

Self-reliance in defence production

The unfinished agenda





Message from the President, ASSOCHAM

The Indian aerospace, defence and homeland security sector has emerged as an attractive investment opportunity for global and domestic players, SMEs and defence public sector undertakings (DPSUs). Increased FDI will enable the domestic industry to benefit in areas of design, innovation and state-of-the-art manufacturing, all critical for India's national security. A vibrant defence manufacturing base, through increased indigenisation, will provide further impetus to *Make in India*, creating employment, self-reliance and geo-political stability.



Dr Rana Kapoor
President
ASSOCHAM



Message from the Chairman, ASSOCHAM

It gives me immense pleasure that ASSOCHAM under my Chairmanship is organising the 7th International Conference on Aerospace, Defence and Homeland Security, with the theme 'Defence: A Quest for Self Reliance.'

We welcome the government of India's policy on *Make in India* for the indigenisation of defence programme in India.

We expect the issues concerning the defence industry would be discussed at this conference in the presence of the concerned government officials and I am confident that we will be able to create a roadmap for successfully implementing the *Make in India* in the defence sector, a success story.

With these words I look forward to this conference and convey my best wishes for it's success.



Vice Admiral (Retd) P C Bhasin, PVSM, AVSM, VSM
Chairman
ASSOCHAM, National Council on
Defence and Homeland Security



Message from the Secretary General, ASSOCHAM

It gives me immense pleasure to announce the 7th International Conference on Aerospace, Defence and Homeland Security. The theme for this year's conference is 'Defence: A Quest for Self Reliance'.

With the announcement of the Make in India policy by the government of India, ASSOCHAM through this conference is taking this discussion forward in trying to understand and an attempt to create a roadmap for the proper eco-system for manufacturing in the defence sector in India.

I thank our knowledge partner, PwC along with the ASSOCHAM team for preparing this paper for the conference and I do convey my good wishes for the success of this conference.



D S Rawat
Secretary General
ASSOCHAM



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Foreword



There has been heightened focus on indigenisation and *Make in India* after the new government has assumed office.

The defence sector has immense possibilities: for attracting investments, setting up manufacturing facilities, obtaining technologies and capabilities and generating high skilled employment. Though the sector was opened for private, domestic and foreign investment more than 12 years ago, the level of domestic as well as foreign investment, has been way below its potential. The devil is always in the detail. While the macro policies enabling private investment were mostly in place, there have been a large number of micro policies and interpretation and implementation issues that have acted as deterrent to both the domestic as well as foreign industry. Implementation of the offset policy is a case in point.

The regulatory regimes administered by different departments have often worked at cross purposes, thereby further inhibiting investments. To truly leverage the combined potential of one of the largest defence acquisition programmes of the world, a liberal offset policy and India's advantage in low-cost manufacturing and skilled manpower, it is essential that government policies create synergies rather than contradictions.

In addition to acquiring and creating new manufacturing capabilities, the Indian defence industry also has an opportunity to leverage India's globally acknowledged IT and design expertise to occupy a high-value niche in the technologically complex aerospace and defence value chain. The proportion of value in typical combat systems is increasingly getting skewed towards embedded software and IT systems, particularly in command, control, communication, computers, information, intelligence, surveillance and reconnaissance (C4I2SR) systems. These are areas where India can look to take a lead.

In the coming years, the role of IT and network centric warfare is going to be a game-changer. As the Indian defence industry catches up with the international industry in terms of producing hardware, it could take a quantum leap in matters of information warfare. The recent push by the government to incentivise electronics manufacturing in the country will complement the existing expertise in services and software.

This report is a sequel to an earlier PwC report in which we had highlighted a number of issues that needed to be addressed to boost indigenisation. The new government has taken a slew of measures to facilitate *Make in India*. We focus here on what we believe is the unfinished agenda. In this report, we have presented essential ingredients of an ecosystem that facilitates building a domestic defence industrial base.

Global experience has shown that proactive government support in funding R&D, reducing cost of capital to encourage investment, providing stability and assurance in orders and facilitating exports is critical for building a domestic defence industrial base. This is particularly so because this is a unique monopsony industry in which the single buyer, the government, is also the regulator who sets the procurement rules.

To take the Winning Leap, there is a need to take both the small steps as well as some bold decisions like increasing the FDI cap to 74% or even 100%. Based on insights gained from working with a large number of foreign and domestic companies as well as a survey among ASSOCHAM members, we have attempted to list what we believe to be the key steps that need to be taken in order for us to realise the dream of self-reliance in this vital sector.

We thank our clients and the ASSOCHAM member companies who provided us with valuable insights and to ASSOCHAM for inviting us to be the knowledge partner in this important national endeavour. I trust this report will be useful to key stakeholders.



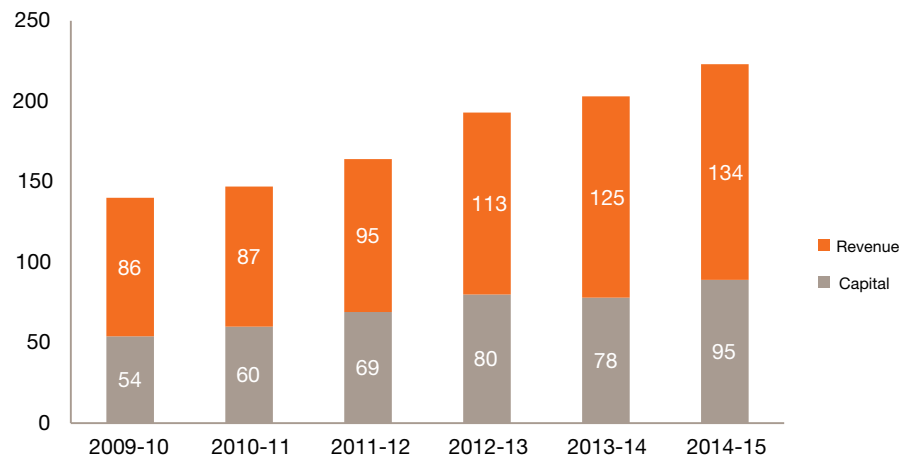
Dhiraj Mathur
Leader, Aerospace and Defence
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Introduction

The Indian aerospace and defence (A&D) market is among the most attractive globally and the government is keen to leverage this in order to promote investments in the sector. India ranks among the top 10 countries in the world in terms of military expenditure and has established itself as a prime importer of defence equipment. India allocates about 1.8% of its gross domestic product (GDP)

towards defence spending, of which 40% is allocated to capital acquisitions. Only about 30% of our equipment is manufactured in India, mainly by public sector undertakings. Even when defence products are manufactured domestically, there is a large import component at both system and sub-system levels.

