

# Issue Brief

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# Indian Defence Procurement: Righting the Ship

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## **Abstract**

This brief examines India's defence procurement record for fundamental platforms, weapons, and systems, as well as planned acquisitions and projects under development. The new Defence Acquisition Procedure (DAP 2020) assumes greater salience not only against India's chequered acquisition history, but also the increasingly constrained resource environment and deteriorating regional security scenario. The brief offers a set of broad recommendations to extract the most from defence contracting.



Of the various factors that constrain India's military capability, foremost is procurement. This is seen in the Government's revision of its military acquisition handbook—formerly called the Defence Procurement Procedure (DPP), and now known as the Defence Acquisition Procedure (DAP)—eight times in the 18 years since it was first issued in 2002.<sup>1</sup> Indeed, the amendments themselves have contributed to the mire that is Indian defence contracting, with new revisions being notified quicker than the Ministry typically executes contracts. Managing multiple procurement cases at varying stages of progress, all under different sets of rules, adds to the bureaucratic overhead that has already delayed Indian military modernisation.

The wayward Indian procurement ecosystem periodically undergoes a mild course correction, typically prompted by embarrassing media reporting of serious issues in readiness and capability, or increased tensions with neighbours, and sometimes, actual outbreak of hostilities.<sup>2</sup> The patchwork of emergency acquisitions and government-to-government (G2G) contracts papers over the capability cracks and helps tide things over, until the next set of embarrassing reports, regional tensions or exchange of fire emerges once again.

Bureaucratic procedures and processes, however, are not the only issues affecting India's military procurement. Perennially delayed modernisation has created a negative feedback loop in perspective planning. The armed forces are forced to pay lip-service to rigorous, comprehensive long-term force structure and acquisition planning, as they remain preoccupied with solving pressing near-term gaps in capability. Internecine turf wars over control and prestige have also vitiated joint planning and prioritisation to the extent that the limited resources available to the services are often wasted on delays and duplication. Meanwhile, industrial and technological constraints on the domestic front have come up against these endemic procurement issues, leading to their own damaging feedback loop – an inability or unwillingness on the part of the military to put in the effort and funding required to foster domestic solutions and work through their shortcomings. With every capability gap a crisis, this is seen a luxury that can be ill-afforded. All this has led to an odd situation where, despite being among the largest defence spenders in the world, India lacks a defence industry commensurate with its economic heft and global standing, and is far from meeting its own modernisation targets.<sup>3</sup>

“India corrects its procurement ecosystem when prompted by either embarrassing media reports or increased tensions.”

# Indian Defence Procurement: 2000-2020

**M***MRCA:* An acquisition that has become emblematic of India's inability to serve its own national security actually started as a repeat procurement of Mirage 2000 fighters after the 1999 Kargil conflict. By 2007, this had morphed into the Medium Multi-Role Combat Aircraft (MMRCA) tender. All this resulted in was eliminating the possibility of purchasing a cheap aircraft in the numbers so critically required by the shrinking Indian Air Force. Instead, the MMRCA procurement became so torturous that it resulted in withdrawal of the RFP in 2015,<sup>4</sup> and a mere 36 jets contracted against a requirement of 126 (with options up to 191) in 2016. The fact that the IAF is gearing up to re-run the MMRCA tender under a new name,<sup>5</sup> with an even more diverse list of contenders, is proof that the MMRCA requirement remains unmet, and that induction of the Rafale is only the midway point of a saga that has spanned nearly 20 years. Meanwhile, the IAF continues to retire legacy fighters without replacement, reducing to 30 combat squadrons in 2020.<sup>6</sup>

*Artillery:* After a corruption scandal tainted India's contract for the Swedish Bofors FH-77B in 1986, the Army did not induct new howitzers for another three decades. Even though the Ordnance Factories Board (OFB) received a technology transfer for the Swedish guns, they sat on the blueprints for nearly 20 years.<sup>7</sup> The increasingly poor state of the Army's artillery led to the Field Artillery Rationalization Plan (FARP) in 1999. Under the plan, 155mm was made the standard calibre for Indian artillery, with some 3,000 guns intended to be procured by 2025. After revisions, the plan was firmed up around 1,580 towed guns, 814 truck-mounted guns, 100 tracked self-propelled howitzers (SPHs), and 145 lightweight howitzers for the mountains. When import of new towed guns seemed imminent, OFB finally dusted off the 1980s Bofors documents, updated the gun, and handed over the first lot to the Army for trials in 2016.<sup>8</sup> Self-propelled howitzers did not fare better.

In 2005, India blacklisted South African arms company Denel over alleged irregularities in a INR 144-crore (approx. US\$ 63 million) contract for anti-materiel rifles. Not unusual, per se – India has a long and storied tradition of blacklisting arms companies – but for the fact that Denel was also partnered with DRDO to develop a tracked self-propelled 155mm howitzer called Bhim.<sup>9</sup> The project was far enough along in development to have passed a rigorous set of trials in 1998 and 1999. Despite being a priority for the Indian Army, the programme took five years before being cleared to go to the cabinet for final approval. The unrelated rifle issue saw Denel blacklisted in June 2005, and the Bhim SPH programme soon fell apart. In 2013, all corruption charges against Denel were dropped due to lack of evidence.<sup>10</sup> The Indian Army eventually inducted its first tracked howitzer, the Korean K9 Thunder, in 2018 – over 20 years after the Bhim was first fired.<sup>11</sup>

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**ASW Corvettes:** Indian Navy warships are widely acknowledged as being under-armed relative to their displacement. However, in the case of the Kamorta class anti-submarine warfare (ASW) corvettes, the Indian Navy was forced to commission these vessels without crucial role-specific equipment. Although the entire corvette programme was delayed for several years, all four boats of the class have entered service without air defence missiles, submarine-hunting helicopters or towed sonars,<sup>12</sup> the latter two of which are essential for their stated anti-submarine role. A DRDO programme to develop an indigenous towed sonar was finally shelved after more than a decade, and while German towed sonars are being imported in limited quantities, none are fitted to the Kamorta-class boats.<sup>13</sup> Meanwhile, the Navy contracted for 24 multi-role helicopters in early 2020,<sup>14</sup> and though these can conduct ASW operations, there are over two times as many warships in service that require modern helicopters for their decks.

