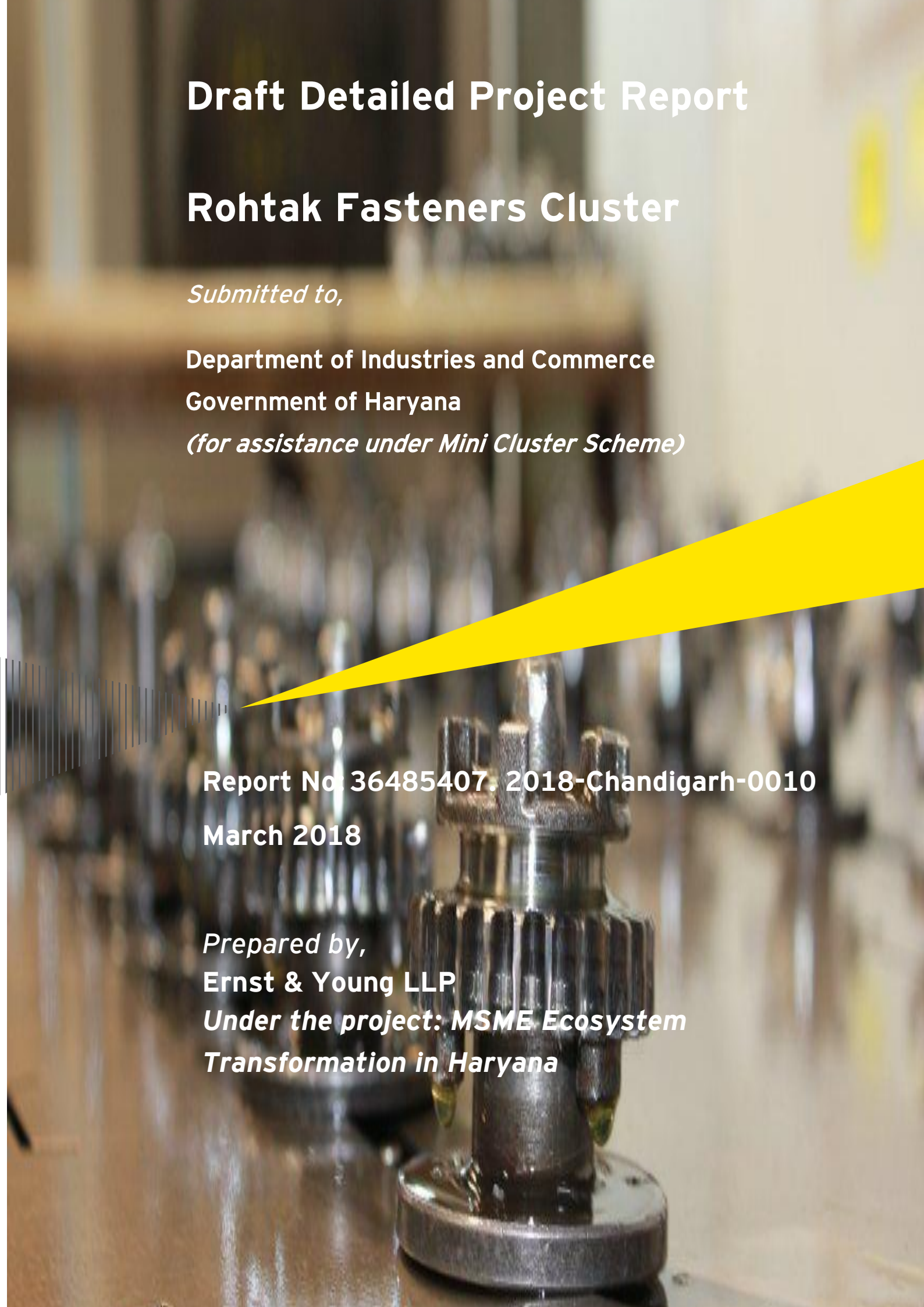
Draft Detailed Project Report

Rohtak Fasteners Cluster

Submitted to,

Department of Industries and Commerce
Government of Haryana
(for assistance under Mini Cluster Scheme)