Indian defence budget (Figures in '000 crore INR)



The industry is dominated by defence public sector undertakings (DPSUs) and ordnance factories which contribute about 90% of the total domestic manufacturing output. The 41 ordnance factories are spread across 26 different locations and employ close to 1,25,000 people. These factories manufacture a wide spectrum of products from weapons (small calibre, mortar equipment, medium calibre and large calibre), ammunition (small medium and large calibre, mortar bombs, grenades, signalling smoke, rocket bombs, demolition, explosives, propellants and chemicals), vehicles (armoured and transport), clothing, general stores and equipment for the defence services.

Combined, the DPSUs and ordnance factories have played a critical role in building a domestic industrial base in this sector as they typically outsource 20 to 25% of their production requirements to private companies.

In addition to the public undertakings, there is a small but growing number of medium large private companies that have already entered, or, are seriously evaluating entry into the market. These are in addition to about 6000 MSMEs that have largely depended upon the DPSUs for survival.

The Indian defence industry's import-export ratio is inferior to countries with a much smaller defence industrial base. India's arms imports are now almost three times as high as those of the second and third largest arms importers—China and Pakistan¹. India is among the top five arms importer, besides China, Pakistan, the UAE and Saudi Arabia.

The new government has clearly stated its goal to promote investment in the defence sector, both in R&D and production in order to boost manufacturing and generate employment in order to create a domestic defence industrial base, thereby resulting in higher self-reliance and indigenisation. Both defence and aerospace are important sectors in the *Make in India* campaign launched by the Prime Minister. The government has backed its intent with action. It has announced a slew of policy decisions—many long-pending in order to facilitate investment.

Five largest importers of major weapons and their main suppliers from 2009–13

Importer	Share of international arms imports (%)		Main suppliers (share of importer's total imports), 2009–13		
	2009-13	2004-08	1st	2nd	3rd
India	14	7	Russia (75%)	USA (7%)	Israel (6%)
China	5	11	Russia (64%)	France (15%)	Ukraine (11%)
Pakistan	5	2	China (54%)	USA (27%)	Sweden (6%)
UAE	4	6	USA (60%)	Russia (12%)	France (8%)
Saudi Arabia	4	2	UK (44%)	USA (29%)	France (6%)

Source: SIPRI

Defence production needs long-term and large investment, cutting-edge technology with low economies of scale. This industry is unique in that it's a monopsony in which the single buyer, the government, is also the regulator that lays down procurement procedures. Hence, active government support in all areas is essential. This is also borne out by global experience—the private defence industry in the US, Europe, Israel, Brazil, Mexico, etc has had, and continues to have, the full support of the government.

The Indian government therefore, has to support building a private industrial base with proactive policies: in funding R&D, creating a low-interest regime to bring down capital costs, addressing the disadvantages of exchange rate fluctuations, providing stability and assurance in policy and orders and encouraging exports to achieve economies of scale and become globally competitive.

Recent initiatives

- Push for private participation
- Increase in FDI cap to 49% and rationalising conditions
- Issue of list of equipment requiring Industrial licence and liberalising regulations
- Security manual issued
- Re-vamping of offset policy and DPP in progress
- Strategy for export of defence products notified
- Make procedure being simplified
- Strategic partnerships and collaborations with the US, Russia, France, Vietnam in defence production, technology transfers and exports



1. As per Stockholm International Peace Research Institute (SIPRI)

Regulatory regime

A domestic or foreign company wishing to do business in the Indian aerospace and defence industry has to comply with the following, often conflicting, policies:

- Defence Procurement Procedure (including the Offset Policy)
- Foreign Direct Investment Policy
- Industrial Licensing Policy
- Foreign Trade (Export/ Import) Policy
- Tax regime

Defence Procurement Procedure (DPP)

Defence procurement is governed by the DPP. First enumerated in 2002, it has undergone several iterations and the latest policy, released in June 2013 (DPP 2013), made significant changes in the acquisition procedures as well as the offset policy. The most important change in DPP 2013 has been the stipulation of a hierarchy of categorisation of any new defence procurement with 'buy (Indian)' and 'buy and make (Indian)' being the first and second priorities. DPP 2013 also lays down the method for computing indigenous content: the cost of the equipment to be reduced by the cost of imported materials and cost of services received from non-Indian entities at all tiers.

Highlights of the revised DPP are as follows:

- Prioritisation of 'buy (Indian)' and 'buy and make (Indian)' for capital acquisitions under the DPP
- Maintenance ToT (MToT) will no longer be through nomination but through bidding
- Advance consultations for 'make' procedure
- Simplification of 'buy and make (Indian)' procedure
- Clear definition of indigenous content
- Ensuring faster progress in 'make' and 'buy and make (Indian)' cases
- Enhanced delegation of financial

powers for capital acquisitions

- Powers to Defence Acquisition Council (DAC) to approve all deviations from DPP

Offset Policy

The Defence Offset Policy was last revised in 2012. This was a major overhaul that provided for first-time multipliers to supply technology and work with MSMEs. It also restructured the offset management apparatus and replaced the earlier DOFA with a new Defence Offset Management Wing. While on paper, the policy is quite liberal, its implementation has been a cause for concern equally for the government and OEMs. There is often a gap between the written policy and its interpretation by different technical offset evaluation committees. Offsets are an opportunity for developing capability in Indian industry. Proposals need to be evaluated holistically and consistently keeping in mind commercial realities. An offset contract is for a fixed time period and inevitably co-terminus with the main programme. Delays and unrealistic constraints don't just prevent capturing the full potential of the offset opportunity but can even delay the main programme.

Foreign Direct Investment (FDI) Policy

India's defence sector, which was reserved for the public sector, was opened up in 2001 for Indian private sector participation with FDI permissible up to 26%, both subject to licensing in order to enable the private sector to participate in defence production within the country. However, the cap of 26% has completely failed to attract foreign investment into the country.

