Contribution of Micro, Small and Medium Enterprises in Defence Production in India- Status, Challenges and Way Forward

A Dissertation submitted to the Panjab University, Chandigarh for the award of Master of Philosophy in Social Sciences, in Partial Fulfillment of the requirement for the Advanced Professional Programme in Public Administration (APPPA)

By

Commodore Sarath Aashirvad

(Roll No.4601)

Under the guidance of

Prof KK Pandey

46th ADVANCED PROFESSIONAL PROGRAMME IN PUBLIC ADMINISTRATION

(2020-21)

INDIAN INSTITUTE OF PUBLIC ADMINISTRATION
NEW DELHI

CERTIFICATE

I have the pleasure to certify that Shri Sarath Aashirvad has pursued his research work and prepared the dissertation titled "Contribution of Micro, Small and Medium Enterprises in Defence Production in India- Status, Challenges and Way Forward" under my guidance and supervision. The dissertation is the result of his own research and to the best of my knowledge, no part of it has earlier comprised any other monograph, dissertation or book. This is being submitted to the Punjab University, Chandigarh for the purpose of award of Master of Philosophy in Social Sciences in partial fulfillment of the requirement for the Advanced Professional Programme in Public Administration of Indian Institute of Public Administration (IIPA), New Delhi.

I recommend that the dissertation of Shri Sarath Aashirvad is worthy of consideration for the award of M.Phil degree of Punjab University, Chandigarh.

(Prof KK Pandey)
Supervisor
Indian Institute of Public Administration
IP Estate, Ring Road
New Delhi 110 002

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to Prof KK Pandey, my supervisor for this dissertation. He had given me full liberty to shape the content of the thesis as per ideas while guiding me in the right areas with suggestions for course correction wherever required.

I would like to thank the Programme Directors of 46th APPPA – Dr Charru Malhotra and Dr Pawan Kumar Taneja for constant pillar for support at each stage of the course and being the mentors through out.

I am thankful to Mr SN Tripathi IAS (Retd) Director IIPA and all faculty members of IIPA specially Dr Roma Debnath, Dr Surabhi Pandey and Dr Sachin Chowdhury for their inputs and guidance. I am also deeply obliged to the support provided by the staff at APPPA office, IIPA for the warm response and assistance in the administrative and logistic support.

I would place on record the support provided Brig A Bhattacharya from the Society of Indian Defence Manufacturers, New Delhi for the support provided to the access to the Industries for the survey. I would also place on record my sincere appreciation for the valuable inputs provided by the MSME association at Coimbatore and Bangalore. I am indebted to those CEOs and employees of the industries who painstakingly participated in the questionnaire survey, shared the information and gave valuable inputs.

I ‘am also extremely thankful to Mr Manoj Kumar, Executive Director, M/s Bharat Electronics Ltd, National Marketing, New Delhi and Mr Raghavan Muralidharan CTO, Tata Advanced Systems for the inputs and data provided by them on the engagement with the MSME sector.

I would also like to express my thanks to the staff of IIPA Library for their sincere cooperation in tracking documents, Articles etc for this thesis.

I must confess, at the end this work could only be possible due to the unbound support and moral strength provided by my family, APPPA team mates and my friends and dedicate this work to them.

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ABSTRACT

India's march towards world eminence cannot be sustained without a defence industrial base to meet the strategic needs of the armed forces indigenously. Post the liberalization of the economy in 1991, the reforms put in place have had a positive impact in the industrial scenario leading to larger participation. The defence industry which was otherwise reserved for the public sector was opened up and the preferential treatment meted out to them reformed leading to larger participation from the private sector.

Towards vitalizing the Indian domestic defence industry and encouraging wider participation, successive governments since the liberalization has put in place host of measures that served to increase the share of Indian vendors in the defence sector. With the modest beginning of being an indigenous partner with foreign firms, the Indian industry was elevated to the status of manufacturer of equipment and systems for the armed forces. The "Make in India" and "Atmanirbhar initiatives" put in place since the 2014 had far reaching implications on the defence sector and major players in both public and private started exploring initiatives towards generation of indigenous sources for their system design and sub-assemblies. This has led to a profound change in pattern of capital expenditure for acquisition with major tilt in favour of the indigenous industry since 2015.

The MSME sector in country had been a silent partner in the quest for indigenization and has been contributing to the evolution as manufacturer for sub-assemblies and spares for the major industry players. Since the enactment

of MSME act 2006, the government has introduced various policies and measures aimed at improving the ease of doing business and access of funds to the MSME sector. These measures had its impact as is evident from the total number of enterprises, their dispersion across and its employment generation capability which is second only to agriculture. The spread of these enterprises to the tier II cities led to the creation of ample job opportunities for the workforce which was otherwise not employable by the major industry and hence is an important element towards equitable progress and growth. The policies initiatives even though highly beneficial to the larger traditional MSME industry base, being generic eluded the specifics that might be warranted for a sector that is highly technology oriented such as the defence industry.

It emerges from the study that the DPSUs and major private industry players in defence industry have a large dependence on the MSMEs and hence the march of the country to emerge as a global platform for manufacturing and supply chain sourcing for the defence sector can only be attained provided we gainfully utilize, encourage and adopt the right initiatives to involve and encourage the sector. The survey of the MSME industry clearly highlights the current contribution they make to the indigenous defence industry, their aspirations, the positivity and vibrancy of the sector and their perception of impediments to their growth.

Changes to the mode of engagement by the Ministry of Defence, assimilation of the data on the industry in the defence sector and recognition of their contribution through creation of a portal, facilitation of a larger role for the major

defence industry players and synergized approach with of the involvement of all stake holders including the MSMEs in the pursuit for high technological solutions could be the critical strides that could positively impact the MSME sector. Creation of a technology fund, specific for the MSME sector in their pursuit for future technology challenges and enabling the access of the sector to the global supply chain of foreign manufacturers would help them leapfrog their capability.

LIST OF ABBREVIATIONS /ACRONYMS

AoN	: Acceptance of Necessity
API	: Application Programming Interface
ASSOCHAM	: Association of Chambers of Commerce
BEL	: Bharat Electronics Limited
CII	: Confederation of Indian Industry
CGTMSE	: Credit Guarantee Trust Fund for MSE
CKD	: Completely Knocked Down
CLCSS	: Credit Linked Capital Subsidy Scheme
CMS	: Comprehensive Maintenance Contract
COSME	: Competitiveness of Small and Medium sized Enterprises
COTS	: Commercial off the Shelf
CPSU	: Central Public Sector Undertaking
CSIR	: Council for Scientific and Industrial Research
DAC	: Defence Acquisition Council
DDP	: Department of Defence Production
DGQA	: Directorate General Quality Assurance
DIC	: Defence Industrial Corridor
DOFB	: Defence Ordnance Factory Board
DPP	: Defence Procurement Procedure
DPRs	: Detailed Project Reports
DPSUs	: Defence Public Sector Undertakings
DRDO	: Defence Research and Development Organisation
DTI	: Defence Testing Infrastructure
EDIDP	: European Defence Industrial Development Programme
EMI/EMC	: Electro Magnetic Interference/ Electro Magnetic Compatibility
ESIF	: European Structural and Investment Fund

EUROCHAMBERS : Association of European Chambers of Commerce and Industry

FC : Facilitation Council

FDI : Foreign Direct Investment

FICCI : Federation of Indian Chambers of Commerce and Industry

FII : Foreign Institutional Investors

FIPB : Foreign Investment Promotion Board

FPI : Foreign Portfolio Investors

GDP : Gross Domestic Product

GeM : Government e-Marketplace

GST : Goods and Service Tax

ICT : Information and Communication Technology

IBP : Integrated Business Park

IDDM : Indigenously Designed, Developed and Manufactured

IDEX : Innovations for Defence Excellence

IOP : Indian Offset Partner

IT : Information Technology

JV : Joint Venture

JSS : Joint Service Specification

KVIC : Khadi and Village Industries Commission

LCA : Light Combat Aircraft

L-CSC : Life Cycle Support Contract

MAFI : Modernization of Airfield Infrastructure

MCME : MSME Cluster Marketing Consortiums

MNC : Multi National Corporation

MoD : Ministry of Defence

MSME : Micro Small Medium Enterprises

MToT : Maintenance Transfer of Technology

NBMSME : National Board for MSME

NCMSME : National Council for MSME

NOC : No Objection Certificate

NPA : Non Performing Asset

NPC : National Productivity Council

NBFC : Non-Banking Finance Company

OEM : Original Equipment Manufacturer

OFB : Ordnance Factory Board

OFs : Ordnance Factories

PADR : Preparatory Action on Defence Research

PAN : Permanent Account Number

PBL : Performance Based Logistics

PITCCH : Pan –European Open Innovation Network for Corporate Challenges in Advanced Technologies

PMEGP : Prime Ministers Employment Generation Program

PSUs : Public Sector Undertakings

QCI : Quality Council of India

QR : Qualitative Requirement

R&D : Research and Development

SCAPs : Services Capital Acquisition Plan

SHQ : Service Headquarters

SIDBI : Small Industries Development Bank of India

SIDM : Society of Indian Defence Manufacturers

SIPRI : Stockholm International Peace Research Institute

SKD : Semi Knocked Down

SME : Small and Medium Enterprises

SOP : Standard Operating Procedure

SPV : Special Purpose Vehicle

SQR : Services Qualitative Requirement

TC : Technology Center

TCSP : Technology Center Systems Programme

TDC : Technical Development Centers

TDF : Technology Demonstration Fund

ToT : Transfer of Technology

TPSED : Tata Power Strategic Engineering Division

TReDS : Trade Receivables e-Discounting System

UAM : Udyog Aadhaar Memorandum

UAN : Udyog Aadhaar Number

UEI : Unique Enterprise Identity

ZED : Zero defect and Zero effect

CHAPTER 1

Introduction

MSMEs (Micro, Small and Medium Enterprise) typically constitute over 80 percent of total enterprises in most economies the world over and are the power engines of an economy. Being small enterprises, these are effective, efficient, flexible and also exhibit great innovative entrepreneurial spirit. In India the role of MSME's have seen a substantial rise in the last 05 decades and these have been playing a pivotal role in enhancing employment opportunities at comparatively lower capital cost and has also enabled industrialization in rural & backward areas thereby greatly reducing the regional imbalances. This sector is currently the second largest employment provider in our country and serves as a good vehicle to achieve inclusive and distributed growth. As on date the NSIC website has 208,626 units registered and it is estimated that approximately 8000 of these relates to the defence industry.

Indian Scenario

Presently, India is one of the largest importers of conventional defence equipment and approximately 60 percent of defence requirements are met through imports. The domestic industry is predominantly dominated by defence PSUs and ordnance factories, which contribute to about 90 per cent of the total domestic manufacturing. It is estimated that the DPSUs and ordnance factories combined typically outsource 40 per cent of their production requirements to private companies in the MSME sector. India has the potential to emerge as a global platform for manufacturing, supply chain sourcing and software development for the defence sector provided we encourage and adopt the right kind of initiatives to involve the Micro, Small & Medium Enterprise sector.

The Ministry of Defence, Government of India promulgated the DPP 2016 (Defence Procurement Procedure 2016) in Mar 2016 to be implemented for all defence procurement cases from 01 Apr 16 onwards. The DPP 2016 had some path breaking initiatives towards involving the MSME's in the defence manufacturing in the country. The introduction of the Buy IDDM category, revamping of the Make procedure with the inclusion of Make I/II and flexible indigenous content requirement in some procurement categories where changes that were implemented with an aim to the revamp the procurement procedure as also enabling deeper involvement of the Indian domestic industry. The Make I/II procedure was critically aimed at the inclusion of the MSME's in the defence indigenization and production process.

In the case of Make-I projects, government would take the lead in funding prototype development by the industry with a commitment of up to 90 per cent for prototype development, with a further provision that 20 per cent of the total developmental cost would be paid in advance. In the case of Make II projects, the industry is required to bear the full cost of the development. For the MSMEs, the new procedure provides them the first right to undertake prototype development up to Rs. 10 Crores under the government-funded 'Make' projects and up to Rs. 3.0 Crores in case of industry funded projects. Only in case the MSME sector doesn't opt for the projects, these can be opened up for participation by the bigger industry players.

Statement of the Problem

India has the third largest armed forces in the world and is amongst the top ten countries in defence expenditure (1.8% of GDP) and also the largest importer of

defence hardware. Defence allocation in union budget for 2019-20 was Rs 3.18 lakh crore, of which 40% catered for capital acquisitions. In addition Para Military forces, state armed forces have dedicated budget which involve procurement of defence equipment. These forces are involved in the peace time security and the maintenance of law and order in the domestic context. To meet the capital acquisitions needs, the country is heavily dependent on imports and approximately 65% of the Capital budget is spent in imports. Since the days of liberalization and emergence of the private sector, there has been a consistent push to reverse the trend and with efforts towards manufacture of systems/sub systems for defence needs indigenously. Whilst the requirements of the defence services were being met indigenously to a limited extend by the Defence Public Sector Undertakings and the Ordnance Factory Board (OFB), the establishments were dependent on the supply chain mechanism abroad for development and supply of Systems/sub systems.

India's march towards world eminence cannot be sustained without a defence industrial base to meet the strategic needs of the armed forces indigenously. Towards vitalizing the Indian domestic industry and encouraging participation in the defence manufacturing, the concept of Offset was introduced in 2005. The key objective of policy was to leverage capital acquisitions to develop Indian defence industry through (i) fostering development of internationally competitive enterprises, (ii) augmenting capacity for Research, (iii) Design and Development related to defence products and services and encouraging development of synergistic sectors like civil aerospace, and internal security. The provisions under the offset policy applied to all Capital Acquisitions proposal of Rs 300 crore or more which were categorized in the 'Buy (Global)' which involved

outright purchase from foreign/Indian vendor, or ‘Buy and Make with Transfer of Technology’, which involves purchase from foreign vendor followed by Licensed Production in India. The policy had put forth multiple options for the discharge of offset obligation by the foreign vendor. The policy had a special provision in that, in case an MSME is selected as an IOP, a multiplier factor of 1.50 would be permitted. However these initiatives could not encourage the MSME sector and all offset partners selected by foreign vendors were limited to the larger industry players

As a further initiative in this direction, the Ministry of Defence, Government of India promulgated the Defence Procurement Procedure 2016 (DPP 2016) with safeguards towards encouraging the MSME sector and increasing their participation in the defence manufacturing. As per the DPP 2016, “Make” category referred to equipment/system/ sub-system/assembly/sub-assembly, major components, or upgrades thereof, to be designed, developed and manufactured by an Indian vendor. Whilst retaining the multiplier factor of 1.50 for offset obligation being implemented with the Indian MSME partners as per DPP 2011, DPP 2016 further introduced the Make I and Make II sub categories under the Make category. Make-I sub-category would involve infrastructure creation and hence the Government was to fund 90% of the project cost to be released in a phased manner and based on the progress of the scheme, as per terms agreed between MoD and the vendor. Projects under the Make-I sub-category, with estimated cost of prototype development phase not exceeding ₹ 10 Crores, will be earmarked for MSMEs. However, if at-least two MSMEs do not express interest for a Make-I program of less than ₹ 10 Crores, the same shall be opened up for all, under the condition that interested MSME(s), if any at that stage and meeting the eligibility criteria, will get preference over Non- MSMEs in

the selection. Under the Make-II scheme to be funded by the Industry, which involved creation of marginal infra-structure at an estimated cost of prototype development phase not exceeding ₹ 3 Crores, the project was to be earmarked for MSMEs and was to focus on develop of import substitutes for systems and sub systems. Towards effective implementation of the scheme the SHQ's were to establish a permanent Make-Project Management Unit (PMU), within its service to be headed by a two star rank officer or equivalent and staffed appropriately with professionals of various ranks/branches and specialization.

Four years have since elapsed since the promulgation of DPP 2016 and the new version of the document DAP 2020 has also now been released recently. Whilst the DPP 2016 had included provisions for increased participation of the MSME's in the defence production market, there has been no significant achievements till date. As per the website of the Department of Defence Production, Ministry of Defence only 55 cases have been processed under the Make II procedure till date and nil under Make I. With the defence sector being the most emerging market in current times and the 60% of the conventional weapons and sensor systems being imported by the country, there exist ample scope for the MSME's to fill the void under the "Make in India" initiative which had aimed to promote the defence manufacturing sector output to 25% of GDP. The MSME firms could form a critical element in the industrial base of the country and encouraging this sector would be mandatory requirement for driving this change.

Objectives

The research objectives of the study are as follows.

1. To explore the policy initiatives promulgated by the Ministry of Defence, Government of India for encouraging the participation of MSME's in defence manufacturing.

2. To explore the indirect participation of the MSME's in Defence Production supply chain through Defence Public Sector Undertakings, Shipyards and major Private sector firms.

3. To study the initiatives introduced in the developed countries towards encouraging the small scale industry sector in defence production.

4. To identify the impediments and limitations if any being faced by the MSME's in participation of defence production.

5. To recommend corrective measures in terms of policy initiatives towards improving the environment for the participation of the MSME firms in the defence industry scenario.

Study Design and Strategy

The study is based on Quantitative Strategy and the Research Design would be descriptive and exploratory in nature conducted primarily through a review of the available literature including reports/articles on the subject by the Ministry of MSME, Reports of the Expert Study group on MSMEs in India along with analysis of secondary data on the details of the supply orders (placed by the Ministry of Defence, the DPSUs and Large Private sector manufacturers on the MSME sector in India for the last three years). Data from the survey of the MSME firms involved in the defence sector has been utilized to understand the performance of the sector and also the perception of the industry on the lacunae that inhibits the participation of the sector in the defence industry.

Rationale or Justification

The Micro, Small & Medium Enterprises (MSMEs) have been contributing significantly to the expansion of entrepreneurial endeavors through business innovations and have been widening their domain across sectors of the economy, producing diverse range of products and services to meet demands of domestic as well as global markets. As per the Annual report of the Ministry of Micro, Small & Medium Enterprises released in 2019, for the year 2016-17, the MSME sector had a share of 31.83% in the Gross Value Added (GVA) and contributed 28.9% to the GDP.

The defence budget of the country today stands at Rs 3.19 Lakh Crore and 40 percent of the total budget is earmarked for capital acquisitions. Sizeable part of the capital budget is utilized for procurement of conventional equipment and systems of which 65% of the requirement is currently met through imports. The MSME sector within the country has evolved over the years and has today matured enough with sizeable participation and is actively involved in the development of home grown solutions for the space programs under the guidance and mentoring of the ISRO.

As per the National Sample Survey 73rd round the MSME sector in the year 2015-16 employs 11.10 Crore personnel of which 3.6 Crore is in the manufacturing sector. Provided that an advantageous environment is created within the country the capability harnessed by the MSME's could be suitably utilized for the manufacturing in the defence sector which would enhance the skill sets within the country, provide ample employments opportunities as also save valuable foreign exchange. Creation of the capability within the MSME sector

would also serve to increase the export potential of the country as also make the vision of “Make in India” a reality.

Identification of the current impediments in the participation of the MSME sector in the defence manufacturing in India has been taken up for the formulation of appropriate policy and ground level initiatives that would enable capability building in this sector towards improving their contribution as also making the country self-reliant.

Research Questions

The research questions that are relevant for the study include:

1. What are the policy initiatives promulgated by the Ministry of Defence for enhancing participation of MSME’s in defence manufacturing sector?
2. How are the MSME’s contributing to the Defence Public sector undertakings/ Private Enterprises involved in the manufacturing of conventional systems for the Defence Services?
3. What are the impediments that have been a roadblock in the growth of MSME sector in the defence industry in India?
4. What are the initiatives that may be required to be instituted towards increasing the participation of the MSME sector in the defence industry in India?

Scope/Limitations/De-Limitations

The MSME sector is categorized as per the 73rd NSO survey into four main categories which include manufacturing, trade, other services and electricity. The current scope of the study would be limited to the manufacturing sector with special relevance to defence industry technologies. Limitations in information

and data on defence industrial and technical capabilities due to security issues and availability of policy makers and key stake holders (Govt of India, Armed Forces, DRDO and Industry Captains) for interview and limited availability of detailed data due to sensitivity of the subject matter would also be the other limitations. The limitations on travel and interactions posed due to the threat of COVID 19 also need to be factored.

Methodology Applied

The method of research is exploratory and would comprise primary data and critical review of the secondary literature. Primary data has been collected through the annual reports published by the MoD/MSME ministries of the Government of India as well as the study of the status of the various schemes already promulgated towards encouraging the participation of MSME in the defence sector. In depth analysis of the engagement of the Department of Defence Production, Ministry of Defence, Government of India, and Defence Public Sector undertakings and Private Sector players engagement with the MSME sector has been done and feedback through questionnaires from selected sample MSME firms already involved in the defence industry obtained. Data on the orders placed by the leading Defence Public Sector undertakings and Private Sector Major Players in the defence manufacturing on MSMEs has been collected for the study. Secondary data would comprise research papers published by eminent authors with regard to the capability and limitations of the MSME sector in India, data from periodicals/professional literature.

Chapter Scheme

The Chapter scheme for the research report is as follows.

Chapter 1. Introduction.

This chapter deals with the background of the subject, the outlines of the objective, research questions and the methodology adopted for the research along with the sources of data.

Chapter 2. Review of Literature.

This chapter gives a detailed review of the existing literature on the subject, reports of the expert study group on MSMEs and research papers published on the subject.

Chapter 3. MSME Sector in India.

This chapter deals with the history of the evolution of the MSME sector in India since the formulation of the MSME Act in 2006, the initiatives formulated over the years through various government schemes for encouraging the sector.

Chapter 4. Defence Industry – India.

This chapter deals with the history of evolution of the defence industry in India since independence and the evolutionary steps that led to the participation of the private sector in the defence industry.

Chapter 5. MSME Sector in Europe – Lessons for India.

This chapter explores the reforms introduced by the European Commission for the SME sector in Europe and the measures adopted for ease of doing business and access to finance. The measures adopted for the creation of a single market, internationalization of the SME for the sector and partnership between the larger industries with the SME sector is also analyzed.

Chapter 6. MSME in Defence – Current Status.

This chapter would analyze the results of the survey of the MSME involved in the defence scenario to understand the aspiration of the sector, impediments to their growth and problems being encountered. An analysis of the dependence of the DPSUs and the private sector on the MSME is also studied.

Chapter 7. Recommendations.

This chapter deals with the recommendations on the measures to be instituted towards encouraging growth in the MSME sector and increasing the contribution of the MSME in the defence production.

CHAPTER 2

Literature Review

There is very few literature and books on the role of MSME's participation in the defence manufacturing sector in India. However, various papers and studies on the performance of the MSME sector in India, the impediments faced by these and recommendations on improving the performance of these exists which had been referred for the study. The annual reports of the Ministry of Defence and the Ministry of Micro, Small and Medium industry also provided insights into the performance of this sector. The literature reviewed for the study is appended below.

Kishore Balbadra, Kalidas K (2019) examined the entire gamut of defence production with reference to strategic electronics towards developing an understanding the Indian scenario and the various factors contributing to the success of the country becoming a nodal centre for research and development of systems towards increasing the technological capability. The paper concludes that Defence Public sector undertakings and Research and Development eco system should concentrate on high end technologies and system integration while allowing the MSME sector to be part of the whole supply chain in the development of mission critical technologies. The MSMEs should maintain close collaboration with the R&D and Academia in the development of these technologies which would create a vibrant eco system for defence manufacturing.

Dr Ramana A V, Nandeeswaraiah (2019) presented an overview on the performance of Micro, Small and Medium Enterprises and the linkage of this

sector to furthering of GDP, rise of output, production and consumption as also the employment generation and managing the regional imbalances. The paper examined the challenges facing the MSME sector and concluded that the sector contributes to the country in tangible and intangible ways and recommended that the government should continue to provide financial and infra-structure support and encourage collective bargaining towards strengthening of the GDP of the economy.

