MSMEs-

An untapped force multiplier for the Indian defence sector

May 2020

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Foreword- SIDM

The Government of India, over the past few years, has demonstrated its commitment towards the development of indigenous defence manufacturing capabilities by launching and promoting the 'Make in India' in defence sector. It has been highly encouraging to see the strides being made towards this goal through a series of policy amendments and reforms that on one side lower entry barriers and ease the process of teaming between foreign OEMs and Indian entities, and promote Indigenously Designed, Developed and Manufactured products and marching towards level playing field across segments of Indian Industry

The Government of India has recently undertaken several initiatives including series of business reforms in the defence procurement procedure and have more on the way through draft DPP 2020 affirming strong will for path breaking reforms, announcing establishment of defence corridors, introduction of a Strategic Partnership model, simplification of export procedures and liberalization of FDI procedures. The government has also introduced policies for the creation of a defence industrial ecosystem with full integration and skilling of manpower in the Micro, Small and Medium Enterprises sector. While large private enterprises have begun to take a more active role in the development of defence manufacturing capabilities across the tierised supply chain, that only highlight the role of MSMEs in defence production and life cycle support. This needs further strengthening and given equal importance to this vital segment of our industry.

In this report, we have endeavoured to highlight the different areas in which MSMEs can contribute in the field of defence manufacturing, the challenges they presently face, and how adapting global practises and established processes can help in developing a more robust and inclusive indigenous manufacturing ecosystem.

Jayant Patil
President SIDM

Foreword- KPMG

India has one of the highest numbers of active military personnel in the world. Equipping such a large force with the latest technology is one of the key challenges that the military planners face today. The slew of defence reforms and government initiatives have been focussed on adoption of modern technology in the defence sector, while developing indigenous manufacturing capability.

The quantum of work by value that is executed in India in the defence sector is approximately to the tune of USD 18 billion dollars. MSMEs, therefore, provide the maximum manufacturing depth by virtue of their presence in Tier II, III & IV within the supply chain. They are the most important force multiplier to the Indian defence manufacturing sector. Whilst the MSMEs may be seen as not being core to the industry due to the spread of their business into other sectors, they need to be nurtured in order to assure the existence of a domestic defence manufacturing landscape.

While highlighting the current topography of MSMEs in the sector, this knowledge paper is an endeavour to delve into future actions to support the MSMEs and bring in additional numbers into the defence milieu. The paper will also allow MSMEs to conduct an assessment of their capability at an initial stage and assist them in their decision-making process to foray into Indian defence manufacturing.

KPMG is committed to increasing the level of self-reliance and indigenisation in the defence sector by encouraging adoption of various government initiatives. We would like to congratulate and thank SIDM and CII for conducting this digital event Defence & Aerospace SME Conclave for Business Continuity during such trying times. We hope that the Conclave creates a marked impact and brings about increased MSME contribution and technology adoption in this sector.

Abhishek Verma
Partner and Lead, Aerospace and Defence
KPMG in India

Contents

Terms and Abbreviations

Abbreviations	Expansion
4IR	4th Industrial Revolution
AHSP	Authority Holding Sealed Particulars
A&D	Aerospace and Defence
CAGR	Compounded Annual Growth Rate
CCS	Cabinet Committee on Security
CIN	Commodity Identification Note
DAPA	Defence Acquisition Program Administration
Das	Defence Attaches
DASA	Defence and Security Accelerator
DDP	Department of Defence Production
DFARS	Defence Federal Acquisition Regulation Supplement
DGQA	Directorate General of Quality Assurance
DoD	Department of Defence
DPIIT	Department for Promotion of Industry and Internal Trade
DPP	Defence Procurement Procedure
DPSU	Defence Public Sector Undertakings
DRDO	Defence Research and Development Organization
DTAQ	Defence Agency for Technology and Quality
EMD	Earnest Money Deposits
EOI	Expression of Interest
FAI	First Article Inspection
FDI	Foreign Direct Investment
FTP	Foreign Trade Policy
GoI	Government of India
IAF	Indian Air Force
IDDM	Indigenously Designed, Developed and Manufactured

iDEX	Innovations for Defence Excellence
IMoD	Israeli Ministry of Defence
IOP	Indian Offset Partner
IP	Intellectual Property
MND	Ministry of National Defence
MoD	Ministry of Defence
MPP	Mentor-Protégé Program
MSME	Micro, Small and Medium Enterprises
NSIC	National Small Industries Corporation
NSUAS	Naval Shipborne Unmanned Aerial System
OEM	Original Equipment Manufacturers
OFB	Ordnance Factor Boards
PSO	Public Sanction Order
PSU	Public Sector Undertaking
QMS	Quality Management System
RFI	Request for Information
ROK	Republic of Korea
SCOMET	Special Chemicals, Organisms, Materials, Equipment and Technologies
SIPRI	Stockholm International Peace Research Institute
SME	Small and Medium Enterprises
SP	Strategic Partnership
TDF	Technology Development Fund
ToT	Transfer of Technology
TRL3	Technology Readiness Level 3
VARTM	Vacuum Assisted Resin Transfer Moulding

01

Executive Summary

The Micro, Small and Medium Enterprises Development (MSME) Act, 2006 was aimed at promotion of domestic manufacturing and services industries. Since then, the Government of India (GoI) has released various schemes to support these enterprises towards easier access to funds, modern technology and entry into different industries through contracts. The Public Procurement Policy, 2012 directed all Central Ministries /Departments / PSUs to set an annual target of 20% procurement from MSME sector which was subsequently revised to 25%.

In an effort to reduce dependence on imports, The 'Make in India' initiative, which aims to achieve 70% indigenisation has been a key focus of the defence sector. DPP 2016 has introduced new procurement categories such as Buy-Indigenously Designed Developed and Manufactured (IDDM), Make-I and Make-II, to supplement the 'Make in India' initiative and inclusion of MSMEs. In addition to this, recent announcements such as restriction on global tenders for government procurement up to 200 Cr, creation of an import ban list for weapons and platforms, separate budget for domestic capital procurement and rationalization of GSQR and testing requirements will add further fillip to the participation of MSMEs.

MSMEs in the defence sector currently serve the export markets, Defence Public Sector Undertakings (DPSUs), Ordinance Factor Board (OFB) and private Original Equipment Manufacturers (OEMs) as Tier-II/ III/ IV suppliers. The push for domestic reliance in current programmes under procurement provide MSMEs with ready opportunities to capture the immediate component and subsystem requirements of the OEMs as they look to meet indigenisation requirements and offset obligations. In addition, there is significant visibility in the requirements of the armed forces and consequently the procurement programmes.

Globally, countries have instituted programmes for increased participation of local companies in their defence industries. These government initiatives typically include schemes for providing funding, support to compete in international markets, support for technology transfer etc. This paper covers a few such initiatives undertaken by Israel, the Republic of Korea, the UK and the USA to promote their domestic defence production through MSMEs.

This paper also recommends additional steps that may be initiated by GoI for MSME growth in the defence manufacturing sector. There is a definite need for handholding non-defence MSMEs to enable them to safely navigate the regulatory and operational compliances that are a hallmark of the sector. One effective way to accomplish this is to seek support from larger companies who supply to the MoD. There is also a need for greater involvement of the MSMEs in the innovation and technology, which can greatly aid in the procurement of equipment by the MoD.

Lastly, the paper includes a preliminary framework which will assist non-defence MSMEs in their decision to enter the Indian defence manufacturing industry. There is substantial opportunity for growth in the Indian defence manufacturing sector for MSMEs in the coming years and this has been elaborated within the paper.

02

Landscape for MSMEs in Indian defence

India's Aerospace & Defence (A&D) sector is a strategically critical sector. It is at an inflection point with capital expenditure expected to be about USD 250 billion over the next 10 years with a high degree of emphasis on 'Make in India'. The 'Make in India' initiative pushed for self-reliance, aiming for indigenous production of 70% of India's defence needs[1]. The A&D manufacturing sector has been identified as one of the most prominent sectors under "Make in India" to realize the USD 5 Trillion economy by 2024.

The Ministry of Defence (MoD) has undertaken various reforms and simplified procedures to enhance defence exports. Defence exports in the country have grown nearly seven folds in last 02 years from INR 1,521 crores in FY17 to 10,745 crores in FY19. India has set for itself an ambitious target of INR 35,000 crores in defence exports to be achieved by FY24[2].

New policies are focusing on institutionalizing, streamlining and simplifying defence procurement procedures to boost the "Make in India" initiative, by promoting indigenous design, development & manufacturing of defence equipment, platforms, systems and sub-systems.