Keeping this in mind and with the intent to invite investment and technology and develop nascent defence manufacturing to make India self-reliant, the Union Cabinet recently raised the FDI cap in defence production up to 49% under the government approval route. FDI beyond 49% will be allowed on a case-to-case basis where there is access to modern state-of-the-art technology and will be



subject to approval from the Cabinet Committee on Security (CCS), subject to certain conditions.

Industrial Licensing Policy

Under the Industries (Development and Regulation) Act 1951, an industrial licence is required for manufacturing defence equipment. In order to streamline the licensing regime, the Department of Industrial Policy and Promotion (DIPP) has recently released a list of defence products which will require an industrial licence vide issue of Press Note 3 of 2014. This has greatly enhanced transparency and should facilitate greater investments—both domestic and foreign. The application is considered by an inter-ministerial committee and the process takes almost a year.

Foreign Trade (Export/Import) Policy

Export of goods and services in India is governed by Foreign Trade Policy 2009-14 (FTP). The Indian Trade Classification based on Harmonised System of Coding [ITC (HS)] is adopted in India for regulating import-export transactions.

ITC (HS) contains lists of items either prohibited, or restricted (i.e. subject to export or import licence) or freely exportable and importable (subject to conditions laid down against the respective entry (items) in the schedules). Items not listed in ITC (HS) are also deemed to be freely exportable or importable without any conditions under the Foreign Trade (Development and Regulation) Act, 1992 and the rules, notifications, etc. issued thereunder from time to time.



The exporter requires to obtain an export licence from the Directorate General of Foreign Trade (DGFT) for exporting dual-use items given in the Special Chemicals, Organisms, Materials, Equipment and Technologies (SCOMET) list. Alternately, the exporter is required to obtain a no-objection certificate (NOC) from the Ministry of Defence (MoD) for exporting military stores.

One of the important objectives of the *Make in India* campaign is to develop export capabilities in the defence sector. This is important not only to build economies of scale but also to become globally competitive. In order to meet this objective, it is imperative to not only provide incentives for exports but also simplify policy and make synergistic, constructive and proactive interpretations in implementation. Towards this end, the new government has taken a number of important decisions:

Formulation of an export strategy

The government is in the process of formulating a strategy for encouraging the export of defence products and has notified the following strategy:

- **Setting up an export promotion body** with industry representatives in order to render advice to the government on various export related issues, coordinate all export facilitation schemes of the government and increase awareness and undertake promotion of exports through specific marketing efforts in targetted countries
- **Constituting a defence export steering committee** under the chairmanship of the Secretary, Department of Defence Production, in order to consider and take decisions on cases of export

permissions outside the purview of subordinate authorities and committees particularly the export of indigenously developed sensitive defence equipment, monitor the progress in defence exports and suggest specific steps and strategy to boost exports

- **Providing government support to defence exports** by including industry delegations from the public and private sectors as well as the joint ventures (JVs) of private and public sectors in bilateral meetings and discussions with various countries so that the importing country gets due comfort while importing from India
- **Export financing and other incentives** as the government plans to extend incentives and promotion schemes for defence exports in consultation with the Department of Commerce, industry associations and the Ministry of External Affairs within the purview of the Foreign Trade Policy. Line of credit facility and buyer's credit facility will also be leveraged suitably to promote defence exports from India. Possibilities will be explored for financing defence exports through EXIM Bank. Similarly, the government intends to work out a separate strategy to finance exports to weaker countries in consultation with the Ministry of External Affairs, EXIM Bank, DPSUs, the private sector and other financial institutions.

It remains to be seen how soon this strategy is translated into policy and how effectively it will be implemented. For a company to grow in the Indian defence sector, it is important to be part of a global supply chain or build an export market.

Tax regime: Impediments in providing a level playing field to the private sector

The government's initiative for indigenisation in the A&D industry in India, through the DPP 2013 requires complementary initiatives under the indirect tax regime. Under the customs laws, exemption from customs duty is available if the defence equipment is imported by the government of India, the contractors of the government of India, state governments, public sector undertakings of the central government or the state governments and the subcontractors of such PSUs but not for the subcontractors of private companies.

By virtue of this exemption, in case of 'buy' global contracts, foreign original equipment manufacturers (OEMs) and DPSUs may still be on a level playing field owing to DPSUs and their sub-contractors enjoying exemption from customs duty on the import of goods. However, private sector Indian enterprises are left at a disadvantage as the latter will have to suffer higher costs due to the levy of customs duty, particularly on inputs.

A similar situation exists in the case of 'buy Indian' and 'buy and make Indian' categories when private enterprises are competing vis-a-vis DPSUs. The direct fall-out of such non-exemption of customs duty on inputs in the case of private sector enterprises is that they have to absorb the customs duty paid on imports, thus becoming non-competitive.

Also, no specific exemptions are provided from the levy of excise duty on inputs and capital goods procured for use in defence manufacturing.

Consequently, the private sector has an inherent cost disadvantage that makes it non-competitive to foreign OEMs, DPSUs and sub-contractors of DPSUs.

Creating an eco-system for the aerospace and defence industry in India

Micro, small and medium enterprises form the backbone of any industry and need special support.

We firmly believe that building a defence industrial base in India will require proactive government support to facilitate and encourage the private sector to invest in this capital- and technology-intensive high-risk industry. The support will need to include funding R&D, creating a low-interest regime to bring down capital costs, addressing the disadvantages of exchange rate fluctuations, providing stability and assurance in policy and orders and encouraging exports to achieve economies of scale and become globally competitive.

Defence clusters and consortia

About 6000 MSMEs operate across the country supplying components and sub-assemblies to the DPSUs, ordnance factories, DRDO and private players. The government of India needs to encourage developing clusters—both by demarcating brownfield clusters (on the lines of the M-SIPS policy) as well as plan greenfield clusters for long-term product development with a view to integrate dispersed MSMEs into the supply chains of major programmes right from the word go.

Foreign and Indian OEMs need to be encouraged to bid in consortia wherein risks are shared proportionately. Cluster frameworks and consortia biddings can resolve key issues faced by MSMEs. These include risks of operating in a monopsony with long gestational periods and the absence of repeat orders. MSMEs will also be willing to take on more risk, which hitherto has been negligible and has consequently adversely impacted capability-building through R&D and innovation. State governments have an important role to play in cluster development by providing basic but quality infrastructure. Several states have actively promoted investments in this sector through building clusters, e.g. Karnataka, Andhra Pradesh, Gujarat and, most recently, Madhya Pradesh.