**T-90 Battle Tanks:** Although the trials team recommended air conditioning, the Army chose to induct T-90 Main Battle Tanks (MBTs) without it. As a result, the new tanks' all-important thermal imaging sights began failing in large numbers owing to heat and dust ingress. An existing Russian system was tried, but turned out to be inadequate for Indian conditions, wasting yet more time in the process. As of 2020, the T-90 cooling issue is yet to be resolved, and a new environmental control system (ECS) and auxiliary power unit (APU) are being tendered for.<sup>15</sup>

**Indigenous Aircraft Carrier (IAC-1):** Such was the Indian Navy's faith in the maritime variant of the Light Combat Aircraft (LCA) in the early days of the programme, that they designed their new carrier around the diminutive dimensions of the DRDO-developed jet – including the aircraft lifts that bring jets from the hangar to the flight deck. Eventually, both the MiG-29K and the LCA ran into rough weather, and upon exploring alternatives to the problematic fighters, it emerged that the undersized lifts on the carrier were not suitable for prospective western aircraft.<sup>16</sup> With the ship too far along to re-do any structural work, various workarounds are now being explored such as detachable wingtips on the Rafale M, and an ultra-precise positioning system that parks the Super Hornet on the lifts so it can just barely clear the edges. For a vessel due to be commissioned in 2022<sup>17</sup> and expected to serve 40 years or more, this severely restricts operational flexibility in the future.

**Rudra and Light Combat Helicopter (LCH):** Like the Kamorta class ASW corvette, the indigenous Rudra and Light Combat Helicopter (LCH) – which are to form the backbone of the Army and Air Force's combat helicopter forces – are essentially unarmed.<sup>18</sup> Presently equipped only with a 20mm chin gun and unguided 70mm rockets, these combat helicopters have no precision strike, anti-armour, or anti-air capability, even though these were planned at the outset.

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MBDA Mistral air-to-air missiles have been qualified and tested, but never contracted. Similarly, there has been no movement on fitting these helicopters with anti-tank guided missiles which are central to their battlefield support role.

**Scorpene:** Already fraught with delays and cost overruns, the programme to build French Scorpene-class submarines at Mazagon Dock in Mumbai took a turn for the worse when the contract for its principal weapon had to be cancelled. The corruption investigation into a 2010 contract for VIP helicopters from AgustaWestland scuttled several ongoing and planned contracts in India, but none as high-profile as the Scorpene torpedoes. Any company linked with AgustaWestland was targeted, putting paid to the idea of commissioning a brand-new class of submarines with anything resembling cutting-edge weaponry that were to be provided by sister firm Whitehead Alenia Sistemi Subacquei (WASS). By a stroke of luck, the Scorpene class shares the same NATO standard torpedo tube dimensions as the 1990s-vintage German Type 209 submarines also operated by the Indian Navy, so they can share obsolescent torpedoes and the new submarines do not patrol the seas unarmed.<sup>19</sup>

**Assault Rifles:** While a modern assault rifle might strike most as a fairly mundane piece of military equipment, the Indian Army's imagination in framing requirements has resulted in a ponderous saga worth a novel by itself. The DRDO developed Indian Small Arms Systems (INSAS) assault rifle in service since the 1990s has been troublesome since induction, forcing the Army to search for alternatives. What should have been a straightforward replacement resulted in General Staff Qualitative Requirements (GSQRs) for a rifle able to fire completely different cartridges, the 5.56mm INSAS and the 7.62mm AK-47 round. No weapon ever met these requirements and eventually the tender was terminated in 2015.<sup>20</sup> The Army eventually abandoned the intermediate cartridges entirely and contracted for 72,000 SIG716 battle rifles, with another 72,000 on the way.<sup>21</sup> Meanwhile, plans to produce AK-203 assault rifles (firing the 7.62x39mm round) to replace the INSAS in bulk continue to go nowhere, with an Indo-Russian joint venture unable to commence production owing to cost negotiation issues.<sup>22</sup>

**BrahMos:** The BrahMos missile was jointly developed by India's Defense Research Development Organization and Russia's NPO Mashinostroyeniya and quickly became the standard ground- and sea-launched cruise missile for the Indian military. India's entry into the Missile Technology Control Regime (MTCR)<sup>23</sup> has allowed the range of the Brahmos increase to 450km,<sup>24</sup> from their previous limit of 290 km, and further development to 800km is planned. The missile has seen increasing indigenisation over the years and in June 2020 was cleared for air-launch as well.<sup>25</sup>

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**P-8I Poseidon:** The P-8 multi-mission maritime patrol aircraft were acquired through the US Foreign Military Sales (FMS) programme to address gaps in India's airborne anti-submarine warfare capability. As of 2019, only six years after they arrived in-country, the Navy's P-8Is had crossed an incredible 25,000 flying hours – almost as many as the Soviet Tu-142s that had served for nearly thirty years. Four more jets are already on order, and the Navy is planning on at least six additional P-8Is for a fleet size of 18.<sup>26</sup> In addition to their traditional maritime role, the aircraft have been deployed during the 2020 India-China border crisis in Ladakh,<sup>27</sup> as well as the 2017 Doklam face off.<sup>28</sup>

**C-17 Globemaster III:** Airlift is a key mandate of the IAF, and is particularly critical in the far-flung mountain frontiers with China and Pakistan. The Boeing C-17, another FMS acquisition, granted the IAF a world-class strategic transport capability.<sup>29</sup> The 11 airframes have lived up to all expectations of being able to carry out 'strategic missions in tactical conditions' – and with performance-based logistics support in place, have done so reliably and affordably.