Rajesh Vaidya et al (2020) examined the aspect of assistance of the Public sector banks to the MSME sector and its effect on the performance as also the other factors that are responsible of the growth. The paper brings out that as per the prediction of the Centre for Economics and Business Research, India would overtake the GDP of France and UK by 2032 and the MSME sector being the highest employer in the country after the agriculture sector would have a critical role to play in this growth. The paper also highlighted that the MSME sector has grown in spite of odds such a recession, high inflation and higher cost and more support such as grants/soft loans and subsidies would enable beneficial outcome from the sector. The paper further recommended the roles to be played by the Government, the Reserve Bank of India, PSU banks and the Entrepreneurs of the MSMEs towards achieving higher growth and success of the sector.

Singh Charan, Vaswani Kishinchand Poornima (2016) studied the source of utilization of finance by the MSME sector in the enterprise life cycle of 04 stages which are start-up, survival, growth and sustenance. The challenges in access to funds in each of these stages are unique and the paper recommends steps for each group of stake holders based on qualitative feedback from respondents.

Even though the paper does not specifically refer to the SMEs in the defence manufacturing sector, it is imminently apparent that all the recommendations of the study are equally valid for the sector.

Dinesh Babu, Jithin J N, Balamurugan (2016) brings out that the “Make in India” campaign will not take off unless the small and medium enterprises in the country provide a robust supply chain for foreign investors. Different rules and incentives need to be made for different sectors and a capital investment based criteria would not be appropriate as the same will not be competitive as it creates a disincentive to improving technology, productivity, quality and reducing costs. The paper also elaborated that even though the MSMEs have been contributing greatly to the economy, the full potential has not been harnessed till date and there is a need to develop potential strategies to improve linkages and coordination between the Government, industry and academia and with additional impetus, the sector can have a multiplier effect to the Indian economic growth in this decade.

Pachouri Anshul, Sharma Sankalp (2017) examines the current state of innovation by the MSMEs in India including the types, sources and funding, the key barriers that hinder innovation by the MSMEs. The paper identifies the six key category barriers to innovation in the Indian MSME scenario and lists the government policy as one of the key barriers and that the institutional functioning of the government institutions, research laboratories and the individual firms often does not match. The paper further recommends that programs like the cluster development programs could be expanded to provide greater access to

more individual firms within the cluster and a holistic and separate innovation policy for the MSME sector is recommended.

Dr Shaik Meera Vali et al (2017) discussed the growth of the MSME sector over the last 05 decades and it increasing contribution to the GDP of the country, the government initiatives to revitalize the sector and the key challenges faced. The paper analyzed the reasons for the MSME contribution not being at acceptable levels in spite of the various initiatives and recommended that the Government adopt integrated policy, provides sound data with efficient governance, promote skill development and provides accessible credit to the sector through Government sponsored agencies exclusively to the MSME sector.

Dash J P, Kumar Devinder (2018) analyzed the reasons for the stagnation of the Make in India initiative in the Defence manufacturing sector as the primary dependence on the import route for acquisition of technology, the general reluctance from the technology leaders to share technology and the relative inability of the Indian counterparts to absorb and upgrade the technology. The MSME sector with some exceptions is characterized by low technology levels which are a huge drawback in the emerging global market and the sustainability of these would be in jeopardy amidst the competition from imports. The paper recommended a cluster approach in meeting the future technology demands of Industry 4.0 through creation of Defence Industrial Production Corridors and the Government should be the facilitator for delivery of cost effective solutions for the SMEs.

Dr S Manikandan (2017) examined the salient features of the MSME sector that keeps them dynamic compared to the traditional manufacturing industry and also reviews the schemes framed by the Government for the MSME sector and did a study on the financial crunch in the SME sector, their prominent source of funding, and problems faced by them with special reference to the SME clusters in Maharashtra. The study brings out that the SMEs have flexibility and creativity to adopt to alternate viable business proposition due to which they had not been impacted much during the global meltdown and also examined the reasons why banks shy away from lending to this sector and possible remedies to enhance accessibility of the MSME to bank finances.

Subina Syal (2015) examined the role of MSMEs in the growth of Indian economy and review the subject in respect of the policy frameworks on FDI and de-reservation for MSMEs, requirement of setting up testing laboratories and state of the art tool rooms, infra-structure requirement, export promotion and opportunities for the MSMEs in the manufacturing sector in India. The paper discussed the focus of the 12^{th} five year plan regarding the growth of MSMEs in the country and concluded that facilitation from the Government is required to minimize the transaction cost of technology up-gradation, market penetration and modernization of infra-structure.

Aakriti Goel (2015) studied the major challenges being faced by the MSME sector in India and suggests policy recommendations that would help overcome these. The paper reviewed the study on the subject under the heads of finance, labour, infra-structure, input/output market and has also examined the KPMG-CII report on the subject. Among the surveys conducted by the author, the result on

the precision tools MSMEs of Bangalore is specifically relevant to the study as this has critical linkage to the defence manufacturing sector.

It emerges from the review of the literature that the challenges being faced by the MSME sector in India has been resilient, has shown good growth potential in spite of the economic slowdown and favorable government policies and framework, access to finance and being part of the supply chain for larger industries would be key to their growth in the defence sector.

CHAPTER 3

MSME Sector in India

This chapter analyzes the government initiatives towards the encouraging the growth of the MSME sector in India since the enactment of the MSME act in 2006, the various study reports on the sector and seeks to analyze the impact of the policy initiatives that led to the growth of the sector in India over the years as also the increased contribution of the sector to the employment generation, the dispersal of enterprises throughout the country both urban and rural and contribution to the GDP.

The Sector

The importance and contribution of the SME sector to the economic growth and prosperity of the country like India where the majority population resides in the rural areas is well established. The sector in India is highly heterogeneous in terms of the (i) size of the enterprises, (ii) variety of products, (iii) services produced; (iv) levels of technology employed and is characterized by low investment requirement, operational flexibility and location wise mobility. Accordingly along with the policy initiative in the enactment of the Micro Small and Medium Enterprises Development (MSMED) Act, 2006 further steps such as pruning of reserved SSI list, advising Financial Institutions to increase their flow of credit to the SME sector, were all initiated towards boosting entrepreneurship, investment and growth.

The Act also enabled policy environment for promotion and development of the sector by way of defining MSMEs, putting in place a framework for developing and enhancing competitiveness of the MSME enterprises, ensuring flow of credit

to the sector and paving the way for preference in Government procurement to products and services of the MSME. .

The President of India through the Notification dated 9th May 2007 amended the Government of India (Allocation of Business) Rules, 1961 merging the Ministry of Agro and Rural Industries (Krishi Evam Gramin Udyog Mantralaya) and Ministry of Small Scale Industries (Laghu Udyog Mantralaya) into a single Ministry, namely, “Ministry Of Micro, Small And Medium Enterprises (Sukshma Laghu Aur Madhyam Udyam Mantralaya)”. The administration of the MSME sector was brought under the under the jurisdiction of the Ministry of Micro, Small and Medium Enterprises (Sukshma Laghu Aur Madhyam Udyam Mantralaya), of the Government of India and the Office of Development Commissioner (Micro, Small and Medium Enterprises) was to function as the nodal Development Agency and was also designated as the apex body to advise, coordinate and formulate policies and programmes for the development and promotion of the MSME Sector. The MSMED Act had the following key provisions.

- Established a National Board for Micro, Small and Medium Enterprises headed by the Minister for MSME.
- Provided the first-ever legal framework for recognition of the concept of “enterprise” which comprises both manufacturing and service entities.
- Defined medium enterprises for the first time and seeks to integrate the three tiers of these enterprises, namely, Micro, Small and Medium.
- Empowered the Central Government to undertake programmes and issue guidelines and instructions to develop and enhance the competitiveness of MSMEs.

Further Section 7 of the Act classified the MSMEs based on the investment in plant & machinery/equipment follows:

- Enterprises engaged in the manufacture or production of goods pertaining to any industry specified in the First Schedule to the Industries (Development and Regulation) Act, 1951 (65 of 1951), as —
    1. Micro enterprise, where the investment in plant and machinery does not exceed twenty-five lakh rupees.
    2. Small enterprise, where the investment in plant and machinery is more than twenty-five lakh rupees but does not exceed five crore rupees.
    3. Medium enterprise, where the investment in plant and machinery is more than five crore rupees but does not exceed ten crore rupees.
- In the case of Enterprises engaged in providing or rendering of services, as —
    1. Micro enterprise, where the investment in equipment does not exceed ten lakh rupees;
    2. Small enterprise, where the investment in equipment is more than ten lakh rupees but does not exceed two crore rupees; or
    3. Medium enterprise, where the investment in equipment is more than two crore rupees but does not exceed five crore rupees.

The task force set up by the Prime Minister in 2009 had made 85 recommendations to unshackle the MSME sector in India. Towards carrying forward the recommendations of the task force and also identifying specific action plan and milestones to be achieved in the 12th Five Year Plan (2012-2017) the Planning Commission set up a Working Group on Micro, Small and Medium Enterprises (MSMEs) under Secretary MSME with 46 members representing the

various ministries/departments. The working group noted that the sector accounts for 45% of the manufacturing output and 40% of total exports and provides employment to about 69 million persons through 26 million enterprises throughout the country. The labour to capital ratio in these enterprises and the overall growth in the sector was much higher than in the large industries and these units were geographic distributed in an even manner thereby providing growth with equity and inclusion.

Further, the working group constituted 11 sub-groups to examine each of the issues effecting the sector and formulated the recommendations related to the growth of the sector under six verticals (i) Credit & Finance, (ii) Technology, (iii) Infrastructure, (iv) Marketing & Procurement, (v) Skill Development & Training and (vi) Institutional Structure. Towards re-vitalizing the MSMEs in the manufacturing sector, the Working Group recommended (i) up-scaling of the training capacity of the Ministry through public private partnership, (ii) skill up gradation through the setting up of a virtual SME university and (iii) setting up of Tool Rooms/ Technology Development Centers (TDCs) to provide specialized training to the existing and prospective workers. These institutions were to be set up in Industrial Districts / Clusters with state of the art machines to provide training to the youth to make them readily employable in high growth sectors.

Recommendation of Working Group

The key points in the summary of recommendations of Working Group to facilitate growth of MSME Sector are as enumerated below.

- Improving the availability of finance by way of facilitating access to bank credit, opening alternate routes for equity funding through angel funding,

venture capital, private equity etc. as well as facilitating entry to capital markets through IPOs and specialized exchanges for SMEs.

- Improving marketing and procurement facilities through preferential treatment for MSEs in public procurement, development of B2B portals and establishing cluster based marketing networks.
- Improving infrastructure for the MSME sector by ensuring availability of work places, common facility centres and specialized growth centres for start- ups and Improving technology and innovation through continuation of National Manufacturing Competitiveness Programme (NMCP).
- Developing an institutional framework for handholding of the Micro & Small entrepreneurs to move up the value chain and facilitating global competitiveness of the small & medium enterprises.

Game Changer Proposals

The group further made specific Game Changer recommendations crucial for the ski-jumping of Indian MSME Sector in the global market place which pertained to (i) Operationalization of SME exchanges for enabling access to Equity Finance, (ii) Scheme for acquisition and up-gradation of technology and developing clusters of excellence (iii) Procurement policy for Goods/services from MSEs by the Government Departments and leveraging Defence Offset Policies in favour of MSMEs (iv) Revamp Skill Development & Capacity Building Programme for encouraging young/ first generation entrepreneurs.

Public Procurement Policy for MSME

As per the recommendation of the committees, the Government of India towards encouraging the sector directed vide Order ‘Public Procurement Policy for Micro

and Small Enterprises (MSEs) Order, 2012' that every Central Ministry or Department or Public Sector Undertaking shall set an annual goal of procurement from MSME from the financial year 2012-13. However, considering the special Provisions for Defence Procurements, defence armament imports and defence equipment like weapon systems, missiles, etc was excluded.

Committee Formulations

View the MSME sector being a top priority for the government and gaps in the implementation on the reports on MSME sector in the past, the government appointed the following Committees post 2012, to examine the issues pertaining to the sector as indicated in Table below.

Table 3.1 – Committees formulated by the GOI

Sl	Details of Committee	Year
1.	Report of Advisory Committee on MSME Sector - Anurag Jain	Feb 2012
2.	Report of the Inter-Ministerial Committee for Boosting Exports from MSME Sector -R S Gujral.	July 2013
3.	Recommendations of the Inter-Ministerial Committee for Accelerating Manufacturing in Micro, Small & Medium Enterprises Sector -Madhav Lal Committee.	Sep 2013
4.	Report of the Committee set up to examine tile financial architecture of the MSME sector - K.V.Kamath.	Feb 2015
5.	RBI's Report of the Committee on Medium-term Path on Financial Inclusion - Deepak Mohanty	Dec 2015
6.	Prime Minister's Task Force on MSMEs.	2016
7.	Report of the One Man Committee constituted to make a National Policy for Micro, Small and Medium Enterprises - Prabhat Kumar	Jan 2017
8.	Report of the Expert Committee on Micro, Small and Medium Enterprises - U K Sinha.	Jun 2019

The one man committee report by Mr Prabhat Kumar had studied all recommendations made by the various committees prior 2017 and noted that

recommendations of previous committees have been implemented only on piecemeal basis and not in a holistic manner. The comprehensive recommendations made for a national policy for the MSME sector is as below:

- MSME policy environment to be seen in totality towards developing a synergistic ecosystem including all stake holders, honoring the entrepreneurship spirit and restoring the dignity. Public-Private-Participation mode to be increasingly utilized and capabilities and resources of the private sector to be harnessed for MSME.
- Creation of a transparent non-coercive database on MSME and MSME Act 2006 to be amended so that the Central Government to be empowered to change the investment limits from time to time.
- Create an apex authority under the chairmanship of the Prime Minister, The National MSME Authority.
- Starting of an annual research publication entitled SME India Monitor/Index to cover the stage SMEs development in India, ease of doing business, access to finance, and competitiveness.
- Creation of a single portal for addressing all issues of the sector.
- SIDBI to develop Integrated Business Parks to facilitate Sector Specific Common Infrastructure for storage, research & development, prototype testing, shared critical and high investment machineries.
- Reforms in the banking sector to facilitate easy and quick loans for the MSME sector and change in classification of NPA norms in Banks' lending to MSMEs
- E-financing Portal for financing of MSME Supply Bills & Receivables be set up where all supply bills and receivables could be offered for

discounting or financing to banks and other financing institutions like NBFCs

- Establish a separate 'SME Equity Investment Fund' by the Ministry of MSME to be managed by a professionally run entity of fund managers.
- Establishment of 'MSMEs Cluster Marketing Consortiums' (MCMCs) through formation of 'Special Purpose Vehicles' (SPVs).

In accordance with the Fifth Bi-Monthly Monetary Policy Statement for 2018 -19, dated December 5, 2018, that RBI constituted an Expert Committee on Micro, Small and Medium Enterprises to propose long term solutions, for the economic and financial sustainability of the MSME sector headed by Mr UK Sinha, the important recommendations which are as follows.

- Turnover based definition to be transparent, progressive and loan criteria to be made easier.
- Focused engagement of SIDBI with State Governments for development and promotion of the MSME sector and creation of a portal by SIDBI to facilitate investment from Venture Capital funds.
- Additional measures in the Public Procurement policy to enable procurement by PSU only through GeM portal as also prevent delay in clearance of payments and institute effective redressal mechanisms for early resolution.
- Setting up of a Non-profit SPV to support crowd sourcing of investments and Strengthening of the Cluster development program and Cluster Eco system.
- Ministry of MSME should be the Nodal Ministry for all interventions pertaining to the MSME Sector, rather than multiple schemes being run by different Ministries for promotion of MSMEs.

- Creation of a unique identifier such as Unique Enterprise ID (UEI) portal.

In addition, the Ministry of Micro Small & Medium Enterprises constituted a Working Group to study the need for changes in MSMED Act, 2006 under the chairmanship of Shri S.N. Tripathi, IAS, Director Indian Institute of Public Administration and to deliberate on measures to promote competitiveness among MSME. The Working Group proposed modifications in the MSMED Act in 12 categories and keys recommendations are:

- Revision of the criteria for definition of MSME with increase in upper ceiling.
- All micro, small and medium enterprises to be registered based on Aadhaar enabled API/ PAN/ Bank Account.
- Additional powers to the MSE Facilitation Councils (FC) as also creation of additional FC, probably one in each district.
- Simplification of procedures for seeking approvals/inspections AND Creation of an investor friendly atmosphere through exemption from inspection and approval for MSMEs giving intent to initiate business.
- Use of information utility to enable prompt release of payments and provision for setting up Online Grievance Redressal/Complaint Resolution Mechanism.
- Adoption of the model MSME law by states to bring uniformity and creation of state and district agencies to facilitate the ease of doing business.

Annual Report MSME Ministry

The improvements in the MSME sector in India as of 2019 have been complied in the latest report of the MSME ministry in the annual report.

1. Udyog Aadhaar Memorandum. UAM the one page online registration system for MSMEs based on self – certification which was a path breaking initiative to promote ease-of-doing-business was subscribed by more than 68.25 lakh units.

2. MSME Data Bank. The MSME Databank for facilitating the promotion, development and enhancing the competitiveness of MSMEs was well received by the industry and enabled Ministry of MSME to streamline and monitor the schemes and pass on the benefits directly.

3. Digital Payments. Ministry of MSME has taken numerous initiatives to digitally enable the entire MSME ecosystem. As per the report, 82.48% of the digital transaction by number and 96.00% by values have been done in digital mode.

4. E-Samadhan. MSME internet grievance monitoring system (e-SAMADHAN) to track and monitor other grievances and suggestions received in the Ministry.

5. MSME Samadhan. The portal was launched through which the industry could raise their grievance on the portal which gives information about individual CPSEs/ Central Ministries, State Governments etc. and other buyers regarding the payments pending with them in respect of the MSEs and facilitates MSEs to file their delayed payments related complaints online.

6. MSME-Sambandh. Towards effective implementation and monitoring of the policy of 25% annual procurement by Central Ministries/Departments/Public Sector Enterprises (CPSEs) from MSEs, the Public Procurement Portal titled “MSME-SAMBANDH” was launched in Dec 2017.

7. MSME Sampark. MSME Sampark, a job portal for interaction between the job seekers and entrepreneurs were launched in June 2018 and by 31 Mar 2019, a total of 35819 passed out trainees (job seekers) and 5060 recruiters (job provider) were registered. 7090 resumes were shared with recruiters and 2124 jobs offered.

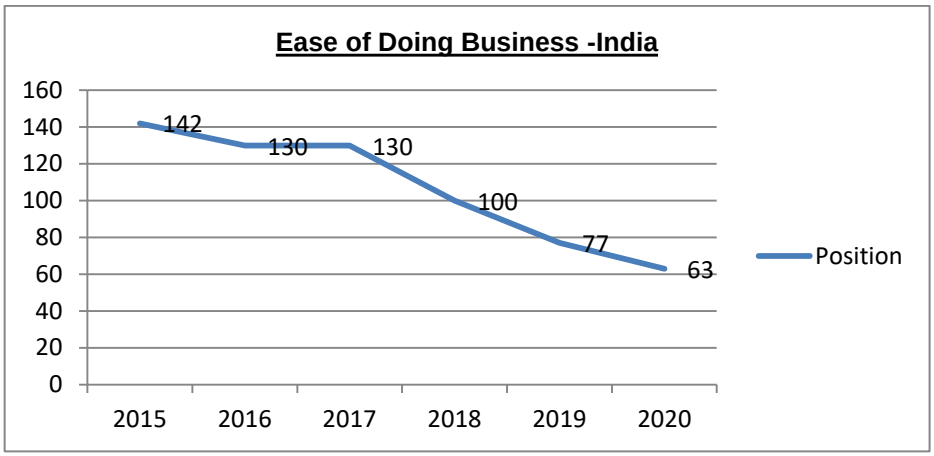
Further the Prime Minister made 12 key announcements in the support and outreach Programme for MSMEs in November, 2018 for strengthening of the sector and the notable one among them are as below:

- Launch of 59 minute loan portal to enable easy access to credit for MSMEs. In-principle approval of loans upto Rs. 1 crore through the portal linked with GST portal.
- 2% interest subvention for all GST registered MSMEs, on fresh or incremental loans, and an increase in interest rebate from 3% to 5% for exporters who receive loans in the pre-shipment and post-shipment period.
- Companies with turnover more than Rs. 500 crore to be compulsorily brought on the Trade Receivables e-Discounting System (TReDS) to enable entrepreneurs to access credit, based on upcoming receivables.
- CPSUs to compulsorily be part of Public Procurement Portal Government e-Marketplace (GeM). CPSUs to get their vendors registered on GeM portal.
- 20 Hubs and 100 Spokes in the form of Tool Rooms for Technological Up-gradation to be established across the country with a fund allotment of Rs. 6000 crore.
- Only one annual return to be filed for 8 Labour laws and 10 Union regulations to simplify Government procedures.

- Computerized random allotment for visits to firms by Inspectors to simplify Government procedures.
- Environment Clearance and Consent to establish unit, under air pollution and water pollution laws, to be merged into a single consent. Return to be accepted on the basis of Self-Certification.
- Ordinance promulgated to enable entrepreneurs to correct the minor violations under the Companies Act through simple procedures rather than to approach Courts.

With the launch of these initiatives, there was significant change in India in the industrial and business scenario in the country and the ratings on the ease of doing business improved as indicated below.

Chart 3.1 – Ease of Doing Business in India rating



Source: Compiled from " Doing Business Reports – World Bank"

Specific to the MSME sector, the additional notable achievements are as below:

- A sum of Rs. 2118.80 crore was incurred under the PMEGP scheme in the financial year 2018-19.
- A sum of Rs. 973.10 crore was incurred under the CLCSS scheme in the financial year 2018-19.

- As on 31st March, 2019, cumulatively 3505612 proposals have been approved under the CGTMSE for guarantee cover of Rs. 182790.06 crore.
- A sum of Rs 258 Crore has been spent in the financial year 2018-19 under the scheme for Regeneration of Traditional Industry and Cluster Development Program.
- A scheme for the promotion of Zero Defect and Zero Effect (ZED) manufacturing amongst MSMEs and ZED Assessment for their certification with the objective to promote adaptation of Quality tools/systems and Energy Efficient manufacturing was launched.

The annual report for 2018-19 also brings out interesting aspects of the all-round performance of the MSME sector which has great significance to the growth of this sector in India and the sectors contribution to the GDP.