Report No: 36485407. 2018-Chandigarh-0010

March 2018

Prepared by,
Ernst & Young LLP
Under the project: MSME Ecosystem Transformation in Haryana

08 March 2018

Director

Department of Industries & Commerce,

Government of Haryana

1st Floor, 30 Bays Building,

Sector 17, Chandigarh

Dear Sir/Madam,

As part of our engagement for providing consulting services for 'MSME Ecosystem Transformation in the State of Haryana', we hereby submit the Draft Detailed Project Report (DPR) for setting up of Common Facility Center for testing and tooling facility for the fasteners cluster in Rohtak for your kind perusal. The deliverable has been prepared in accordance with our engagement agreement with Directorate of Industries, Govt. of Haryana dated 03 January 2017, and our procedures were limited to those described in that agreement.

This Draft Detailed Project Report is based on studies of and discussions with:

- Directorate of Industries, Govt. of Haryana
- DIC Rohtak
- Members of Rohtak IDC Industries Association, Rohtak
- Industrial units located in Rohtak
- Industry experts
- Secondary research

Our work has been limited in scope and time and we stress that more detailed procedures may reveal other issues not captured here. The procedures summarized in our Draft Detailed Project Report do not constitute an audit, a review or other form of assurance in accordance with any generally accepted auditing, review or other assurance standards, and accordingly we do not express any form of assurance. This Draft Detailed Project Report is intended solely for the information and use of the Office of Director Industries-Haryana and is not intended to be used by anyone other than specified party.

We appreciate the cooperation and assistance provided to us during the preparation of this report. If you have any questions, please contact the undersigned.

Sincerely,

Amar Shankar, Partner – Advisory Services

Disclaimer

This Draft Detailed Project Report for development of Common Facility Centre for 'Rohtak Fasteners Cluster' in Rohtak has been prepared by Ernst & Young LLP (hereinafter referred to as 'EY' or 'Ernst & Young' or 'Us') and delivered to the 'Office of Director of Industries & Commerce – Government of Haryana (O/o of DI-HR)' (hereinafter referred to as 'the Client').

The inferences and analyses made by EY in this report are based on information collated through primary research, secondary research, discussions with the client personnel and key stakeholders and our knowledge about the State Mini Cluster Development Scheme and its objectives. EY has taken due care to validate the authenticity and correctness of the information from various sources, however, no representations or warranty, expressed or implied, is given by EY or any of its respective partners, officers, employees or agents as to the accuracy or completeness of the information, data or opinions provided to EY by third parties or secondary sources.

Nothing contained herein, to the contrary and in no event shall EY be liable for any loss of profit or revenues and any direct, incidental or consequential damages incurred by the Client or any other user of this report.
In case the report is to be made available or disclosed to any third party, this disclaimer along with all the limiting factors must be issued to the concerned party. The fact that EY assumes no liability whatsoever, if for the reason any party is led to incur any loss for acting upon this report, must be brought to the notice of the concerned party.

Acknowledgement

We would like to express our sincere gratitude to Department of Industries & Commerce - Haryana and its officials for their involvement and valuable inputs during the preparation of this DSR. We are thankful to **Mr Sudhir Rajpal, IAS,** Principal Secretary, Industries & Commerce and **Mr Ashok Sangwan, IAS,** Director Industries & Commerce, Government of Haryana for sharing their insights about the 'Enterprises Promotion Policy 2015' and their vision about the Mini Cluster Scheme. Special thanks to **Mr R C Dahra, Consultant (Clusters), Department of Industries and Commerce and Mr R K Khera, Assistant Director, DIC Rohtak** for their proactive support and guidance to the team during the entire process.

We would like to convey our sincere thanks to members of Rohtak IDC Industries Association, Rohtak for their assistance in facilitating stakeholder discussions. Further, we would also like to thank officials of **DIC, Rohtak** for providing support and information related to Fasteners units in Rohtak.