**Mi-17V-5:** Inducted in 2012, the Mi-17V-5 constitutes the backbone of the IAF's medium-lift helicopter fleet.<sup>30</sup> The acquisition process was painless and quick by any standards; more so by the Indian yardstick. Periodic top-ups saw a total of 151 helicopters assembled at the IAF's No.3 Base Repair Depot in Chandigarh.<sup>31</sup> Pressed into action for relief operations during the 2013 Himalayan floods a year after induction,<sup>32</sup> the IAF's Mi-17V-5s have since been at the forefront of almost every Humanitarian Assistance and Disaster Relief (HADR) effort in the past decade—from the 2015 Nepal earthquake to the 2018 Kerala floods.

## Upcoming programmes and development

**Airbus C295:** The IAF's Avro replacement programme started in 2013 and the DAC cleared the Airbus C295 for acquisition in 2015.<sup>33</sup> This uncharacteristically rapid pace would have kicked off the first major aerospace acquisition from India's private sector – a combined Airbus-Tata effort. In 2016 former Defence Minister Manohar Parrikar even aligned the Indian Coast Guard's requirement for patrol aircraft with the larger IAF order – a rare case of pragmatic decision-making in defence that would drive down unit costs.<sup>34</sup> But the procurement has languished since then, with neither the IAF nor the Coast Guard getting the aircraft they need. In fact, as the IAF's ageing An-32 medium-lift transport aircraft fleet, numbering around 100 aircraft, approaches the end of its service life,<sup>35</sup> the Indian requirement for C295s could grow past 150 aircraft, further lowering unit costs.<sup>36</sup>

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**Project 75 (India):** The long-planned tender for conventional submarines equipped with air-independent propulsion (AIP) is critical to the Navy, and indeed to the ambitious ‘Strategic Partnership’ model of procurement first mooted in Chapter VII of the 2016 DPP. However, the programme has been hanging fire since the RFI was issued in 2010. If it stalls for fiscal reasons, the Navy might have to cut their losses and pursue a more realistic alternative such as extending Scorpene production to another six boats, or procuring a few submarines off the shelf the same way the MMRCa imbroglio was resolved.

**Armoured Vehicles:** Notwithstanding the emergence of drone-launched missiles and loitering munitions against tanks and AFVs,<sup>37</sup> armour and mobility will remain critical to future warfighting. The Indian Army’s Future Infantry Combat Vehicle (FICV) programme, however, has gone round in circles since it was initiated in 2009.<sup>38</sup> Every few years a slew of positive commentary emerges, before things fall silent again.<sup>39</sup> A similar programme for a next-generation battle tank, the Future Ready Combat Vehicle, appears equally troubled but is distant enough that the Army can take corrective measures to ensure it does not spiral like FICV and many other big-ticket defence projects before it.

**Light Helicopters:** In 2003, an RFP for 197 light helicopters for a joint Army-Air Force requirement was issued. The tender called for a mix of direct procurement and licence production by Hindustan Aeronautics. In April 2007, selection of the Eurocopter (now Airbus Helicopter) AS550 C3 Fennec was announced, but by December that year, the tender was withdrawn amid allegations of procedural irregularities.<sup>40</sup> A new RFP under the name ‘Reconnaissance and Surveillance Helicopter’ (RSH) for the same requirement was issued in 2008. After the completion of trials and evaluation in 2011, a further three years passed without decision, until the RSH tender was also withdrawn in August 2014.<sup>41</sup> In October 2014, the light helicopter process restarted for the third time with a global RFI inviting bids under the ‘Buy and Make’ category of DPP-2013.<sup>42</sup> Following a Modi-Putin summit in December 2014, it became apparent that the Ka-226T was the frontrunner, which was confirmed with a Defence Acquisition Council notification in May 2015, followed by an Inter-Governmental Agreement during Modi’s December 2015 visit to Russia.<sup>43</sup> Since then, the programme has languished, punctuated by small spurts of forward movement such as the establishment of a joint venture with HAL.<sup>44</sup> Meanwhile, HAL’s own competitor to the Ka-226T, the Light Utility Helicopter (LUH) has rapidly matured, reaching Initial Operational Clearance (IOC) as of February 2020.<sup>45</sup> At this stage, with a production-ready domestic aircraft that meets the military’s requirements, there is little reason to proceed with the far more expensive Kamov option.<sup>46</sup>



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**IAF trainers:** Not unlike the light helicopter saga, the IAF's attempts at recapitalising its training aircraft has been fraught with delays, setbacks and dead-ends. The intermediate jet trainer (IJT) was formally contracted for development in 1999 but HAL has not delivered an aircraft as of October 2020. As the Air Force's existing intermediate trainers ran out of service life and with the availability of relatively new Pilatus PC-7 Mark II basic trainers and BAE Hawk advanced trainers, the IAF essentially abandoned the requirement for an intermediate aircraft entirely in 2015, switching to three stages of training on these two types of aircraft.<sup>47</sup> Additional orders for the PC-7 basic trainer have been ruled out following corruption allegations,<sup>48</sup> creating room for HAL's own basic trainer, the HTT-40, which has nearly completed testing and was cleared for induction in August 2020.<sup>49</sup> With INR 3,000 crore (approx. US\$ 600 million) of IAF funds tied up in the IJT programme,<sup>50</sup> and no room for the type in the revised training system, it is not clear why the IJT continues to see development effort.

# A problematic trajectory

**N**eedlessly complex processes, a culture of framing unrealistic requirements, and poor project management emerge as a common thread in Indian defence contracting. Above all, most key capital acquisition programmes take on average a decade, getting mired in the procurement process before being fielded. This subjects them to far more variables than is ideal – budgetary movement, shifting geopolitical landscapes, the inexorable march of technology, and changes in dispensation, both in uniform and at the political level.

At a time when the government is pushing defence spending cuts<sup>51</sup> and the impact of COVID-19 on the economy and its ability to sustain defence modernisation is in question, slow procurement only adds to capital costs. A significant portion of military procurement involves imports from foreign companies, either directly, or as sub-assemblies to domestically-delivered hardware. Foreign suppliers apply time-based escalation multipliers to commercial bids, knowing full well that Indian defence procurements, particularly large programmes, take years to reach fruition. Initial bids are therefore heavily padded to account for escalation and hedge against inflation and currency fluctuation.