Policy reforms such as the draft DPP 2020, defence corridors, and tax incentives are expected to boost private participation. The MoD has also reserved some of the contracts for private defence manufacturers in order to enhance private participation in defence manufacturing. It has already granted more than 70 defence manufacturing licenses to private enterprises that have showcased an interest in defence manufacturing and as per the new Strategic Partnership (SP) policy, the MoD will sign contracts with the Indian firms for some of the critical systems/ platforms.

The development and utilization of the "Make I/ II/ III" category & sub-categories for defence acquisition has provided a clear indication of the GoI's intent on indigenization of production/ manufacture and more importantly

[1] https://www.business-standard.com/article/economy-policy/make-in-india-for-india-for-world-pm-to-defence-manufacturers-at-defexpo-120020501925_1.html

[2] https://economictimes.indiatimes.com/news/defence/indias-defence-exports-more-than-double/articleshow/69835284.cms?from=mdr

Indianization of Intellectual Property (IP).

a. Regulatory environment for Micro Small and Medium Enterprises procurement

In March 2012, the Ministry of MSME released the public procurement policy for Micro and Small Enterprises (MSEs) Order, 2012, which instructed a minimum 20% procurement from MSEs for all central ministries, departments and Public Sector Undertakings (PSUs) from April 2015. The order also specified certain leeway to SMEs in the price bid to provide a level playing field.

Specifically, for defence, the MoD has undertaken certain steps to promote the growth of MSMEs in the sector. These steps are in consonance with MoD's aim to move forward on the path of self-reliance and achieve a high degree of indigenous production of defence equipment. As of November 2019, the number of MSME vendors involved in domestic defence production stood at 8,643[3].

Further, Defence Procurement Procedure (DPP) 2016 highlighted certain measures that are being taken by MoD for promotion of MSMEs in the sector, to include:

1. **Offset policy**.

According to this, any capital acquisition categorised as "Buy (Global)" or "Buy and Make with Transfer of Technology (ToT)", with a value of INR 2000 crores or more the OEMs are required to discharge a minimum of 30% of the contract value as offsets[4]. The offset discharge can be done through 06 different avenues which are as follows:

a. Export – Direct purchase of, or executing export orders for, eligible defence products and services

b. Foreign Direct Investment (FDI) – FDI for manufacture and/or maintenance of eligible products or provision of eligible services

c. Transfer of Technology (ToT) to an Indian enterprise – Investment through Transfer of Technology to private sector Indian Offset Partners (IOPs) for manufacture and/ or maintenance of eligible products or provision of eligible services

d. Transfer of equipment to an Indian enterprise – Investment through Transfer of equipment to private sector IOPs for manufacture and/ or maintenance of eligible products or provision of eligible services

e. ToT and/or transfer of equipment to government institutions – Transfer of technology or provision of equipment to government entities engaged in manufacture and/or maintenance of eligible products or provision of eligible services

f. Technology acquisition by DRDO – Transfer of critical technologies to DRDO in certain high technology areas.

3 https://pib.gov.in/newsite/PrintRelease.aspx?relid=195106

4 https://pib.gov.in/PressReleasePage.aspx?PRID=1513013

2. **Make-I and Make-II procurement categories.**

Subcategories under the Make category of Make-I and Make-II are funded by the government and the industry respectively. Under the Make-I category, projects with estimated cost of prototype development phase not exceeding Rs. 10 crore and cost of subsequent procurement not exceeding Rs. 50 Cr/year based on delivery schedule at the time of seeking AoN will be earmarked for MSMEs subject to meeting selection criteria such as rating of SME-4 or above and positive net worth. Similarly, in the Make-II category, projects with prototype development phase not exceeding Rs. 3 Crore and cost of subsequent procurement not exceeding Rs. 50 Crore/year based on delivery schedule at the time of seeking AoN, will be earmarked for MSMEs and there are no commercial or financial criteria for such earmarked projects. However, if no MSME for Make-II and at least two MSME for Make -I do not express interest then the projects may be opened for all enterprises along with preference given to MSMEs over non-MSMEs during the selection stages.

The projects under Make-II category can be segmented as those accorded with "Approval in Principal (AIP) and those termed as exploratory projects. The AIP projects are progressed to the AoN stage by the Service Headquarters (SHQs). For projects under 'Exploratory' category, feasibility studies are underway to realise further potential.

Key projects which have been granted AIP are:

SHQ	Project name	Quantity	Tentative cost (INR crores)	Present status
Army	125mm APFSDS Ammunition for T-72 & T-90 Tank	85,000	2,300	AoN accorded on 13th Sept 19. EoI stage.
Army	Upgraded Assault Track way	100	100	Project Sanction Order (PSO) issued on 5.11.18
Army	MEAT (Manoeuvrable Expendable Aerial Target)	50	0.75	Project Sanction Order issued on 6.12.18
Army	Night Fighting Control System for AGS-30	2,000 units	-	Being fielded for AoN.
Army	3rd Gen ATGM (Anti-Tank Guided Missile) System	Missiles: 2330, Launcher: 100, Simulator: 5	-	EoI issued on 7.2.2020.
Army	GPS/GIS based Minefield Recording System	3,680	-	Being fielded for AoN.

SHQ	Project name	Quantity	Tentative cost (INR crores)	Present status
Army	Auxiliary Power Unit (APU)	3257 (Qty 1600 for Tank T-72 and 1657 for Tank T-90)	1,325	AoN accorded on 21.10.19. EoI issued on 29.1.2020.
IAF	Chaff and flares	Chaffs-1,00,000: Flares-1,50,000 (for 5 yr)	142	PSO issued on 13.12.18. Design and development phase.
IAF	Infrared Imaging Search & Track System (IRST)	100	1,850	PSO issued on 28.5.19. Design and Development Phase.
IAF	Foldable Fiberglass Mat (FFM) for Rapid Runway Repair	122 sets/ year	192	AoN accorded on 24th July 2019. EoI uploaded. Last date for EoI is 27th Dec 19.
IAF	Aerial Fuse for Bomb	3000/Yr	-	AoN stage
IAF	125 kg bomb (akin to MK-81 bomb)	500/yr	-	AoN stage
Navy	Deep Seaside Scan Sonar Towing Winch (DS4TW)	6	5.54	PSO issued on 27.8.18. Prototype development completed on 26th Aug 2019. Trials in progress.
Navy	Proximity, DA and Graze fuse for 76/62 SRGM with universal capability for 76-127mm caliber ammunition	5000 fuzes @ 500 fuzes/year	241	AoN Stage
Navy	Digital Beam forming based Satellite TV	100	65	PSO issued on 4th June 2019
Navy	Three phase inverters	25	8.4	PSO issued on 30.5.19
Navy	Expendable Underwater Target	300 @ 60/yr	134	AoN Accorded on 2nd April 2019. EoI issued on 14.6.19.
Navy	Upper Air Sounding System (UASS)	24 (Navy)+ 36 (Army)	40	PSO issued on 20.11.18

Key exploratory projects are

S.No.	SHQ	Name of Project	Quantity	Tentative cost (INR crores)	Present Status
1.	IAF	Long Range Glider Bomb	3,050 over 3-5 years	-	Feasibility study
2.	Army	1000HP Engine with associated peripherals for T-72 Tank	1,000	3,000	Feasibility Study Stage
3.	Navy	Diesel engine for Boats (150-350 HP)	220 for 05 yrs	150	Feasibility study
4.	Army	Electronic fuses Tech for Rockets	20,000	-	Feasibility Study

3. Buy Indian - IDDM procurement category.

In an effort to incentivise indigenous design and development of products and platforms, DPP 2016 introduced a new category "Buy Indian - Indigenously Designed, Developed and Manufactured (IDDM)." Procurement under this category has the highest preference among all the procurement category. For a product to be eligible for procurement under this category, it should be indigenously designed and developed and have at least 40% indigenous content or in case the products were not designed or developed in India, indigenous content must be 60%

b. Awarded and future programmes

MoD is the sole procurer or end-customer in the Indian defence market. All procurement contractors are OEMs which serve as aggregators. The OEMs globally are supported by Tier-II and Tier-III companies in their manufacturing supply chain wherein they are responsible for manufacturing individual components or sub-systems which are then assembled by the OEMS. OEMs may also engage multiple suppliers for the same set of components or subsystems and hence each contract/ program serves as a source of revenue for multiple companies.