Education, skill development, training and accreditation

Shortage of a skilled workforce is a serious challenge to the growth of the Indian aerospace industry. There is the need for better training and education infrastructure with a pragmatic policy to build an industry-academia ecosystem to tap the huge employment potential in the industry. To realise this potential, the government needs to facilitate establishing formal education infrastructure. This includes adding aerospace discipline in existing institutions such as the IITs as well as setting up an aerospace university with the aim of improving the quality of desired talent in the country.

Skill development is critical for achieving self-reliance in defence production. For long, industry has struggled to hire 'industry-ready' personnel who can hit the shop floor running. With an urgent requirement to upgrade existing facilities at training and diploma centres so as to produce technically sound and skilled personnel, it is necessary to strengthen the industry-institute partnership framework for the A&D sector through PPPs. This is being done by the National Skill Development Corporation but much more needs to be done.

Defence production, especially aerospace, involves high precision manufacturing that requires specialised training and certification by international accreditation agencies. These accreditations are time-consuming, expensive and have to be renewed often. The government could consider subsidising important international accreditations for the SME sector. In the long-term, once exports from aerospace improve and a critical mass is achieved, the government needs to impress upon international accreditation agencies to set up offices in India in order to bring down overheads involved in the process.

Addressing issue of high cost of capital and exchange rate variations

A critical issue impacting investment in India is the high cost of capital. While this impacts all Indian companies across sectors, it severely impacts MSMEs who face an even higher interest rate regime. While various schemes have been launched to provide interest rate subsidy to MSMEs, these have largely remained on paper. The first Budget of the new government has provided for creating a 100-crore-INR technology development fund to provide resources to public and private sector companies to support research and development (R&D) of defence systems. It remains to be seen how this is operationalised.

Another key variable that makes Indian industry uncompetitive is exchange rate variation. It is well known that much of the raw material in the aerospace industry is not produced in India and has to be imported. Besides, a number of components and sub-systems also have to be imported. The government used to allow exchange rate variation to DPSUs but not to private Indian companies. It has withdrawn this facility for DPSUs thus disadvantaging both against foreign OEMs who are paid in foreign currency.

Increasing foreign investment in aerospace and defence manufacturing to 74%

The defence sector was opened up to 100% for Indian private sector participation, with FDI permissible up to 26%, both subject to licensing and government approval. However, this cap and the accompanying conditions failed to attract FDI with a mere 5 million USD having come in since 2001. Recognising this, the new government decided to raise the cap to 49% through the FIPB approval route and has further decided that FDI beyond this will be allowed by the Cabinet Committee on Security only where cutting-edge technology is being transferred.

The DIPP had circulated a discussion paper proposing to increase the level of FDI to 74% to boost the domestic defence equipment manufacturing industry. The paper stated out that “by merely increasing the limit from 26 to 49%, we may be accused by posterity of doing too little and too late. Therefore, in case we really want to have state-of-the-art technology, we have to permit anything above 50%, if not 100%. It may be, therefore, desirable to allow either 100 or 74%, as in the telecom sector.” It was expected that the new government would finally bite the bullet and take this long overdue decision. However, it stopped at 49% and the moot point now is whether this will make any difference.

Many arguments are given against increasing the cap. It is useful to list these and address the underlying concerns. An important and sensitive reason cited is security and dependability. It is feared that foreign companies manufacturing in India could stop supplying to us on instructions from their parent governments, or, that the technology and products can be sold to unfriendly countries. This may not be an issue at all, as one, the government has far greater control over a company manufacturing in India. Second, export controls with end-user requirements can be applied over those critical technologies and equipment the Indian government is concerned may fall into ‘wrong hands’ or handed over to countries unaligned to Indian interests. These issues have not deterred the US and the European Union which permit 100% FDI in defence and address the security issues through verification and clearance procedures as well as export controls. It needs to be realised that the production of defence platforms is now far more dispersed than it was a decade ago with the trend moving towards international participation as in building platforms such as the US Joint Strike Fighter programme.

Another issue raised is the infant industry argument that says raising the FDI cap will marginalise DPSUs, ordnance factories and the private sector and potentially crowd out India’s domestic industry. This apprehension, while appearing somewhat justified, needs to be put in the right perspective.

Change in acquisition procedures with a hierarchy of procurement processes that places the ‘make’ category at the highest level will provide ample opportunity for larger Indian companies to transform themselves into OEMs. India’s defence expenditure has been rising due to big-ticket deals and the roll out of massive modernisation programmes for the forces. The new government has recently approved various programmes worth over 1 lakh crore INR. This huge expenditure provides an attractive opportunity for domestic enterprises. Second, the new acquisition procedure will compel OEMs to establish partnerships with private Indian industry. Thus, if government policies encourage a high degree of collaboration between foreign enterprises investing in India with the domestic industry, then the crowding effects of FDI will be neutralised.

The Indian aerospace industry is moving into an era of multinational cooperation, or ‘horizontal specialisation’, where original equipment manufacturers as well as service suppliers seamlessly integrate functions such as engineering, manufacturing, and customer support across multiple global locations. Mexico, which did not feature among the top investment destinations for the aerospace industry a decade earlier, has been able to attract significant manufacturing investments. This can be attributed to its policies: elimination of duties for aeronautic components, allowing 100% FDI, providing various fiscal incentives for investments, a location advantage

and low-cost manufacturing. As a result, the number of companies within the aerospace sector in Mexico has presently reached a total of 290. This includes manufacturing (79%), maintenance, repair and overhaul operations (MRO) (11%) and design and engineering services (10%). There are nine OEMs with aerospace operations in Mexico: Bombardier, Cessna, Beechcraft, Bell Helicopters, MD Helicopters, Eurocopter, Embraer, Gulfstream and Fokker, and a larger number of Tier I aerospace companies operating within the country. They have different degrees of product integration within the country, ranging from full scale sub-assemblies and fuselages to less critical parts such as aircraft interiors.