Also, we must extend our sincere thanks to MSME entrepreneurs of IDC, Rohtak and other key stakeholders who gave us their valuable time and insights with respect to various dimensions of the Fasteners industry and its support requirements. Without their help, capturing of the industry insights would not have been possible.

Abbreviations

ACMA	Automobile Component Manufacturers Association
BDS	Business Development Services
CNC	Common Numerical Control
CAGR	Compound Annual Growth Rate
CFC	Common Facility Centre
DIC	District Industries Centre
DG	Diesel Generator
DHBVN	Dakshin Haryana Bijli Vitran Nigam
DPR	Detailed Project Report
EEPC	Engineering Export Promotion Council
GDP	Gross Domestic Product
GSDP	Gross State Domestic Product
HFC	Haryana Financial Corporation
HSIIDC	Haryana State Infrastructure & Industrial Development Corporation
HUDA	Haryana Urban Development Authority
HPCB	Haryana Pollution Control Board
IMT	Industrial Modern Township
IDC	Industrial Development Colony
LT	Low Tension
MSME	Micro, Small and Medium Enterprises
MSME-DI	MSME – Development Institute
NCR	National Capital Region
NSIC	National Small Industries Corporation Ltd
OEM	Original Equipment Manufacturer
PNB	Punjab National Bank
SIDBI	Small Industries Development Bank of India
SWOT	Strength, Weaknesses, Opportunities and Threats
UAM	Udyog Aadhar Memorandum
VMC	Vertical Machining Centre
TQM	Total Quality Management

Table of contents

Executive summary 8
1. Introduction 14
1.1 Overview of the Cluster 14
1.2 Geographic and Economic Traits 14
1.3 Economic Scenario of the State 15
1.4 Demographic Trends of Rohtak 15
2. Sector Overview 18
2.1 Brief Global Scenario 18
2.2 India Scenario 18
2.3 Auto & Auto Components Sector in Haryana 19
2.4 Cluster Scenario 20
2.5 Nature of Cluster 21
3 Diagnostic Study Findings 24
3.1 Cluster Actors and their role 24
3.2 Cluster Market, Employment and Turnover 28
3.3 Production Process 29
3.4 Value Chain Analysis 33
3.5 Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis 34
3.6 Major Issues / Problem Areas of the Cluster 37
3.7 Key technologies missing 38
3.8 Cluster growth potential 38
4 Diagnostic Study Recommendations 41
4.1 Soft Interventions for Setting up a CFC 41
4.2 Hard Interventions for Setting up a CFC 41
4.3 Expected Outcome after Intervention 44
5 SPV for Project Implementation 47
5.1 Shareholder profile and Shareholding mix 47
5.2 Initiatives undertaken by the SPV 50
5.3 SPV Roles and Responsibilities 50
6 Project Economics 53
6.1 Project Cost 53
6.1.1 Building 53
6.1.2 Plant and Machinery 53
6.1.3 Miscellaneous Fixed Assets 56
6.1.4 Preliminary and Pre-operative Expenses 56
6.1.5 Provision for Contingencies 57