Some of the key programmes that were awarded in the last few years are as follows: -

S. No.	System	OEM and Tier-1 with offset obligation	Approx. contract value (US$ million)	Offset Value (US$ million)
1.	Rafale aircraft	Dassault, Thales, Safran & MBDA	8,800	4,400
2.	C 17 Globemaster	Boeing	3,300	1,100

S. No.	System	OEM and Tier-1 with offset obligation	Approx. contract value (US$ million)	Offset Value (US$ million)
3.	Mirage aircraft upgrade	Thales	2,100	800
4.	P-8 I aircraft	Boeing	2,100	640
5.	AH-64 helicopter	Boeing	1,400	600
6.	Mi-17 v5 helicopter	Russian helicopters	1,100	405
7.	CH-47 F Chinook helicopters	Boeing	800	330
8.	C-130J aircraft	Lockheed Martin	1,060	330
9.	Missiles	MBDA	900	386

The major future programmes which are expected to be awarded in the next 10 years are[5]:

S. No.	Programme Name	Current status
1.	83 Indigenous Tejas fighter aircraft	At CCS clearance stage (March 2020)
2.	114 Fighter aircrafts	RFI issue in 2018 is still active
3.	Anti-Tank Guided Missile for Advanced Light Helicopter Weapon Systems Integrated	EOI issued on Feb 7, 2020
4.	Medium lift transport aircraft (C-295)	MoD concluded cost negotiations with Tata and Airbus and sent for CCS clearance (Nov 2019)
5.	Naval Shipborne Unmanned Aerial System (NSUAS)	RFI issued on Feb 24, 2020

Table includes major programs; list not exhaustive

c. Offset discharge on current programmes

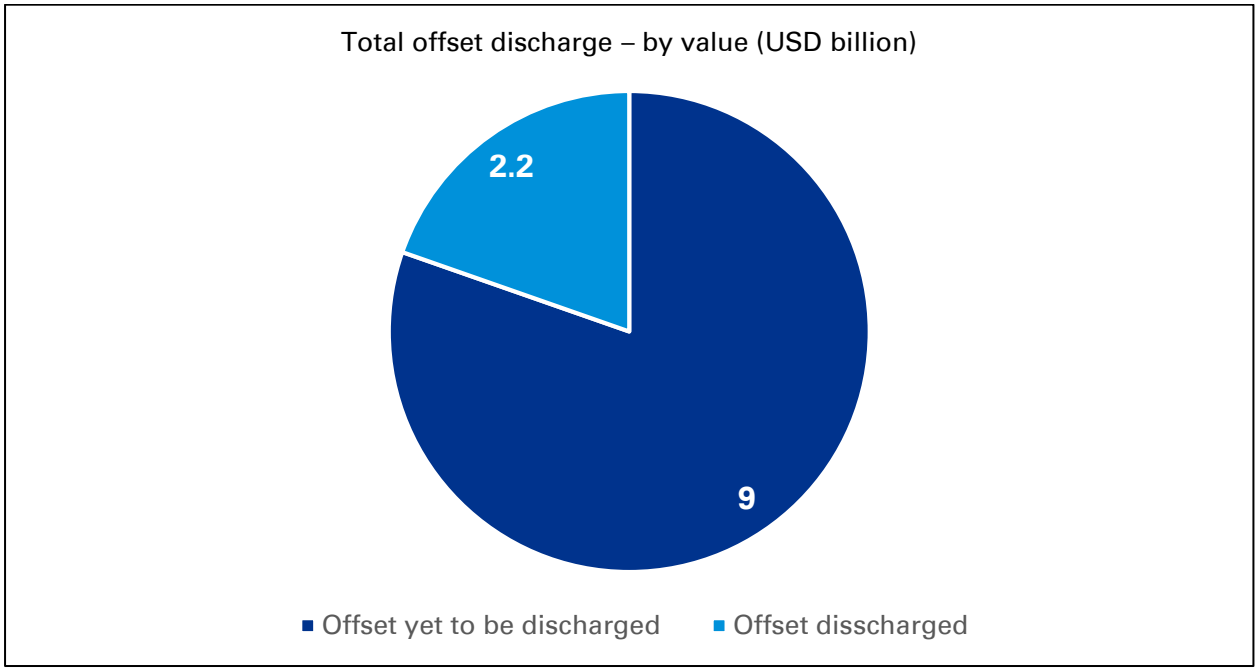
The offset policy was introduced in the Defence Procurement Policy (DPP) 2005, as a supplement to India's mission of improving self-reliance and reducing dependence on imports to meet its requirement for defence equipment. The key objectives of the offset policy are:

[5] Department of Defence Production website

1. Fostering development of internationally competitive enterprises.
2. Augmenting capacity for research, design and development related to defence products and services.
3. Encouraging development of synergistic sectors like civil aerospace and internal security.

As per DPP 2016, for foreign companies which are awarded contracts from the MoD under the "Buy (Global)" and "Buy and Make" categories, have to discharge at least 30% of the overall contract value as offsets. The DPP has specified 06 avenues for the foreign companies to discharge their offset obligations as mentioned above. The terms of the offset policy promote engagement between foreign OEMs and Indian companies venturing and operating in the Indian defence manufacturing industry.

As of January 2018, the MoD has signed a total of 42 offset contracts at a total value of USD 11.2 billion which need to be discharged by 2024. Till the end of 2017, only ~20% of the offset obligations had been discharged hence offset discharge is expected to pick up as OEMs need to discharge USD 9 billion in the next 05 years[6].



The major existing offset contracts based on programs are highlighted in the chart below:

S. No	OEM	Contracts	Offset obligation (USD million)	Total obligation from major contracts (USD million)
1.	Boeing	C-17 Globemaster	1,100	2,700
		P-8I surveillance aircraft	640	

[6] https://economictimes.indiatimes.com/news/defence/offsets-fail-to-take-off-with-merely-20-completion-rate-in-a-decade/articleshow/67447007.cms

S. No	OEM	Contracts	Offset obligation (USD million)	Total obligation from major contracts (USD million)
		AH-64 Apache	600	
		CH-47F Chinook	340	
2.	Dassault	Rafale	2,200	2,200
3.	Thales	Rafale	900	1,700
		Mirage 2000 upgrade	800	
4.	Lockheed Martin	C-130 J	550	1,550
		MH-60 R*	1,000	
5.	Safran	Rafale	800	800
6.	MiG	MiG 29 upgrade	700	700
7.	MBDA	Rafale	500	500
8.	BAE Systems	M777 howitzer	200	200

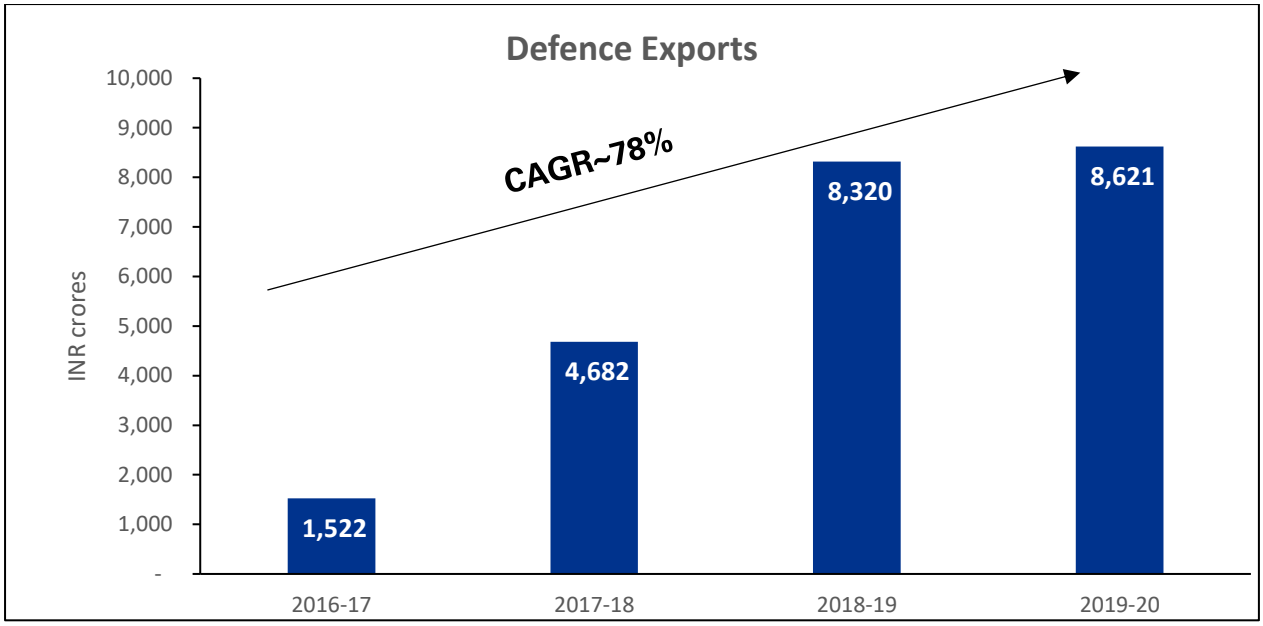
Table includes major offset contract; list not exhaustive
*estimated value of offset obligation

As per the offset policy, if a vendor fails to fulfil the offset obligation in a particular year in accordance with the annual phasing as agreed in the offset contract, a penalty equivalent to five percent (05%) of the unfulfilled offset obligation will be levied on the vendor[7]. The unfulfilled offset value will thereafter be re-phased over the remaining period of the offset contract. Till end of 2017, 11 companies have been penalised for not fulfilling their offset contracts and the total penalty that has been imposed works out to approximately USD39 million[8].

