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Atmanirbharta in Defence: How has been the Journey So Far? Where are we Headed?

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Key Points

- Today the 'twin initiatives' of the Government – Make in India and Atmanirbhar Bharat, have come to occupy a position wherein they are seen as 'prime-movers' that sets the pace of the country's forward journey on the road to self-reliance– be it defence or civil sector.
- The journey to the current 'state-of-things' has been full of challenges with many successes and many failures dotting the way.
- The present work traces this exciting journey and updates the readers about the current state of reality and suggests a likely way forward.

Introduction

Make in India and Atmanirbhar Bharat have come to be identified as 'twin drivers' that are providing direction and momentum to the country's 'proud journey' to self-dependence. These have become the 'engines of change' that are ushering a new India of the 21st Century.

Make in India or Atmanirbhar Bharat will make India more confident and self-reliant. How have we reached here? How has been the journey so far and what lies ahead? Have we arrived or are there still miles to go? Are the 'twin verticals' of Make in India and Atmanirbhar Bharat strong enough to support the dreams, aspirations and challenges of a 'New India'? These are some of the interesting posers which this work attempts to answer. It picks up the threads from recent developments and gives the readers a thorough understanding of the current and likely future scenario.The domain of the work mainly relates to the defence and aerospace sector.

A State Not Too Far into the Past: 2005 and from 2010-2012

There were pertinent potholes, that the country suffered from, before undertaking the initiative of Make in India and Atmanirbhar Bharat.

- Initially, Make in India was a mere 'slogan', good enough to be raised in passionate voices during seminars, workshops, conferences and more, while the entire private industry waited endlessly with nearly blank order books.
- The Defence Procurement Procedure (DPP) manual was perceived by the domestic, as well as, the international players not as a 'facilitator' and a 'guide' but as an 'insurmountable obstacle' in the procurement process.
- The Defence Public Sector Undertakings (DPSUs) as well as the DRDO (Trishul, Akash, Tejas, Nag, Main Battle Tank, INSAS, carbine) suffered from huge time and cost overruns.
- Micro Small and Medium Enterprises (MSMEs) 'existed somewhere' below the recognition (read subsistence) level, trying to survive by piggy-backing on bigger players, wherever possible.
- Laudable concepts like Make I, Make II, Strategic Partnership Model, PPP, Indian Offset Partners (IOPs) etc. were no more than paragraphs in the formidable DPP document, shrouded in confusion and lack of clarity. The Ministry of Defence (MoD) was far from 'walking the talk' on the promises contained in these enabling policies and procedures.

Then the Things Started to Thaw Slowly…

The following gradual change has been observed over the past few years.

- The Make in India campaign was launched in 2014 with an aim that by 2025, some 25% contribution to the GDP should come through Make in India.
- As stated, even by FY 2015-16, Make-in India remained a slogan. During this year, the DRDO undertook around 78 Projects amounting to 70% of all the Projects sanctioned (3723Crs). The total share of the private sector fell to less than 5%.[1]
- As time passed some industry-friendly rules started to get announced. MoD reserved contracts up to certain value (initially INR 100 Crs, now INR 200 Crs) for the domestic sector. Nudged by an avalanche of suggestions and due pressure from industrial bodies, MoD also started moving forward on its multiple assurances to industry; however, the move was rather slow.

Some Initial Successes Happened

Around 2017-2018, the private sector saw some initial successes. Some of the successes are elaborated as below: Tata Motors won a contract to make around 1239 6x6 HMVs with cranes costing around INR 914 Crs. L&T won the contract for making vehicle platforms for Grad BM 21 rocket launchers worth INR 90.89Crs, and Ashok Leyland secured orders for 6x6 and 8x8 HMVs costing around INR 355 Crs.

- L&T won a global military tender to become a lead player for K9 Vajra Self-Propelled howitzer (INR 4366 Crs /USD 800 million).[2]
- Mahindra Defence won a contract for INR 5070 Crs for producing around 145 quantity of M777, 39 calibre 155mm ultra-light howitzers from M/s BAE Systems.[3]
- The contract for the biggest Public Private Partnership (PPP) Project for Advanced Towed Artillery Gun System, worth INR 3364.78 Crs was given to erstwhile OFB and four private sector players.[4]
- TATA Power SED won a contract for 23 ship borne air surveillance radars for Navy worth around INR 1200 Crs.[5]

This list could go on for a number of more serials.