6.1.6 Margin Money for Working Capital 57
6.1.7 Summary Project Cost 57
6.2 Means of Finance 57
6.2.1 Share Capital 58
6.2.2 Grant-in-Aid 59
6.3 Expenditure Estimates 59
6.3.1 Consumables 59
6.3.2 Manpower Requirement 62
6.3.3 Utilities 62
6.3.4 Annual Repairs and Maintenance Expenses 64
6.4 Working Capital Requirements 64
6.5 Depreciation Estimates 66
6.6 Income/Revenue estimates 69
6.7 Estimation of profitability: Income and Expenditure statement 72
6.8 Cash flow statement 75
6.9 Projected Balance Sheets 77
6.10 Break-even analysis 79
6.11 Feasibility analysis summary and sustainability indicators 81
6.12 Additional revenue sources 81
6.13 Risk Analysis & Sensitivities 82
6.14 Assumptions for financial calculations: 82
7 Project Implementation and Monitoring 85
7.1 Envisaged Implementation Framework 85
7.2 Monitoring Mechanism 86
8 Conclusion 89
9 Annexures 91
..... 91
Annexure 1: Letter of Approval of DSR and directions for DPR preparation 92
Annexure 2 (a): SPV Certificate of Incorporation 93
Annexure 2(b): Shareholding Pattern of Rohtak Fasteners CFC Private Limited 94
Annexure 2(c): Copy of Memorandum of Association (MoA) and Article of Association (AoA) 95
Annexure 3: Consent letter for Building 96
Annexure 4: Machinery Quotations 97
..... 110

List of Figures

Figure 1: GSDP Composition 2015-16 14
Figure 2: District Map of Rohtak 16
Figure 3: Auto Components Exports from India* (US$ Bn) 18
Figure 4: Country wise breakup of auto components exports from India 19
Figure 5: Automobile Industry Trends in Haryana 20
Figure 6: Size-wise Distribution of Cluster Units 21
Figure 7: Key Cluster Actors 28
Figure 8: Employment in cluster 29

List of Tables

Table 1: Cluster Turnover 29
Table 2: Production process flow chart 30
Table 3: Value Chain Analysis of for Manufacturing of Hex Bolts 33
Table 4: SWOT analysis of the Cluster 34
Table 5: Technology Gaps Identified and Intervention Proposed 38
Table 6: Details of SPV Members of Rohtak Fasteners Cluster 49
Table 7: Organisational Structure 51
Table 8: List of Proposed Plant & Machinery 54
Table 9 : Miscellaneous Fixed Assets 56
Table 10: Preliminary and Pre-Operative Expenses 56
Table 11: Total Project Cost 57
Table 12 : Means of Finance 58
Table 13: Consumables 60
Table 14: Expenditure Related to Salary (direct manpower - machine operators and helpers 62
Table 15: Expenditure Related to Salary (indirect manpower – administrative and support staff) 62
Table 16: Machine & Equipment (facility) wise power requirement 63
Table 17: Annual Expenditure Statement vis-à-vis Power Charges 63
Table 18: Annual Repairs and Maintenance Expenditure 64
Table 19: Insurance and Miscellaneous Administrative Expenses 64
Table 20: Working Capital Requirements 65
Table 21: Depreciation based on WDV 67
Table 22: User Charges for Machinery 70
Table 23: Income and Expenditure Statement 73
Table 24: Cash Flow Statement 75
Table 25: Balance Sheet 77
Table 26: Break Even Estimates 79
Table 27: Financial Analysis 81
Table 28: Calculation of Return on Capital Employed 81
Table 29: Sensitivity Analysis 82
Table 30: Project Implementation Schedule 85

Executive Summary

Executive summary

The Government of Haryana through the Department of Industries and Commerce intends to transform the MSME sector of the state and put it on a growth path. Several incentives have been offered under the state's ambitious 'Enterprise Promotion Policy (EPP) 2015' to provide an impetus to growth of the MSME sector. Towards this, the state aims to strengthen the technology infrastructure as well as enhance productivity and competitiveness of various MSME clusters across the state by leveraging funding under the State Mini Cluster Scheme providing grant under its EPP 2015.

In this context, this Draft Detailed Project Report (DPR) has been prepared to seek grant-in-aid assistance under the State Mini Cluster Scheme to set up a **Common Facility Centre** (**includes a Tool Room Centre & Material Testing Centre**) for Rohtak Fasteners Cluster through an SPV under the name and style of 'Rohtak Fasteners CFC Private Limited'.