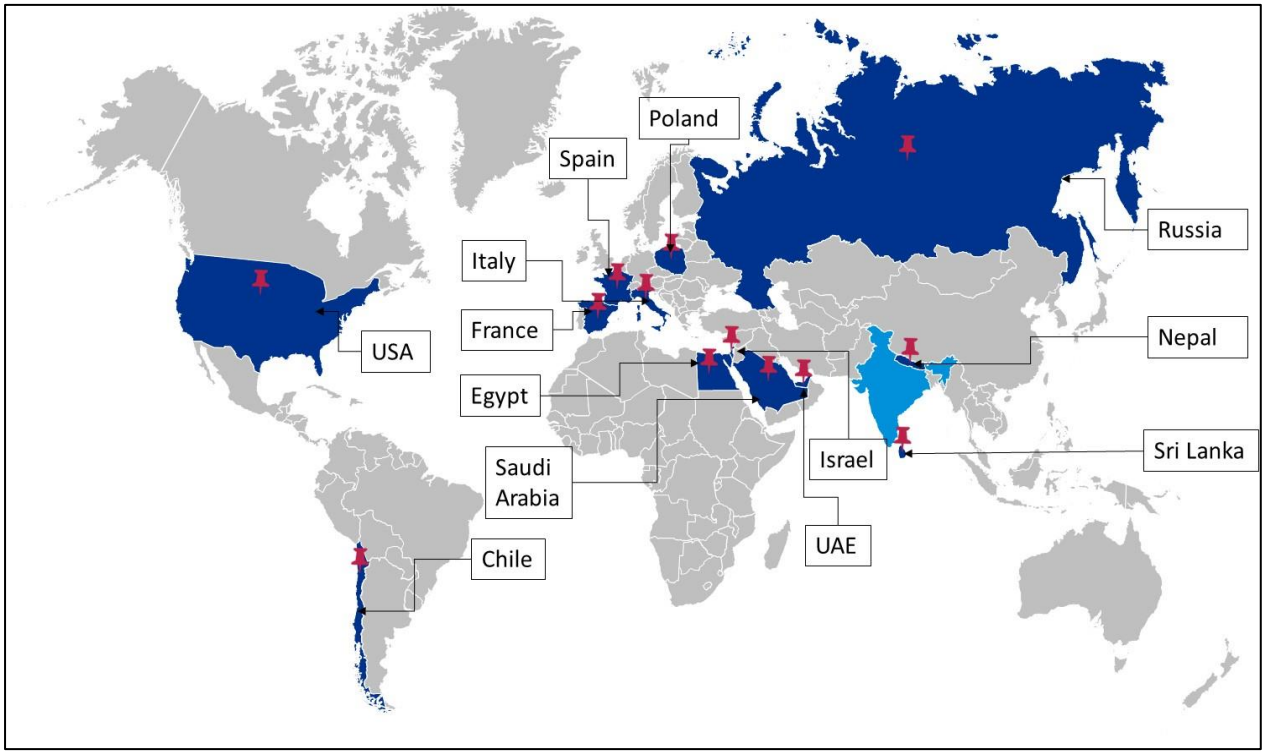
d. Exports horizons

Ranked 23rd in the list of major arms exporters for 2019 by the Stockholm International Peace Research Institute (SIPRI)[9], India has been challenging the import-export balance in the last few years. The government has placed impetus on indigenous development and manufacturing in the defence sector wherein process simplification led to defence exports amounting to INR 8,620.6 crore in 2019-20, nearly 06 times the exports achieved in 2016-17[10]. This phenomenal growth with a CAGR of 78.3% while being commendable, has yielded a share of only 0.17% of the global arms exports.

[7] https://mod.gov.in/sites/default/files/revised-guidelines.pdf
[8] https://idsa.in/idsacomments/making-the-offset-policy-work-better_acowshish-200319
[9] https://economictimes.indiatimes.com/news/defence/in-a-first-india-figures-on-arms-exporters-list/articleshow/74557571.cms
[10] https://ddpdashboard.gov.in/DefenceExport/Defence_Exports



India currently exports to 42 countries across the world including countries in Europe and North America, some of the major geographies/ countries are:



In a major boost to domestic defence manufacturers, the MoD has set up an aspirational target of doubling the defence production to INR 180,000 crores in the next 05 years which is estimated to reach INR 90,000 crores in 2019-20 while it was INR 80, 558 crores in 2018-19[11]. The MoD has also recognised the potential for defence exports and thus has set a target to achieve exports of INR 35,000 crore (USD 05 billion) till 2024 wherein the

[11] https://www.business-standard.com/article/current-affairs/export-or-perish-mod-tells-private-sector-defence-companies-119061800048_1.html

exports will have to grow at a CAGR of >40% till 2024[12].

The major systems and sub-systems available for export in India are:

S. No.	SHQ	Project name
1.	Land systems	1. Akash – Air defence system 2. BhraMos – Cruise missile weapon system 3. Milan 2T – ATGM (Bharat Dynamics limited) 4. Dhanush – Artillery gun (OFB) 5. Advanced Towed Artillery Gun System (ATAGS) 6. Vajra – Self-propelled artillery gun (L&T) 7. Bharat 52 – Towed gun (Bharat Forge Limited) 8. Garuda 105 – Light field gun (Bharat Forge Limited) 9. Upgraded L-70 gun (Bharat Electronics Limited) 10. Zu 23 upgraded gun (L&T) 11. Upgraded Schilka weapon system 12. Wheeled Amphibious platform (Tata Motors Limited) 13. Weapon Locating Radar (Bharat Electronics Limited) 14. Battlefield Surveillance Radar (Bharat Electronics Limited) 15. 3D low level light weight Radar (Bharat Electronics Limited) 16. Military Vehicles (Ashok Leyland) 17. Mine Protected Vehicles (OFB)
2.	Naval systems	1. Anti-submarine warfare corvette 2. Offshore Patrol Vessel 3. Advanced Offshore Patrol Vessel 4. Fast Patrol Vessel 5. High Speed Patrol Boat 6. Fast Interceptor Boats 7. Inshore Patrol Vessel 8. Landing Craft Utility 9. Torpedo Advanced Light 10. Torpedo Launchers

[12] https://economictimes.indiatimes.com/news/defence/indian-defence-exports-to-grow-to-rs-35000-crore-by-2024-army-chief/articleshow/71645779.cms?from=mdr

S. No.	SHQ	Project name
3.	Air systems	1. LCA Tejas 2. Light Combat Helicopter 3. Advanced Light Helicopter 4. Cheetal 5. Dornier 6. Brake Parachute
4.	Communication systems	Including different types of handheld radios, transceivers, jammers, etc.

To promote defence exports and meet the targets set by the MoD, the Department of Defence Production (DDP) has put in place a specific strategy for encouraging defence exports within the overall ambit of Foreign Trade Policy (FTP). These steps include

1. Special Chemicals, Organisms, Materials, Equipment and Technologies (SCOMET) Category 6 titled "Munitions List" that was hitherto "Reserved" has been populated and Military Stores list notified vide Notification No.115(RE-2013)/2009-2014 dated 13th March 2015 stands rescinded.
2. The export of items specified in Category 6 (Munitions List) except those covered under Notes 2 & 3 of Commodity Identification Note (CIN) of the SCOMET is now governed by the Standard Operating Procedure issued by the DDP.
3. Standard Operating Procedure (SOP) for the export of munitions list items has been modified and placed on the website of the DDP.
4. A separate cell has been formed in DDP to co-ordinate and follow up on export related action including enquiries received from various countries and facilitate private sector and public sector companies for export promotion.
5. A scheme to provide financial support to Defence Attaches (DAs) for taking up actions for promoting exports of Indian made defence products both of public and private sector in the countries to which they are attached has been notified.
6. Targets have been set for Defence Public Sector Undertakings (DPSUs) and OFB for export of defence related products and a mandate for state-owned public sector units to earn 25% of annual revenue through exports by FY2023 has been promulgated.
7. A completely end-to-end online portal for receiving and processing authorisation permission has been developed.
8. In repeat orders of same product to the same entity, consultation process has been done away with and permission is issued immediately. The defence export market presents a sizeable opportunity especially for MSMEs who can be part of the supply chain as Tier II and III suppliers.

e. Indigenization plan of the Indian armed forces.