The Government also Tried to Put Its Act Together

Around this time, the Government also started few successful initiatives:

- MoD in 2018 came out with a very good initiative called Innovation for Defence Excellence (iDEX) wherein, the Government recognised the requirement to enhance innovation and technology by engaging the private sector, big players, start-ups, individual innovators or academia. [6]

Figure 1: iDEX Logo

Source: https://idex.gov.in/

- An year into the iDEX, the DRDO in 2019, came out with the "DRDO-Industry Partnership: Synergy and Growth Initiative". This was aimed to promote Transfer of Technology (ToT) contracts among Indian companies, both established as well as startups. This is also getting a move on albeit slower than iDEX.[7]
- Such initiatives brought about some recognition to the private sector— in FY 2018-2019, the share of private sector touched a figure of INR 15,000 Crs as compared to the public sector share of 63,208 Crs.[8]

Two Solid Documents Arrived

Incidentally, in 2020, the Government came up with two cardinal documents that would set the pace of what would follow in 10-15 years window. These two documents were the Draft Defence Production and Export Promotion Policy (DPEPP) released on 03 August 2020 and Defence Acquisition Procedure (DAP) released on 28 September 2020. A brief word on each follows:

Figure 2: DPEPP & DAP

Source: https://www.google.co.in/search?q=dpepp+2020&hl=en&tbm

Defence Production and Export Promotion Policy 2020 [9]

DPEPP was meant to be an overarching document which was pegged at an ambitious aim of achieving a defence manufacturing turnover of US$25 Bn including defence exports target of US$5 Bn by 2025. It aimed to provide a focused, structured, and significant thrust to make the Indian defence and aerospace sector competitive, robust and dynamic, reduce import dependence, promote exports, encourage R&D, reward innovation and create intellectual property (IP).

The above was not theory alone, DPEPP in achieving the above lofty targets, identified 8 specific thrust areas and spelled out strategies to achieve them. The areas identified were:

- Reforms in procurement procedures.
- Enhancing indigenisation support to MSMEs.
- Optimising resource allocation for defence (focussed spending).
- Improving Ease of Doing Business (EoDB) index.
- Encouraging innovation and R&D in defence.
- Phased disinvestments DPSUs and corporatisation of OFB.
- Pushing up and diversify quality assurance and testing facilities.
- Policies and actions towards export promotion.

Defence Acquisition Procedure 2020[10]

Following on the heels of DPEPP came another defining document— the Defence Acquisition Procedure (DAP) 2020. While it comprised of many new provisions and positive policies anchored on the shoulders of Make in India and Atmanirbhar Bharat, the following amongst them are noteworthy:

- Laying down New Foreign Direct Investment (FDI) guidelines and enhancing FDI limits.
- Negative import list (or Positive indigenisation list).
- Indigenisation support and indigenisation policy.
- Enhancing indigenisation in defence and aerospace sector.
- Implementing procurement reforms.
- Enhancing indigenisation and encouraging innovation.
- Bringing in alternative procurement categories and provisions.
- Allowing for leasing of equipment without owning it.

Current Scenario: 2021-2022

Some positive results, of the steps taken 7-8 years back, are starting to get visible now. A brief summary of the same are as mentioned below:

- The Government's effort to save some 24000 MSMEs (8000+ in Defence sector) during the Covid blues started to become visible in 2021:[11]
    - Revising the definition of MSMEs.
    - Removing the distinction between manufacturing and services.
    - Initial package comprising collateral free loan of Rs 3 lakh Crore for MSMEs.
    - Subordinate debt provision ofINR 20,000 Crs for 2 lakh MSMEs
    - Equity infusion of INR 50,000 Crs through mother-daughter scheme.

  - Approx. INR 10,000 Cr fund-of-funds for capacity enhancement of small units.

- Steady move forward on the policy of indigenising — 5000 items by 2025, (still far from the target).[12]
- Positive Indigenisation List—gradually banning items for import (101 items during phase 1 in August 2020; 108 items during phase 2 in June 2021; 351 items during phase 3 in December 2021).[13]
- Amendment promulgated in the Government of India's General Financial Rules—reserving procurement of goods and services valued at less than INR 200 Crs from domestic firms only. Implementation of the same is at the beginning stage.
- Some of the envisaged procurement reforms are beginning to happen slowly — FDI limit implementation, new procurement category. The concept of 'Buy Global Manufacture in India' is starting to get some traction. The 'Technology Assessment Cell' for domestic and world scans have started to become active.

- In May 2020, the Ministry of Defence (MoD) launched the 'Defence Testing and Infrastructure Scheme' (DTIS) by investing INR 400 Crs. DTIS aims to set up eight greenfield ranges having state-of-the-art infrastructure for testing, in partnership with the industry and opening the test facilities of Government enterprises (DRDO/DPSUs/OFB/DGQA) to private industry under certain terms and conditions.[14]
- In order to usher in a 'simulator culture', the MoD in September 2021 launched a policy document titled "Framework of Simulators in the Armed Forces". The document lays down the guidelines to achieve a synergised and enhanced use of simulators in the armed forces.[15] This is the first time that the MoD's gaze has fallen upon the simulators per se, otherwise these have were initially ignored and thought to be less important.
- Recently, on 11 March 2022, the MoD has identified 18 major platforms and technologies for design and development to be given to the Private Industry. Perusal of the list gives a sense of 'fresh air'. The technologies are:[16]

Make I Projects

  - Hypersonic Glide Vehicle (hypersonic cruise missile already reaching reality).
  - Directed energy weapons in excess of 300KW.
  - Unmanned aerial systems for naval ships.
  - Light weight tank (a move forward from 60+ tonnes vehicles).