About the Rohtak Fasteners Cluster

Industrial Development Colony (IDC) is one of the oldest industrial estate in Rohtak district. There are about 800 fasteners and turning parts manufacturing units in the district. The auto component industry accounts for 60% of the cluster's turnover. Out of them, 12 units have formed a Special Purpose Vehicle (SPV) for setting set up a Common Facility Centre (CFC) to address common technology gaps of the cluster. Several micro and small level entrepreneurs face these challenges, which in turn manifests into costs overheads, production related delays, higher rejection rate.

The annual turnover of the cluster (micro and small units) is about INR 2000 Cr. The cluster units are primarily engaged in production of various types of fasteners, tractor/auto parts, railway components, steel fabrication and machining components; mainly catering to the automobile industry. Most of the micro and small units are manufacturing for Tier2 or 3 suppliers to OEMs. The quality and timely delivery are prominent reason for rejection as the units have to go to Gurgaon for material testing.

Diagnostic Study and Interventions

A diagnostic study was undertaken in December 2017 to map the existing business processes in the cluster, identify the gaps, and understand the requirements of the cluster. It was observed that most units require tool room and raw material testing facilities, as presently they were availing these services from external service providers at high prices or with production delays. This resulted in a negative impact on their cost competitiveness as well as production delays. In this context, the units decided to establish a CFC.

A DSR validation meeting was conducted with SPV and cluster members on **15th January 2018.** The DSR was presented to the state government and was subsequently approved on the **15th February 2018 vide Memo no. Mini Cluster/Fasteners/Rohtak/1730-A.** The SPV was granted permission to go ahead with preparation of Detailed Project Report (DRP) for the cluster. EY subsequently prepared the DPR. The letter has been added as Annexure 1

Proposed Common Facility Centre

The proposed CFC will facilitate:

- Mini tool room
- Material testing lab

Such a common facility will both supplement and complement the activities of manufacturing units in the cluster, and there is no similar facility available in the district for use by cluster MSEs. The proposed common facilities will be utilized by the SPV members and will also be available to non-members units within and outside the cluster. The facility will provide a much needed technological push to the cluster units and will enable them to become more competitive.

Special Purpose Vehicle for Project Implementation

After the diagnostic study, the cluster units came together to form a **Special Purpose Vehicle (SPV) by the name and style of 'Rohtak Fasteners CFC Private Limited'**. The SPV has been set up as a private limited company under section 8 of the Companies Act, 1956 and rule 8 of the Companies (Incorporation) Rules, 2014. The DIC, Rohtak has played an important role in SPV formation by cluster stakeholders. The SPV was incorporated in 2018, and includes 12 members who are subscribing to the necessary equity base of the company. The proposed CFC will be implemented on public-private partnership basis through the SPV 'ROHTAK FASTENERS CFC PRIVATE LIMITED' by availing support from Government of Haryana (under EPP 2015).

The SPV members, who are part of the Rohtak IDC Industries Assosciation, have a track record of cooperative initiatives. Cluster members have been autonomously undertaking several soft interventions to enhance knowledge and exposure of cluster units on new trends in the Fastners Industry that includes registration under UAM, awareness programs on new technology trends in machinig technology, energy efficiency, GST, etc. These programs were conducted in collaboration with DIC, State Government, IDC Manufacturers Association etc.

Project Parameters, Viability and Sustainability

The'Rohtak Fasteners CFC Private Limited' with support from State Government is planning to set up a Common Facility Centre including a state-of-the-art Mini Tool Room and Material Testing Centre for undertaking job work of cluster units with a total project cost of about **INR 211.73 Lakhs.** The SPV members have proposed to contribute 23% of the project cost. The total contribution of SPV members will amount to **INR 48.28 Lakhs**. Support from State Government is envisaged for INR 163.45 lakhs.