Table 3.2 – Contribution of MSMEs in Country's Economy at Current Price

Year	Share of MSME GVA	Growth (%)	Total GVA	MSME in GVA (%)	Total GDP	Share of MSME in GDP (in %)
2011-12	2622574	-	8106946	32.35	8736329	30.00
2012-13	3020528	15.17	9202692	32.82	9944013	30.40
2013-14	3389922	12.23	10363153	32.71	11233522	30.20
2014-15	3704956	9.29	11504279	32.21	12467959	29.70
2015-16	4025595	8.65	12566646	32.03	13764037	29.20
2016-17	4405753	9.44	13841591	31.83	15253714	28.90

Source – Annual Report 2018-19, Government of India, Ministry of MSME

Table 3.3 – Estimated Number of MSMEs (Activity Wise)

Activity Category	Estimated Number of Enterprises (in lakh)			Share (%)
	Rural	Urban	Total	
(1)	(2)	(3)	(4)	(5)
Manufacturing	114.14	82.50	196.65	31
Trade	108.71	121.64	230.35	36
Other Services	102.00	104.85	206.85	33
Electricity*	0.03	0.01	0.03	0
All	**324.88**	**309.00**	**633.88**	**100**

Source – Annual Report 2018-19, Government of India, Ministry of MSME

Table 3.4 - State-wise Distribution of Enterprises

Sl. No.	State/UT	Estimated Number of MSMEs	
		Number (in lakh)	Share (in %)
1	Uttar Pradesh	89.99	14
2	West Bengal	88.67	14
3	Tamil Nadu	49.48	8
4	Maharashtra	47.78	8
5	Karnataka	38.34	6
6	Bihar	34.46	5
7	Andhra Pradesh	33.87	5
8	Gujarat	33.16	5
9	Rajasthan	26.87	4
10	Madhya Pradesh	26.74	4
11	**Total of above ten States**	**469.36**	**74**
12	**Other State/UTs**	**164.52**	**26**
13	**All**	**633.88**	**100**

Source - Annual Report 2018-19, Government of India, Ministry of MSME

Table 3.5 - Growth of MSMEs (Figures in lakh)

Parameter	NSS 73rd Round#, 2015-16	Fourth All India Census of MSMEs, 2006-07	Annual Compound Growth Rate (%)
No. of MSMEs (Total)	633.88	361.76	6.43
Manufacturing	196.65	115.00	6.14
Services	437.23	246.76	6.56
Employment (Total)	1109.89	805.24	3.63
Manufacturing	360.42	320.03	1.33
Services	749.47	485.21	4.95

Source - Annual Report 2018-19, Government of India, Ministry of MSME

Table 3.6 - State-wise Distribution of Estimated Number of MSMEs (NSS 73rd Round)

Sl. No.	State/UT	Estimated number of enterprises (Number in lakh)			
		Micro	Small	Medium	MSME
1	Andhra Pradesh	33.74	0.13	0.00	33.87
2	Arunachal Pradesh	0.22	0.00	0.00	0.23
3	Assam	12.10	0.04	0.00	12.14
4	Bihar	34.41	0.04	0.00	34.46
5	Chhattisgarh	8.45	0.03	0.00	8.48
6	Delhi	9.25	0.11	0.00	9.36
7	Goa	0.70	0.00	0.00	0.70
8	Gujarat	32.67	0.50	0.00	33.16
9	Haryana	9.53	0.17	0.00	9.70
10	Himachal Pradesh	3.86	0.06	0.00	3.92
11	Jammu & Kashmir	7.06	0.03	0.00	7.09
12	Jharkhand	15.78	0.10	0.00	15.88
13	Karnataka	38.25	0.09	0.00	38.34
14	Kerala	23.58	0.21	0.00	23.79
15	Madhya Pradesh	26.42	0.31	0.01	26.74
16	Maharashtra	47.60	0.17	0.00	47.78
17	Manipur	1.80	0.00	0.00	1.80
18	Megahlaya	1.12	0.00	0.00	1.12

19	Mizoram	0.35	0.00	0.00	0.35
20	Nagaland	0.91	0.00	0.00	0.91
21	Odisha	19.80	0.04	0.00	19.84
22	Punjab	14.56	0.09	0.00	14.65
23	Rajasthan	26.66	0.20	0.01	26.87
24	Sikkim	0.26	0.00	0.00	0.26
25	Tamil Nadu	49.27	0.21	0.00	49.48
26	Telangana	25.94	0.10	0.01	26.05
27	Tripura	2.10	0.01	0.00	2.11
28	Uttar Pradesh	89.64	0.36	0.00	89.99
29	Uttarakhand	4.14	0.02	0.00	4.17
30	West Bengal	88.41	0.26	0.01	88.67
31	A & N Islands	0.19	0.00	0.00	0.19
32	Chandigarh	0.56	0.00	0.00	0.56
33	Dadra & Nagar Haveli	0.15	0.01	0.00	0.16
34	Daman & Diu	0.08	0.00	0.00	0.08
35	Lakshadweep	0.02	0.00	0.00	0.02
36	Puducherry	0.96	0.00	0.00	0.96
	ALL	**630.52**	**3.31**	**0.05**	**633.88**

Source - Annual Report 2018-19, Government of India, Ministry of MSME

Revival Measures

To counter the likely recession and crisis in the industry due to the COVID related restrictions and lock down, the Government of India on 13 May 20, brought out the vision of Atmanirbhar Bharat which had special provisions for the MSME sector as below.

- Rs 3 lakh Crores Collateral free Automatic Loans for Business, including MSME and Rs 20,000 Crore Subordinate Debt for MSMEs and infusion of Rs 50,000 Crore equity in MSME Fund of Funds.
- Modified the definition of MSMEs and global tenders to be disallowed up to Rs 200 crores.

- E-market linkage for MSMEs to be promoted as a replacement for trade fairs and exhibitions.
- Government to monitor settlement of dues to MSME vendors from Government and CPSUs and receivables to be released in 45 days.

With the increased industrialization and better participation of the MSME sector in the overall growth in the economy it is but natural that the turnover and investment in these companies is bound to increase which also instills a fear that they may go beyond the current definition and hence lose out on the governments schemes which in turn might deter growth. The Government accordingly in the Atmanirbhar package upwardly revised the definition of MSME as below:

Table 3.7 – Revised Classification of MSME

Existing MSME Classification			
Criteria : Investment in Plant & Machinery or Equipment			
Classification	Micro	Small	Medium
Mfg. Enterprises	Investment<Rs. 25 lac	Investment<Rs. 5 cr.	Investment <Rs. 10 cr.
Services Enterprise	Investment<Rs. 10 lac	Investment< Rs. 2 cr.	Investment<Rs. 5 cr.
Revised MSME Classification			
Composite Criteria : Investment And Annual Turnover			
Classification	Micro	Small	Medium
Mfg & Services	Investment< Rs. 1 cr. and Turnover < Rs.5 cr.	Investment< Rs. 10cr. and Turnover < Rs. 50 cr.	Investment< Rs. 20 cr. and Turnover < Rs.100 cr.

The study of the MSME sector in Indian and all initiatives by the government since the formulation of the MSME Act and subsequently highlights the following.

- The MSME sector has been a priority area for the government since the formulation of the MSME Act in 2006 and progressive policy interventions have been made towards encouraging and facilitating

growth of the sector. Progressive policy interventions have seen the country improving in the ease of business ratings.

- The MSME sector has grown exponentially over the years and is the second only to agriculture segment in terms of employment generation and has also been providing equitable employment opportunities across the country.
- The MSME industry is spread along the dimension of the country with equal foot print in both rural and urban areas thereby equitable opportunities for employment for all segments of the society.
- The contribution of the sector to the GDP has been consistently steady over the years.
- The MSME ministry has been central in all policy formulations of the sector and has been nodal agency in monitoring of the performance of the sector.
- The priority for the MSME ministry has been the traditional sectors and all policies and interventions generally are associated with Khadi and Coir Boards.
- Annual reports on the sector by the MSME ministry are silent on the enterprises in the defence industry sector.
- Approximately 30% of the MSME enterprises operate in the manufacturing sector, however the details on the number of enterprises operating in the defence manufacturing sector are not held.
- MSME in the defence sector has not been a priority area for the MSME ministry and all policy interventions have been generic in nature.

- Participation of the sector is essential for the vision of “Atmanirbhar Bharat” and the MSME sector would be the engine that drives this change.

Conclusion

Study of the sector clearly brings out that since the formulation of the MSME Act 2006, there has been a profound growth in the sector with consistent steady contribution to the GDP, providing employment with equity and progressive policy and financial interventions have enabled positive impact on the sector as a whole in general, however the MSME sector involved in the defence industry had not had any specific benefits that could have spiraled their growth.

CHAPTER 4

Defence Industry - India

Historical Overview

The Indian defence production industry since the early days of independence was primarily limited to the state owned Public sector companies. The gamut of defence research and production remained in the exclusive domain of the government sector wherein the research was responsibility of the DRDO and after successful development, production of the equipment was done by public sector Government owned industries. Wherever the country went in for outright purchase to bridge the technology gap, the public sector industry were tasked with licensed production of the systems after technology transfer from the original equipment manufacturer. There was no effort towards indigenization of these equipment and spares by these firms, or encouraging the involvement of the private sector due to which the country continued to remain dependent on the OEM's abroad for support and spares. The complete gamut of defence equipment research and development remained the exclusive prerogative of the DRDO, OFB the nine DPSU's with no major involvement of the large private sector companies or the MSMEs.

The induction of defence equipment or systems in a developing country like ours normally transits through the stages of (i) Direct import of defence Equipment with facilities for repair servicing and overhaul, (ii) Licensed production, starting with major subassemblies and subunits, (iii) Development of indigenous upgrades of imported systems and (iv) Ab-Initio design and development of indigenous systems based on own research.

The private sector industry in India post pre independence largely comprised family owned institutions that were run by hierarchical set up rather than professional managers. This combined with the restrictive policies enforced after independence led to stagnation in their growth. The overemphasis, reservation and preferential treatment given to the public sector saw the demise of any potential growth in the private sector and the sector virtually isolated itself from the defence industry and this led to lack of opportunity of MSME players.

Impact of Collapse of Soviet Union

The fall of the Soviet Union and end of the cold war had its ramification on the industrial scene world over and a large number of public sector companies set up with soviet ideology and assistance both monetary and technical in Eastern Europe, and Asia including India was seen as failed experiments. The inadequacies and negative impacts of State ownership of industrial enterprises were exposed and as a result, the control and monopoly of state on these enterprises had to be reduced and the preferential treatment meted out to them since inception had to be changed. The number of industries reserved for the public sector was reduced to six by 1993 giving private enterprises ample opportunity for investment in these otherwise reserved fields and technologies. Further, the new industrial policy in 1991, post the liberalization saw the simplifying of bureaucratic procedures in industrial licensing and reducing statutory controls on foreign trade. The new policy also encouraged disinvestment of the public sector, promotion of foreign investment and import of foreign technology.

Opening of Economy

With the opening of the economy and liberalization, apprehensions were initially prevalent about the survival of the domestic industry in the face of competition from the more powerful multinationals. However the Indian private industry immediately reoriented itself towards the new challenges and performed remarkably well witnessing phenomenal growth in a short span of time in the nineties. This growth can be attributed to:

-With the abolition of industrial licensing the private sector could build and expand capacity without any restrictions.

-Import quantitative regulation was relaxed and Indian manufacturers could import capital and intermediate good easily.

-Growth of public investment was decelerated and the share of private corporate sector was increased.

-Private sector had the option to procure money from financial markets in addition to bank lending.

While co-development/co-production was the primary objective in the early days of liberalization in the defence industrial scenario, the approach towards self-reliance took a major turn in the early 2000s, when the government allowed 100 per cent participation of the private sector in defence production with provision of foreign direct investment (FDI) of up to 26 per cent. However it was observed that participation of the private industry in the defence production would only be facilitated if the procurement procedures which were highly complex and public sector oriented were refined. Accordingly the host of enabling provisions that include an offset clause, two new procurement categories – Make and Buy and Make (Indian) were included in the DPP.

Post 2005 Development

Under the offset clause, first announced in 2005, foreign vendors winning defence capital acquisitions contracts beyond Rs 300 crore or more were required to invest back 30 per cent of the foreign exchange component of the contractual value to Indian defence enterprises and the foreign vendor was free to choose their Indian offset partner from the private/public sector. Considering the dynamism and flexibility of the private sector and MSME it was assumed that they would be the preferred partner for the foreign companies for the offset obligations through which the private sector would be able to make a mark in the defence manufacturing scenario in the country.

Defence Procurement Procedure 2006

The Make category, announced in DPP-2006, went a step further, where the Indian industry, including the big private enterprises, were given an opportunity to indigenously design, develop and produce 'high technology complex systems'. Under the scheme the government makes a commitment to provide 80 per cent of the developmental cost to the industry. Further to the Make category, the Buy and Make (Indian), was introduced under which MoD contracts will be given to Indian industry which in turn is required to form technology tie-ups with foreign companies. This was a marked departure from the existing Buy and Make category, under which the MoD used to nominate its own enterprises to undertake license production.

Defence Procurement Procedure 2013

DPP 2013 created a fair playground for the private sector as foreign vendors participating in Buy (Global) contracts were given a degree of freedom to provide MToT (Maintenance Transfer of Technology) to an Indian private entity as against the earlier system where the MoD nominated the Indian partner, which

was invariably a public sector enterprise under its control. The prioritization as per the categorization in the order of Buy (Indian), Buy & Make (Indian), Make (Indian), Buy & Make and Buy (Global) was a landmark development introduced in DPP-2013. As per the revised norm, the armed forces are required to opt for the higher categories or else justify to the reasons for not doing so while seeking approval from the government. The aim was to put the onus on the armed forces to look for indigenous-centric categories as a default option, so as to reduce large-scale import through the Buy (Global) route.

These initiatives had a favorable impact on the private participation in the Defence manufacturing scenario in the country and by 2015, there has been a significant shift towards the Buy (Indian), Buy & Make (Indian) categories. The Acceptance of Necessities (AoNs) accorded by the Defence Acquisition Council (DAC), during the period 2010 to 2015 is as indicated in table below which records a significant shift towards the Buy (Indian) and Buy and Make (Indian) categories.

Table 4.1 - AoNs Approved, 2010-15

Source: Make in India	**Buy (Indian), Buy & Make (Indian)**		**Buy (Global)**		**Other Categories**	**Total**
	Value (Rs crore)	*%*	*Value (Rs crore)*	*%*	*Value (Rs crore)*	*Value (Rs crore)*
2010-11	77546	50.55	40547	26.43	35295	153388
2011-12	30593	54.16	20500	36.29	5387	56480
2012-13	19074	31.44	27114	44.7	14464	60652
2013-14	23736	85.96	371	1.34	3504	27611
2014-15	111070	94.26	6760	5.73	0	117830

Source: Make in India: the way ahead for indigenous defence production in India', 6th Y.B. Chavan Memorial Lecture delivered by A.K. Gupta, Secretary (Defence Production), MoD, at IDSA on 7 December 2015.

Current Scenario

India today has one of the largest industrial defence eco system in the developing world with 39 ordnance factories, 09 DPSUs, 52 laboratories of the DRDO and approximately 200 odd companies in the private sector. The country today is one of the few in the developing world which has designed and produced a Nuclear Submarine, Fourth generation Fighter Aircraft, Main Battle Tank and Inter-continental ballistic missile program with extended ranges. Further, the space sector saw phenomenal growth by the ISRO with the agency registering phenomenal growth with technologies such as Cryogenic engines being indigenously, missions to Moon and Mars as also the world record of 104 satellites being deployed in a single launch.

Whilst there has been phenomenal growth post the policy initiatives, an analysis of the share of the DPSU's in the defence procurement indicate there is a wide gap between the total procurement expenditure and the combined value of sales of all DPSUs and the gap is filled up primarily through imports.

Table 4.2 - Defence Procurement: Share of DPSUs 2006-16

Year	*Total Procurement*	*VoS*	*VoS as % of Total*
	(Revenue & Capital) Expenditure (Rs crore)	*(Rs crore)*	*Procurement Expenditure*
2006-07	39722	15849	40
2007-08	41799	16983	41
2008-09	44456	20007	45
2009-10	52498	25900	49
2010-11	62775	25980	41
2011-12	68963	28666	42
2012-13	71286	29456	41
2013-14	78887	28920	37
2014-15	81284 (RE)	34735	43
2015-16	92604 (BE)	–	–

Note: BE – Budget Estimate; RE – Revised Estimate; VoS – Value of Sales.
Source: Indian Defence Industry- An agenda for Making in India-LK Behra, IDSA.

The domestic industry predominantly dominated by defence PSUs and ordnance factories contributed to about 90 per cent of the total domestic manufacturing and an estimated combined 40 per cent of this is outsourced. With regard to the DPSUs, the average outsourcing has been the tune of 10% as indicated except for M/s Bharat Electronics and M/s Bharat Earth Movers Limited which has been maintaining a consistent 30% offloading over the years from 2011 to 2015 as shown below.

Table 4.3 - Outsourcing of DPSUs (Rs crore)

	2010-11	***2011-12***	***2012-13***	***2013-14***	***2014-15***
HAL	261 (1.6)	280 (2.2)	366 (2.6)	380 (2.4)	491 (3.0)
BEL	1124 (20.4)	1314 (22.7)	1607 (25.5)	1945 (31.7)	1804 (27.1)
BEML	1083 (28.7)	1352 (33.2)	945 (28.1)	1063 (33.6)	937 (32.1)
MDL	87 (3.3)	89 (3.5)	70 (3.0)	74 (2.6)	101 (2.8)
GRSE	81 (7.7)	64 (5.0)	62 (4.0)	63 (3.9)	88 (5.4)
GSL	41 (4.1)	39 (5.8)	12 (2.4)	54 (10.7)	71 (12.4)
HSL	25 (4.2)	25 (4.4)	39 (8.1)	14 (3.2)	7 (2.4)
BDL	1 (0.1)	6 (0.6)	9 (0.7)	9 (0.5)	14 (0.5)
MIDHANI	38 (7.9)	51 (10.3)	50 (9.3)	41 (7.1)	87 (14.6)
All DPSUs	2742 (8.5)	3220 (11.1)	3159 (10.4)	3643 (11.0)	3601 (10.2)

Note: Figures in parentheses denote percentage share in Value of Production (VoP).
Source: *Indian Defence Industry- An agenda for Making in India-LK Behra, IDSA*.

Make in India

The Government of India launched the "**Make in India**" initiative with an aim to propel the share of manufacturing in GDP to 25 per cent (from 16 per cent at present) and create 100 million additional jobs by 2022 and covered 25 diverse sectors including the defence industry. The new model aimed at self-reliance in defence manufacturing through greater participation of the private sector through facilitating the ease of doing business and removal of restrictions that inhibited their participation. The government within 02 years brought about several broad

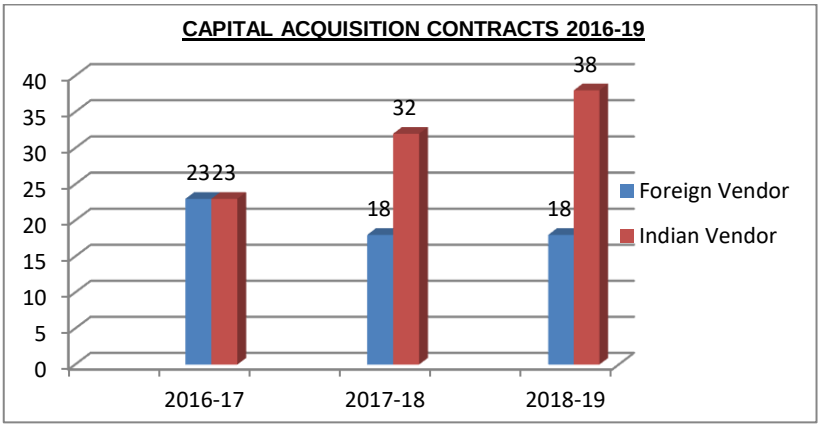
reform measures pertaining to the defence industry pertaining to industrial licensing, FDI cap, defence exports and level playing field between private and public sectors. The reform in licensing was enabled through removal of procedural hurdles and specifying the list of items for which license would be mandatory, excluding the others and also extended the validity of the license from 03 to 18 years. Also the annual capacity norm as a condition for grant of Industrial License was removed and permitted sale of defence items to the government and public sector units and companies holding valid Industrial License without permission from MoD.

In the November 2015, the government revised the FDI cap from 26 per cent to composite cap of 49 per cent that includes, besides FDI, investments by foreign portfolio investors (FPI), foreign institutional investors (FII). The new policy also allowed all forms of foreign investment up to 49 per cent under the automatic route, requiring no prior government approval. For FDI beyond 49 per cent, the Foreign Investment Promotion Board (FIPB) was authorized to decide on each proposal 'whenever it is likely to result in access to modern and state-of-the-art technology'. Following the FDI cap increase, the government in September 2014 announced a set of measures to promote defence exports which include an export strategy and detailed standard operating procedures (SOPs) for grant of no objection certificate (NOC) to the industry. The export strategy took into account the country's security imperatives while promoting the commercial interests of the industry in a predictable and objective manner which was a longstanding demand of the private sector.

Further towards ensuring a level playing field, for the private sector with the public sector defence production units, the government withdrew the exempted accorded to the public sector companies from paying central excise and customs duties on goods supplied to the defence forces in April 2015. With due emphasis on the Make in India, and with an aim of creating opportunities for the domestic players in the defence procurement scenario, the government had since 2015 approved 32 acquisition proposals worth Rs 88,900 crore under the Buy (Indian) and Buy & Make (Indian) categories.

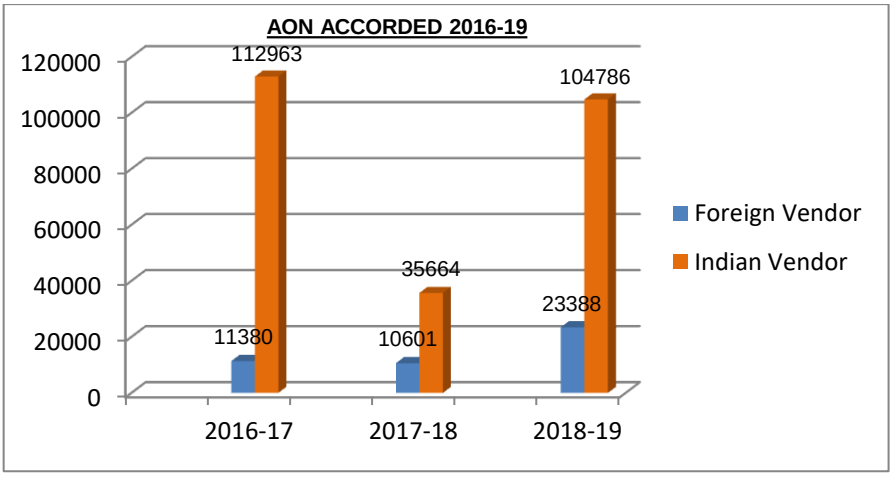
Since 2016, the data on the capital acquisition contracts and the Acceptance of Necessity accorded have been in favour of the Indian Industry as shown below.

Chart 4.1 – Capital Acquisition Contracts 2016-19



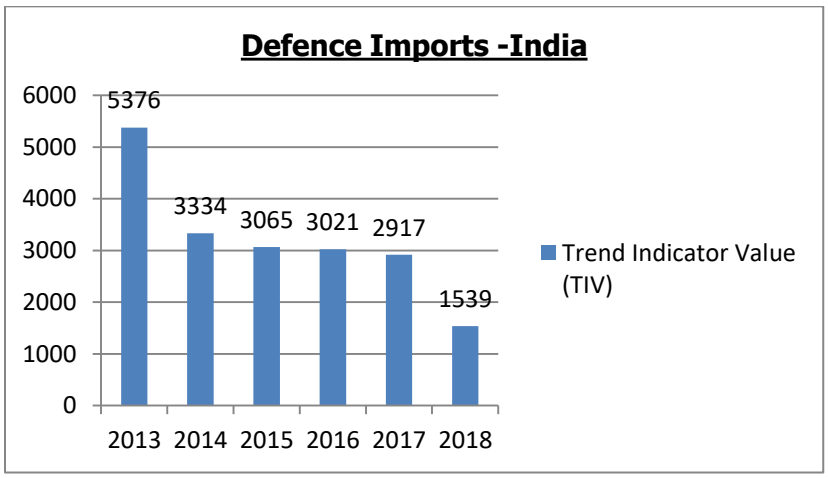
Source: SIDM Annual Report 2018-19

Chart 4.2 – AoN Accorded 2016-19



Source: SIDM Annual Report 2018-19

Chart 4.3 – Defence Imports India



Source: SIPRI Arms Trade Data. TIV is based on known unit production cost and represents transfer of military resources rather than financial value

During the period 2016-19, 160 AoNs worth approx. Rs 3, 07781 Crore were accorded of which 111(69%) worth Rs 2, 53,413 had Indian Industry oriented categorization. The report by SIPRI arms trade data also shows a decrease in the import of defence products by India during the period in terms of trend indicator values.