Another argument against raising the FDI cap is that we will still not get cutting-edge technology because of export controls in the home country of OEMs. However, it is important to note that the aerospace and defence value chain is long and deep with large open spaces where no export controls exist, which the nascent Indian industry can occupy. Besides, discussions with key industry stakeholders have revealed that OEMs are willing to invest and transfer technologies provided they have adequate control over the Indian entity and have orders in hand.

From the perspective of the Companies Act, increasing the FDI limit to 74% will not provide the foreign investor any additional rights over and above the rights with an equity stake of 26%. This is because a special resolution of shareholders requires a three-fourth majority. Thus, shareholders with holdings between 26 to 74% have equal veto rights over matters that require a special resolution (such as changing the objects clause of the memorandum of association or disposing a part of the business).



Increasing the FDI limit will also facilitate (from India's perspective) better compliance of offset obligations. Providing a multiplier of say five for FDI in the offset policy will be a good way to encourage OEMs to bring in investments into the country.

In conclusion, we must view this issue dispassionately from the larger national interest that combines both security as well as economic concerns.

The Make in India momentum

The *Make in India* campaign will have a positive impact in building an A&D ecosystem in India. This is exemplified by the slew of decisions taken by the new government but equally, by two recent decisions of the Defence Acquisition Council (DAC): the reaffirmation of a stalled decision that the 56 transport aircrafts to replace the Avro will be built in India in partnership with a private Indian company (Airbus has partnered with the Tatas) and the decision to locally build six submarines in collaboration with a foreign partner. These are important milestones in the country's path towards the goal of *Make in India* in the technically complex areas of aircraft and submarine manufacturing. If implemented in the right manner, these deals will play a critical role in building the supply ecosystem of the aircraft and submarine manufacturing segment in India with foreign Tier I companies setting up facilities in India, either by themselves or through partnerships with Indian suppliers. Currently, the due diligence process on capability, capacity, and manpower across manufacturing sites is underway.

In another decision, the DAC approved another 12 Dornier surveillance aircrafts with enhanced sensors to be purchased by Hindustan Aeronautics Ltd at a total cost of 1,850 crore INR, and the procurement of 362 infantry fighting vehicles by the Ordnance Factory Board, Medak in West Bengal for 662 crore INR. The hypothesis is that some of this work will flow into the nascent private sector.

Role of the Indian aerospace industry: Investments in capacity, R&D, training, quality and delivery

While market stability, policy and other related issues have to be addressed in a top-down approach by the DAC as well as the Ministry of Defence, the onus of building supplier capabilities squarely rests on the Indian industry. The necessary construct of being a risk-sharing partner within the ecosystem is that the suppliers must be able to absorb and adopt the transfer of technology (ToT) that is going to come in their way. In the old construct, DPSUs were the nominated production agencies to receive the ToT from foreign OEMs. However, the government has announced that it will finally allow private companies to become production agencies (an example of how the practice varies from the policy. The policy always allowed this) and technology will be routed to and from any of these entities. This situation necessitates the domestic industry to demonstrate its ability to absorb and protect the ToT IPR. While past performance and credentials are an indicator, the next best proxies for demonstrating the ability for technology absorption will be investments in R&D, training and building capacity and capability.

Emphasis on quality and delivery

PwC has for many years believed that the aerospace and defence sector will be a natural area for diversification of auto component manufacturers. Slowdown in the domestic auto industry opens up a door of opportunity for a high-quality, high precision, and internationally tested industrial base to move into the aerospace sector. Not surprisingly, the largest component suppliers have announced plans to diversify into the aerospace sector. We agree with Harish Lakshman, President, Automotive Component Manufacturers Association of India (ACMA) in his assessment that "India is slowly emerging as a preferred investment destination for high-end manufacturing. The auto component industry in India successfully supplies components to all global major auto OEMs in India as well as abroad, meeting their stringent quality and delivery norms. The expertise developed by domestic component manufacturers in heavy engineering and precision manufacturing can be leveraged to supply to the fast-growing aerospace and defence sectors in India. This will help mitigate the risk of industry cyclicality within the automotive industry." The supply base capabilities in quality and delivery coupled with the trained and certified manpower will be catalysts for the ecosystem to rapidly build up in the aerospace sector, both military as well as commercial.



Facilitating government-private sector collaboration

We have stated that the government needs to fully support the private sector in order to build an industrial base. However, we also believe that this support needs to be in the form of risk-sharing partnerships, with the government mitigating some of the non-market risks unique to this industry. This will require the government to work with the following objectives:

- Promote or support private sector from an R&D perspective in order to reduce reliance on foreign companies.
- Develop design and manufacturing capabilities of the private sector (large and medium enterprises) beyond policy support.
- Ensure stable demand of key equipment as well as visibility to allow the private sector to plan well.

A key obstacle in public-private partnerships is inadequate experience in designing contracts so as to address issues relating to accountability, monitoring and measuring performance and outputs. Internationally, there have been multiple instances of successful collaboration between the government and the private sector, with the government taking the lead. One of the most prominent examples of successful R&D programmes and implementation of new technologies with government support and private sector collaboration exists in the form of the Defense Advanced Research Projects Agency (DARPA) in the US. The DARPA is an agency responsible for the funding and development of new technologies for use by the country's military. The agency, in effect, has developed many technologies which have had a major effect on the world such as the internet (ARPANET) and the GPS technology. Similarly, agencies such as the Japan Aerospace Exploration Agency (JAXA) are developing innovative technologies and evaluation methods for improving the quality and reducing the cost of aircraft materials, components and structures.

Apart from fundamental research, the US military also provides lessons on how to partner with the private sector in order to create cutting edge platforms through long-term engineering and design

collaboration. For instance, the US Naval Design Command partners with private shipyards by challenging them to come up with innovatively engineered platforms. They co-fund these developments, and where the private sector funds them entirely, this research, design and engineering development is done against the promise of a long-term order. This is a shift in mindset, a partnerial approach that appreciates that the ability to create these technical platforms resides in key manufacturing partners who have the engineering skills to deliver new platforms. These partners in turn have an ecosystem of smaller providers below them, similar to the ecosystem that the US military has created.