The import-reliant arm of India's defence procurement system is also attempting to serve competing goals — low cost, high technology, domestic economic stimulation, and employment generation. The very nature of these imperatives means that not everything can be achieved together. The disjointed and over-extended state of domestic defence R&D, on the other hand, has created an environment of extreme pessimism and distrust insofar as the uniformed services are concerned. The military has come to view DRDO as an active obstacle in the path of modernisation. The Defence Ministry's research branch has made a habit of accepting a particular requirement and allowing a procurement case to be initiated, only to step in at the last moment and insist that the same need can be met in-country. Once the import case is dropped, the contracting service has to wait for DRDO to bring its developmental technology to production, a process that can take years.

No military can plan capability and operations based on promises, and extended R&D timelines make a mockery of elaborate tri-service programmes like the five-year Services Capital Acquisition Plan (SCAP) and the 10-year Long Term Integrated Perspective Plan (LTIPP). These documents had become little more than exercises in futility, not only because they rarely accounted for fiscal realities, but also in large part due to delays in development and decision-making. Indeed, the LTIPP had to be reduced from a 15-year planning document to a ten-year plan because of how rarely any of its modernisation targets were ever achieved.

# DAP 2020: Small Step or Giant Leap?

**O**n paper, the new and re-named Defence Acquisition Procedure 2020, in effect from 1 October 2020,<sup>52</sup> marks a significant departure from the eight editions that preceded it. The latest document, as with the revisions that came before, was compiled after extensive consultation with stakeholders in uniform, at the MoD, in academia and industry.

**Indigenisation:** Aiming to include the objectives of recent slogans such as ‘Atmanirbhar Bharat’ (‘Self-reliant India’) in its structure, the DAP 2020 prioritises indigenous manufacturing both in requiring procurement to focus on making in India rather than buying from abroad, and in increasing the indigenisation content (IC) required across all procurement categories. It also reflects an appreciation of life-cycle costs, with various refinements and a new procurement category – Buy (Global – Manufacture in India) – that seek to secure domestic spares, maintenance and overhaul capability for newly acquired hardware.

**Imports:** At the same time, the DAP 2020 also recognises that time-bound or high-end requirements (or in many cases, both) might not be feasible to fulfil domestically, and has made imports in these situations far easier, at least in principle. Clearly accounting for delays before and furore created after nearly every major defence deal (most of which are imports), the DAP clears the decks for these to proceed more smoothly than before, specifically allowing for single-vendor cases and smoothing the way for high value imports to be pursued as G2G acquisitions either from the outset or after selecting a winning bid. The new DAP also resolves an enduring oddity of Indian defence procurement by allowing for negotiations with the second-lowest qualified vendor (the so-called ‘L2’ bidder), an issue that has impacted several past procurements, including the MMRCA fighter competition.<sup>53</sup>

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# DAP 2020: Small Step or Giant Leap?

**Innovation:** For the first time since the original DPP of 2002, the DAP 2020 includes a section dedicated to ‘Innovation’ with a focus on nascent emerging technologies and nurturing start-ups and small and medium enterprises. Distinct from the hand-holding already present under the ‘Make-I’ and ‘Make-II’ categories, this lays out multiple avenues for execution, including Services-led and executed options to secure control of innovative technology in-country and fund its path to production.

**Leasing:** The addition of leasing as a specific standalone category is another first for the new DAP, providing a viable option to acquire capability that might otherwise not be possible owing to large upfront capital costs, or to satisfy an urgent operational need that would not be served by going through the full capital acquisition process. The new DAP also adds a separate category for overhauls, upgrades and repeat orders, and specifically grants the Service Headquarters (SHQs) significant freedom in how these cases are structured and financial powers delegated.

**Offsets:** The single biggest change is the removal of offset requirements from several categories of procurement. Correctly accepting that offsets increase costs, and particularly in G2G deals, are often contentious to come to agreement on, the DAP 2020 removes the requirement from fast track, single vendor, and G2G deals. Although not explicitly stated, it is clear the DAP expects to fill the shortfall in offset spending by foreign OEMs through an increased focus on indigenisation in general, whether through greater domestic procurement or increased IC requirements under all procurement categories.

“DAP 2020 prioritises indigenous manufacturing and appreciates life-cycle costs.”

**FDI:** The new Foreign Direct Investment (FDI) guidelines approved separately by the Cabinet<sup>54</sup> dovetail with some elements of the DAP, including the offset guidelines, which might finally make FDI in defence attractive enough as an avenue to discharge offset obligations. However, the promulgation of the new DAP and the formal Finance Ministry notification of the revised FDI rules were clearly out of sync, the latter taking place only on 8 December 2020.<sup>55</sup> The DAP 2020, as a result, is light on detail regarding FDI, and notably fails to resolve much of the confusion and competing imperatives of liberalised FDI and the existing Strategic Partnership Model (SPM) first introduced with DPP 2016.

# DAP 2020: Small Step or Giant Leap?

Clearly the new DAP attempts to at least broadly address many of the criticisms historically levelled at the Indian defence procurement system. It is in letter and spirit a more flexible document, with restrictive language and narrow constraints removed from areas such as repeat orders and single vendor procurement. The formal addition of leasing is an avenue to bypass traditionally limiting capital acquisition procedures that inevitably face cost and time overruns. The removal of offset requirements from single vendor and G2G cases means lower costs up front since bidders will not have to inflate their offers to account for offset costs, penalties, waivers and delays, as is the norm. In fact, there is even a 'Price Variation Clause' for high value contracts that take longer to conclude, which should provide a structure to avoid inflated bids. However, it is worth noting that as with most Indian policy changes, the outcomes of the DAP 2020 will be more a product of implementation than the contents of the document itself.

“In letter and spirit, DAP 2020 is more flexible than its predecessor document.”