Concurrently, over the years there has been an incremental increase in the R&D expenditure as also the procurement from the private sector which is as tabulated below. The R&D expenditure has been included only for DRDO and DPSU's and does not include the private sector.

Table 4.4 - Annual spending on Defence equipment (Crores)

Year	Capital Expenditure	R&D Expenditure	Sale of defence PSUs	Procurement from the Indian private sector
2000-01		3342.34	13188.58	
2001-02		3119.80	13771.32	
2002-03		3008.11	15296.36	
2003-04		3443.18	16416.60	
2004-05		3715.27	17435.24	
2005-06		5283.36	19916.75	
2006-07		5361.22	22046.65	
2007-08		6104.54	23678.06	
2008-09		7699.05	27237.14	
2009-10		8475.38	34614.90	
2010-11		10148.92	37190.07	

2011-12		9893.84	41058.00	
2012-13		9794.80	41440.07	
2013-14		10868.89	44096.00	
2014-15	65,589.98	13257.98	46390.01	39,879.00
2015-16	62,235.54	13289.27	52968.13	39,149.63
2016-17	69,280.16	13154.54	40788.00	41,872.03
2017-18	90,438.39	15203.04	43554.00	54,951.38
2018-19	93,982.13	17610.38	45011.00	50,507.65
2019-20	1,03,380.34	19021.02		63,784.75

Source: Make in India and Atmanirbhar Bharat – Dialogue with MSME manufacturing for the Indian Defence Sector: A Report by SPG LE

Private Defence Industry

In response to Govt initiatives, most of the prominent business houses in the country viz, entered the defence arena and established separate companies for defence production. These companies have also invested in R&D and have entered into JVs with few foreign OEMs. Among the major domestic orders bagged by the private sector, IAF's Modernization of Air Field Infrastructure (MAFI) project valued at Rs 1094 crore bagged by M/s TPSED, the Indian Army's Self-Propelled Tracked Howitzers contract bagged by M/s Larsen & Toubro in partnership with South Korea's Samsung Tech worth a Billion dollars and the Integrated Electronic Warfare Systems for Mountainous Terrain (IEWS-MT) bagged by M/s TPSED at Rs 923 Crore stand out.

The policy initiatives for greater role for the private sector resulted in greater share of the private sector in the defence industry. A comparison table of Annual Sales Turnover of DPSUs, OFB and Private Sector Companies in last 3 years is as given below illustrates the above point. There has been an increase in the share of private companies in the defence sector with each successive year since 2016.

Table 4.5 – Share of Defence Expenditure- Production

Year	DPSU (in Rs Cr)	OFB (in Rs Cr)	Other PSU/JVs (in Rs Cr)	Defence Pvt Companies (in Rs Cr)	Total Production (in Rs Cr)
2016-17	40,427	14,825	4,698	14,104	74,054
2017-18	43,482	14.829	5,180	15,347	78,838
2018-19	44,825	12,816	5,567	17,350	80,558
2019-20 (Till 05 Mar 20)	30,134	5,472	4,326	11,875	51,807

Source: Make in India and Atmanirbhar Bharat – Dialogue with MSME manufacturing for the Indian Defence Sector: A Report by SPG LE

Role of MSME - Defence Industry

Ministry of Defence set up a Committee of Experts under the Chairmanship of Shri Dhirendra Singh, IAS (Retd.), in May 2015 to evolve a policy framework for Make in India and to suggest requisite amendments in Defence Procurement Procedure (DPP) 2013. The report submitted by the Committee of Experts in May 2015 mentioned that almost 80% of component, aggregates and assemblies of complex weapon system and aircraft are made by nearly 6000 MSMEs, which are part of supply chain and measures were introduced for gerater participation of the private sector. The Extract of the GoI press release on the subject is placed at **Appendix 'A'**.

Defence Procurement Procedure – 2016

The Ministry of Defence, Government of India promulgated the DPP 2016 (Defence Procurement Procedure 2016) in Mar 2016 to be implemented for all defence procurement cases from 01 Apr 16 onwards. The DPP 2016 had some path breaking initiatives towards involving the MSME's in the defence manufacturing in the country with an aim to help to boost the "Make in India"

initiative as also emphasis on indigenous design, increase of export ratio in weaponry etc. The introduction of the Buy IDDM category, revamping of the Make procedure with the inclusion of Make I/II and flexible indigenous content requirement in some procurement categories where changes that were implemented with an aim to the revamp the procurement procedure as also enabling deeper involvement of the Indian domestic industry. The Make I/II procedure was critically aimed at the inclusion of the MSME's in the defence indigenization and production process. 'Make' category is sub-categorize into "Make I (Government Funded) and Make-II (Industry Funded)". Projects under the Make I sub-category, with estimated cost of prototype development phase not exceeding Rs. 10 crore, will be earmarked for MSMEs. However, if at least two MSMEs do not express interest for a Make-I program of less than Rs. 10 crore, the same shall be opened up for all, under the condition that interested MSME(s), if any at that stage and meeting the eligibility criteria, will get preference over Non- MSMEs in selection of DAs. Also projects under the Make II sub-category, with estimated cost of prototype development phase not exceeding Rs. 3 crore, will be earmarked for MSMEs. However, if no MSME expresses interest for a Make-II program of less than Rs. 3 crore, the same may be opened up for all, under the condition that interested MSME(s), if any at that stage and meeting the eligibility criteria, will get preference over Non- MSMEs.

In the case of Make-I projects, government would take the lead in funding prototype development by the industry with a commitment of up to 90 per cent for prototype development, with a further provision that 20 per cent of the total developmental cost would be paid in advance. In the case of Make II projects, the industry is required to bear the full cost of the development. For the MSMEs,

the new procedure was to provide them the first right to undertake prototype development up to Rs. 10 Crores under the government-funded ‘Make’ projects and up to Rs. 3.0 Crores in case of industry funded projects. Only in case the MSME sector doesn’t opt for the projects, these can be opened up for participation by the bigger industry players.

DPP 2016 also introduced the 'Buy-IDDM' ('Indigenously Designed, Developed and Manufactured') category of acquisition and accorded it the top most priority. Buy (Indian-IDDM) category refers to the procurement of products from an Indian vendor meeting one of the two conditions: products that have been indigenously designed, developed and manufactured with a minimum of 40% Indigenous Content on cost basis of the total contract value; Or products having 60% Indigenous Content on cost basis of the total contract value, which may not have been designed and developed indigenously.

Defence Acquisition Policy – 2020

The new policy on Defence Procurement titled the Defence Acquisition Procedure 2020 was promulgated in Sep 20. The main features of the document in comparison with the earlier versions which included preferential treatment for the MSME sector are as indicated below.

- Upward revision Of Indigenous Content in all existing acquisition categories and introduction of new acquisition categories - Buy (Global - Make in India), Leasing and Strategic Partnership of foreign OEMs with Indian firms including MSMEs.
- Introduction of new Make -III category (Indigenously manufactured).

- Introduction of Innovation categories: iDEX, Open Competition and TDF to promote start-up and MSME participation.
- Introduction of procurement concepts for long term procurement: Performance-Based Logistics (PBL), Life Cycle Support Contract (I-CSC) end Comprehensive Maintenance Contract (CMC).
- Revised and detailed Draft Offset Guidelines, with a graded list of importance of technologies and associated incentives, a higher multiplier for TOT to MSMEs, removing Offset obligation from Intergovernmental Agreements.
- Acquisitions less than 100 Crores per year or total 150 Crores, whichever is higher, including Make category, to be reserved for MSMEs.
- Changes in Bank Guarantee rules wherein Bank Guarantees will be based on the total contract value minus taxes and duties. Performance-cum-Warranty would be uniform across and will be five per cent of the contract value.

Whilst not a single order has been placed by the Ministry of Defence under the Make I scheme, some cases were processed under the Make II Scheme which is industry funded (**Appendix B**). The Government had also devised and promulgated a scheme for enabling and linking the MSME enterprises which otherwise had the technology and capability towards the defence industry. The government notification on the subject is placed at **Appendix C**.

Further a host of additional initiatives were issued by the Ministry of Defence, Government of India aimed at improving the participation of the MSME's in the defence industry which comprise the following.

- In order to facilitate the Indian private industry for testing/ trials, proof firing or field firing of their products, Government offered the test facilities/ proof ranges/ Field firing ranges to private industry.
- In order to provide MSME's a level playing field in defence supplies and also expand the vendor base, the Ministry of Defence is establishing a scheme to set up 6-8 product testing centres in the defence industrial corridors.
- GoI issued the guidelines to incorporate lean manufacturing practices to DPSUs, with major thrust towards outsourcing the manufacture/ procurement of subassemblies and parts to trade rather than relying on end to end manufacturing. These new guidelines to DPSUs would have major implications for the MSMEs enterprises.
- An innovation ecosystem for Defence titled iDEX was launched in April 2018 with an aim at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, Start-ups, Individual Innovators, R&D institutes and Academia and provide them grants/ funding and other support to carry out R&D which has good potential for future adoption for Indian defence and aerospace needs.
- Defence India Start Up Challenge was launched in partnership with Atal Innovation Mission, aimed at supporting start-ups/ MSMEs/ innovators to create prototypes and or commercialize products/ solutions in the area of National Defence security.

Following emerge from the study of the Indigenous defence industry and the various initiatives by the Government post liberalization towards revamping the defence industrial scenario.

- The Indian defence Industrial sector was reserved for the DPSU's and the OFB for a considerable period which led to the private sector being excluded.
- The products for the Defence Services prior opening up of the economy were manufactured by the DPSU's/OFB and in case of non-feasibility the country were dependent on imports. Even in case of imports the subsequent license production was reserved for the DPSU's.
- The DPSU's and OFB had considerable dependency on the private sector for manufacture and supply of assemblies and sub-assemblies for the main systems manufactured by them.
- The opening up of the economy through liberalization had led to the role of the private industry in India changing from that of a sub-contractor to the defence public sector companies and the ordnance factories to that of an equipment manufacturer.
- Various policy directives issued since the liberalization had provided greater role for the private sector in defence manufacturing and this in turn indirectly should have benefitted the MSME sector.
- With the entry of the private sector in the defence industrial business in India, there has been an increase in the systems being manufactured indigenously.
- There has been a major policy push towards indigenization of systems and increasing the indigenous component in systems the DPSU's and the larger private players would depend on the MSME firms which would have positive impact on the sector.

- Even though the Make I and Make II schemes and a host of policy initiatives were introduced towards benefitting the MSME sector these did not have desired impact on the sector.
- With an increased thrust on further indigenization and indigenous production and corresponding increase in the defence expenditure, there would be greater role and contribution of the MSME sector as the DPSUs and the Private industry have a large dependence on the sector.

Conclusion

Study of the Indian Defence Industry clearly brings out the increased preference accorded to the DPSUs and dependence on imports post-independence had led to stagnation in the private sector participation in the defence industry. However the liberalization and subsequent the policy formulations which included the promulgation of the various defence procurement policies envisaged and encouraged greater participation of the private sector in the indigenous defence industry. Further, with the increased focus on “Make in India” and “Atmanirbhar Bharat” there has been increased impetus on indigenous development and encouraging the indigenous industry through which there has been a profound increase in the systems being procured in-house. The DPSUs and the private industry is dependent on sourcing of assemblies and parts from the MSME sector and hence an increased focus and impetus on the indigenization would directly have a profound impact on the growth in the MSME sector. Further, even though schemes were introduced for direct engagement of the MSME sector in defence manufacturing through Make I and Make II programs, the results have not been very encouraging.

CHAPTER 5

SME Sector – Europe

Introduction

Small and medium-sized enterprises (SMEs) are the backbone of Europe's economy representing 99% of all businesses in the EU. They employ around 100 million people, account for more than half of Europe's GDP and play a key role in adding value in every sector of the economy. SMEs also bring innovative solutions throughout Europe's regions and are central to the EU's twin transitions to a sustainable and digital economy. There are an estimated 25.1 million small and medium-sized enterprises (SMEs) in the European Union in 2018, with the vast majority of these enterprises micro-sized firms employing less than nine people. In the past five years, it is estimated that the SME sector in Europe created around 85% of new jobs and provided two-thirds of the total private sector employment. Defence-related small and medium-sized enterprises (SMEs) are key enablers of innovation and growth in Europe and it is estimated that there are more than 2,500 SMEs playing a central role in the complex defence supply chains in Europe. The Aerospace and Defence Industries Association of Europe in the annual report in 2020 brought out that the total number of SMEs doing business in defence is estimated at 2,000 to 2,500 of which 39.6% operate in the land domain, 30.5% in air, 18.7% in naval, 7.8% in cyber, 3.4% in space.

The European Commission had put the SMEs and entrepreneurship as the key to ensuring economic growth, innovation, job creation and social integration in the European Union. As is applicable anywhere in the world, the Small businesses contribute to local economies by bringing growth and innovation to the community in which the business is established. They also

stimulate economic growth by providing employment opportunities to people who may not be employable by larger corporations. MSME sector in Europe is defined by the European Association and enterprises that employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.

SME Promotion

Being central to economic prosperity the SME sector has been the focus for the European Commission and it has taken a host of measures to enable the sector. The SME strategy aimed at sustainable business development by making Europe the most attractive place to start a small business, make it grow and scale-up in the single market and beyond. The steps formulated by the Commission are as outlined below.

- Reduces Regulatory burden - Improves Market Access. The strategy aimed to propose actions to remove regulatory and practical obstacles to doing business or scaling up within the single Market and beyond to ensure that enterprises make the most out of cross border activities, both within the EU Single Market and outside the EU.
- Improved access to financing. Access to finance is one of the most pressing issues for many small enterprises. Improving the financing environment for SMEs and providing information on funding had been a key thrust for the European Commission.
- Country Partnership. To deliver results, the new SME Strategy was underpinned by a robust partnership between the EU and EU countries, including regional and local authorities.
- Single Market Strategy. The single market strategy is the European Commission's plan to unlock the full potential of the single

market. The single market is at the heart of the European project, enabling people, services, goods and capital to move more freely, offering opportunities for European businesses and greater choice and lower prices for consumers.

Towards providing key support, networks and information to the SME sector the following digital initiatives were taken up by the European Commission.

- Your Europe Business Portal was created which was a practical guide to doing business in Europe. It provides entrepreneurs with information and interactive services that help them expand their business abroad.
- Enterprise Europe Network helps SMEs and entrepreneurs access market information, overcome legal obstacles, and find potential business partners across Europe.
- SME Internationalization support page provides information on foreign markets and helps European business internationalize their activities.
- Single portal on Access to Finance helps SMEs find finance supported by the European Union.
- European Cluster Collaboration Platform offers dynamic mapping of over 1000 profiled cluster organizations worldwide or supports the emergence of new value chains through cross-sectorial cooperation.
- Erasmus for Young Entrepreneurs was created as a Cross-border Exchange Programme which gives new or aspiring entrepreneurs the chance to learn from experienced entrepreneurs running small businesses in other participating countries.
- COSME was formulated as the EU Programme for the Competitiveness of Enterprises and SMEs, supports SMEs in accessing finance, markets and creates a business-friendly environment.

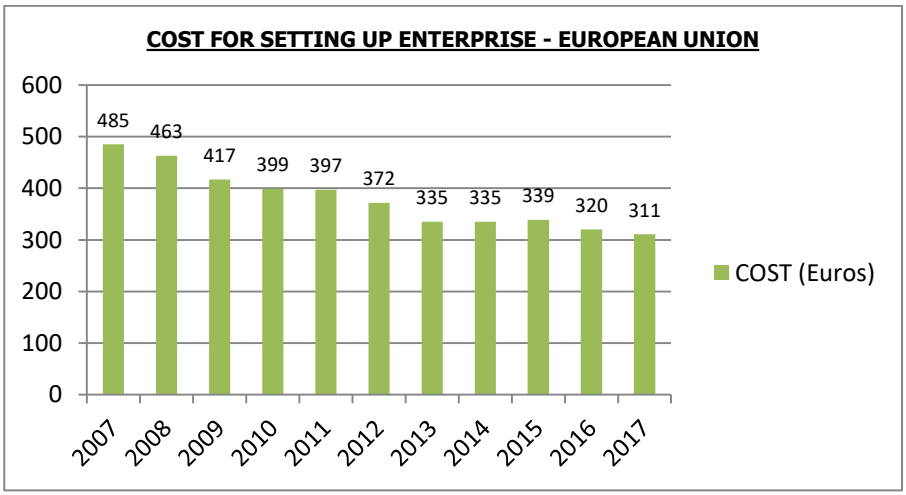
- SME Assembly, provided the most significant event for SMEs in Europe, with different approaches to promoting SME entrepreneurship.

The European Commission has since 2006 been involved in the simplification of start-up ventures in the European Union. Cumbersome, expensive, and time-consuming administrative procedures often discouraged potential entrepreneurs and the objective of the commission was to reduce the burden, encourage more people to become entrepreneurs, create new jobs, and improve Europe's economic performance. The host of actions that were initiated by the European Commission towards simplifying the procedure for start-ups is as below:

- Simplifying Start-up procedures were taken up by the European Council in 2006.
- A dedicated expert group of start-up coordinators was established in 2007 to monitor the progress made by EU countries in simplifying start-up procedures.
- The small business act was formulated in 2008 invited EU countries to simplify and reduce the administrative burden on businesses and to improve the quality of legislation.
- The competitiveness council in May 2011 had asked European countries to reduce the start-up time for new enterprises to 3 days and the cost to €100 by 2012.
- An entrepreneurship action plan was adopted in January 2013 to promote digital and web start-ups.

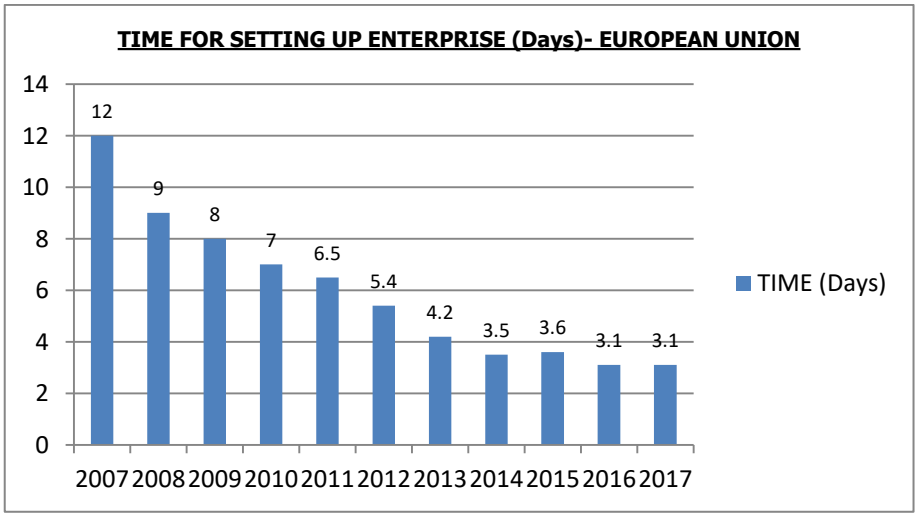
By these measures it was observed that by 2018 the average time to start a private limited company in the European Union countries was 3.1 days and the average cost to start an enterprise was €300 which was 12 days and the average cost was € 485 in 2007 respectively.

Chart 5.1 – Cost vs Year for setting enterprise – European Union



Source: Progress Report on Startup Procedures in 2018- European Commission

Chart 5.2 – Time required vs Year for setting enterprise – European Union



Source: Progress Report on Startup Procedures in 2018- European Commission

The Entrepreneurship 2020 Action Plan proposed three main areas of intervention aiming at enhancing entrepreneurial education and support to business creation.

- Strengthen framework conditions for entrepreneurs by removing existing structural Barriers.
- Support to entrepreneurs in crucial phases of the business lifecycle.
- Spreading the culture of entrepreneurship in Europe in order to nurture a new generation of entrepreneurs.

Internationalization of SME

With regard to SMEs in Europe going international, a study was undertaken by the AL-INVEST which is the European Commission's largest regional economic cooperation programmes in Latin America and the Caribbean financed by the Association of European Chambers of Commerce and Industry (EUROCHAMBRES). The specific measures proposed for supporting the internationalization of SMEs is as follows:

- Develop capacities for internationalization to involve improving administrative capacities and structures, providing training in strategic business management, and fostering an export culture and awareness.
- Emphasize the possibilities and benefits of internationalization to the firms and make aware benefits and the options involved in internationalization.
- Support the different forms of internationalization that include export-import business, partnerships, international e-commerce, production and direct investment abroad, technological agreements, and participation in global value chains.
- Identify transnational firms and global value chains that offer good opportunities for SMEs, preferably in those FDI flows that will create new industrial activities, improve the systemic competitiveness of the economy, increase local content, promote new production linkages and boost local business development.

The recommendations of the study which are very relevant for the Indian SME's also are listed below for reference.

- Organization of events and forums to help SMEs “go international” through participation in business fairs, roundtables and missions abroad as well as incoming buyer familiarization missions.
- Assistance in the areas of technical, administrative, commercial and financial management for SMEs and creation of mechanisms for the transfer and adoption of technology.
- Quality certification, specialized trade promotion and specialized technical assistance focused on specific sectors.
- Promotion of entrepreneurial capacities and integration between large and small firms (clusters) at an international level.

Collaborative Approach –High Technology

Another notable innovative approach by the European Union is the fostering of collaboration between the big corporations and the SME/Start-ups towards taking up innovative high end technology projects. The Pan-European Open Innovation Network for Corporate Challenges in Advanced Technologies (PITCCH) aims to promote an open innovation network where technology centres and other innovation agents act as intermediaries to facilitate structured collaboration between big corporations (as technology seekers) and SMEs/start-ups (as technology providers). SMEs and start-ups are invited to reply to PITCCH challenges by proposing solutions based on advanced technologies. 07 technology challenges have now been listed for responses by 31 Mar 21.

Other Initiatives

European Defence Agency – Handbook for SME.

The European Defence Agency published a handbook to provide defence-related SMEs with simple, smart and short advice on how to get easier access to

the defence market. The content of the book covers four main areas, Access to Defence Procurement, Defence Supply Chain, Finance and Support to Innovation. The publication brings out with clarity what an SME should know and what it should do at every stage of the defence procurement or technology development.

Dual Use Technologies

The defence specific industry across the world over since the cold war and opting for the dual use technologies was an option for the survival for the industry. To help get innovations and ideas off the ground and for migrating from one sector to other SMEs were provided funding through Horizon 2020 as part of a pan-European consortium, or individually through its SME Instrument. These dual use projects seeking funding must demonstrate their value to civil society and the European Structural and Investment Funds (ESIF) can then be used to help SMEs prepare the ground for commercialization by supporting technology transfer, market intelligence, proof of concept, prototyping and training. Thereafter to help the SMEs penetrate markets, the COSME Programme provides them with access to finance and the opportunity to form high tech clusters and cross-border partnerships.