On a smaller scale, similar success stories also exist in India from where lessons can be learnt. The engineering and design capabilities of L&T have been leveraged for the Pinaka missile system. Walchandnagar has helped ISRO manufacture motor casings over a number of years in what can be classified as a long-term partnership. The defence system needs to scale up these examples and broad base this approach, through partnerships that leverage and in turn can strengthen the manufacturing capabilities of the Indian industry. Importantly, because of their strategic importance, private sector assets within the defence ecosystem need to be viewed as national or sovereign assets and while being subject to the rigours of a robust security regime, also be provided stability in orders to ensure their financial viability and growth. This will also help improve delivery schedules where DPSUs have orderbooks multiple times their annual capacities.

India lacks such a performance-based challenge model approach which does not get impeded by bureaucracy or hierarchy, or such a responsive organisation which can deliver far reaching results in a shorter span of time, or even the eco-system of people and infrastructure to enable such collaboration, catalysed by the government or government departments.

There is no lack of investment appetite within the private sector, with large business houses entering the sector, and with MSMEs who are already playing a critical part within the value chain. However, the uncertainty related to defence procurement, long gestation periods, and lack of assured market seriously skews the risk-return profile, and induces a cautious approach on the part of the private sector which is focussed on shareholder returns at the end of the day. Additionally, with an L1 approach in practice, rather than lower total cost of ownership, the business case for these companies becomes unsustainable.

This is where the government needs to play a crucial role in both promoting the supply as well as demand side by assuring the private sector of a market for their products and services. This includes the following:

- Initiate active R&D support with a DARPA-like organisation.
- Develop few key domestic companies as principal OEM suppliers, and supporting them by providing stable demand visibility and volumes. This was the recommendation of the Kelkar Committee that recommended identifying 'navratnas'² within the defence sector.
- Developing the local support structure of the following:
 - Components, sub-systems and systems manufacturing (MSMEs and SMEs)
 - Academic structure for educating and training personnel appropriately
- Increase outsourcing by DPSUs, focussed on sustained ToT and capability building.
- Introduce speedy and relaxed regulatory approval processes.
- Continue policy-level support with more practical steps keeping in mind the sustainability of the private sector.

2. Navratna was the title given originally to nine public sector enterprises (PSEs) identified by the government of India in 1997 as 'public sector companies that have comparative advantages, giving them greater autonomy to compete in the global market so as to 'support (them) in their drive to become global giants'.

The unfinished agenda

Smart money waiting on the sidelines

Laudable as government initiatives to promote investments are, it must be borne in mind that domestic capability cannot be built merely by issuing RFPs to Indian companies. Building a defence ecosystem requires a change in mindset of the government, the international OEM community, Indian industrial giants as well as the Indian MSME sector. Given that the market evolution is not clear, although the first steps are encouraging, and given that the risk-sharing mechanisms are yet to evolve, large domestic as well as multinational companies, private equity and venture capital firms and banks (smart money) are sitting on the sidelines awaiting clarity on policies, implementation and enforcement of the policies in-place. As such, the after-effect of the retroactive taxation has not fully cleared the air yet. Smart money is awaiting assurance that the retroactive tax type of issues will not crop up again in the future. The government must legislate and provide an assurance (albeit the finance minister has been providing verbal assurances) such that no party or individual can destabilise the sentiment ever in the future. In the absence of a legislated assurance and market stability, the growth capital necessary to invest in capacity and capability building within the industry is presently coming from small-to-marginal reaction to increased market potential, mostly cash flow from operations and small levels of equity capital and negligible FDI.

There are multiple areas that need attention such as funding, R&D, taxation, protection of intellectual property, foreign investment and collaboration, the import and export regimes. There is need for a comprehensive review of all of these to create synergies rather than contradictions, and an ecosystem that stimulates investments in building domestic capabilities across the entire defence supply-chain. Based on PwC's survey of the A&D Committee of ASSOCHAM, the following are some of the immediate steps that the government may take in order to accelerate the pace of indigenisation:

• DPP 2013

– **Simplify the make procedure:**

The existing procedure is extremely complex and time consuming. Though three programmes were initiated almost four years back, the government has not been able to finalise even a single programme. For instance, the eligibility criteria includes a high turnover and assets requirement (1,000 and 100 crore INR respectively) as well 10 years of existence. This is understandably to ensure that only serious players enter the sector. However, most large companies presently operating in this sector have diversified businesses and it is not prudent to combine defence with these businesses because of the various restrictions. Hence, from a purely business perspective, it is advisable to hive-off the defence business into a separate wholly-owned entity. The DPP and the make procedure needs to allow transfer of a contract to a wholly-owned subsidiary and reliance on the holding company's balance sheet, with necessary guarantees.

– **Exchange rate variation:** To allow exchange rate variation to Indian companies.

– **Percentage of indigenous content at the trial stage:** Insisting on a minimum of 30% indigenous content at the trial stage under the buy (Indian) category is not practical. Indian companies cannot be expected to set up production capacities even before they have the order.

– **Selection of navratnas:** Revisit the idea of selecting 'navratnas' in the private industry as was recommended by the Kelkar Committee.

– **Reintroduce services as an eligible offset avenue:** Services, including software are an integral part of the development of an indigenous defence sector. This is one sector in which India truly has

competitive advantage. Holding 'services' in 'temporary abeyance' is hampering future investments in this segment due to lack of clarity.

– **Allow multipliers for FDI in the offset policy:** FDI has been considered an essential component of the *Make in India* campaign of the government of India. It will bring term capital, technology and will be vital in building an industrial base. It is therefore recommended that a multiplier of five times be allowed for FDI for the discharge of offset obligations.

– **Allow discharge of offset obligations by vendor group companies and subsidiaries:** As per the current offset policy, the responsibility to discharge offset obligations rests with the foreign OEM who signs the contract with the Ministry of Defence. Globally, the supply chain of defence and aerospace industry is tiered with components, sub-systems, systems being made by Tier III, II and I supplier respectively, with the vendor doing the final integration and supplying to the buyer or MoD. It is therefore almost impossible for the vendor to either discharge the full offset obligation alone or engage with multiple Indian offset partners as it rarely buys from or deals with the suppliers below Tier I. Presently, any sourcing executed by group companies or subsidiaries of the OEM are not counted towards offset discharge of the OEM. This restriction needs to be lifted.

– **Set up an Offset Approval Committee on the lines of the FIPB:** There is a need to streamline and make transparent the process for approving offset proposals because lack of clarity and consistency and delays in approvals have jeopardised procurement programmes and have put OEMs in difficult situations. It is important to fully leverage the potential of offsets.