India is one the largest importer of defence equipment with more than half of its defence needs being procured from foreign industries. Even for the equipment/ platforms being developed in the country, there is a sizeable dependency on foreign industries for

their systems/ sub-systems and components. Armed forces have their long-term indigenisation plan to substitute imports with indigenised products.

Army

The Indian army holds a significant proportion of defence equipment and platforms of foreign origin. The life of these platforms ranges 20-25 years. During procurement, a limited quantity of spares and component are procured along with the equipment. In order to keep equipment/ platforms battle ready, the army instituted an indigenisation program in its "15-year perspective plan for indigenisation (2010-2025)". The program is aimed at developing major systems and/or sub-systems for defence equipment. These include propulsion plant, prime movers for power generation, auxiliary system, hydraulic systems, electrical and electronic systems etc.

Air Force

The Indian Air Force (IAF), in its "Indigenisation Roadmap Indian Air Force (2016-2025)", highlighted acquisition projects worth INR 2.5 lakh crores over next 15 years, of which nearly 15% of these were expected to be from indigenous source. IAF has a separate directorate of indigenisation as a nodal agency to cater for all aspects related to indigenisation. IAF offers opportunity for indigenisation of new equipment to maintenance of its existing seeking domestic support are setting up of MRO facilities, indigenisation of complex high-end technology items, sub systems and systems as a whole, indigenisation of aircraft spares, of tools, testers and ground equipment, etc.

Navy

The Indian Navy (IN) began indigenisation of its fleet nearly 05 decades ago with design and construction of warships. As of 2015, Navy has 48 state-of-the-art ship and submarines under construction in Indian shipyards, both public and private.

IN has achieved 90% indigenisation in float category, 60% in move category and 30% in fight category. There exists opportunity to achieve self-reliance in fight and move category. IN, in its 15-year "Naval Indigenisation Plan (2015-2030)", highlights major areas that comes under scope of indigenisation. These are weapons & sensors, propulsion systems (especially gas turbine), marine diesel engines for main propulsion and gear boxes.

COVID 19 – India Economic Package

GoI has taken steps to boost MSME ecosystem in India in view of COVID 19. The first set of measures introduced in May 2020, as part of the INR 20 trillion package, by the Ministry of Finance (MoF) largely focuses on addressing the cashflow problems caused by the COVID 19 through infusing liquidity. The measure announced to give an impetus to MSMEs are

1. INR 03 trillion collateral free automatic loan with 100% credit cover.
2. INR 200 billion subordinate debt for stressed MSMEs.
3. INR 500 billion equity infusion for MSMEs with growth potential and viability through Fund of Funds.
4. New definition of MSMEs where investment limit has been revised

03

Future opportunities for MSMEs

a. New regulations, "Make-III" and the DPP 2020

With 8,643 MSMEs currently working in the defence sector MoD is pushing for greater participation of MSMEs. MoD has set a target to engage with over 16,000 MSMEs in the next 03 years and is continually taking steps towards a higher degree of indigenisation. Innovation for Defence Excellence (iDeX), a platform for funding MSMEs, start-ups, individual innovators were launched in 2018, with an aim of creating an eco-system for technological development and innovation in the defence sector.

Recently, MoD has approved a proposal for the inclusion of iDeX in the defence procurement procedure which will give boost to MSMEs, individual innovators and budding start-ups. Through iDEX, Defence India Startup Challenge (DISC) was also launched in 2018 and through these initiatives the government is aiming to fund 250 startups and

"achieve 50 tangible innovations in the next 05 years"[13].

Under the draft DPP 2020, the MoD has proposed revisions to supplement the development of MSMEs and import substitution. Under Make-III, MSMEs will have the freedom to form Joint Ventures (JVs) with foreign OEMs for components, equipment or platforms which are not designed indigenously but manufactured in India. The criteria is that the manufacturing be undertaken through collaboration or ToT route with minimum indigenous content of 60%.

b. Component and subsystem manufacturing for DPSUs/ OFBs

The public procurement policy for Micro and Small Enterprises (MSEs) Amendment Order, 2018 increased the minimum limit of procurement from MSMEs for all central PSU. In 2012, the public procurement policy for Micro and Small Enterprises (MSEs) order specified that 20% of the total annual procurement for all central PSUs must be from MSMEs, which was increased to 25%, effective November 2018. This move towards boosting local industries was supplemented by another announcement which specified that 3% of the 25% MSME procurement was to be earmarked for women entrepreneurs. MoD has mandated the public sector entities, which includes 09 DPSUs and 41 factories under OFB, to outsource 25% of their work to the private sector especially MSMEs. The overall opportunity basis the target of 25% procurement is ~INR 3,000 crore per year (USD 500 million per year) only for the MSMEs.

Some of the examples where DPSUs have ramped up their procurement from MSMEs are:

1. In 2015-16, the annual procurement from MSMEs for Goa Shipyard Limited (GSL) was INR 60.2 crore with a projection of 66.2 crore for 2016-17.
2. Mazagon Docks Limited (MDL) released an MSME procurement target of INR 125 crore for 2019-2020, a significant increase from the target of INR 100 crore from 2018-19.
3. Hindustan Aeronautics Limited (HAL), in its Make-II procurement policy 2019, has specified that projects with estimated costs of up to INR 2.5 crore will be earmarked for startups and MSMEs.
4. Bharat Electronics Limited (BEL) procurement from MSMEs has gone up from 4.73% in 2013-14 to over 20% in 2016-2017. BEL, in its Make-II procurement procedure, has earmarked projects with an estimated cost of the prototype development phase of up to INR 25 lakhs for MSMEs.

c. Linkage to the global supply chain of OEMs and offset discharge partnership

Today, Indian MSMEs are capable of collaborating with foreign OEMs to become a part of their global supply chain. In addition, MSMEs are also exploring opportunities with foreign companies as Indian Offset Partners (IOPs) for discharging their offset obligations. The capabilities broadly being offered by MSMEs as part of the defence manufacturing sector are as follows: -

1. **Composites.** The growth in composites and allied technology in India has been highly wherein composites have a widescale application in defence along with

[13] https://pib.nic.in/PressReleseDetail.aspx?PRID=1591289

other commercial applications. Today, India has the capabilities in prepreg moulding, Vacuum Assisted Resin Transfer Moulding (VARTM/ resin infusion, multi-axes filament winding and hand layup. Using these capabilities, the raw materials are being processed into composites like woven carbon and glass-based reinforcements, glass filament manufacturing, epoxy resin manufacturing, higher grade imide and phenol production, high temperature foam manufacturing and so on. India has dedicated plants for manufacturing of resins, reinforcements, fillers, adhesives and consumables for composites.

2. **Precision manufacturing.** India is home to a plethora of companies in the precision manufacturing space. The manufacturing capabilities currently in India include precision machined parts, mechanical parts assembly, CNC machining, precision lathe work, complex milling operations in hard metals, cylindrical and surface grinding, electrical discharge machining and, surface treatments and finishing. The manufacturers in India are utilising turning and turn mill centres, vertical, horizontal and 5 axis CNCs to produce thin walls, tight tolerances and intersecting intricate features.
3. **Forging and sheet metal work.** Capability of Indian companies in the field of forging and sheet metal work has been recognised globally for its high quality. India has the capability to forge variety of raw materials like Carbon steel, alloy steel, stainless steel, super alloy, Titanium and Aluminium. Indian manufacturers have forging capabilities in hot closed dies, open dies, cold closed dies, ring rolling, CNC & VMC machining, gear finishing (hobbing, shaping, shaving, broaching), robotic welding, heat treatment, ED painting, tool designing and development.
4. **Shipbuilding.** Shipbuilding in India, particularly Defence Shipbuilding, has come a long way since its fledgling years, when it began in 1950s. In many warships in services, MSMEs have a played a key role in indigenising and retro fitting many marine grade military components during repair, refit and Mid Life Upgrades (MLU). Some of the thrust areas wherein MSMEs in the manufacturing sector have played and will continue to play a major role include manufacture of shipboard. Pipe fittings, valves, electrical switches, panels and fittings, components of motors & pumps, insulating material and rubber components. In the service sector, MSMEs in the sub-contracting vendor base of yards have played a key role in pane level hull fabrication / repair, hull outfitting work, painting work, piping & cabling layouts, accommodation space outfitting, installation / repair / overhaul of engineering and electrical equipment etc.

d. R&D support for DRDO labs

The DRDO is a key stakeholder in the promotion of MSMEs and boosting indigenous innovation and has taken initiatives for the involvement of the private defence industry. The DRDO has listed various technologies on its website that are being offered for Transfer of Technology (ToT) to Indian firms for manufacturing. The DRDO has defined these technologies under two categories; Category A as those technologies with military use and Category B as technologies with dual use (military and commercial). The end-

users for Category A technologies can only be Indian Armed Forces/ MHA/ other Government agencies (both central & state).