- Self-healing minefields comprising of networked mines that will have the capability of re-adjusting themselves by using small rockets to hop into the breached path.
- AI driven land Robots.
- Naval guns (127 mm) along with guided projectiles.
- Ship engines with electronic propulsions.
- Jamming systems with stand-off capability.
- High capability portable energy systems.
- New-age communication systems.
- High resolution electro optical pods.
- Housing infrastructure for extreme altitudes (plug and play mode).

Special Purpose Vehicle Model (SPV) under Joint Collaboration of DRDO and Other Agencies

- Unmanned Aerial Systems (UAS) with high altitude ceiling and long endurances (>36 hrs) .
- The Indian multi role helicopter (IMRH).

iDEX Challenge

Pseudo-satellites for low-orbit deployment.

Make II Project

Anti-jamming systems for multiple platforms.

- In the Union Budget 2022-23, 25% of the total budget allocation has been reserved for defence R&D by the Industry. The Government has used multiple vehicles for realising the requirement of such platforms and technologies.[17]
- On 07 April 2022, the DRDO signed 30 Transfer of Technology (ToT) agreements with 25 industries. These pertain to 21 niche technologies developed by 16 DRDO labs.[18]

A Reality Check

From what has been stated till now, readers will believe that "We Have Arrived" with respect to the 'twin virtues' of 'Makein India' and 'Atmanirbhar Bharat' and are now cruising on the super highway. However, this is not the reality, as things are just kind of beginning to happen and we have miles to go. As a reality check following is stated:

- At the onset, we are hugely short of the target of achieving defence manufacturing turnover of US$25 Bn (INR 1,75000 Crs) including defence export target of US$5 Bn (35000 Crs) by 2025 as enunciated in the DPEPP 2020.
- How far we are away can be judged from the fact that, the total value of defence exports for FY 2019-20 was INR 9115.55 Crs while the same for 2020-21 was INR 8434.84 Crs (a drop? yes covid blues).[19] However, it caught up in FY 2021-22 to INR 11,607 Crs.[20]
- While we are looking up but the fact remains that, just three years shy of the target year, we are at 33.16%. To achieve the target in the correct timeframe would involve some big actions such as the following:
    - Pushing up the level of involvement.
    - Building up the credibility and the image gap.
    - Building export capabilities.
    - Diversifying the canvass with due cautions (export recall/rejection is a national embarrassment).

- While the order books of the private industry have just started to get populated albeit sporadically, the pace and throughput is still quite slow. There is still too much to cover to get a semblance of comparative equality with the public sector. In that, while the government had allocated 58% of the capital procurement budget for the FY 2021-22 to the private industry, the actual realised percentage was much less. It is hoped that the government 'walks the talk' of its recent announcement of 68% (INR 84,598 Crs) of capital procurement budget to the domestic industry in FY 2022-23.[21,22]
- While Make I and Make II projects are beginning to get traction, there is a major issue with Make II projects when it comes to funding. While Projects under Make I does receives huge government funding (up to 90%), startups, MSMEs and small industries face huge problems of finance in the design and development of Projects of Make II category wherein 100% funds have to be spent upfront from their own resources. Therefore, the Government must look into this issue and provide relief. This could be in the form of subsidies or interest free loans etc.[23]
- While the Government has taken the first proactive step of laying down the guidelines for the Framework of Simulators in the Armed Forces in September 2021, the follow up actions of laying down the overarching policy by HQ IDS and its implementation by the Service HQ has not yet matched the pace of the Government. It is the sense of the author that, forward of the seminars/webinars, assurances and promises by

the stakeholders, the ground implementation of the policy is sluggish. Resultantly, the Government's intention of ushering the simulator culture in the armed forces is moving forward sub-optimally.

- With seven months into 'corporatisation decision' of the Ordnance Factories and six months into dedicating the seven new companies as corporate entities to the nation (Munitions India Ltd, Armoured Vehicles Nigam Ltd, Advanced Weapons and Equipment India Ltd, Yantra India Ltd, Troop Comforts Ltd, India Optel Ltd and Gliders India Ltd)— it will require quite some years to assess the success of this bold decision. Some experts have argued that, these changes are more 'structural' than in the DNA of the 'OFB culture' with largely the same players but with different corporate tags.[24] Will it cut through the monumental ills of poor quality, huge time and cost overruns, poor work culture … only time will tell.
- While the DTIS has started moving its baby steps, there is lot of ground still to be covered when it comes to making the public test and certification facilities available to the private players. There are issues — costs, non-availability (read non-willingness) of dates, competition and more.

So, this is the overall scene…

To conclude, the following points can be considered:

- India has certainly past the 'sloganeering' stage of Make in India and Atmanirbhar Bharat.
- The present Government indeed deserves the credit of moving boldly forward, be it defining the documents (DPEPP, DAP, Offset) or forward looking policies (Make Projects, iDEX, ToT etc.) or walking the talk in strengthening and rejuvenating the private industry especially the MSMEs.
- Of course there are many gaps between what is promised and what comes on the plate.

It is the hope of the author that these gaps will soon be reduced under the beat of an responsive ecosystem on both sides of the fence. One should keep moving forward, as results will follow in one way or the other.

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