To address the myriad issues plaguing Indian defence procurement, it is important that changes in approach be realistic. A professional defence acquisition cadre and education and specialisation in the field would be welcome, but would also take time to set up and longer still to show results. As such, four realistic and near-term recommendations in managing defence procurement are as follows:

**1. Use the process effectively:** As noted, the new DAP seeks to be a more enabling procurement manual than the previous editions. It is now incumbent on the Services and MoD to take advantage of this. With flexibility in terms of leasing, nurturing industry, and particularly single vendor procurements that tended to grind the old procedures to a halt, there are avenues for the Services to be creative with their categorisations and extract value from their spend. Leasing has already taken off with Indian Navy using American contractor-owned and operated drones for maritime surveillance,<sup>56</sup> and the IAF working toward leasing aerial refueling tankers, among other platforms.<sup>57</sup> Import and offset changes also create room for urgent requirements to be more rapidly met, and yet at lower cost than before. With each major acquisition programme, the MoD together with the contracting Service can decide which one or two key areas – such as ToT, programme cost, or local production – need priority, and proceed accordingly. In many cases the cost of ToT will not bring in the economic or employment benefits that local assembly and low-end manufacturing might. In other cases, the reverse will be true. Instead of treating all defence procurement, from firearms to fighter jets, as the same, each contract will have to be managed to maximise value for the user service, the taxpayer, and the domestic defence industry.

**2. Stop reinventing the wheel:** The simplest way to recover the loss (real or notional) from offsets that have been removed in the DAP, is to build value with domestic supply chains and futuristic platforms. Limiting the capital spent on reinventing the wheel for relatively contemporary technologies and platforms and redirecting the savings to the industrial base will serve the long-term needs of the military more effectively. A narrow focus on futuristic and strategic developments will then reap benefits from a stronger industrial ecosystem in down the line. No serious global power can be completely import-reliant for its security needs. At the same time, there is also clear economic value in globalised supply chains.<sup>58</sup> The Ministry needs to take a more active role in directing systematic indigenous defence R&D. Re-inventing low-value hardware is a waste of funds in an already resource-constrained environment. The same applies to local production of basic COTS/MOTS hardware, where the non-recurring costs of development and manufacturing infrastructure cannot be effectively



amortised. Defence R&D needs to give priority to strategic and high value platforms — areas where India has, paradoxically, tended to prioritise licence production or outright purchases. On the flip side, re-developing consumables and munitions must give way to domestic production – either under licence or by outright acquisition of intellectual property. Building domestic defence intellectual property (IP) makes sense, but only when measured against a strict cost-benefit rationale. The MoD must balance development time and cost against operational necessities.

**3. *Export-oriented procurement:*** SQRs and ab-initio procurement prioritisation should enable industry to achieve economies of scale beyond budget-constrained Indian contracting. As an example, nearly 1/3 of current F-35 sales are exports, and Lockheed Martin is expecting that share to grow to 40 or 50 per cent.<sup>59</sup> Meanwhile, almost no Indian defence platforms, which are developed at great cost, are ever exported. The Ministry and Services need to orient both requirements and procurement to ensure that the impetus given to domestic R&D as outlined above is not wasted. In some cases, this will need the primary contracting service to frame its SQRs in a manner that makes a baseline platform or technology globally suitable first, before developing it further to serve the domestic user more fully. In other cases, it will mean defining procurement cases in a manner that ensures low unit costs to assist in export sales. For example, naval shipbuilding can benefit from both an overhaul of design requirements to bring ships more in line with global standards, as well as larger production runs of ship classes to lower unit costs and make vessels more attractive for export. At a higher level, a re-examination of the force structure could result in a larger fleet of smaller ships, which are more readily exportable than a smaller force of high-end destroyers and frigates. Similarly, if the IAF rationalizes training around two types of aircraft instead of three and HAL's IJT is shelved, the HTT-40 will be built in enough numbers to become a serious option in the growing global trainer market.

**4. *Tailor imports to serve competing needs:*** Beyond just military capability, import of defence equipment is also an indispensable part of India's relations with a number of countries. However, if resources must be spent in service of bilateral relations, for example with the USA, Russia, Israel, France and so on, then this must be optimized based on needs and available domestic capability — so Ka-226T helicopters do not make sense when HAL's LUH exists, but the AK-203 can

“Capital spent on reinventing the wheel for contemporary technologies should be limited.”

# Righting the Ship

serve the India-Russia bilateral relationship even if initially expensive. Similarly, importing Israeli artillery just when India's own public and private sector artillery programmes are fructifying is not rational, but keeping defence trade up through procurement or co-production of drones, sensors or munitions serves both the military and ties with Israel.


“Both requirements and procurement should be oriented to ensure that any impetus given to R&D is not wasted.”

# Conclusion

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“Penny wise pound foolish” is a concept that has dogged Indian defence contracting in the past. New concepts like Performance Based Logistics (PBL) are finally taking hold, as readiness assumes greater importance in Indian defence management. Faster adoption of similar thinking from other militaries will only benefit India's capabilities. Adopting broad performance parameters, such as US defence contracting's 'Key Performance Parameters' (KPPs) and 'Key System Attributes' (KSAs), instead of over-specific platform requirements will free manufacturers or developers to achieve less restrictive performance goals more cheaply, rather than locking them in to expensive modifications or developmental paths with marginal returns. Taking options away from suppliers because your own processes are inflexible may end up costing more in the long term.

For example, Finland's HX programme is taking a systems approach to fighter recapitalisation, allowing bidders to offer a package of systems – fighters, weapons, force multipliers – to meet an overarching military requirement at a set budget. India's MMRCAs, on the other hand, specified 126 fighters, with narrowly defined roles and performance criteria. Instead, 80 units of an extremely capable fighter, with PBL to ensure higher readiness, might have achieved the same operational effect – one could argue procurement of 36 Rafales with PBL underscores this very point. On the other hand, 150 very cheap fighters along with a package of force multipliers (tankers and AWACS/AEW) could achieve similar effects at the same cost. Or in the case of the Army's battle tanks, hundreds were ordered without air conditioning – but that order could have been reduced by a few dozen to make budgetary room for air conditioning across the fleet, resulting in a more potent tank force overall. Although the new DAP is certainly a step forward, flexibility at this level still eludes Indian defence procurement, and merits consideration for inclusion as the process continues to be refined.