This will be possible if offset proposals are seen holistically and from multiple dimensions such as tax, licensing, FDI, employment, etc. To do this, it is necessary to have an approval process that will have a permanent secretariat so as to build institutional memory with representation from the relevant economic ministries. It is suggested that one empowered committee functioning as a single window be formulated on the lines of the FIPB, entrusted with the task of approving offset proposals for all programmes. It needs to be a permanent committee such as the FIPB with representation of DEA (FIPB), DIPP and the DGFT in addition to the defence establishment (DRDO, Defence Finance etc). The technical managers for each programme could be invited to present the proposal related to their programme that would be evaluated and considered by the committee.

- **Flexibility to OEMs for offset allocation to Indian offset partner (IOPs):** Foreign OEMs need to list specific products, values, quantities to be procured from each IOP for each year of execution before signing an offset contract. It is difficult to forecast such details for the future, particularly because of the long time interval between the submission of the ‘offset proposals’ and their actual implementation. It is recommended that the OEM be given a window to provide offset implementation charts for the next two years only. This will detail all aspects of offset discharge such as IOP details, equipment type, value, etc. The same exercise can be repeated after every two years until the offsets are completely discharged.
- **Increase in FDI cap:** Though the FDI cap has been recently increased, 49% may not succeed in bringing investment and advanced technology into the sector. In order to facilitate inflow of capital and setting up of entities of OEMs and their suppliers with transfer of technology, it may be desirable to allow either 100% or, in case that is not possible, at least a 74% FDI in the sector.





- **Exports policy:** There is a need for greater clarity and time bound clearances. The success of the export strategy will largely depend upon the extent to which it can be implemented. Time bound clearances for grant of export licence for items specified in the SCOMET list and creation of a single window export facilitating agency will go a long way in exploiting export opportunities.

- **Taxes:** In order to resolve the differential indirect tax structure between foreign OEMs or DPSUs and private sector players, the government needs to rationalise taxes and duties, especially for MROs and SEZs, and resolve the inverted duty structure that makes domestic companies uncompetitive, thereby placing the Indian private industry at a disadvantageous position.

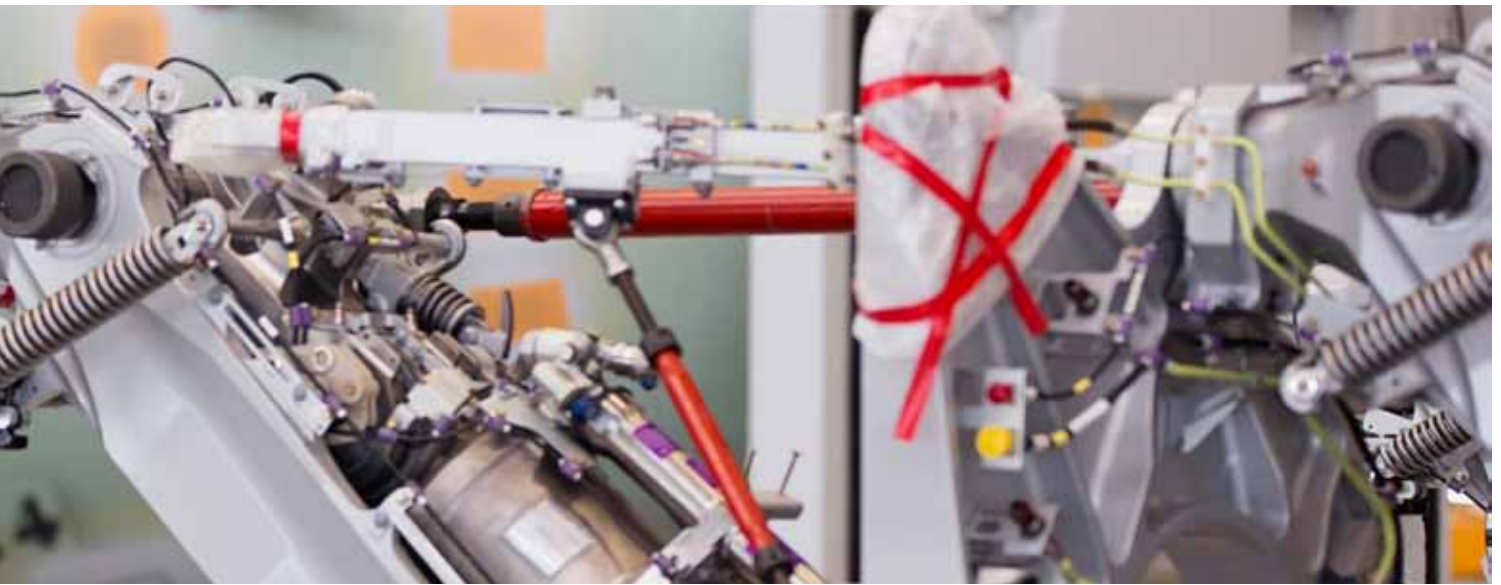
Moreover, considering the need of huge investment in defence projects, the government needs to look at the option of a subsidy scheme as in the electronics sector or introducing income tax holidays, in line with the infrastructure sector. Furthermore, certain income tax exemptions are available on technology fee or royalty receipts by foreign companies that enter into supply technical service contracts with the central government. Such exemptions

may also be extended to similar contracts that OEMs enter into with Indian defence companies. This will encourage foreign players while reducing the input cost of Indian defence companies.

- **Special support to MSMEs:** Even though the central government has announced numerous steps over the last few years to encourage MSMEs in defence production, few steps have actually been implemented. These include the following:
 - **Ease of business:** Projects tend to get mired in bureaucracy and red tapism and guaranteed orders have taken months and in some cases years to come through, thereby putting MSMEs in a wait and watch mode for months and sometimes even years. This calls for a streamlining of procurement procedures so that programmes are able to adhere to specified timelines. These initiatives have happened in stops and starts. Our single window clearance systems need a complete revamp in order to improve on the ease of doing business framework. Also, there is

need to develop military complex (that is, develop specialised clusters) with government-owned and contractor-operated common design and test facilities.