In January 2018, the DRDO conducted a 2-day defence industry interface where it transferred 18 technologies to MSMEs for production under the "Make in India" initiative[14]. The event saw participation from more than 1,000 MSMEs. The DRDO has subsequently published a list of equipment on its website that the industry may choose to opt for manufacturing under ToT. Apart from the ToT, the DRDO has also set up the Technology Development Fund (TDF) under the "Make in India" initiative[15]. Promoting self-reliance and aimed at creating an ecosystem for supporting MSMEs, the fund will provide financial assistance for the development of cutting-edge technology capability for defence application(s). The TDF will cover the cost of development of the following:

1. Significant improvements or developments in the existing products or application.
2. Technology readiness level up-gradation from Technology Readiness Level 3(TRL3) onwards to the realisation of products as per tri-services requirements.
3. Development of futuristic technologies and/ or innovative products which can be useful for defence applications.
4. Import substitution of components whose technologies do not exist with the Indian industry.

Currently, 57 projects have been closed under the TDF scheme, while feasibility for 14 projects is still ongoing. Key projects under the TDF which are ongoing or upcoming are listed below:

S. No.	SHQ	Project	Present status
1.	IAF	Digital Instantaneous Frequency Measurement (DIFM) unit for Tarang Radar Warning Receiver (RWR) system	On-going
2.	IAF	Development of indigenous DIFM unit for R118 RWR system	On-going
3.	Navy	VLF loop aerial for underwater platforms	On-going
4.	Navy	HF-VLF antenna matrix for underwater platforms	On-going
5.	Army	Development of robotic solution for disposal of misfire ammunition	Upcoming
6.	IAF	Development of amplidyne	Upcoming

[14] https://drdo.gov.in/sites/default/files/newsletter-document/mar_18.pdf

[15] https://tdf.drdo.gov.in

e. Self-certification scheme for defence public sectors and private vendors[16]

The scheme, introduced in May 2019, is intended to integrate quality throughout the manufacturing process and ensuring good quality of the product. The scheme has been adopted DDP to authorise the manufacturer to self-certify the quality of its products that meets standard quality requirements. To be eligible for the scheme the DPSUs/ private vendors:

i. Shall maintain consistent supplier rating above 90%.

ii. Should have stable process with Process Capability Index (Cpk) for those processes be greater than 1.33.

iii. Shall have established a Quality Management System (QMS) certified as per the requirements of ISO 9001:2015 and its revisions.

iv. Shall have test lab's quality system as per the requirements of ISP/IEC 17025 and preferably be NABL accredited.

The self-certification status is awarded for a specific product. Company willing to get the status need to apply to the Authority Holding Sealed Particulars (AHSP) with the list of products supplied in the last 03 years. The list should include comprehensive QMS assessment report and performance matrices. After scrutinising the report by the assessment team, the self-certificate is granted by Directorate General of Quality Assurance (DGQA). The status is valid for 03 years from the date of issue of certificate. It can be revoked by DGQA after notification if quality audit or feedback on product quality is not satisfactory at any time.

[16] Govt. notification no. 93244/14/SC/DGQA/Adm-19/D(QA)/19

04

Government interventions for MSME growth

The focus on the MSME, or the Small and Medium Enterprises (SME) as referred to in some other countries, is critical for any government to promote domestic manufacturing and self-reliance. Countries relying heavily on their defence industry for employment as well as GDP growth have realised the importance of the SMEs in their long-term economic growth. While the emphasis of SMEs in other sectors is often advocated, the potential for growth in the defence sector is a relatively newer concept. This has been brought on by the need for nations to develop their indigenous defence manufacturing capability and reduce the dependence on imports. The only way for the SMEs to overcome the challenges of low capital, lack of proper infrastructure, access to business connections and niche capabilities is to seek support of the government. Through various policy interventions, governments globally have often sought to create a competitive ecosystem for public procurement by creating a level playing field for private companies. While certain countries, like the UK, have made significant strides in this area, the consensus in developed and developing nations is to facilitate the growth of domestic manufacturing and capabilities.

In this section, we explore the policies adopted by governments in developed countries with strong defence ecosystems and analyse the benefits reaped.

a. Global comparison of MSME involvement in defence

Israel

In 2018, Israel's defence expenditure was about $15.9 billion, which roughly translated to 4.3% of its GDP[17]. It currently ranks in the top 20 countries, in term so its defence spending and the future defence spending is slated to increase, as supported by the "2030 Security Concept" unveiled by the Prime Minister of Israel in 2018. Home to several defence companies, Israel is one of the major exporters of defence equipment in the world.

SIBAT, a department under the Israeli Ministry of Defence (IMoD), is responsible for controlling the defence exports of the country. The exports from Israel include missile systems and aerial defence systems, communications systems, optics, UAVs, marine systems, satellites and space equipment. According to a report released by the Stockholm International Peace Research Institute (SIPRI) in 2019, Israel ranked 8th in arms exports globally, following the USA, Russia, France, Germany, and China.

One of the key activities for the SIBAT include the promotion of the SMEs in Israel's defence industry. The IMoD considers the SME sector in Israel as a source of quick and versatile solutions for urgent requirements, technological innovation and specialised expertise, thus making SMEs a critical support for national security. This is supported by the dedicated Business Information & SME Department at SIBAT responsible for supporting business growth for SMEs through training, improving accessibility to business opportunities and business support. The SME department within the SIBAT was established in 2012 to facilitate the growth of smaller companies which did not have a large capital support or international marketing infrastructure[18]. Since then, the SME department has taken various initiatives to boost the domestic manufacturing capability and assist the Israeli companies to compete in the international marketplace.

Republic of Korea

Republic of Korea (ROK), with a defence budget of $43.9 billion, was ranked 10th globally and with a military burden of 2.7% of the GDP, ROK is one of the largest military spenders in East Asia[19]. As one of the top 10[20] importers of defence equipment in the world, ROK has realised the critical role of indigenous production and the consequent reduction in reliance on imports. According to the ROK National Defence Ministry's latest budget, the country is going to spend around $240 billion on defence from 2020 to 2024, of which $85 billion will be earmarked for improvement of indigenous arms[21]. The Ministry has

[17] https://www.sipri.org/sites/default/files/2020-04/fs_2020_04_milex_0_0.pdf

[18] https://www.israeldefense.co.il/en/content/small-medium-enterprises-are-important-defense-establishment

[19] https://www.sipri.org/sites/default/files/2020-04/fs_2020_04_milex_0_0.pdf

[20] https://www.sipri.org/sites/default/files/2019-03/fs_1903_at_2018.pdf

[21] https://www.defensenews.com/global/asia-pacific/2019/08/14/south-korea-moves-to-kick-its-missile-defense-shield-up-a-notch/

also made changes to its policies to promote self-reliance, reduce imports and focus on technological advancements through R&D.

The offset policy was introduced in ROK in 1982 wherein initially it was aimed towards the development of the aerospace industry, the policy was soon repurposed to promote growth in the domestic defence capabilities. The minimum contract value for offset obligation was $10 million.