Finally, words are as important as actions. For as much as decades of convoluted policy and inadequate execution has harmed Indian defence, disjointed and dishonest public communications have also played a part. In a modern connected world, where every statement is amplified, messaging has to be tailored to ensure everyone who is listening is correctly addressed. Pronouncements directed at a domestic audience might backfire when heard abroad, and vice versa. For example, military leadership cannot insist a two-front war is winnable and at the same time clamour for more resources and emergency procurement. The adversary will assume the first statement cannot be true if the military truly is under-resourced, and is therefore not deterred. And the domestic audience, including the political and bureaucratic class, will wonder as to the legitimacy of military requests when the public posture is constantly positive. 



- 1 “Defence Procurement Procedure,” Ministry of Defence, <https://www.mod.gov.in/defence-procurement-procedure>.
- 2 Philip, Snehesh Alex, “Armed Forces Working on 100 Emergency Procurement Contracts amid Tensions with China,” *ThePrint*, July 21, 2020, <https://theprint.in/defence/armed-forces-working-on-100-emergency-procurement-contracts-amid-tensions-with-china/465408/>.
- 3 Som, Vishnu, “‘70% Equipment Vintage’: Army Officer Says Defence Budget Dashed Hopes,” *NDTV*, March 14, 2018, <https://www.ndtv.com/india-news/70-of-armys-equipment-is-vintage-army-officer-to-parliament-panel-1823474>.
- 4 “RFP for 126 Rafale Jets Withdrawn, Negotiation on for 36: Parrikar,” *Deccan Herald*, July 30, 2015, <https://www.deccanherald.com/content/492427/rfp-126-rafale-jets-withdrawn.html>.
- 5 Pandit, Rajat, “IAF Presses ‘Reset’ Button on Modernisation Plans to Push ‘Make in India’,” *The Times of India*, May 19, 2020, <https://timesofindia.indiatimes.com/india/iaf-presses-reset-button-on-modernisation-plans-to-push-make-in-india/articleshow/75816529.cms>.
- 6 Peri, Dinakar, “How Is India Building up the Squadron Strength of Its Air Force?” *The Hindu*, July 12, 2020, <https://www.thehindu.com/news/national/the-hindu-explains-how-is-india-building-up-the-squadron-strength-of-its-air-force/article32053910.ece>.
- 7 “OFB’s Dhanush Handed Over to Indian Army,” *Bharat Shakti*, April 9, 2019, <https://bharatshakti.in/ofbs-dhanush-handed-over-to-indian-army/>.
- 8 “Gun Carriage Factory Hands over 3 ‘Dhanush’ Guns to Army,” *The Hindu*, July 17, 2016, <https://www.thehindu.com/news/national/Gun-Carriage-Factory-hands-over-3-%E2%80%98Dhanush%E2%80%99-guns-to-Army/article14494231.ece>.
- 9 “Defence Firm Denel May Soon Be off India’s Blacklist,” *Firstpost*, August 19, 2014, <https://www.firstpost.com/india/defence-firm-denel-may-soon-indias-blacklist-1671663.html>.
- 10 Joshi, Saurabh, “Denel Back in India with a Twist,” *StratPost*, April 22, 2016, <https://stratpost.com/denel-back-india-twist/>.
- 11 Ganapatye, Mayuresh, “Indian Army Inducts K9 Vajra, M777 Howitzers, First Guns since Bofors,” *India Today*, November 9, 2018, <https://www.indiatoday.in/india/story/indian-army-inducts-3-k9-vajra-10-howitzers-and-artillery-tractors-1385016-2018-11-09>.
- 12 Shukla, Ajai, “Why Did Kiltan Join Navy without Sonar, Copter?” *Rediff*, October 17, 2017, <https://www.rediff.com/news/report/why-did-kiltan-join-navy-without-sonar-copter/20171017.htm>.
- 13 Unnithan, Sandeep, “Missing Teeth,” *India Today*, October 26, 2020, <https://www.indiatoday.in/india-today-insight/story/missing-teeth-1735262-2020-10-26>.
- 14 Parsons, Dan, “India Buys Two Dozen MH-60R Sub-Hunting Helicopters for \$900 Million,” *Vertical Mag*, May 15, 2020, <https://verticalmag.com/news/india-buys-two-dozen-mh-60r-sub-hunting-helicopters-for-900-million/>.
- 15 Pandit, Rajat, “Govt Buys Non-AC Tanks, Draws CAG Fire,” *The Times of India*, February 19, 2014, <https://timesofindia.indiatimes.com/india/Govt-buys-non-AC-tanks-draws-CAG-fire/articleshow/30643885.cms>.