- **Sourcing from MSMEs:** Indigenisation cannot be achieved without significant contribution by MSMEs. The first ever Defence Production Policy (2011) clearly articulated the MoD's agenda of supporting a domestic A&D industrial base, where a significant role for MSMEs have been envisaged. However, this has not happened in letter and spirit yet. The new Public Procurement Policy also requires all central ministries and public sector units to procure at least 20% of their annual purchases from MSMEs. DPSUs are yet to come under this rule.



- **R&D funds and access to capital:** The MoD has set up a separate R&D fund in 2011 to outsource R&D to Indian companies, including MSMEs. However, concrete developments are yet to take place. Various state governments are planning on allocating funds for this purpose. Efforts to enable easy access to capital have not borne fruit even as MSMEs struggle for survival.

- **Role of private industry: Building capability**

A number of leading industrial houses have nascent but growing defence industry divisions. The creation of a large defence sector will hinge on building capabilities of these large companies, through partnerships, technology transfers and in some cases fundamental R&D initiatives. This will require a change in mindset from the government in terms of partnering with these companies for long-term programmes required by our defence establishments. It will also require commitment from these companies to think of investing in the defence sector for the long haul. These companies need to invest now in order to build capabilities that stretch their technical, operational, research as well as partnering capabilities so

that they are considered world class producers as the industry matures. For this to happen, these companies will have to particularly focus on their organisation's ability to partner with foreign companies on one hand, and the government on the other, as well as innovate and absorb technologies. This will require a capable leadership and a new approach from private sector players.

The Indian defence industry is at a crossover point. History will look upon these few years when the foundation of a strong defence industry was laid, or an opportunity to build this industry was frittered away. This challenge has to be accepted by all stakeholders: the government, private sector, investors, international companies as well as the professionals within the defence establishment who are the ultimate users of the equipment produced by the industry. We hope this report starts a conversation that will help launch a new chapter in the self-reliance of the Indian defence industry.

Notes

About ASSOCHAM

The knowledge architect of corporate India

Evolution of value creator

ASSOCHAM initiated its endeavour of value creation for the Indian industry in 1920. Having in its fold more than 400 chambers and trade associations, and serving more than 4,50,000 members from all over India. It has witnessed upswings as well as upheavals of Indian economy, and contributed significantly by playing a catalytic role in shaping up the trade, commerce and industrial environment of the country.

Today, ASSOCHAM has emerged as the fountainhead of knowledge for the Indian industry, which is all set to redefine the dynamics of growth and development in the technology-driven cyber age of 'knowledge based economy'.

ASSOCHAM is seen as a forceful, proactive, forward looking institution equipping itself to meet the aspirations of corporate India in the new world of business. ASSOCHAM is working towards creating a conducive environment of India business to compete globally.

ASSOCHAM derives its strength from its promoter chambers and other industry, regional chambers or associations spread all over the country.

Vision

Empower Indian enterprise by inculcating knowledge that will be the catalyst of growth in the barrierless technology-driven global market and help them upscale, align and emerge as formidable player in respective business segments.

Mission

As a representative organ of corporate India, ASSOCHAM articulates the genuine, legitimate needs and interests of its members. Its mission is to impact the policy and legislative environment so as to foster balanced economic, industrial and social development. We believe education, IT, BT, health, corporate social responsibility and environment to be the critical success factors.

Members: Our strength

ASSOCHAM represents the interests of more than 4,50,000 direct and indirect members across the country. Through its heterogeneous membership, ASSOCHAM combines the entrepreneurial spirit and business acumen of owners with management skills and expertise of professionals to set itself apart as a chamber with a difference.

Currently, ASSOCHAM has more than 100 national councils covering the entire gamut of economic activities in India. It has been especially acknowledged as a significant voice of Indian industry in the field of corporate social responsibility, environment & safety, HR & labour affairs, corporate governance, information technology, biotechnology, telecom, banking & finance, company law, corporate finance, economic and international affairs, mergers & acquisitions,

tourism, civil aviation, infrastructure, energy & power, education, legal reforms, real estate and rural development, competency building & skill development to mention a few.

Insight into 'new business models'

ASSOCHAM has been a significant contributory factor in the emergence of new-age Indian corporates, characterised by a new mindset and global ambition for dominating the international business. The chamber has addressed itself to the key areas such as India as investment destination, achieving international competitiveness, promoting international trade, corporate strategies for enhancing stakeholders value, government policies in sustaining India's development, infrastructure development for enhancing India's competitiveness, building Indian MNCs, role of financial sector the catalyst for India's transformation.

ASSOCHAM derives its strengths from the following promoter chambers: Bombay Chamber of Commerce & Industry, Mumbai; Cochin Chambers of Commerce & Industry, Cochin; Indian Merchant's Chamber, Mumbai; The Madras Chamber of Commerce and Industry, Chennai; PHD Chamber of Commerce and Industry, New Delhi.

Together, we can make a significant difference to the burden that our nation carries and bring in a bright, new tomorrow for our nation.

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Abbreviations

ACMA	Automotive Component Manufacturers Association of India
A&D	Aerospace and defence
CCS	Cabinet Committee on Security
C4I2SR	Command, control, communication, computers, information, intelligence, surveillance and reconnaissance
DAC	Defence Acquisition Council
DARPA	Defense Advanced Research Projects Agency
DEA	Department of Economic Affairs
DGFT	Directorate General of Foreign Trade
DOFA	Defence Offset Facilitation Agency
DIPP	Department of Industrial Policy and Promotion
DPP	Defence procurement procedure
DPSU	Defence public sector undertakings
DRDO	Defence Research and Development Organisation
EXIM	Export - import
FDI	Foreign direct investment
FIPB	Foreign Investment Promotion Board
FTP	Foreign Trade Policy
GDP	Gross domestic product
IIT	Indian Institute of Technology
IPR	Intellectual property rights
IT	Information technology
ITC (HS)	Indian Trade Classification based on Harmonised System of Coding
JAXA	Japan Aerospace Exploration Agency
JV	Joint venture
MoD	Ministry of Defence
MSMEs	Micro, small and medium enterprises
MToT	Maintenance ToT
NOC	No-objection certificate
OEMs	Original equipment manufacturer
PPP	Public private partnership
RFP	Request for proposal
R&D	Research and development
SCOMET	Special chemicals, organisms, materials, equipment and technologies
SEZ	Special economic zones

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