Key initiatives undertaken for promotion of SMEs in ROK include: -

1. **Expansion of loan support to SMEs**. A funding programme for SMEs was outlined by the Defence Acquisition Program Administration (DAPA) in January 2020. The program was named 'defence industry preservation loan project' and was funded with USD172.3 million for assisting local firms, especially SMEs from the national defence budget[22]. DAPA also suggested that for SMEs investing in 4th Industrial Revolution (4IR) technologies such as artificial intelligence and autonomous systems, priority support shall be provided.
2. **Greater involvement in R&D**. In August 2019, an agreement was signed between the Ministry of National Defence (MND) and the Ministry of SMEs and startups for boosting the participation of SMEs in defence R&D. Under the terms of the agreement, the MND will provide the necessary information to SMEs about the defence technologies and components that ROK seeks to indigenise.
3. **Offset banking system**. In 2019, the MND announced a new offset banking system, as a part of its revised offset guidelines. With a primary focus of promoting cross-border collaboration between international companies and ROK SMEs, the offset credit benefit to the international partner will be a three-fold. For the ROK SMEs, the benefit of the system includes increased engagement with international partners, boost to domestic economy to compensate the procurement expenditure and capability enhancement through Transfer of Technology (ToT) arrangements.
4. **Focus on boosting defence exports**. In an effort to promote development adaption of military technologies for export markets, the DAPA has introduced new investment projects. The projects will be supported by the Defence Agency for Technology and Quality (DTAQ), a subsidiary of DAPA, which will provide budgetary and regulatory support to assist participating companies build overseas export competitiveness

[22] https://www.janes.com/article/93767/seoul-expands-loan-support-for-smes

United Kingdom

The United Kingdom (UK) ranks amongst the top 10 in terms of annual defence expenditure, with its defence budget for 2019-2020 being £50.3 billion. This spend is accounted for by the manufacturing of aircraft in England, building warships in Scotland, satellites in Scotland and armoured cars in Wales. Considered as a Tier-1 military power, the UK defence industry represents 3.5% of its GDP. By investing in domestic manufacturing capabilities, the UK, in the last 20 years, has been a key exporter of defence equipment, with its annual exports averaging around £5 billion[23].

Since the 1980s, the UK's focus on the growth of the defence industry was on privatisation and consolidation. Almost all the state-held firms were sold off to the private companies in the 1980s, which through a series of mergers and acquisitions, consolidated to larger private companies. The UK considers its SMEs to be the backbone on which its economy rests wherein engaging with more than 9000 companies employing around 500,000 employees for its aerospace, defence and security needs. The UK is a leader in high-technology manufacturing and services sectors in Europe and the defence industry has more SMEs than those of France, Germany, Italy, Spain and Norway combined.

In 2012-2013, the procurement through SMEs by the Ministry of Defence (MoD), UK through direct contracts was around 5% of the total procurement expenditure. The number of new contracts awarded to SMEs at the same time was around 36% and the focus on SME growth has increased manifold in the last 2 years. In March 2019, the MoD, UK, released a "Small and Medium-sized Enterprise Action Plan 2019-2022[24]" to encourage wider participation of the SMEs in the defence supply chain. The action plan endeavours to improve access to opportunities for the SMEs by behavioural, policy and process changes. The action plan also highlights the UK MoD's commitment to spending a minimum of 2% of their GDP on defence for the next 10 years. The document also highlights their intent to spend 20%, nearly £186 billion, of defence expenditure towards equipment.

Key changes in SME policy

"Our commitment to supporting SMEs is central to realising our long-term vision for the defence sector in the UK. Our aim is to create a vibrant, competitive and sustainable supply chain where the innovation, value for money and customer-focus delivered by SMEs contributes fully to providing our Armed Forces with the very best equipment and support."

The above statement highlights the weight attributed to SMEs in the growth of the defence industry in the UK and to execute this vision, a target of 25% has been set for all defence procurement from SMEs. While the MoD has streamlined the process of communication with SMEs and invested in a feedback mechanism for continued improvement, it has identified further areas of improvement. On a broad scale, it will focus on

a. Identifying the spend by major suppliers on sub-contracts to smaller SMEs.

b. Assisting SMEs identify points of engagement within the defence supply chain.

[23]https://www.globalsecurity.org/military/world/europe/uk-industry.htm

[24] Small and Medium-sized Enterprise Action Plan 2019-2022

c. Maintain a minimum spend of £5 million per annum through SME contracts.

The main action points of the plan are:

1. **Strengthening supplier engagement** The MoD seeks to strengthen ties with their suppliers through the strategic partnering programme. Key focus shall remain on improvement of the quality of the defence supply chain by encouraging new suppliers and supporting innovation. The future activities include:
   a. Identify challenges faced by SMEs in the defence supply chain through a feedback from defence SME forum, trade associations and survey.
   b. Identify barriers to entry and improve access to opportunities for SMEs by supporting SMEs through prompt payments, opening supply chains for a wide range of suppliers, and advertising sub-contracting and market engagement opportunities through an online supplier portal.
   c. Benchmarking with other government departments for adoption of good practices for SMEs in defence.
2. **Improving procurement policy and process.** To ease engagement with first time suppliers, the MoD seeks to simplify the procurement and onboarding process of new suppliers, making it transparent and accessible. This also included the announcement of Suppliers' Prompt Payment Performance policy which was announced on 29th November 2018. The future activities include:
   a. Development of a new policy for procurement to ensure consideration of a wider range of economic factors.
   b. Improve commercial policy to ensure fairness to small scale suppliers.
   c. Streamline the onboarding process of suppliers and reduce multiple requests for information.
   d. Enforce that contracts over £5 million per annum advertise subcontracting on the Defence Contracts Online for increased SME opportunities.
3. **Making it easier to do business with defence.** The MoD is keen to increase participation of innovators, SMEs and non-defence suppliers for growth of a robust defence supply chain. The future activities include:
   a. Setting up a helpdesk facility to provide guidance to potential suppliers.
   b. Promote greater reach to potential suppliers through webinars, physical presence at trade exhibitions and a dedicated outreach team.
   c. Regularly update the Defence Contracts Online supplier portal for easy access to information.
4. **Encouraging innovation.** Recognising the potential for opportunities of security and prosperity in the UK through technology, the MoD seeks to promote innovation to attract new suppliers, both traditional and non-traditional. The future activities include:
   a. Identify and fund innovative approaches in defence through Defence And Security Accelerator (DASA) and the innovation hubs.
   b. Invest in supply chain development, including 02 SME pilots to improve access to expertise and resources and

promote new ideas. The pilots will be funded by Invest Northern Ireland and Defence Innovation Fund.

c. Publish updated Procurement Innovation Guidance to ease agile sourcing and actively encourage the submission of creative solutions to the MoD.

United States of America

The United States of America (USA) is the largest spenders in the defence industry according to the SIPRI military expenditure database for the year 2019, with an expenditure of $732 billion and was 3.4% of their GDP. The USA military forms the largest market in the world for defence equipment, systems, and services in the world where they rely on their domestic industries as well as allies to meet their military demand. On the domestic front, major US-based defence contractors include OEMs like Lockheed Martin, Boeing, Northrup Grumman and Raytheon among others. Apart from relying on these industry giants, the USA has also introduced schemes to ensure the growth of small businesses in the defence sector.

One of the oldest programs in existence, the Mentor-Protégé Program (MPP) was introduced during the First Gulf War[25]. The MPP allows small businesses to enter the defence industry and expand their footprint where the small businesses are partnered with larger companies. The program helps the small companies to understand and navigate the Department of Defence (DoD) procurement ecosystem. Through the program, the Mentor companies assist the small companies in developing technical capabilities and at the same time understand the regulatory requirements of the DoD. The Mentor firm can get its expenses associated with the program reimbursed from the DoD to a maximum of $1 million annually.

The Indian Incentive Program (IIP) was set up to provide support to American native Indian owned business in the defence industry. It is a congressionally sponsored program that provides a 05% rebate to a prime contractor on the total amount subcontracted to an Indian-owned Economic Enterprise or Indian Organisation, as defined by the Defense Federal Acquisition Regulation Supplement (DFARS)[26]. Through the generation of subcontracts, the IIP serves as an economic multiplier for Native American communities and contractors with a subcontract worth $500,000 or more that contains the DFARS clause are eligible for incentive payments. The Rapid Innovation Fund was set up to assist small businesses to provide the DoD with innovative technologies that can be quickly integrated into acquisition programs that meet specific defence needs. The program is designed to fund mature technology ideas and about 90% of RIF awards go to small businesses where the average award is $2.1 million. The objective of the RIF showcases the DoD's focus on rapid, responsive acquisition and the engagement of small business innovative technologies to resolve operational challenges and address critical national security needs.