Horizon 2020

This is the European Union's 80 Billion Euros flagship research Programme, for driving economic growth and creating jobs by nurturing innovations with market potential. Funding opportunities are set out in multiannual work programmes, which are divided into thematic sections. The SMEs participate by joining a consortium that responds to a specific call for proposals, or individually through the SME Instrument. Horizon 2020 projects focus exclusively on civil

applications, which are also opportunities for dual use innovations. The dedicated EUR 3 billion SME Instrument offers tailored business support for activities such as demonstration, testing, prototyping and scaling-up. One of the strengths of Horizon 2020 is that it enables SMEs to develop technology that might be six years away from commercialization.

EDIDP-SME-2020 Fund

The European Defence Industrial Development Programme (EDIDP) worth €500 million for 2019-2020, and the Preparatory Action on Defence Research (PADR) with a budget of €90 million for 2017-2019 are pilot programmes of the upcoming European Defence Fund, which will foster an innovative and competitive defence industrial base and contribute to the EU's strategic autonomy. The PADR covers the research phase of defence products, including disruptive technologies, while EDIDP supports collaborative projects related to development, from design up to prototypes. With the SMEs as the key beneficiaries 16 new pan-European defence industrial projects and three disruptive technology projects have been announced for which funds are being made available from European Defence Industrial Development Programme (EDIDP). Of the 223 entities participating in the program 83 are SMEs from 07 member states. These projects are to support the development of European defence capabilities such as drones and related technologies, space technologies, unmanned ground vehicles, high precision missile systems, future naval platforms, airborne electronic attack capability, tactical and highly secured networks, cyber situational awareness platforms, or next generation of active stealth technologies. The involvement of SMEs in these future ready projects is a clear testimony of the European Union is investing in this sector and the promise that it holds for the future.

The study of the implementation of policies and the experience of the SME sector in Europe clearly brings out the following.

1. The definition of what encompasses an MSME in India and an SME in Europe are quite similar and is linked to the manpower employed and the annual turnover.

2. With dedicated focus on the SME sector, the European Commission through a host of measures could simplify the ease of doing business and could reduce the time required start of an enterprise and the budget requirement significantly over a period of 10 years.

3. There has been complete transparency on the projects being offered and all enterprises immaterial of the country of origin could opt for the same. The complete European Union was bound as a single market and in spite of economic disparities a common methodology could be evolved.

4. Dedicated efforts and cooperative engagement between the enterprises of other regions out of the European Union were explored and a path ahead for the SME's going international could be a reality.

5. Cooperation between the larger corporations and the SME sector could be encouraged for high end technology solutions and products. Transparency could be encouraged in the larger corporations so that they could spell out their high technology requirement and the SME sector could opt for these based on their core expertise and domain knowledge. A structured collaboration is thereafter facilitated between the large corporation and the SME.

Conclusion

The study highlights the focus European Council attached to the SME sector in the European Union and the host of measures implemented could bring in ground level improvements towards encouraging the setting up of enterprises. Collaboration facilitated between the large corporations and the small enterprises for development of high end technologies would be the suitable way ahead for future. Creation of specific funds to cater for research in areas of complex high end technologies in which the SME sector could opt as individual firms as well as consortiums could bring in synergy in the sector. Specific programs funding the alternate use of dual use technologies for defence industry needs could encourage wider participation from the MSE sector.

CHAPTER VI

MSME Sector in Defence-India

During the Aero India 2021 the Honourable Defence Minister Rajnath Singh stated that attaining self-reliance in manufacturing of defence equipment is a crucial factor for maintaining India`s strategic autonomy. The robustness of the country's vision rests on three pillars, Research and Development, Public and Private Defence Production and Defence Exports. Startup India was based on three major pillars, simplification and handholding, funding and incentives and industry-academia partnerships. Addressing the event he stated the following.

- 128 Memorandum of Understandings, 19 Transfer of Technology, 4 Handing Overs, 18 Product Launches and 32 major announcements were achieved during Aero India 2021.

- 45 MSMEs participating in Aero India 2021 have bagged orders worth Rs 203 crore.

- The Government aims to encouraging manufacture of defence-related items in India, with an endeavour to bring down defence imports by at least $2 billion by 2022.

- Rs 4500 Crores investment has been made in 384 startups through funds of fund scheme.

- Defence exports from India grew from Rs 2000 Crores to Rs 9000 Crores during the period 2015-2020 and the government aims to target domestic defence production of $25 billion and exports of $5 billion by 2025.

- India is ready to supply various types of missile systems, Light Combat Aircraft (LCA) and other weapons systems including missiles, helicopters, tanks and artillery guns to friendly foreign countries in the Indian Ocean Region (IOR).

The host of measures that has been implemented by the Government since the last few years clearly brings out the top level intent towards Atmanirbhar Bharat through reducing the imports of weapon systems and technology as also increasing the indigenous content in systems and in future, export of systems to friendly foreign countries in the Indian Ocean region. The Order for the 83 indigenous LCA MK 1A worth over 48000 Crores by the Government in December 2020 and other defence orders placed in the last few years is bound to give a big boost to domestic manufacturing as well spawn new and resilient supply chains. As the large manufactures both in the Public and private sector are usually system integrators and have a large dependence on the domestic industry especially the MSME sector, the focus of the government is bound to re-vitalize the sector in a big way.

To access the current contribution of the MSME sector and identifying measures towards enhancing the contribution of the sector in the defence industry in India, the following methodology was adopted.

- Survey of the Indian MSME industry operating in the defence sector to gain knowledge on the strength, problems and barriers to their growth.

- Access the dependence of the Original Equipment Manufacturers who are the large system integrators in the Public sector on the MSME sector

through the study of the orders placed by one of the large public sector firms as also an analysis of the composition of the modules being sourced from indigenous vendors.

- Access the dependence of the Original Equipment Manufacturers who are the large system integrators in the Private sector on the MSME sector through the study of the orders placed by a major private sector OEM.

- Study of the responses made by the MSME sector on the Samadhan portal hosted for addressing their grievances.

Survey of the MSME- Defence Enterprises

A survey was undertaken through the Society of Indian Manufacturers, SIDM and directly with the firms to assess the capability of the MSME sector in defence, problems being faced and the suggested solutions. The survey responses were collected from Nov 20 to Feb 21 and 223 firms responded to the survey. The survey covered approximately 320 MSME firms in India involved in the defence industry. The questionnaire for the survey and the details of firms that responded are placed at **Appendix D and E** respectively. The response from the firms and the analysis is placed at **Appendix F**. The key summary of the responses is as enumerated below.

- Majority of firms (72.4%) had a turnover between Rs 1 and 50 Crores which is indicative of the robustness established in the sector and 7% had a turnover of more than Rs 50 Crore in the financial year. Majority of the firms (76.4%) were more than 10 years old.

- The ownership pattern of the firms was very diverse and 28% were individually owned with 12.1% being family owned and 25.7 % being partnership owned. The ownership pattern is quite significant as it would have implications on the pattern of sourcing of funds for the firms.

- Majority of the firms (52.8%) employed between 11 and 50 personnel which is indicative of the employment opportunities being provided by this sector. The fact that 13% of the firms employed more than 100 people further endorses the fact that the sector is key employer in the rural sector and most of these firms are based in Tier II cities.

- Majority of the firms (90%) surveyed had received orders from the defence sector which is an upbeat element that ample opportunity exists for core business as also being a clear vindication of the contribution of the Tier II industrial base of the country.

- 53% of the respondents were dependent on funding from banks and other institutions which is indicative that easy access to finance would be a deciding factor that would have implications on the prosperity and growth of the sector.

- Whilst 53% of the respondents were aware about the Make II and Make II procedures promulgated vide DPP 2016, only 38.7% were upbeat that these would encourage the participation of the MSME sector in the defence industry. 9% of the respondents felt that the schemes were not encouraging participation.

- Rather than availability of funds or expertise, the complex vendor development criteria are seen as the most important criteria that deters the firms from participating in the defence industrial scenario. The concept of no cost no commitment trials with no assured orders which is quite common these days could be detrimental in the development of products for the defence industry.

- The survey was very upbeat about the capability of the sector with a vast majority (94%) agreeing that the sector has the potential for meeting the requirement for the defence industry in the country.

- All respondents have indicated the requirement for additional measures for encouraging the MSME sector with 63% opining that prompt release of payments, simplified procedures and creation of a credit fund would need to be addressed.

- Most of the respondents (95%) felt that India has the capability for being a major defence manufacturing hub in future and 87% of the respondents opined that the MSME sector has the capacity for independent manufacturing of for the Armed Forces.

- Only 38% of the respondents agreed that the MSME sector has enough forums to address their grievances with 42% responding in the negative. This may point to the requirement of structural adjustments in the setup to address the issues facing the sector particularly in the defence industry.

- The role played by the defence public sector companies and the large private players have great significance on the performance of the sector as most of the supply orders are received from them. 53% of the respondents felt that the roles played by these are encouraging whilst 31% disagreed. The response is quite critical as the defence public sector companies and the large private players being Original Equipment Manufacturers and system integrators could play a critical role.

- Defence related industry is bound by very stringent specifications to be tested and certified for compliance prior acceptance requiring requisite specific infra-structure. 56% of the firms were aware of the stringent requirements while only 21% opined in the negative. Only 9% had own facilities for the testing and 91% were dependent on other facilities for the testing which include 33% being dependent on Government labs, 36% on private labs and 22% on other facilities.

- Only 6.6% of the firms had completed Zero Defect certification, and 35% planned to do in the near future. 40% of the respondents were not aware of the initiative.

- 84% of the respondent opined that creation of a separate wing in the Ministry of Defence to address the issues being faced by the MSME in defence industry would benefit the sector.

Chart 6.1 – Source of Funding vs Turnover/Ownership Pattern

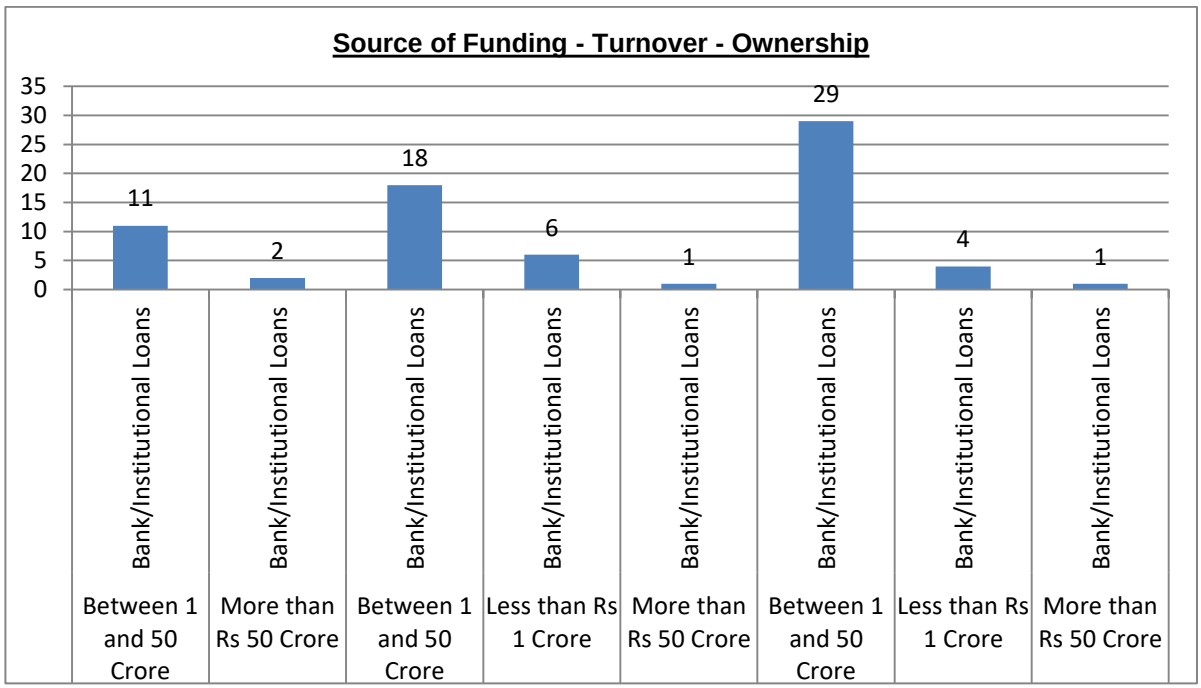
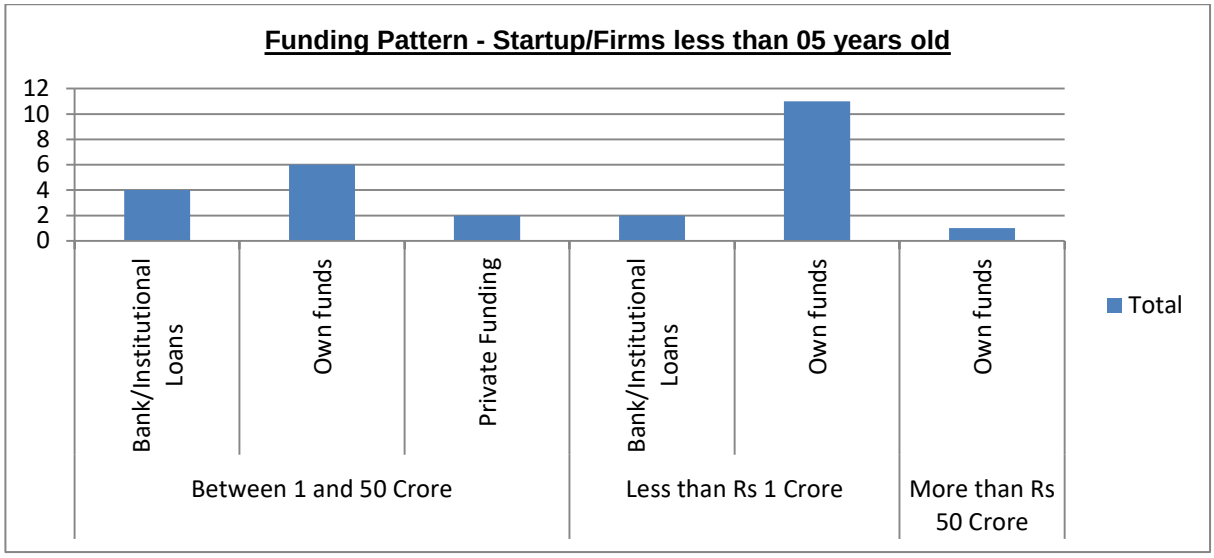
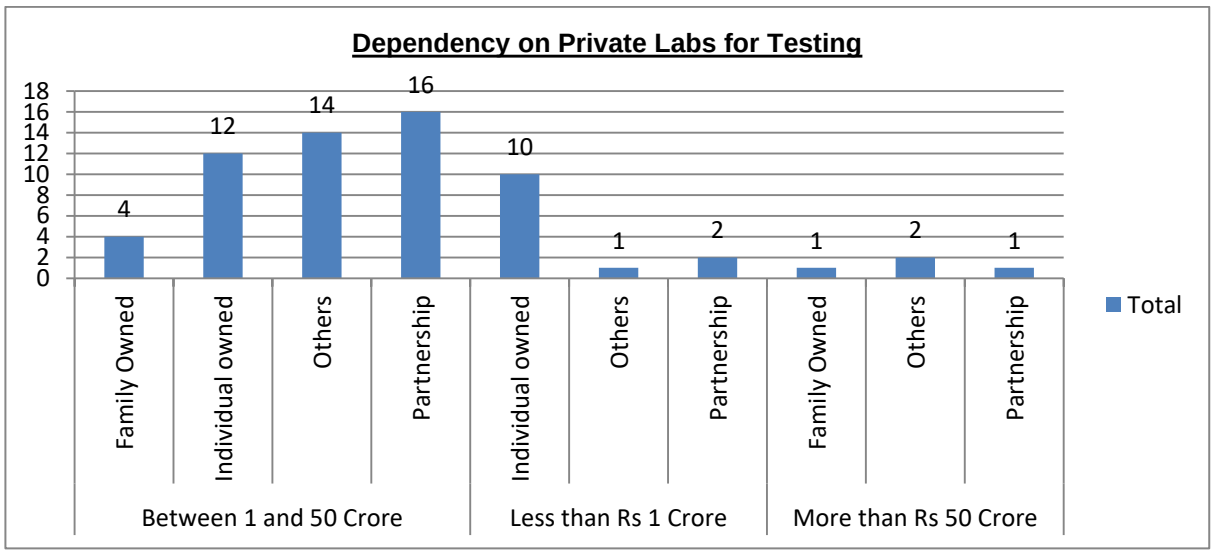


Chart 6.2 – Source of Funds – Startup/Incubation Firms



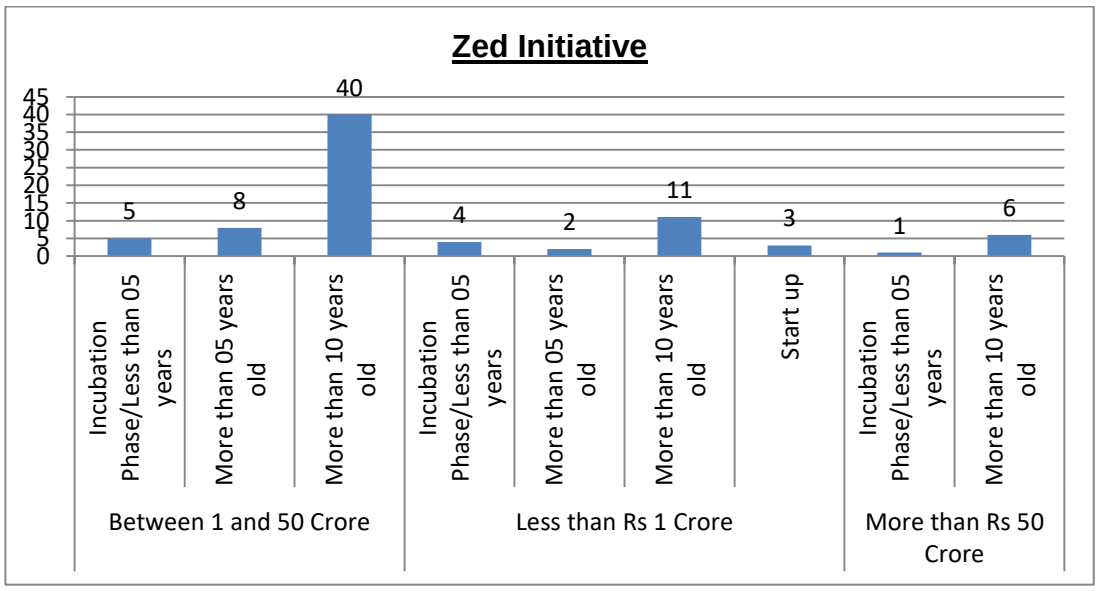
Analysis of the source of funding based on the turnover and ownership criteria reveal that the firms have an increased dependency on Banks/Institutional loans in case of turnover beyond One Crore. Further, the Start-ups and firms less than 05 years old are dependent more on own sources for the funding.

Chart 6.3 – Analysis on Dependence on Private Laboratories



View the shortage of defence testing infrastructure, firms are dependent on private laboratories for the testing which would add to the costs. It also need to be noted that the firms immaterial of the years of existence and turn-over have not invested in creation of own testing infra-structure.

Chart 6.4 – Details of Zero Defect Certification



Only established firms which are more than 10 years old have under Zero defect certification or plan to do in near future. Additional incentives might have to be planned to encourage maximum participation from the industry.

Defence Public Sector Undertaking – MSME Partnership

M/s Bharat Electronics

Bharat Electronics Limited (BEL) was founded in Bengaluru, Karnataka, India in 1954 and is an Indian state-owned aerospace and defence company with about nine factories, and several regional offices in India. It is owned by the Indian Government and primarily manufactures advanced electronic products for the Indian Armed Forces and is one of nine PSUs under the Ministry of Defence of India and has been granted Navratna status by the Government of India.

The company is now a leading defence PSU in the support of the Indian armed forces and delivers array of systems which include C4ISR capabilities including network centric warfare technologies, high end surveillance, weapon locating, Phased array and fire control radars, Electronic warfare systems, communication and combat management systems, software defined radios, high data tactical radios, Airborne products, radar finger printing systems, data links, digital flight control computers, identification friend or foe and complete range of optoelectronic equipment.

The company has in turn through its development process harnessed the growth of MSME sector as sub systems developers for all systems being developed/manufactured by them. Towards a study of the encouragement of the sector by M/s Bharat Electronics, a study of the orders placed by the company on the MSME sector for the years 2017 to 2019 and the percentage composition of systems which are being sourced from the MSME sector.

Table 6.1 - Orders placed by M/s Bharat Electronics on the MSME Sector

Sl	CATEGORY	2017		2018		2019	
		Approx Value(Cr)	No of orders	Approx Value(Cr)	No of orders	Approx Value(Cr)	No of orders
1	Value upto Rs 10 Lakh	142.70	24400	195.19	29161	182.47	29414
2	Value upto Rs 50 Lakh	301.48	25318	411.83	30205	373.72	30327
3	Value upto 1 Cr	382.60	25456	522.52	30363	482.27	30478
4	Value beyond Rs 1 Cr	430.00	139	586.05	166	968.52	184
	Total	**1256.78**	**75313**	**1715.59**	**89895**	**2006.98**	**90403**

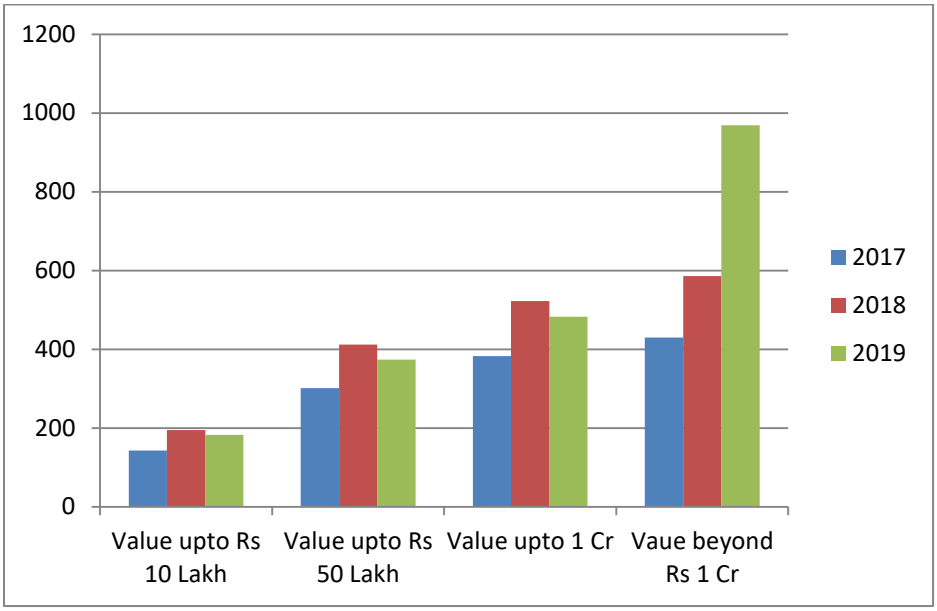
Source: Complied for the Company database

Table 6.2 - Modules/LRUs for systems sourced from Indigenous vendors

Sl	System	Modules/LRU Sourced from Indigenous Sources	Percentage of system composition
1	L Band Surveillance Radar	236	93%
2	Ship borne Sonar	90	55%
3	Submarine Sonar	193	96%
4	Communication System	315	96%
5	Ships Data Network	17	100%
6	Software Defined Radio	49	89%
7	Data Link System	24	55%
8	S Band Surveillance Radar	264	83%

Source: Complied for equipment database

Chart 6.5 - Orders placed on the MSME Sector - M/s Bharat Electronics



Source –Table 6.1 above

M/s Garden Reach Shipyard

The Garden Reach Shipyard is a Defence Public sector shipyard, Kolkata under the Ministry of Defence and has been involved in indigenous war ship construction with the first indigenous ship for the Indian Navy being delivered in 1961. Since the last 60 years the shipyard has delivered more than 107 warships and is the first and only shipyard to build more than **100** warships. The company also has over 60% market share in the sector for Bailey bridge model of the portable steel bridges and has delivered over 5300 bridges to date.

