have a positive impact in terms of local sourcing of components and sub-components from India and thereby such production eventually contributing to GDP and job creation in India.

The 74 percent FDI Factor: Why it is Important for Development of Domestic Defence Industry

Another significant decision taken recently by the Modi Government is to allow 74 percent foreign direct investment (FDI) in the defence sector through the automatic route. The significance of the same emanates from the fact that in the previous policy architecture, only 49 percent FDI was allowed through the automatic route, leading to global defence companies expressing apprehensions about transferring

proprietary technologies to joint ventures in India over which they would not have management control or a majority stake. Allowing for a 74 percent stake would address that inhibition and allow for seamless transfer of technology to India, and thereby, give a boost to domestic manufacturing, hand holding of the MSME sector in sub-systems manufacturing at global benchmarks, create a seamless domestic supply chain of defence components and also create more jobs.

It is also important to mention here that allowing 74 percent FDI is not a contradiction to 'Atmanirbhar Bharat' policy. One may refer to how in the automobile sector, a few decades back Japanese companies like Honda, Suzuki and Kawasaki came to India and set up joint ventures with Indian companies like Hero Motors, TVS Motors and Bajaj Auto. The Indian counterparts benefitted immensely from those joint ventures, learnt different nuances of automobile production and technology development, and eventually emerged on their own as globally competitive entities. Today Hero Motors is one of the largest manufacturers of two-wheelers in the world. Defence offset policy and joint ventures can similarly play a critical role in catapulting Indian companies into the global defence supply chain.

Maintaining the Right Balance: Between Operational Preparedness and Efforts towards Indigenisation

While it is extremely important for India to develop domestic capacity, sourcing the best possible equipment in the short run for the sake of maintaining operational preparedness of the armed forces is equally critical. Therefore, the Government of India has done the right thing in terms of imposing an embargo on the import list in a calibrated and phased manner to give time to the Indian industry to scale up while facilitating emergency acquisitions for the armed forces from both the domestic and global markets to take care of

exigencies.

The Benefit of Defence Offset

It has to be understood that while the priority of the Modi Government is to develop the domestic arms industry, in case the quantum of acquisition or requirement of any particular platform is of limited quantity, it may not be feasible to make that in India because economically it would not be viable.

Take for example the acquisition of 22 Apache and 15 Chinook Helicopters or even 36 Dassault Rafale combat aircraft for the Indian Air Force. In each of these cases, the quantum of acquisition was limited which did not justify domestic production because they would not have been viable economically.

In such cases, acquisition happens directly from the global vendor's manufacturing base, but India makes sure that through the policy of defence offset, between 30 and 50 percent of the contract value is invested back in India by the OEM (Original Equipment Manufacturer), for sourcing of components and spares for either the concerned product or any other associate product in the aerospace industry.

This helps Indian industry in becoming part of the aerospace supply chain. In the case of the Rafale deal, around 50 percent of the contracted amount of Rs 59,000 crore was invested back in India by the OEM, i.e. Dassault and its vendors such as Safran, Thales and MBDA. Around a hundred odd Indian companies were partnered by Dassault and its vendors for making components and spares, thereby creating jobs and economic value in India even while the core product was procured from abroad.

The Ideal Mandate for DRDO

In times to come, given the changing architecture of warfare, the DRDO should ideally work like the Defence and Advanced Research Project Agency or DARPA of USA and concentrate on development of

only cutting edge next generation products, besides playing a mentoring role for the private sector in developing and mass producing conventional weapon systems. In the future, outcomes of conflict would depend considerably on possession of niche and disruptive technologies in the realm artificial intelligence, cloud computing, big data analysis, laser weapon systems, algorithmic warfare and robotics. DRDO must, therefore, concentrate on the same.

ISRO has become a globally renowned organisation in space research and the commercial satellite launching business, and has successfully integrated a large array of private sector companies for the development of critical sub-systems. The DRDO also has the wherewithal to make India a global player in defence and aerospace with the help of the Indian private sector.

PM Modi's Transformational Architecture: Defence Diplomacy, Weapons Acquisition & Developing a Vibrant Defence Industrial Complex

After a void and policy paralysis of around 10 years during UPA era, Modi Government went ahead since 2014 on a three pronged strategy of 'Defence Diplomacy', 'Defence Procurement' and developing a 'Defence Industrial Complex' in India..

As a result of deft 'Defence Diplomacy', India became a part of exclusive clubs like the MTCR (Missile Technology Control Regime), the Australia Group and the Wassenaar Arrangement, in addition to signing agreements like COMCASA (Communication Compatibility and Security Arrangement) and LEMOA (Logistics Exchange Memorandum of Agreement) and was also accorded the Strategic Trade Authorisation or STA-1 status by US Administration. Consequently India got access to crucial secure communication technologies and could acquire missile systems like the S-400 air defence system, Scalp cruise missiles as well as could work on enhancing the range of its Brahmos

missiles to around 500 km from the present 299 km, by virtue of being a full member of MTCR group. Becoming part of Australia Group and Wassenaar Arrangement also increased India's chances of being a part of the Nuclear Suppliers Group (NSG).

Likewise, the Modi government's emphasis on defence procurement has led to an acquisition of a large array of critical weapons systems, thereby improving the operational capability of the armed forces. Weapons purchased include items such as the Apache AH-64, MH-60 and Chinook helicopters, Rafale combat jets, M-777 and the K-9 Vajra howitzers, besides missile systems like the S-400 and the MR-SAM (Medium Range Surface to Air Missiles), deal with Russia for an additional nuclear submarine and Talwar class frigates, assault rifles like the Sig Sauer, bullet proof jackets, additional T-90 tanks, approval for more squadrons of Akash and Brahmos Missiles, to name a few. Many more critical deals are in the pipeline and would be concluded soon. This includes approval for acquisition of 12 more Su-30MKI and 21 MiG-29 from Russia as well as 83 LCA Tejas to be built by HAL

Modi Government's Body Blow to Arms Lobbies

Last but not the least, Modi Government, by focusing primarily on Government-to-Government deals for acquisition of defence equipment and by eventually putting an embargo on defence imports, has dealt a

body blow to the arms lobbies and middlemen who had a free run in India for decades and actively connived with vested interests to prevent India from having a vibrant defence industrial production capability so that dependence on imports could continue. However, India is changing now. The era of lobbies ruling the roost is gone and vanquished forever.

The Final Note

In the midst of Covid crisis, as part of the Atmanirbhar Bharat Abhiyan, the Modi government has strived for turning crisis into opportunity and created the right kind of policy architecture for the defence industry to take that final leap towards self-reliance. The positive impact of many of these transformational policy changes can be expected to bear magnificent fruits in the years to come. The end objective of the incumbent government is not just to create a world class, globally competitive and scalable defence industrial complex in India, but also, to make sure that it is resilient enough to sustain seamless supply of critical weapon systems and ammunition in times of exigency, so that India does not need to import such exorbitantly priced platforms in crucial times, but instead, be in a position to comfortably depend on the domestic supply chain to fulfill its needs.

(Pathikrit Payne is a New Delhi based geopolitical analyst. Views expressed are his own)

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