[25] https://business.defense.gov/Programs/Mentor-Protege-Program/

[26] https://business.defense.gov/Portals/57/Documents/IIP.pdf

b. Additional support required for Indian MSME growth

While the MoD has put in place schemes to promote MSMEs in the defence sector and made regulatory changes to create opportunities for MSME participation. Some more aspects that may be considered for future action to further boost MSMEs are as follows: -

1. **Mentor-Mentee Program (MMP)**. A Mentor-Mentee program can be in established to provide assistance to MSMEs in the defence sector wherein MoD can act as the owner of the program and provide support for creating the mentor-mentee relationships. The benefits of such a program are:
   a. Benefits to MoD
      i. Reduction in quality risk associated with MSME contracts.
      ii. Increase in MSME participation in the defence sector.
      iii. Greater changes of procurement in Buy-IDDM and Make categories.
   b. Benefits to MSMEs
      i. Handholding support to understand the defence procurement process.
      ii. Understand manufacturing requirements for products requiring industrial licences.
   c. Benefits to mentor firms
      i. Tax benefits on all expenditure towards the program, with a limit set by the MoD.
      ii. Increase in chances of becoming a JV partner with foreign OEMs if the MoD approves a higher offset multiplier for Indian firms who are also mentor firms in the program.
2. **Innovation challenge for MSMEs**. The MoD, for future procurements which have reached the RFI stage, may co-host innovation challenges for MSMEs with the armed forces. The MSMEs will be required to propose a solution wherein the winner, who's innovative solution is chosen by the MoD will secure a future contract.
   a. Benefits to MoD
      i. Healthy participation will ensure best ideas and technologies for procurement.
      ii. The solutions which are not chosen may inspire innovation in other programmes.
   b. Benefits to MSMEs
      i. Assured future contract on winning the innovation challenge.
      ii. Potential to work as a supplier for different Tier-1 OEMs and develop capabilities.

05

Framework for non-defence MSMEs

a. Eligibility Checklist for non-defence MSMEs

The DPP 2016, MSME Act 2006, and other guidelines issued by the GoI highlight pre-requisites for companies to become registered as MSMEs in the defence sector. From a regulatory compliance standpoint, these pre-requisites are fundamental for companies to be eligible for defence manufacturing contracts from DPSUs/OFBs or serve as an Indian Offset Partner (IOP) for foreign OEMs.

The following is a ready checklist for companies to ensure eligibility for defence contracts:

1. **MSME registration**[27] – The first step is for the company to register itself as an MSME as per the MSMEs Act, 2006. Based on the revised classification criteria that include composition of investment and annual turnover to classify both manufacturing and service sector, business are be categorised as:

Category	Investment	Turnover
Micro	< INR 01 cr.	< INR 05 cr.
Small	< INR 10 cr.	< INR 50 cr.
Medium	< INR 20 cr.	< INR 100 cr.

   The companies can get registered on Udyog Aadhar website or offline

2. **Indian vendor**[28] – For a company to be considered as an Indian vendor under the DPP 2016, the company should be incorporated under the Companies Act or have an ownership model of Partnership Firm, Proprietorship and other types of ownership models including Societies, following the requirements put forth by the Department for Promotion of Industry and Internal Trade (DPIIT) . Additionally, the ownership of the company should be by an Indian citizen(s) and the Control, as defined by Companies Act 2013 should be with resident Indian citizen(s).

3. **Certifications**[29] – According to the updated DPP 2016, under

[27]https://udyogaadhaar.gov.in/UA/UAM_Registration.aspx
[28]https://mod.gov.in/sites/default/files/UVDPP201611119.pdf
[29]https://mod.gov.in/sites/default/files/UVDPP201611119.pdf

Annexure II to Appendix G, expected documentation from OEMs include ISO 9001 certification of OEM, vendors & subcontractors/ISO 14000 certification. Further, under Annexure I to Appendix 'C' to Chapter IV, for ship building projects, the technical capability requirements include the ISO 9001:2015 and OHSAS 18001:2007 or later certifications. The section on transfer of technology also highlights the requirement of ISO 9001 for OEM, collaborators and subcontractors or the ISO 14001 certification.

4. **AS9100 certification** – For companies to enter into the aerospace manufacturing, the AS9001 certification for quality management is necessary.

5. **NSIC registration**[30] – MSMEs may also choose to register with the National Small Industries Corporation (NSIC) which provides support to MSMEs to assist develop their competitiveness. NSIC registration exempts MSMEs from paying Earnest Money Deposits (EMDs) and makes them eligible for free issuance of tender sets. It also provides the MSMEs with a price band for quoting price bids to supply up to 25% of the procurement for government tenders.

6. **Security requirements**[31] – In June 2014, the MoD released a Security Manual for Licensed Defence Industries to define the minimum security and safety requirements for all private companies involved in defence manufacturing in India. Indian licensed defence companies are required to have additional security safeguards as specified by the government. The manual highlights the requirements in security personnel, physical security measures, cyber security guidelines, handling of documents etc. The manual categorises the defence equipment being manufactured into 3 categories. Each enterprise is required to comply with the requirements, based on the category of defence equipment they manufacture.

7. **Industrial Licences**[32] – Superseding Press Note No. 3 from 2014, the Department of Industrial Policy and Promotion (DIPP) released Press Note No. 1, 2019 which highlights the list of defence items for which industrial licence under Industries (Development and Regulation) Act, 1951. It also includes the list of arms and ammunition, as updated by the Ministry of Home Affairs (MHA), requiring licence for manufacturing and/or proof testing under the Arms Act, 1959.

[30] https://www.nsic.co.in/schemes/Single-Point-Registration.aspx

[31] https://dipp.gov.in/sites/default/files/1403158012.pdf

[32] https://dipp.gov.in/sites/default/files/PressNote12019.pdf

b. Framework for market entry for non-defence MSME

Apart from the eligibility prerequisites as mentioned in the previous section, in order to ease the decision-making process for non-defence MSMEs looking to enter A&D sector a 05-step approach framework has been developed

Step-01: Identifying right opportunity	Step-02: Building the foundational infrastructure and team	Step-03: Securing the initial order
– Understand your key strength and core competencies. – Preliminary interaction with Tier-I OEMs and Subject Matter Experts. – Develop robust vision and objective. – Identify key product segments to focus on. – Map critical gaps and ways to address them. – Identify key focal person(s) to spearhead sectorial initiatives. – Create dedicated business vertical. – Devise entry strategy and investment plan.	– Identify focus products and target global supply chain. – Participate in sector events and forums. – Build a focused team for A&D. – Identify anchor customers and build rapport. – Train core team on key expectations of aerospace players. – Create dedicated line/facility for aerospace. – Production strategy to manufacture in house & outsource. – Initiate process to purchase right machines. – Establish process, controls and documentation as per industry standards. – Focus on customer requirements. – Discuss with sourcing teams of OEMs to synchronise with their India plans.	– Complete registration formalities for each target customer and OEMs. – Prepare facility for formal assessment by customers. – Choose the right components to pilot. – The component should align the company's capabilities and involve simpler processes. – Set up special process & material sourcing tie ups. – Conduct pilot trials and reviews by the customer till achieving first right part – Review regulatory requirements as mentioned in the checklist and prepare facility for certifications. – Secure order or assurance from customer. – Clear First Article Inspection (FAI).
– **Timeline**: 0 to 03 months	– **Timeline**: 03 to 12 months	– **Timeline**: 12 months to 02 years

Step-04: Certifications and expansion	Step-05: Move up the value chain
– Get the required certifications and other customer approvals. – Scale up facility and processes to meet the required volume and quality. – Win confidence of the first customer. – Most OEMs maintain balanced score card of their suppliers and cease supply from poorly performing suppliers who posses risk to their supply chain. Thus, it is of utmost importance to maintain quality and timeliness of deliveries. – Discuss on other opportunities (components) with customer. – Develop healthy portfolio of components. – Expand customer base. – Gradually add new components and customers without compromising quality and reputation. – Plan for additional approvals, audits, quality requirements.	– Develop clear vision and strategy to move up from component to sub assembly manufacturer (Tier 2 level). – Build capability by working with customers to identify right assemblies. – Look for global players (JVs, acquisition) to propel the transformation. – Target Indian and other global players who have defence manufacturing bases in India. – Develop capability and approvals to supply sub-assemblies to key global aircraft programs.
– **Timeline:** 02 to 04 years	– **Timeline:** 04 to 06 years

About SIDM

The Society of Indian Defence Manufacturers (SIDM) is a not-for-profit association formed to be the apex body of the Indian defence industry. SIDM plays a proactive role as an advocate, catalyst, and facilitator for the growth and capability building of the defence industry in India.

SIDM's vision is to catalyse the Indian defence industry to effectively contribute to India's national security and become a trustworthy global partner. Its mission is to work closely with the Government towards enabling the growth of the defence industry and collaborate with experts from the Armed forces, Academia and Defence industry to optimize the industry's development capabilities. SIDM's values are India First; One Voice and Self-Reliant for Security.

SIDM facilitates the growth of defence industry in India through policy advocacy support to the Government, conduct of events which provide a common platform for interaction with three Armed Forces, DRDO, Ministry of Defence, Paramilitary Forces and, also, OEMs and other industry players, Defence & Aerospace Consultancy Services (DACS), conduct of Defence Acquisition Management Training Programme, provision of a platform for business to business connections and serving as a bridge between the industry, the Armed forces and the government.

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