GRSE is a listed company with an average Turnover of Rs 1350 Crores over last five years, with market capitalization of Rs 2320 Crores and the present order book value stands at over Rs.25500 Crores. The company has more than 2800 registered vendors of which more than 700 are from the MSME Segment. The details of the orders placed by the DPSU shipyard of the MSME sector in the last three years are as tabulated below.

Table 6.3 - Orders placed by M/s Garden Reach on the MSME Sector

Sl. No.	Financial Year	Total value of procurement from MSEs(Cr)	Percentage of procurement from MSEs(Cr)	Total no. of Orders	Total no. of Orders placed on MSEs
1	2018-19	164.57	27.4	-	-
2	2019-20	227.00	39.19	2470	650
3	2020-21 {till Jan 2021}	460.79	48.0	1709	558

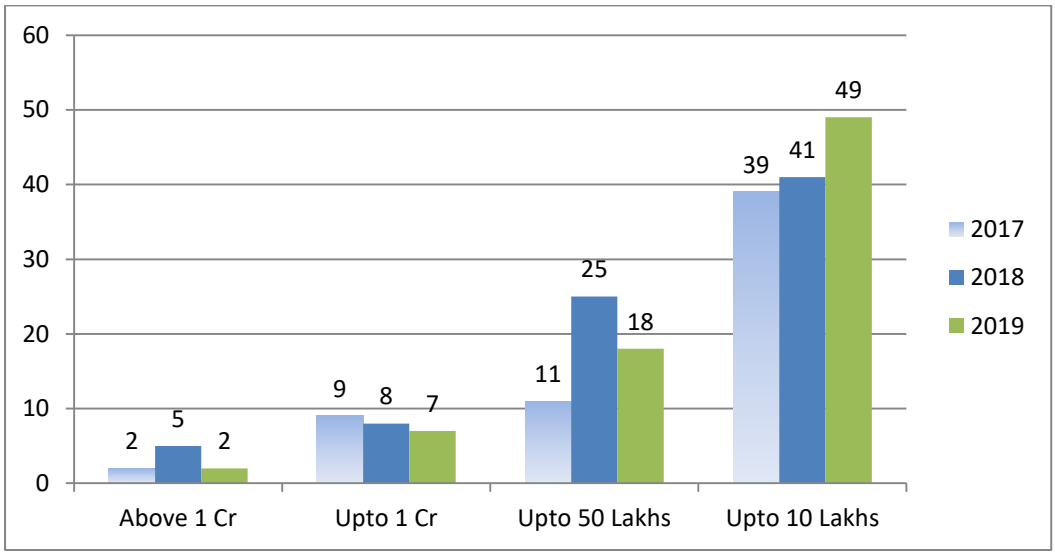
Private Enterprise - MSME Partnership

Tata Power-Strategic Engineering Division (TP-SED) was established by the Tata Group in 1974 and has been a leading private-sector player in the indigenous Design, Development, Production, Integration, Supply and Life-cycle Support of mission critical Systems of Strategic importance to the Indian Defence Forces for close to four decades. The company has partnered with the Ministry of Defence (MoD), the Armed Forces, Defence Public Sector Undertakings (DPSUs) and DRDO in the development & supply of state-of-the-art Systems and emerged as a Prime Contractor to the MoD for Indigenous Defence Production. The firm is the production agency for Pinaka Multi Barrel Rocket Launcher, Akash Missile launchers, Integrated Electronic Warfare System for the Indian Army, Automatic Data Handling System for Air Defence. The company is also the production agency for the prestigious Indigenous Combat Management System for the Indigenous Aircraft Carrier being built for the Indian Navy.

The company is a today leading private sector enterprise that has built inherent capability in the defence manufacturing scenario and is today positioned as a

manufacturer and lead integrator in many prestigious programs for the Indian Defence Forces. Towards a study of the involvement of the MSME sector in India with the defence private sector industry, details of the orders placed by M/s TPSED on the MSME sector has been obtained for the years 2017 to 2019. As the details of the supply orders are company confidential the data has been obtained on a not exceeding basis for an estimation of the quantum of orders placed, growth through the years and percentage turnover of the company. Analysis of the orders placed M/s TPSED on the MSME sector for the years 2017 to 2019 is as follows.

Chart 6.2 - List of orders placed on MSME Sector – M/s TPSED



Source – Authors analysis of data obtained from Company Database

- The firm has placed a total of 216 orders on the MSME sector during the three year period 2017 to 2019 indicating a high dependence.

- There has been an increasing trend in the orders being placed with each successive year and the orders placed on the MSME sector each year account for approximately 30-40% of their annual turnover.

MSME- SAMADHAAN PORTAL

Micro, Small and Medium Enterprise Development (MSMED) Act, 2006 contains provisions to deal with cases of delayed payment to Micro and Small Enterprises (MSEs). As per the provisions, the buyer is liable to pay compound interest with monthly rests to the supplier on the amount at three times of the bank rate notified by Reserve Bank in case he does not make payment to the supplier for the supplies of goods or services within 45 days of the day of acceptance of the goods/service or the deemed day of acceptance. The Ministry of Micro, Small & Medium Enterprises (MSME) launched the MSME Delayed Payment Portal – MSME Samadhaan for empowering micro and small entrepreneurs across the country to directly register their cases relating to delayed payments by Central Ministries/Departments/CPSEs/State Governments. The firms can file their applications online regarding delayed payments and the portal provides complete transparency in the processing of the case. Central ministries and central public sector enterprises (CPSEs) have cleared MSME dues worth Rs 26,821.08 crore during the May-December 2020 period, against the total dues of Rs 34,506.09 crore while dues pending amounted to Rs 7,685.01 crore. Specifically with regard to the Departments related to the Ministry of Defence and the DPSUs operating under the Department of Defence, it was observed that whilst the MSME firms had raised 84 cases on delays in payment pertaining to the 09 DPSU firms, the number was significantly higher in comparison with the three departments of the Ministry of Defence with 552 cases being registered. This may be indicative of the fact that it may be more prudent for the Ministry of Defence to interact with the MSME sector through the DPSUs and not directly as the DPSUs have an established mechanisms and procedures for dealing whereas

for the ministry it would have to create new mechanisms for the same at this is beyond the normal scope of policy formulations and directions which the ministry is normally endowed with.

Analysis of data

Analysis of the data obtained from the survey and the engagement between the large Public sector and Private sector firms involved in the manufacturing for the defence forces with the MSME industry reveal the following.

- The leading PSU and Private sector defence industry has a large dependence on the MSME sector for supply of assemblies and services and have been pro-actively involved with the MSME sector in the country developing a cogent network for supply of technology and sub systems/sub-assemblies.

- Major Indigenous systems being developed by the Original Equipment Manufacturers have a sizeable percentage of assemblies being sourced from vendor in the MSME sector.

- The MSME sector has been able to meet the requirements of the major public and private sector firms who are the Original Equipment Manufacturers for systems for the Indian armed forces to a large extent as observed from the collation of data on orders placed and composition of systems.

Conclusion

The major players in the defence industry in the country has a large dependence on the MSME sector for the supply of subassemblies, spares and services and the sector has made valuable contribution in the supply value chain. Ease of access to finance, reducing the complexity for vendor development and transparency in the items to be developed would be the key factors that will propel the growth of the sector. Creation of costly testing infra-structure for compliance testing to the stringent standards required for defence related products is beyond the financial capability of the sector. The MSME ministry has been handling all issue pertaining to the sector under a broad canvas and generally concentrating on the traditional industry whereas the complex challenges of the defence industry require specialized intervention. The analysis of the data on the grievances raised by the MSME sector clearly indicates that the association of the sector with the DPSU is much satisfactory and successful model compared to dealing with the ministry departments. Whilst policy initiatives and the will of the Government have been aptly demonstrated through variety of measures and priority to the Indian industry, additional interventions and structural adjustments may be required to ensure that the benefits reach the end elements.

CHAPTER 7

MSME Sector in Indian Defence Industry – Recommendations

The importance and contribution of the SME sector to the economic growth and prosperity of the country were the majority population resides In the rural areas is well established. The sector in India is highly heterogeneous in terms of the size of the enterprises and has high growth potential in manufacturing as also in global value chains. In defence production, the MSMEs play a significant role in supply chain for the DPSUs and the Large Private sector industry and harnessing the expertise of MSMEs in few niche areas of defence technology would contribute immensely to the goal of self-reliance.

With increased participation of the private sector, there has been phenomenal growth in the indigenization curve in the country and more and more systems are now being manufactured and assembled within the country. The Make in India initiative and the Atmanirbhar Bharat has had its goal in ensuring phenomenal push of the Indian industry and the ramifications have been seen in the defence industry sector also.

The MSMEs are extremely positive about their capabilities, have the insatiable hunger to establish their businesses and are prepared to take calculated risks. Since profit and risk taking are integral to any business enterprise, the onus is on the government and lead product integrators to create an enabling environment to attract MSMEs in defence production, while educating them on the typical requirement of the armed forces.

The study of the European MSME sector brings out that pro-active measure by the European Council could lead to simplification in the ease of doing business and reduction in the time as well as the budget required to start of an enterprise. Structured setup for encouraging cooperation between the larger corporations and the SME sector for high end technology solutions and products could be gainful for both. Transparency in the complete process of MSME registration, creation of a portal and collaboration and cooperation rather than competition is encouraged so as to benefit the sector.

With the increased focus on “Atmanirbhar Bharat”, most orders for defence equipment are now being placed in indigenous sources except for the inescapable ones for which import is the only option. With the earnest will of the government to enable and encourage exports of Indian defence systems, the MSME sector involved in this industry is bound to be re-vitalized and could be one of the main drivers that bring in the change.

Towards the revitalizing the MSME sector in the Defence industry and capability generation for the handling of the high end technology in future, the following measures are recommended.

1. **Re-Organisation**. All issues pertaining to the MSME sector in India is handled by the Ministry of MSME. The study of annual reports of the ministry brings out that no special provision of preference is accorded to the MSMEs involved in defence industry and the complete sector is handled under a single canvas. Defence industry is highly technically complex with specific skill sets and requires compliance to stringent

standards. The Ministry of Defence has been separately addressing the aspects pertaining to the MSME sector through policy various and other initiatives. The aspects of high end technology in the defence and the involvement and encouragement of the MSME's in the sector requires special handling which is much beyond the normal. Further integration of the DPSU and Private Sector Manufacturer with the MSME sector through necessary top level facilitation by the Government and Industry Association to bring in better understanding, focus, handholding and coherence is a necessity. The level of engagement needs to be look beyond the contractor-supplier paradigm. It is opined that this could be facilitated best through creation of a separate wing in the Ministry OF Defence for handling of all aspects pertaining to the MSME involved in the defence industry as also noted during the industry survey.

2. **Digital Portal**. The MSME industry today undertakes registration with the Ministry of Micro, Small and Medium Enterprises who also allocates the Udyog Aadhaar Number. The Ministry of Defence does not currently host any data on the MSMEs involved in the defence industry. There is a requirement to map the complete list of MSME firms involved in defence industry with specific importance to their specialization, skill sets and technology domain. Creation of a portal at the level of Ministry of Defence where all MSME firms involved in the defence industry could be registered is the need of the hour. Data on the record of successful completion of projects by the MSME firms could also be hosted on the portal which could be a successful measure of the appreciation of their contribution. Data on this portal could be made transparent and could be

single point of reference for all defence PSUs, research and development laboratory or private enterprises both indigenous and foreign scanning the industry database for partnership based on technology and product profiles.

3. **Engagement Strategy**. The government has since 2015 come out with various policies for engagement and uplifting of the MSME sector. These policies have been well conceived at the top level however the positive effect of these on the sector would only be profound in case an effective strategy for engagement and implementation is formulated. The engagement strategy would have to specific for each of the sectors as the problems encountered by each sector is unique and would require sector specific solutions. In India the MSME sector in generally covered under one broad canvas and in this the traditional sectors of Coir and Khadi have been the main focus. When it comes to defence industry, me have to think beyond the traditional engagement strategy and may require specific aspects to be focused. Interactions between all stakeholders need to be institutionalized so as to create an enabling environment for positive interaction between the policy makers, the associations and the MSME manufacturers. These formal interactions could bring out measures that would be required to specifically enable and encourage the sector. Further, these interactions could also enable reduction in the trust deficit that the industry today faces with the policy makers and could also be the forum to acknowledge the contribution of the MSMEs in the defence of the country.

4. **Ease of Finance**. The survey of the MSME industry had brought out that 41% of the firms were privately funded and 50% were dependent

on banks or institutional loans for finances. Further the investment in complex technology especially that is related to defence always require high investment and returns may not be immediate. The government did bring out with the policy on Make I and II which were government and industry funded respectively. In spite of a provision for payment of part advance in Make I, there were no takers under the scheme. The lead time in the processing of the cases at the bureaucratic level is quite cumbersome, procedural oriented and delays lead to liquidity crunch for the MSME firm which has repercussions on the working capital needs. The Ministry of Defence could opt through the alternate methodology wherein such schemes are progressed through the established tiers of the larger industry players MSME partnership. Specific technology could be focused and indirect MSME partnership may be fostered through these large industry players with funding from the Government to enable leap frogging of the technology curve in the country.

5. **Technology Fund**. Innovative technology funds such as the Horizon 2020 and the European Defence Industrial Development Programme – SME fund needs to be replicated within the Indian system to provide an avenue for the MSME industry. The MSMEs should be allowed to participate by joining a consortium that responds to a specific call for proposals, or individually for a project and this should cater for tailored business support for activities such as demonstration, testing, prototyping and scaling-up. The fund could support the development of defence capabilities such as drones and related technologies, space technologies, unmanned ground vehicles, high precision missile systems,

future naval platforms, airborne electronic attack capability, tactical and highly secured networks, cyber situational awareness platforms, or next generation of active stealth technologies. The investment in these futuristic technologies are highly risky, time consuming and no MSME firm would have the requisite financial background to handle such projects. Creation of a technology fund could provide for the financial capital for the MSME sector to invest and venture into futuristic projects.

6. **Partnership Facilitation**. Shortage of funds and avenues are a significant bottleneck for the SME sector in general and those in defence manufacturing. A collaborative triad of a partnership should be built among diverse stakeholders to capitalize the manufacturing capability for the MSME sector for the defence industry for high end technologies. This could be facilitated through top level interventions between the DPSU and the Large Private sector industry with the MSME firms involved in the defence sector. Presently the large players in the defence segment are already dependent on the MSME firms for supply of assemblies/sub-assemblies for the systems being manufactured by them. This could be further enhanced for the development of high technology solutions for defence through the required facilitation at the highest level of government and industry associations through partnership building.

7. **Export Incentives**. The country aims to target domestic defence production of USD 25 billion and exports of USD 5 billion by 2025. With the focused increase in export of systems from India, there would be an analogous increase in the MSME turnover as the large manufacturers both

in the public and private sector have a huge dependence on them. Further the MSME sector could also be the suppliers of assemblies and sub-assemblies to Original Equipment Manufacturers in the foreign countries under the “Built to Specifications” and “Built to Print” schemes against the offset clause. These firms could also be principle suppliers to the foreign OEMs for similar systems being developed for other countries provided the same is facilitated at the highest level of the government. Participating in global value chains led by trans-national corporations could increase the volume and competitiveness of exports, offer access to new technologies and human resource training and strengthen production linkages. Semi-government mechanisms as also the industry associations could also be enablers in this process. Simplification of the procedure for issue of export license and clearly listing the items that are banned from export to other countries may encourage the MSME firms from exploring these options.

8. **Cluster Initiatives**. The government of India had announced the creation of 02 defence corridors in Uttar Pradesh and Tamil Nadu in 2018-19. These corridors would essentially be clusters of small manufacturers involved in the development of assemblies and sub systems for defence related equipment. Many of these MSME firms involved in the development would have cross dependencies and would be sourcing spares and technology from other vendors with specific expertise. It would be beneficial that these enterprises are co-located within the geographical area within a cluster as this would enable them to have a common pool of skilled manpower, exchange technology/ leverage each other’s expertise and conduct experience sharing sessions. Towards this it is necessary that the

requirements of technology and skillsets for each cluster is identified and the umbrella organizations such as CII, FICCI, ASSOCHAM, QCI, NPC etc engage proactively with the MSME sector to enable co-location of technological dependent industries that would enable reduction in production costs and hence be more competitive. Similar corridors for the automobile and space sectors are already a reality in the country.

9. **Testing Infrastructure**. The survey of the MSME firms indicated that only 9% of the firms had their own facilities for testing and the balance was dependent on the private or Government laboratories for the testing of the product. Setting up of any defence testing infrastructure is capital intensive and it is not economically viable for individual industrial units to set up as also the testing costs are huge. One of the key elements in revitalizing the MSME sector would be in the creation of requisite Defence Testing Infrastructure that would facilitate ease of testing thereby indirectly favor the ease of doing business. The creation of these DTIs, their operation and maintenance could be planned through Special Purpose Vehicles (SPVs) that could be made self-sustaining through levy of User Charges that are nominal and the equipment/ systems tested at DTIs could be certified as per appropriate accreditation. The Defence Industrial Corridors (DICs) in Utter Pradesh and Tamil Nadu may be given preference for setting up of DTIs, being the focus areas as majority of the firms are likely to come up in this corridor in future.

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Appendix A

EXTRACT OF MoD PRESS RELEASE ON ROLE OF MSME IN DEFENCE SECTOR

1. Ministry of Defence set up a Committee of Experts under the Chairmanship of Shri Dhirendra Singh, IAS (Retd.), in May 2015 to evolve a policy framework for Make in India and to suggest requisite amendments in Defence Procurement Procedure (DPP) 2013. The Committee submitted its report in July 2015 and in its report, it is mentioned that almost 80% of component, aggregates and assemblies of complex weapon system and aircraft are made by MSMEs, which are part of supply chains. The Report also mentions that there are nearly 6000 MSMEs across the country supplying components and sub-assemblies to the DPSUs, Ordnance Factories, DRDO and private industries. A 2012 Report of the Confederation of Indian Industry (CII) and the Boston Consulting Group (BCG) mentions that the employee base of 1.8 lakh in Ordnance Factories and DPSUs is similar to the countries like United Kingdom and France which are amongst the largest producers of defence related items.

2. The lack of state-of-the-art defence technology and poor production capabilities are some of the major reasons for lagging behind by India in the field of defence production. However, the Government has promulgated Defence Production Policy in 2011 aimed at achieving substantive self-reliance in the design, development and production of equipment, weapon systems, platforms required for defence in as early a time frame as possible; creating conditions conducive for the private industry to take an active role in this endeavor; enhancing potential of SMEs in indigenization and broadening the defence R&D base of the country.

3. In pursuance of the Policy, the Government has taken several steps to build strong defence industrial base, which are given as below: -

(a) FDI policy has been revised in Nov 2015 under which Foreign Investment upto 49% is allowed through automatic route and above 49% under Government route on case-to-case basis, wherever it is likely to result in access to modern and 'state-of-art' technology in the country.

(b) The Exchange Rate Variation (ERV) protection has been allowed on foreign exchange component to all Indian companies including private companies in all categories of capital acquisitions, so as to create a level playing field between the Indian and foreign industry.

(c) To establish a level-playing field between Indian private sector and the public sector, the anomalies in excise duty/ custom duty have been

removed. As per the revised policy, all Indian industries (public and private) are subjected to the same kind of excise and custom duty levies.

(d) The Defence Products List for the purpose of issuing Industrial Licences (ILs) under IDR Act has been revised and most of the components, parts, sub-systems, testing equipment, and production equipment have been removed from the List, so as to reduce the entry barriers for the industry, particularly small & medium segment.

(e) The initial validity of the Industrial Licence granted under the IDR Act has been increased from 7 years to 15 years with a provision to further extend it by 3 years on a case-to-case basis.

(f) To promote the participation of private sector, particularly SMEs for defence manufacturing, Outsourcing and Vendor Development Guidelines for DPSUs and OFB have been formulated and circulated to them. The guidelines mandate that each DPSU and OFB to have a short-term and long-term outsourcing and vendor development plan to gradually increase the outsourcing from private sector including SMEs. The guidelines also include vendor development for import substitution.

(g) The Standard Operating Procedure (SOP) for the issue of No Objection Certificate (NOC) for export of military stores has been revised and put on the website. Under the revised SOP, the requirement of End User Certificate (EUC) to be countersigned/ stamped by the Government authorities has been done away with for the export of parts, components, subsystems etc.

(h) The list of military stores has been finalised and has been put in the public domain to make the process transparent and unambiguous. The process of receiving applications for NOC for export of military stores and for issuing NOC has been made online to reduce the delay and to remove human interface in the process.

(i) Preference to ‘Buy (Indian)’, ‘Buy & Make (Indian)’ & ‘Make’ categories of acquisition over ‘Buy (Global)’ category, thereby giving preference to Indian industry in procurement. This information was given by Minister of State for Defence Rao Inderjit Singh in a written reply to Shri Harivansh in Rajya Sabha today.

Appendix B

LIST OF PROJECTS BEING PROGRESSED UNDER MAKE II SCHEME

Make II Projects have been classified in 02 categories.

- Potential 'Make' projects for which 'Approval -in-Principle(AIP)' has been accorded as per new 'Make-II' procedure.

- Projects at exploratory stages & preliminary feasibility study are in progress.

MAKE II Projects – AIP Accorded

Sl No	SHQ	Name of Project	Qty	Tentative Cost(in Rs Cr)	Present Status
1	Airforce	Lightening Detection system	50		AIP accorded on 13.10.2020
2	Airforce	Wind Profiler	50		AIP accorded on 13.10.2020
3	Army	Multi-Purpose Fork Lift Truck	125		Feasibility Study under progress
4	Army	Electronic Fuze for Pinaka Rocket Ammunition	14040 (over 10 years)		PSQR Formulation.
5	Navy	Marine Grade Aluminium Alloy Plates			AIP accorded on 28.10.2020.
6	Airforce	Indigenous Precision Range Extension Kit			AIP Accorded on 28.10.2020.
7	Airforce	Anti-Spoofing and Anti Jam IRNSS receiver for Fighter Aircraft	250 (AF) + 25 (Navy)	-	AIP accorded on 3.6.2020.
8	Airforce	Fuel Drop tank for Jaguar Aircraft	250		AIP accorded on 3.6.2020.

MAKE II Projects – AIP Accorded					
Sl No	**SHQ**	**Name of Project**	**Qty**	**Tentative Cost(in Rs Cr)**	**Present Status**
9	Army	Infantry weapon training simulator (IWTS)	66		Feasibility Study under progress.
10	Navy	Marine Sewage Treatment Plant	10	15	AIP accorded on 6.8.2020.
11	Navy	Signal flares and anti-sonar Decoys for P-75 submarines	306 flares & 89 anti-sonar decoy		AIP accorded on 6.8.2020.
12	Airforce	80 MM Rockets	5000		AIP Accorded on 6.8.2020.
13	Airforce	20 MM Ammunition			AIP accorded on 17.3.2020
14	Navy	High Endurance Autonomous Underwater Vehicles (HEAUV)			AIP Accorded on 17.3.2020
15	Navy	Limpet Mine Mk 414 (7 Kg) and Mk 430 (15 Kg)	100	0.16	AIP Accorded on 17.3.2020
16	Army	Drone Kill System	56	10.4	SoC being Formulated.
17	Navy	Autonomous Surface Vessel in Mine Counter Measures			AIP Accorded on 17.3.2020
18	Army	V/UHF Software Define Radio	600	179.12	EOI evaluation in progress.
19	Army	HF Software Define Radio	300	155	PSQR Formulation.
20	Army	Mountain Fire Control Radar	254	13788	SoC being formulated.
21	Army	Truck Mounted Crane for ULH Regts	132	14.01	SoC being Formulated.