- 16 Singh, Angad, "Failure to Launch," *StratPost*, August 23, 2017, <https://stratpost.com/failure-to-launch/5/>.
- 17 Vavasseur, Xavier, "India's Indigenous Aircraft Carrier INS Vikrant Set for 2022 Commissioning," *Naval News*, February 11, 2020, <https://www.navalnews.com/naval-news/2020/02/indias-indigenous-aircraft-carrier-ins-vikrant-set-for-2022-commissioning/>.
- 18 "Is Someone Trying To Derail The Arming Of India's Rudra Copters?" *Livefist Defence*, February 21, 2019, <https://www.livefistdefence.com/2019/02/is-someone-sabotaging-the-arming-of-indias-rudra-choppers.html>.
- 19 Purohit, Jugal R, "Handicapped by Red Tape, Indian Navy to Fit Old Weapons on Brand New Submarine," *India Today*, August 25, 2016, <https://www.indiatoday.in/india/story/indian-navy-red-tape-new-submarine-old-weapons-336845-2016-08-23>.
- 20 Unnithan, Sandeep, "Why Indian Army Has Only Itself to Blame for Assault Rifle Fiasco," *DailyO*, July 3, 2015, <https://www.dailyo.in/politics/sandeep-unnithan-indian-army-dalbir-singh-assault-rifles-time-insas-ak-47-mcar-heckler-and-koch-fn-herstal/story/1/4739.html>.
- 21 "Indian Army to Order Second Batch of 72,000 Sig 716 Assault Rifles from US," *ThePrint*, July 12, 2020, <https://theprint.in/defence/indian-army-to-order-second-batch-of-72000-sig-716-assault-rifles-from-us/459438/>.
- 22 Pubby, Manu, "Amethi AK-203 Factory Unlikely to Start Operations in 2020," *The Economic Times*, June 4, 2020, <https://economictimes.indiatimes.com/news/defence/amethi-ak-203-factory-unlikely-to-start-operations-in-2020/articleshow/76183802.cms>.
- 23 Pubby, Manu, "With MTCR Done, India to Test Extended Range Brahmos next Month," *The Economic Times*, July 14, 2018, <https://economictimes.indiatimes.com/news/defence/with-mtcr-done-india-to-test-extended-range-brahmos-next-month/articleshow/57162589.cms>.
- 24 Jain, Smriti, "BrahMos: India-Russia Create History with Successful Test of Longer Range 450-Km Version of Supersonic Cruise Missile," *The Financial Express*, March 11, 2017, <https://www.financialexpress.com/india-news/brahmos-india-russia-create-history-with-successful-test-of-longer-range-450-km-version-of-supersonic-cruise-missile/583856/>.
- 25 Aroor, Shiv, "BrahMos Gets Combat Use Nod amid Border Stand-off with China," *India Today*, June 16, 2020, <https://www.indiatoday.in/india/story/brahmos-combat-use-nod-border-stand-off-china-1689538-2020-06-16>.
- 26 Pandit, Rajat, "Boeing P-8 Poseidon Aircraft: India Moves to Buy 6 More Poseidons from US for \$1.8bn," *Times of India*, July 25, 2020, <https://timesofindia.indiatimes.com/india/india-moves-to-buy-6-more-poseidons-from-us-for-1-8bn/articleshow/77160923.cms>.
- 27 "India China Row: P-8I Aircraft Deployed in Ladakh; MiG-29Ks to Be Moved," *Business Standard*, July 21, 2020, [https://www.business-standard.com/article/defence/navy-s-p-8is-deployed-in-ladakh-mig-29k-jets-to-be-stationed-in-north-120072101779\\_1.html](https://www.business-standard.com/article/defence/navy-s-p-8is-deployed-in-ladakh-mig-29k-jets-to-be-stationed-in-north-120072101779_1.html).
- 28 "Came to Know of Navy's P-8I Aircraft's Capabilities during Doklam Episode: General Bipin Rawat," *The Economic Times*, February 18, 2020, <https://economictimes.indiatimes.com/news/defence/came-to-know-of-navys-p-8i-aircrafts-capabilities-during-doklam-episode-general-bipin-rawat/articleshow/74179809.cms>.
- 29 Joshi, Saurabh, "Uncertainty over Last White-Tail C-17 Sale to India," *StratPost*, October 19, 2017, <https://stratpost.com/uncertainty-over-last-white-tail-c-17-sale-to-india/>.

- 30 “IAF to Induct Russian Mi-17 V5 Armed Choppers Today,” *The Times of India*, February 17, 2012, <https://timesofindia.indiatimes.com/india/IAF-to-induct-Russian-Mi-17-V5-armed-choppers-today/articleshow/11919896.cms>.
- 31 “Russia Delivers Final Batch of Mi-17V-5 Choppers to India,” *The Economic Times*, July 14, 2018, <https://economictimes.indiatimes.com/news/defence/russia-delivers-final-batch-of-mi-17v-5-choppers-to-india/articleshow/50834121.cms>.
- 32 Ali, Amin, “Rahat Is the Biggest Rescue Operation by Air Force Helicopters,” *The Times of India*, July 5, 2013, <https://timesofindia.indiatimes.com/interviews/Rahat-is-the-biggest-rescue-operation-by-air-force-helicopters-Rajesh-Isser/articleshow/20916833.cms>.
- 33 Mandhana, Niharika, and Robert Wall, “India Approves Purchase of 56 Airbus C295 Transport Planes,” *The Wall Street Journal*, May 14, 2015. <https://www.wsj.com/articles/india-approves-purchase-of-56-airbus-c295-transport-planes-1431618137>.
- 34 Dubey, Ajit Kumar, “Make in India: Manohar Parrikar Approves Manufacture of Six Indigenous Coast Guard Surveillance Planes,” *India Today*, December 26, 2016, <https://www.indiatoday.in/mail-today/story/make-in-india-manohar-parrikar-approves-indigenous-suveillance-planes-359492-2016-12-26>.
- 35 Singh, Rahul, “IAF Plans to Stop Flying AN-32 over Mountains and Seas after Arunachal Crash,” *ThePrint*, June 15, 2019, <https://theprint.in/defence/iaf-plans-to-stop-flying-an-32-over-mountains-and-seas-after-arunachal-crash/250321/>.
- 36 “IAF Requires ‘at Least’ 150 C295 Medium Transport Aircraft: Airbus,” *The Week*, November 20, 2019, <https://www.theweek.in/news/india/2019/11/20/iaf-requires-at-least-150-medium-transport-aircraft-airbus.html>.
- 37 Bryen, Stephen, “Drones Playing Big Role in Nagorno-Karabakh Fight,” *Asia Times*, October 1, 2020, <https://asiatimes.com/2020/10/drones-playing-big-role-in-nagorno-karabakh-fight/>.
- 38 “Indian Army’s Rs 60,000-Crore FICV Project Stuck in Procedural Delays: Official Sources,” *The Economic Times*, January 2, 2019, <https://economictimes.indiatimes.com/news/defence/indian-armys-rs-60000-crore-ficv-project-stuck-in-procedural-delays-official-sources/articleshow/67349313.cms>.
- 39 Katoch, P.C. “FICV for Indian Army.” SP’s Land Forces – Defence, <http://www.spslandforces.com/story/?id=722&h=FICV-for-Indian-Army>.
- 40 “India Cancels Deal to Buy EADS Helicopters,” *Deutsche Welle (DW)*, December 7, 2007, <https://www.dw.com/en/india-cancels-deal-to-buy-eads-helicopters/a-2993786>.
- 41 “Defence Ministry Scraps Rs 6000 Crore Tender for Light Choppers,” *The Financial Express*, August 30, 2014, <https://www.financialexpress.com/archive/defence-ministry-scraps-rs-6000-crore-tender-for-light-choppers/1283700/>.
- 42 Peri, Dinakar. “Defence Ministry Issues RFI for Helicopters,” *The Hindu*, November 5, 2014, <https://www.thehindu.com/news/national/defence-ministry-issues-rfi-for-helicopters/article6565068.ece>.
- 43 “Ka-226T: Why Putin Personally Promoted This Helicopter to Modi,” *The Week*, September 5, 2019, <https://www.theweek.in/news/india/2019/09/05/ka-226t-why-putin-personally-promoted-this-helicopter-to-modi.html>.