MAKE II Projects – AIP Accorded					
Sl No	**SHQ**	**Name of Project**	**Qty**	**Tentative Cost(in Rs Cr)**	**Present Status**
22	Army	Robotic Surveillance System	544		PSQR Formulation.
23	Army	AFV Protection and Counter Measure System	818	4090	SoC being formulated.
24	Army	Portable Helipad	50 Sets	42	SoC being formulated.
25	Airforce	Chaff and flares	Chaffs-1,00,000: Flares-1,50,000 (for 5 yr)	142.62	Project Sanction Order issued on 13.12.18. Design and development phase.
26	Airforce	Infrared Imaging Search & Track System (IRST)	100	1850.00	PSO issued on 28.5.19. Design and Development Phase.
27	Airforce	Foldable Fiberglass Mat (FFM) for Rapid Runway Repair	301	235	AoN accorded on 24th July 2019. EoI last date 27 Dec 19.
28	Airforce	Aerial Fuse for Bomb	15000 @3000/Yr	708	PSO issued on 10.11.2020.
29	Airforce	125 kg bomb (akin to MK-81 bomb)	2500 @ 500/yr	161.8	PSO issued on 10.11.2020.
30	Airforce	70 mm Air to Ground Rockets	80000 (over 3-5 years)	-	PSQR under finalization

MAKE II Projects – AIP Accorded					
Sl No	**SHQ**	**Name of Project**	**Qty**	**Tentative Cost(in Rs Cr)**	**Present Status**
31	Airforce	On Board Oxygen Generation System (OBOGS) for Fighter Aircraft	150	1162.5	Feasibility study completed.
32	Airforce	Wing Drop tanks for Mirage 2000 Aircraft	100	350	Feasibility study under progress
33	Airforce	Inflatable Decoys	255	281.2	Feasibility study completed.
34	Army	125mm APFSDS Ammunition for T-72 & T-90 Tank	85,000	1955	PSO issued on 11.11.2020
35	Army	Upgraded Assault Track way	100	100.00	Project Sanction Order issued on 5.11.18. RFP issued on 24.9.2020.
36	Army	MEAT (Manoeuvrable Expendable Aerial Target)	125	102.50	RFP has been issued on 13 July 2020.
37	Army	Night Fighting Control System for AGS-30	804	80+30 Lakhs	EOI evaluation in progress.
38	Army	155 mm Terminally Guided Munitions	3500	245	SoC being formulated.
39	Army	Air Defence Unit Level Target System (AMOGH)	56	29.4	SoC being formulated.
40	Army	Mobile Integrated Network Terminal (MINT)	129	285	EoI evaluation in progress.

MAKE II Projects – AIP Accorded					
Sl No	**SHQ**	**Name of Project**	**Qty**	**Tentative Cost(in Rs Cr)**	**Present Status**
41	Army	Augmented Reality (AR) based Head Mounted Display System	556	135.81	EOI evaluation in progress.
42	Army	3rd Gen ATGM (Anti Tank Guided Missile) System	Missiles: 2330, Launcher: 101, Simulator: 06	1538.08	PSO issued on 16.11.2020.
43	Army	Integrated air Defence Combat Simulator - Suo-Moto	30	291.3	SoC being formulated.
44	Army	Pre-fragmented programmable proximity fuzed ammunition	3,30,000 over 12 years	30.6	SoC being formulated.
45	Army	GPS/GIS based Minefield Recording System	3680	292.35	PSO issued on 10.12.2020.
46	Army	Medium Range Precision Kill System	10	326	Soc being formulated.
47	Army	Upgrade for BMP2/2K	811	4210.71	EOI evaluation in progress.
48	Army	Auxiliary Power Unit (APU)	3257 (Qty 1600 for Tank T-72 and 1657 for Tank T-90)	Rs 1325.92 Crs	PSO issued on 9.11.2020
49	Navy	Deep Sea Side Scan Sonar Towing Winch (DS4TW)	06	05.54	Prototype development completed on 26th Aug 2019. Trials in progress.

MAKE II Projects – AIP Accorded					
Sl No	**SHQ**	**Name of Project**	**Qty**	**Tentative Cost(in Rs Cr)**	**Present Status**
50	Navy	Proximity, DA and Graze fuse for 76/62 SRGM with universal capability for 76-127mm caliber ammunition	5000 fuzes @ 500 fuzes/year	241.00	AoN Stage
51	Navy	Digital Beam forming based Satellite TV	100	64.9	PSO issued on 4th June 2019
52	Navy	Three phase inverters	25	8.44	PSO issued on 30.5.19
53	Navy	Expendable Underwater Target	300 @ 60/yr	134.52 Cr	AoN Accorded on 2nd April 2019. EoI issued on 14.6.19.
54	Navy	Effectors for Anti-Torpedo Counter Measure System	174	130	Feasibility study completed. PSQR under preparation.
55	Navy	Upper Air Sounding System (UASS)	24(Navy)+ 36(Army)	40.00	Project Sanction Order issued on 20.11.18

Make II Projects - Exploratory Stage- Feasibility Study in Progress					
Sl No	**SHQ**	**Name of Project**	**Qty**	**Tentative Cost(in Rs Cr)**	**Present Staus**
1	Airforce	Main Rotor Blade			Exploratory Stage
2	Airforce	Long Range Glider Bomb	3050 over 3-5 years		Feasibility study
3	Army	1000HP Engine with associated peripherals for T-72 Tank	1000	3000.00	Feasibility Study Stage
4	Navy	Diesel engine for Boats (150-350 HP)	220 for 05 yrs	150.00	Feasibility study
5	Army	Electronic fuses Tech for Rockets	20000		Feasibility Study

Appendix C

EXTRACT OF OFFICE MEMORANDUM MOD DDP ID NO: 10/EP CELL/MSME/2018 DATED 12 JUL, DATED: JULY 12, 2019

SUB: SCHEME FOR PROMOTION OF MSMEs IN DEFENCE

Objectives

The primary objectives of the proposed events are as follows:

- To unlock the potential of the non-defence sector MSMEs located in Tier II and Tier III cities across India by providing them with relevant information about the Government of India's 'Make in India' Programme in defence.
- To give a new impetus to the development of defence production in the country both for its domestic needs and also for exporting to friendly countries, by involving the MSMEs in larger numbers.
- To provide know-how to Indian MSMEs active in non-defence sectors for their entry in the defence sector through workshops and conclaves.
- To tutor the MSMEs about the prospective market and business opportunities around the world.
- To enable institutionalization of the interaction of foreign OEMs with MSMEs to encourage wider participation in the offset business industry.

Scope

- MSME vendors will be imparted awareness and information about opportunities emanating out of the Defence Procurement Procedure, and more specifically out of the new Make II procedure.
- MSMEs from non-defence sectors to be connected with OEMs, DPSUs and OFB to help them avail the opportunities under Make in India Programme in the defence sector. - MSMEs to be educated about the relaxations in the procurement process.

- MSMEs will be familiarized with the various funding mechanisms established specifically for facilitating capable entrepreneurs low on capital, or for capital intensive projects.

- Explore the possibility of establishing common testing and allied facilities at select centers.

Coverage

The proposal envisages the following deliverables:

- Boost Make in India, consolidate existing defence manufacturing ecosystem and induction of competent MSMEs of other sectors to defence sector.
- Identification of location specific problems that need to be addressed by MoD, particularly, DDP.
- Identification of MSMEs with strong potential to meet technology requirements of the armed forces.
- Promote defence exports.
- Boost MoD outreach.

Funding. The Scheme will be funded by Government of India. The following norms will be adopted for providing financial support for the events:

- For National level events, DDP will provide annual sponsorship subject to a maximum limit of Rs **2 Lakhs/event** along with permission to use logo of MoD. - For State level events, DDP will provide annual sponsorship subject to a maximum limit of Rs 1 Lakh/event along with permission to use logo of MoD.
- Since Finance has approved 01 National level and 03 State level conclaves in pilot mode, fund requirement upto Sept'2019 will be Rs 5 lakhs.

Governance. An Empowered Committee (EC) set up with Additional Secretary (DP) as the chairman will evaluate & clear all such proposals based on the criteria.

Press Information Bureau Government of India

Ministry of Micro, Small & Medium Enterprises 28-November-2019 13:02 IST

MSME IN DOMESTIC DEFENCE PRODUCTION SECTOR

As reported by the Ministry of Defence, the number of Micro, Small and Medium enterprises (MSMEs) Vendors in India under domestic defence production sector is 8,643.

Several schemes/ initiatives have been put in place to support MSMEs including those in the defence production sector. These include Prime Minister's Employment Generation Programme (PMEGP), Micro and Small Enterprises-Cluster Development Programme (MSE-CDP), Scheme for Promotion of MSMEs in North Eastern Region and Sikkim, Tool Rooms and Technology Centers, Mission Solar Charkha (MSC), Scheme of Fund for Regeneration of Traditional Industries (SFURTI), Procurement and Marketing Support Scheme, Entrepreneurship Skill Development Programme (ESDP), Credit Guarantee Scheme for Micro and Small Enterprises (MSEs) and Credit Linked Capital Subsidy and Technology Upgradation Scheme (CLCS-TUS). The Ministry of Defence has also taken various measures to support domestic defence production across the country. These include Make-I and Make-II projects, Defence Investor Cell and Innovations for Defence Excellence (iDEX).

This information was given by Shri Nitin Gadkari, Union Minister for Micro, Small and Medium Enterprises in written reply to a question in Lok Sabha today.

Appendix D

MSME in Defence Manufacturing in India – Questionnaire Survey

Name of the firm

Annual Turnover of the firm for the year 2019-20

- Less than Rs 1 Crore
- Between 1 and 50 Crore
- More than Rs 50 Crore
- Prefer not to specify

Type of Ownership of the firm

- Individual owned
- Family Owned
- Partnership
- Others

Number of personnel employed by the firm

- 10 or less
- Between 11 and 50
- Between 50 and 100
- More than 100

Category of the Defence MSME Firm

- Start up
- Incubation Phase/Less than 05 years
- More than 05 years old
- More than 10 years old

Sector of operations

- Services
- Manufacturing
- Both of the above

Development/Production orders received in the last 03 years from the Defence sector (MoD/PSU/Private)

- 10 or Less
- 50 or Less
- 100 or less
- None

Source of funding for the firm

- Own funds
- Bank/Institutional Loans
- Private Funding

Was the firm aware about the details of the Make I and Make II schemes introduced in DPP 2016

- Yes
- No

As per your experience does the measures introduced by the Ministry of Defence through Make I and Make II schemes encourage participation in defence manufacturing

- Yes
- No
- Maybe
- Cant say/Don't Know

In your opinion what are the factors that deter the firm from participating in defence manufacturing sector

- Lack of funds
- Lack of expertise
- Insufficient data on the product
- Complex process of vendor development
- All of the above
- Any other issue

To what extent do you agree that the MSME sector has much more potential for meeting the requirement of the defence forces

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree
- Can't say/Don't Know

In your opinion what additional measures need to be put in place for encouraging the MSME Sector in Defence Manufacturing in India

- Prompt release of payments
- Simplified procedures
- Creation of a credit fund for prototype development
- All of the above

To what extent do you agree that India has the capability for being a major defence manufacturing hub in future

- Strongly Agree
- Agree
- Strongly Disagree
- Disagree
- Can't say/Don't know

Do you agree that the MSME sector has the capability for independent manufacturing of Complete Systems for the Armed Forces

- Strongly Agree
- Agree
- Strongly Disagree
- Disagree
- Can't say/Don't know

Do you agree that MSME sector have enough forums to address their grievances

- Strongly Agree
- Agree
- Strongly Disagree
- Disagree
- Can't say/Don't know

Do you agree that the role played by PSU companies and Larger Private players in defence sector encouraging for the MSME sector,

- Strongly Agree
- Agree
- Strongly Disagree
- Disagree
- Can't say/Don't Know

Which would be the preferred business model for MSMEs in defence sector (a) Direct Supply Orders from GoI/MoD . (b) Supply orders from DPSU's. (c) Supply orders from Private Sector Manufacturers.

- All of the above
- All of the above, but (b) and (c) are preferred options
- Only (b) and (c)
- Either (b) or (c), but not (a)

Is the firm aware of the stringent requirement of testing as per JSS 55555 and EMI/EMC standards for defence products

- Yes
- No
- Not applicable

How does the firm undertake testing as per JSS 55555 and EMI/EMC standards

- Own Facilities
- Through private accredited labs
- Through Government labs and facilties
- Others

Do you believe that the Ministry of MSME, Govt of India is current on the issues and problem areas of MSMEs in defence sector

- Strongly Believe
- Neutral
- Do not believe
- Can't say/Don't Know

Is the firm aware of the procedure for Capacity Assessment and Vendor registration with Directorate of Quality Assurance for empaneling as a registered vendor

- Yes
- No
- Aware, but do not prefer to.
- Aware, plan to do in future.
- Not aware of the procedure.

Will the creation of new wing in Ministry of Defence for MSME would benefit the MSME sector and bring in ease of doing business

- Strongly Agree
- Agree
- Strongly Disagree
- Disagree
- Can't say/Don't Know

To what extent do you believe that creation of the MSME Samadhan Portal has benefited the firm in the redressal of delayed payments

- Strongly Agree
- Agree
- Strongly Disagree
- Disagree
- Can't say/Don't Know

Has the firm completed Zero Defect Certification under the ZED initiative of the Ministry of MSME.

- Yes
- No
- Plan to do in near future
- Not Aware of the ZED initiative

Appendix E

List of Firms Participated in the Survey

1. Aidin Technologies Pvt Ltd
2. H and H Precision Pvt Ltd
3. Nucon Aerospace Private Limited
4. Spectrum Cable-Tech Pvt Ltd
5. Hrk Sons Pvt Ltd
6. Arihant Electricals
7. Bigtec Private Limited
8. First Technology Pvt Ltd
9. Sneh Engg Works Pvt Ltd
10. Shri Venkateswara Hitech Machineries Private Limited
11. Shoft Shipyard Pvt Ltd
12. Animotronex Technologies Pvt Ltd
13. Nroot Technologies Private Limited
14. Dtk Auto Press Comps Pvt. Ltd.
15. Sunlux Technovations Pvt. Ltd.
16. Timetooth Technologies Pvt. Ltd.
17. Sadhav Offshore Engineering Company Pvt Ltd
18. Minerva Special Purpose Vehicle Pvt Ltd.,
19. Global Engineers Ltd.
20. Kisco Castings India Limited
21. Theta Controls Pvt Ltd
22. Sasmos Het Technologies Limited
23. Jupiter Integrated Sensor System Pvt Ltd
24. G Surgiwear Limited Pvt Ltd

25. Thunder Auto Llp Pvt Ltd
26. Trident Pneumatics Pvt Ltd
27. Elcome Integrated Systems Pvt Ltd
28. Emd Electronic Instruments Limited
29. Amity Technologies Pvt Ltd
30. Shriya Frontend Services Pvt Ltd
31. Next Generation Technologies Pvt Ltd
32. Rachamallu Forgings Private Limited
33. Asaco Pvt. Ltd.
34. Hariom Forgings Pvt Ltd
35. Electro Treatment Pvt Ltd
36. Fusolve Technologies Pvt Ltd
37. Vista Consoles Pvt Ltd
38. Zeus Numerix Pvt Ltd
39. Analogic Controls India Limited
40. Analogic Controls India Limited
41. Gola Electronics Pvt Ltd
42. S.B.Automats Pvt Ltd
43. Autodynamic Technologies & Solutions Pvt. Ltd.
44. Limai Electronics Pvt Ltd
45. Rotary Electronics Pvt Ltd.,
46. Pep Charles Limpens Pvt Ltd
47. T&F Insulations Pvt Ltd
48. Sritech Electronics & Systems Pvt Ltd
49. Gola Electronics Pvt Ltd
50. Synergy Power Controls Pvt Ltd

51. Bharat Rubber Industries Pvt Ltd
52. Vishwakarma Industries Pvt Ltd
53. Protectron Electromech Pvt. Ltd.
54. Flu Tef Industries Pvt Ltd
55. Keetronics (India) Private Limited Pvt Ltd
56. Sri Sai Speciality Packagings Pvt Ltd
57. Design Engineering Analysis Group Pvt Ltd
58. Hybrid Metals Private Limited Pvt Ltd
59. Ultralife Batteries India Pvt Ltd
60. Nutek Technologies Pvt Ltd
61. Allied Eletcronics Corporation Mumbai Pvt Ltd
62. Iic Technologies Limited Pvt Ltd
63. M/S. Josts Engineering Company Limited
64. Subham Safety Engineers Pvt Ltd
65. Deep Explo Equipments Pvt Ltd
66. Raghav Aerospace Manufacturing Technologies Private Limited
67. S D Rubber Products Pvt Ltd
68. Hyderabad Metal Crafts Private Limited
69. Nano Industrial Technologies Pvt Ltd
70. Kenra Technologies Llp
71. Friction Control Products Private Limited
72. Mechelonic Welders Private Limited
73. Fibre Poly Glass Pvt Ltd
74. Advent Technologies Pvt Ltd
75. Telektron (India)
76. Alfa Precision Tools Llp

77. Ailga Rubber Works Pvt Ltd
78. Thermodors Private Limited
79. Sanghvi Metals Pvt Ltd
80. Whale Stationery Products Limited
81. Sri Vamshee Industrial Products Pvt Ltd
82. Rabi Industries Pvt Ltd
83. Squaremag Systems Pvt Ltd
84. Microsign Products Pvt Ltd
85. Alco Aluminium Ladders Pvt Ltd
86. Vishal Steels Pvt Ltd
87. Span Industrial Pvt Ltd
88. Business Tools Centre Pvt Ltd
89. Jayesh Enterprises Pvt Ltd
90. Analinear Design Technologies Private Limited
91. Sln Cnctech Pvt Ltd
92. Futura Automation Private Limited
93. Ap Motronix Pvt Ltd
94. Measurement Solutions Pvt Ltd
95. Interfreight Forwarder Pvt Ltd
96. Powerflex Industries Pvt Ltd
97. V5 Semiconductors Pvt Ltd
98. Dali Electronics Pvt Ltd
99. Verensol Technologies Pvt. Ltd.
100. M/S. Aramalla Engineers Private Limited
101. East Coast Magnets Private Limited
102. Mech Seals Industries Pvt Ltd

103. Sulakshana Circuits Ltd
104. M/S Rajeshwari Enterprises Pvt Ltd
105. Hybrid Metals Pvt Ltd
106. Maharashtra Metal India Pvt Ltd
107. Ferrocare Machines Pvt Ltd
108. Bhanur Metal Crafts Pvt Ltd
109. Vrl Automation Pvt Ltd
110. Orego Biz Solutions Pvt Ltd
111. Gabril Industries Pvt Ltd
112. G. V. Polytek Pvt. Ltd
113. Vsp Industries Pvt Ltd
114. Topaz Housekeeping Experts And Caterers
115. Cnc Engineering Pvt Ltd , Plot No. 200/A, Tsiic ,Sangareddy Dist. Telangana
116. Frontline Techsol Pvt Ltd
117. Vmx Hi Connectors Private Limited
118. Anvin Electronics Pvt Ltd
119. Cutmax Tools Corporation Pvt Ltd
120. Rajesh Engineering Works Pvt Ltd
121. Vijayasree Aautomats Pvt Ltd
122. Compressors & Tools Co Pvt Ltd
123. Lakshmi Machine Tools Pvt Ltd
124. Essen Electronic Systems Private Limited
125. Sai Keshava Technologies Pvt Ltd
126. Avanti Business Machines Ltd
127. V K Technical Works Pvt Ltd
128. Sln Technologies Private Limited

129. M/S Hyderabad Precision Mfg Co Pvt Ltd
130. Ramtech Manufacturing Industries
131. Vega Aviation Products Pvt Ltd
132. Matsya Green Enviro Pvt Ltd
133. Mkt Engineering Pvt Ltd
134. Chinmya Management Consultants Pvt Ltd
135. A P Lmec Systems Pvt Ltd
136. Tool Aids Pvt. Ltd
137. S.V. Technologies Pvt Ltd
138. Sri Venkateswara Tooling Aids Pvt Ltd
139. Tirumala Engineering Pvt Ltd
140. Ramtech Manufacturing Industries Pvt Ltd
141. Dint-Tech Control Pvt Ltd
142. Itfaq Steels Private Limited
143. Surekha Engineering Works Pvt Ltd
144. Thunder Auto Llp
145. PSC Engineering Services Pvt Ltd
146. Ramtech Manufacturing Industries Pvt Ltd
147. Miracle Electronic Devices Pvt Ltd
148. Hyderabad Precision Mfg Co Pvt Ltd
149. Jaya Sree Space Tech Pvt Ltd
150. Brite Platers And Electrical Engineers Pvt Ltd
151. Dynamic Env. Solutions Pvt. Ltd.
152. Anabond Limited Pvt Ltd
153. Iq Infotech Ltd
154. Gsas Micro Systems Private Limited

155. Sushanth Engineers Pvt Ltd
156. Aps-Asb Private Limited
157. Aps-Asb Private Limited
158. Katragadda Industies Pvt Ltd
159. Rashmi Plastech (Vendor Code: R000783) Pvt Ltd
160. Sri Venkateswara Aerospace Private Limited
161. Sri Venkateswara Mechanical And Electrical Engineering Industries Pvt Ltd
162. Adwit (India) Private Limited
163. Virat Aluminium Pvt Ltd
164. Radiall India Private Limited
165. Cube Tech Solutions Private Limited
166. Sri Datta Electronics Pvt Ltd
167. Saarc Tool Tech Pvt Ltd
168. Sharp Marketing Pvt Ltd
169. N A Modelling Works Pvt Ltd
170. Aishwarya Technologies And Telecom Pvt Ltd
171. Shree Engineers Pvt Ltd
172. Thermax Limited
173. Tonbo Imaging India Pvt Ltd
174. Optic Electronic (India) Pvt. Ltd.
175. Anjali T Precision Pvt Ltd
176. Sooktha Pvt Ltd
177. Indus Enterprises Pvt Ltd
178. Elcomponics Aerob Technologies India Pvt Ltd
179. RFID Tags And Services Pvt Ltd
180. Manastu Space Pvt Ltd

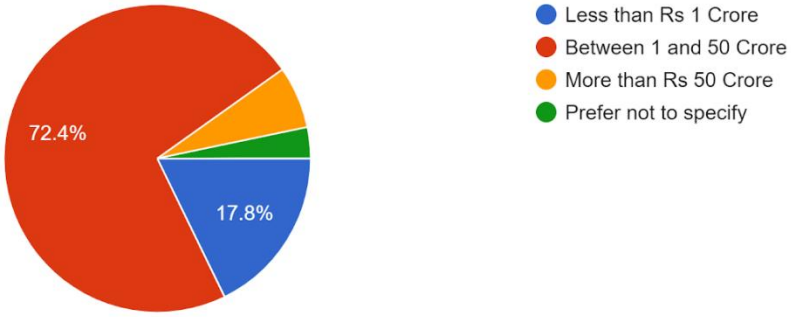
181. Rapid Dmls Inc
182. Kush Patel Engg Pvt Ltd
183. Mobile Hospital Designers & Developers India Pvt. Ltd.
184. Sanathan Allied Industres Pvt Ltd
185. Pressto Products Pvt Ltd
186. Col Haridas M
187. Bss Materiel Limited
188. Patvin Auto Products Pvt Ltd
189. Gridbots Technologies Pvt Ltd.
190. Smpp Pvt. Ltd.
191. Sudarrshan Tech Services Pvt Ltd
192. Sumip Composites Pvt Ltd
193. Shrenik And Company Pvt Ltd
194. R Industrial Corporation Pvt Ltd
195. M/S. S. S. Rubbers Private Limited
196. Elcomponics Aerob Technologies India Pvt Ltd