- 44 “Indo-Russian Joint Venture for Kamov Military Choppers Registered in India: Official,” *The Financial Express*, July 18, 2017, <https://www.financialexpress.com/industry/indo-russian-joint-venture-for-kamov-military-choppers-registered-in-india-official/768024/>.
- 45 “Light Utility Helicopter Gets Operational Clearance,” *The New Indian Express*, February 8, 2020, <https://www.newindianexpress.com/states/karnataka/2020/feb/08/light-utility-helicopter-gets-operational-clearance-2100579.html>.
- 46 Dubey, Ajit Kumar, “Russian Kamov Helicopters’ ‘Make in India’ Price 2.5 Times More Than Original Cost,” *India Today*, May 23, 2017, <https://www.indiatoday.in/mail-today/story/kamov-226-t-helicopter-indian-army-hal-russia-978623-2017-05-23>.
- 47 “IAF to Adopt Two Aircraft-Three Stage Training Process,” *Business Standard*, October 3, 2015, [https://www.business-standard.com/article/news-ians/iaf-to-adopt-two-aircraft-three-stage-training-process-115100300808\\_1.html](https://www.business-standard.com/article/news-ians/iaf-to-adopt-two-aircraft-three-stage-training-process-115100300808_1.html).
- 48 Pubby, Manu, “Defence Ministry Bans Swiss Firm Pilatus for a Year after Corruption Allegations,” *The Economic Times*, July 16, 2019, <https://economictimes.indiatimes.com/news/defence/defence-ministry-bans-swiss-firm-pilatus-for-a-year-after-corruption-allegations/articleshow/70231269.cms>.
- 49 “DAC Approves Procurement Proposals Worth Rs 8,722.38 Crore, Including 106 Basic Trainer Aircraft for IAF,” Press Information Bureau, August 11, 2020, <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1645092>.
- 50 Shukla, Ajai, “HAL’s Intermediate Jet Trainer Flies Again after Extensive Re-Design,” *Business Standard*, April 20, 2019, [https://www.business-standard.com/article/current-affairs/hal-s-intermediate-jet-trainer-flies-again-after-extensive-re-design-119041900219\\_1.html](https://www.business-standard.com/article/current-affairs/hal-s-intermediate-jet-trainer-flies-again-after-extensive-re-design-119041900219_1.html).
- 51 Shukla, Ajai, “Defence Budget May Be Slashed by 40%, May Save Centre Rs 80,000 Crore,” *Business Standard*, May 23, 2020, [https://www.business-standard.com/article/economy-policy/defence-budget-may-be-slashed-by-40-may-save-centre-rs-80-000-crore-120042900077\\_1.html](https://www.business-standard.com/article/economy-policy/defence-budget-may-be-slashed-by-40-may-save-centre-rs-80-000-crore-120042900077_1.html).
- 52 “Final Defence Acquisition Procedure 2020 Unveiled,” *The Hindu BusinessLine*, September 28, 2020, <https://www.thehindubusinessline.com/news/final-defence-acquisition-procedure-2020-unveiled/article32718148.ece>.
- 53 Cowshish, Amit, “MMRCA Acquisition Programme - What Next?” *India Strategic*, September 2014, [http://www.indiastrategic.in/topstories3522\\_MMRCA\\_Acquisition\\_Programme.htm](http://www.indiastrategic.in/topstories3522_MMRCA_Acquisition_Programme.htm).
- 54 “Govt Opens Defence Sector to 74% FDI via Automatic Route, Adds ‘National Security’ Clause,” *The Wire*, September 10, 2020, <https://thewire.in/government/defence-national-security-clause-fdi>.
- 55 Srivats, KR, “FinMin Nod for 74% FDI in Defence Sector under Automatic Route,” *The Hindu BusinessLine*, December 9, 2020, <https://www.thehindubusinessline.com/news/finmin-nod-for-74-fdi-in-defence-sector-under-automatic-route/article33288079.ece>.
- 56 Philip, Snehash Alex, “Indian Navy Inducts Two American Drones on Lease, Could Add More Later,” *ThePrint*, November 25, 2020, <https://theprint.in/defence/indian-navy-inducts-two-american-drones-on-lease-could-add-more-later/551931/>.
- 57 Peri, Dinakar, “IAF for Short-Term Leasing of Trainer Aircraft, Light Copters,” *The Hindu*, November 18, 2020, <https://www.thehindu.com/news/national/iaf-for-short-term-leasing-of-trainer-aircraft-light-copters/article33126336.ece>.

# Endnotes

- 58 “Oral Evidence : F-35 Procurement, HC 326,” House of Commons - Defence Committee, October 17, 2017, <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/defence-committee/unclear-for-takeoff-f35-procurement/oral/71431.html>.
- 59 Harper, Jon, “Aiming High: F-35 Exports Set to Climb,” *National Defense Magazine*, May 19, 2017, <https://www.nationaldefensemagazine.org/articles/2017/5/19/aiming-high-f-35-exports-set-to-climb>.

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