Appendix F

Response to the survey - Indian MSME defence Industry

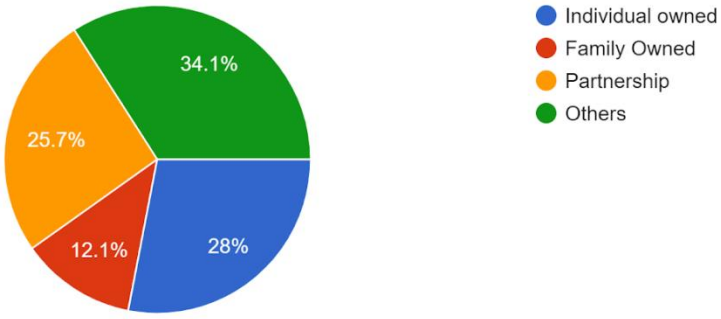
Annual Turnover of the firm for the year 2019-20

214 responses



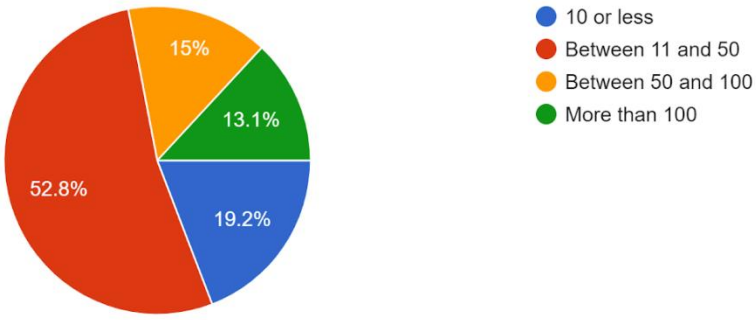
Type of Ownership of the firm

214 responses



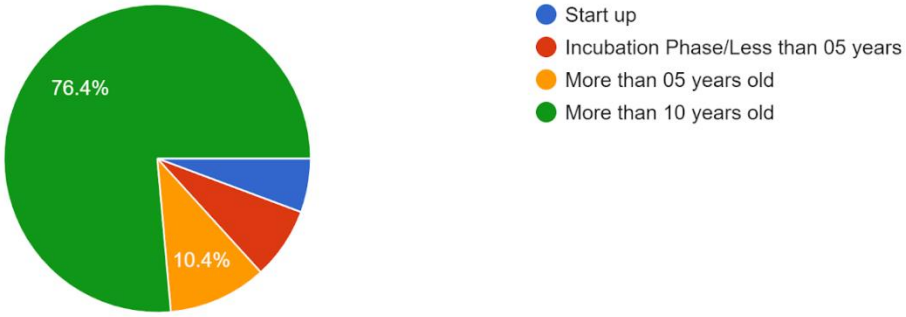
Number of personnel employed by the firm

214 responses



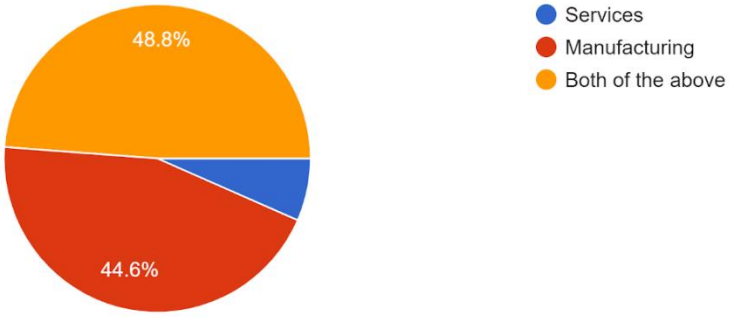
Category of the Defence MSME Firm

212 responses



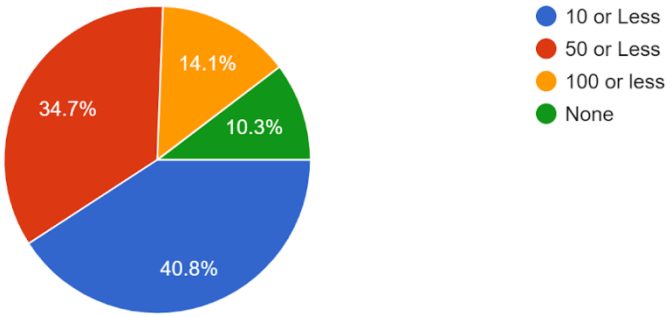
Sector of operations

213 responses



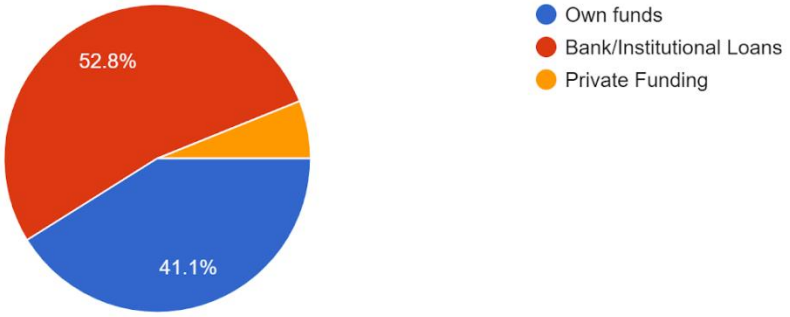
Development/Production orders received in the last 03 years from the Defence sector (MoD/PSU/Private)

213 responses



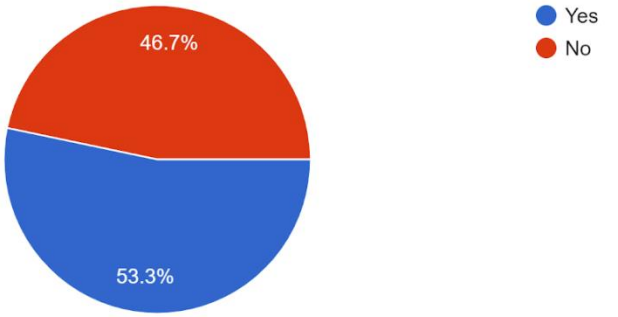
Source of funding for the firm

214 responses



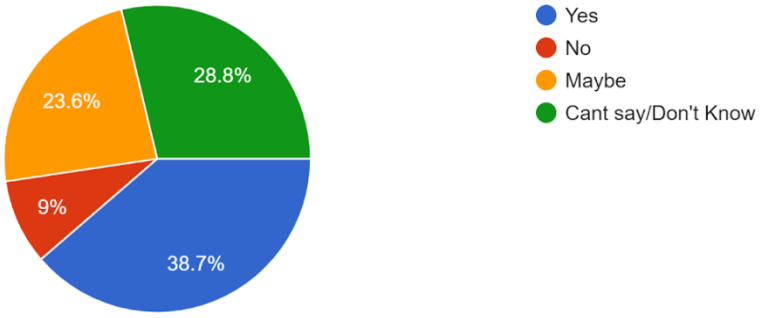
Was the firm aware about the details of the Make I and Make II schemes introduced in DPP 2016

214 responses



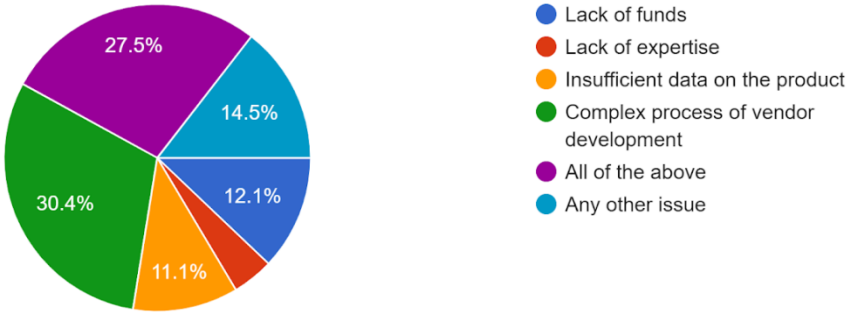
As per your experience does the measures introduced by the Ministry of Defence through Make I and Make II schemes encourage participation in defence manufacturing

212 responses



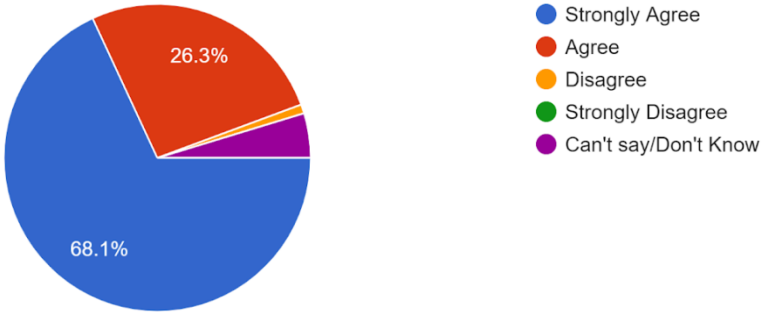
In your opinion what are the factors that deter the firm from participating in defence manufacturing sector

207 responses



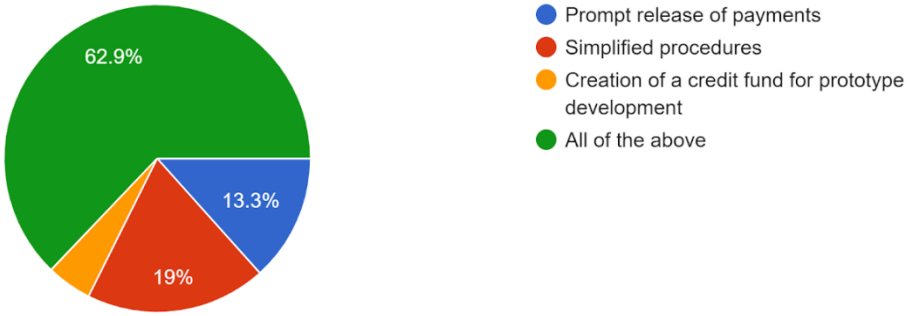
To what extent do you agree that the MSME sector has much more potential for meeting the requirement of the defence forces

213 responses



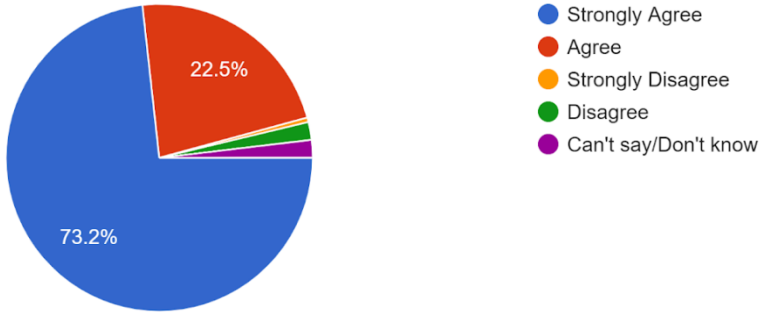
In your opinion what additional measures need to be put in place for encouraging the MSME Sector in Defence Manufacturing in India

210 responses



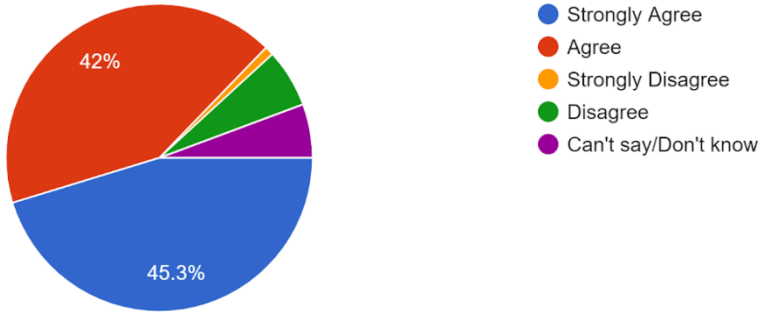
To what extent do you agree that India has the capability for being a major defence manufacturing hub in future

213 responses



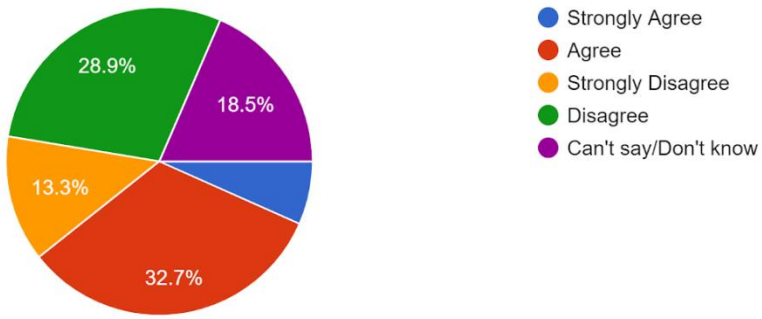
Do you agree that the MSME sector has the capability for independent manufacturing of Complete Systems for the Armed Forces

212 responses



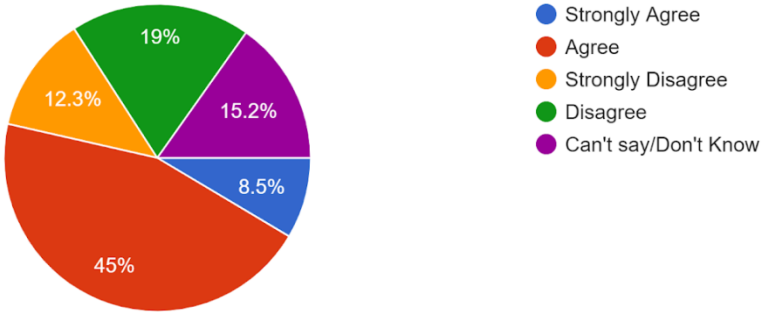
Do you agree that MSME sector have enough forums to address their grievances

211 responses



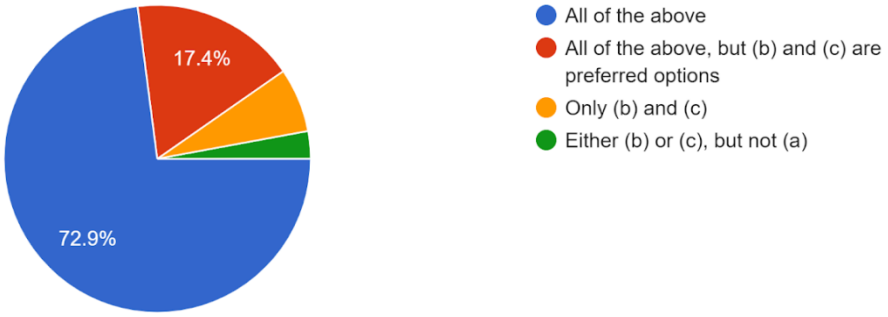
Do you agree that the role played by PSU companies and Larger Private players in defence sector encouraging for the MSME sector,

211 responses



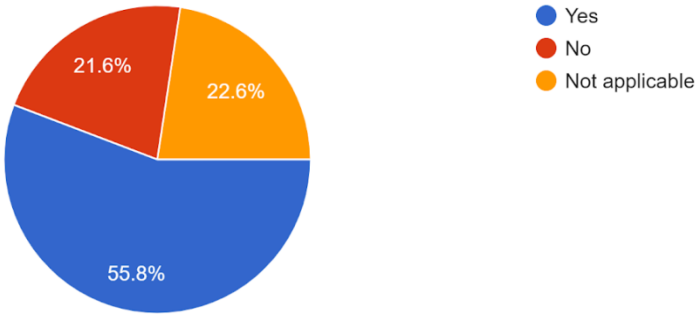
Which would be the preferred business model for MSMEs in defence sector (a) Direct Supply Orders from GoI/MoD . (b) Supply orders from DPS...Supply orders from Private Sector Manufacturers.

207 responses



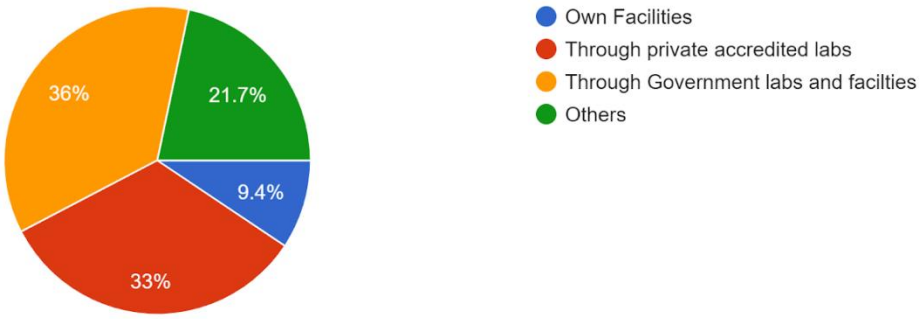
Is the firm aware of the stringent requirement of testing as per JSS 55555 and EMI/EMC standards for defence products

208 responses



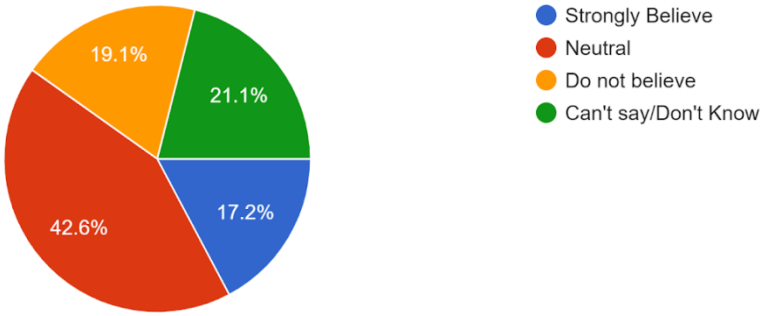
How does the firm undertake testing as per JSS 55555 and EMI/EMC standards

203 responses



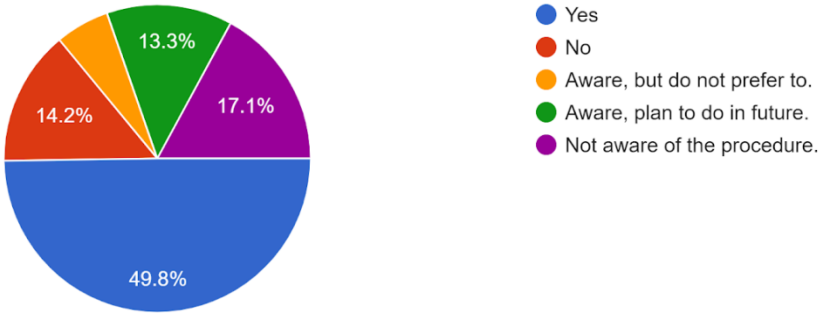
Do you believe that the Ministry of MSME, Govt of India is current on the issues and problem areas of MSMEs in defence sector

209 responses



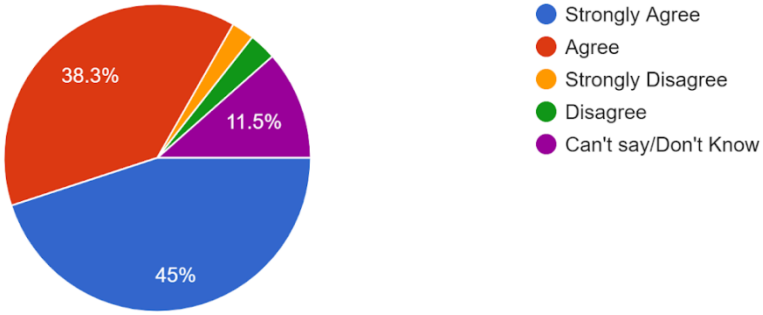
Is the firm aware of the procedure for Capacity Assessment and Vendor registration with Directorate of Quality Assurance for empaneling as a registered vendor

211 responses



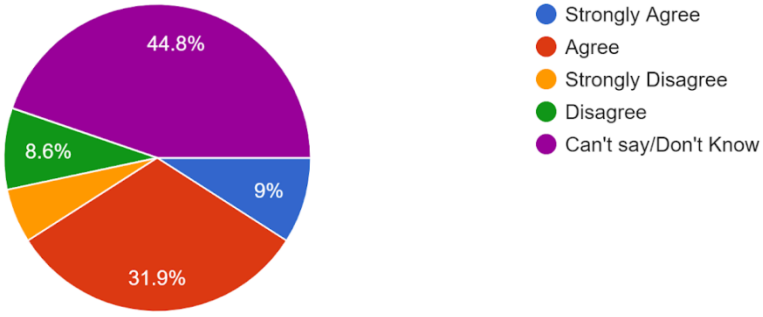
Will the creation of new wing in Ministry of Defence for MSME would benefit the MSME sector and bring in ease of doing business

209 responses



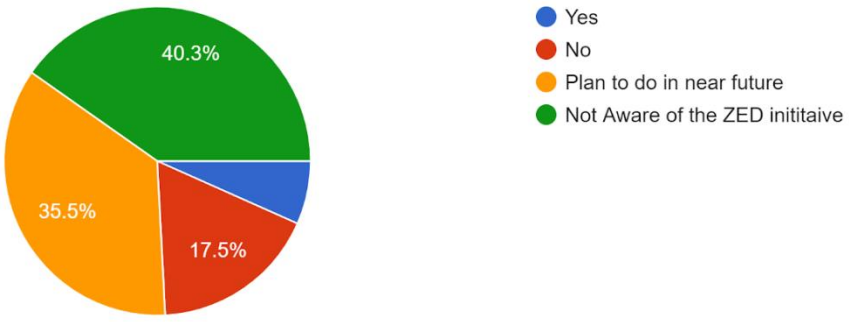
To what extent do you believe that creation of the MSME Samadhan Portal has benefited the firm in the redressal of delayed payments

210 responses



Has the firm completed Zero Defect Certification under the ZED initiative of the Ministry of MSME.

211 responses



Appendix G

STATUS OF APPLICATIONS MSME IN DEFENCE SECTOR - SAMADHAN PORTAL

Central Defence PSU

S.No.	Central Defence P.S.U	Applications filed by MSEs	Applications Converted into Case by MSEFC Council	Applications Disposed by MSEFC Council	Applications Reject by MSEFC Council	Applications Pending*	Mutually Settled
1	BHARAT ELECTRONICS LTD.	26	4	3	8	1	4
2	HINDUSTAN AERONAUTICS LTD.	24	7	0	0	0	15
3	BEML LTD.	12	6	0	0	0	4
4	GOA SHIPYARD LTD.	9	5	3	1	0	0
5	GARDEN REACH SHIPBUILDERS & ENGINEERS LTD.	6	1	0	0	0	1
6	MAZAGON DOCK SHIPBUILDERS LTD.	5	0	1	1	1	0
7	HINDUSTAN SHIPYARD LTD.	1	0	0	0	0	1
8	BHARAT DYNAMICS LTD.	1	0	0	0	0	1
9	MISHRA DHATU NIGAM LTD.	0	0	0	0	0	0
	Total	84	23	7	10	2	26

Central Departments

S.No.	Central Department	Applications filed by MSEs	Applications Converted into Case by MSEFC Council	Applications Disposed by MSEFC Council	Applications Reject by MSEFC Council	Applications Pending*	Mutually Settled
1	Department of Defence	437	51	40	82	3	86
2	Department of Defence Research and Development	81	11	3	8	0	36
3	Department of Defence Production	34	6	7	2	0	4
	Total	552	68	50	92	3	126