PROJECT COST (INR in Lakh)				
S. No	Particulars	Total Project Cost	Amount as per Guidelines	Remarks
1	**Land & Building**			
	a. Land Value	0.00		
	b. Land Development	0.00	0.00	**Eligible (Max 25% of total of L&B, P&M, and Misc. F.A.)**
	c. Building & Other Civil Works	0.00		
	d. Building Value	0.00		
	Sub Total (A)	**0.00**	**0.00**	
2	**Plant & Machinery**			
	a. Indigenous	168.23		
	b. Imports	0.00	181.61	**Eligible**
	c. Secondary Machines	13.38		
	Sub Total (B)	**181.61**	**181.61**	
3	**Miscellaneous fixed assets (C)**	**1.85**	**0.00**	
4	**Preliminary & Preoperative Expenses (D)**	**10.52**	**0.00**	
5	**Contingency**			
	a. Building @ 2%	0.00	0.00	**Not eligible for grant**
	b. Plant & Machinery @ 5%	9.08	0.00	
	Sub Total (E)	**9.08**	**0.00**	
6	**Margin money for working capital @ 75% C.U. (F)**	**8.66**	**0.00**	
	Grand Total (A+B+C+D+E+F)	**211.73**	**181.61**	

The total project cost is estimated to be **INR 211.73 lakhs.** As indicated above, assistance to the project from the Govt. of India is envisaged to the tune of 77% of the project cost, SPV contribution is to the tune of 23% of the project cost.

Detailed Means Of Finance (INR in lakh)							
S. No.	Source of finance	Project cost up to INR 200 lakh		Project cost over INR 200 lakh			Remarks
		Percentage Contribution	Amount	Percentage Contribution	Amount (INR in lakh)	Total Amount	
1	Grant-in-aid under State Mini Cluster Development Scheme (Govt. of Haryana)	90%	163.45	0%	0.00	163.45	As per EPP, 2015 GoH contribution is max 90% (Including soft intervention expenses)
2	Contribution of SPV	10%	18.16	100%	30.12	48.28	
	Total	**100%**	**181.61**	**100%**	**30.12**	**211.73**	

The viability and sustainability of the project is evident from the project economics as well as the cooperative spirit and profile of the SPV. Some indicators of the viability are as follows:

Project Viability Indicators:

FEASIBILITY		
S. No.	**Particulars**	**Estimates**
1	BEP (cash BEP at initial operating capacity of 75%)	58.47%
2	Av. ROCE (PAT/CE)	33.53%
3	Internal Rate of Return (IRR)	26.96%
4	Net Present Value (at a discount rate of 10 per cent) - incorporating viability gap funding (grant) by GoH	NPV is positive and high (INR 186.87 lacs) at a conservative project life of 10 years
5	Payback period	4.52 years with Grant-in-aid assistance from GOH
6	DSCR	Not Applicable (non-availment of term loan in this project)

As evident from the financials above, with viability gap funding under Mini Cluster Scheme of GoH, the project is highly viable and sustainable. Risk and sensitivity analysis considering a decline in user charge/ capacity utilization also validates the project sustainability.

Project Implementation

Project implementation is envisaged to involve a time-frame of about 6 months upon receipt of final approval of grant-in-aid assistance from the Government of Haryana under State Mini Cluster Scheme. The project will be implemented by the SPV in close association with DIC, Rohtak and the State government.

A Project Management Committee (PMC) comprising of the GM DIC Rohtak, and representatives of the SPV and EY experts shall be constituted to directly oversee effective monitoring and implementation. The project will be implemented through the SPV, and the PMC will report progress of implementation to the Director Industries, Haryana. The potential for the Rohtak Fasteners Cluster to grow is enormous, owing to the growing market demand for auto components in India and globally. The strengths of the Rohtak Fasteners Cluster lie in its location (both geographically & industrially), with a large automotive industry which provides the key market for auto compnents. Cluster units are unable to effectively cater to the domestic and international markets as they are lacking in price competitiveness and efficiency due to lack of requisite modern tool room and material testing facilities.

This cluster has the ability to increase its output and market share by manufacturing price competitive products. The proposed facility will be open to all cluster firms to enable them to get job work done in order to cater to the requirements of the market. The facility will also provide an opportunity to MSE units to increase their capacity utilization and profitability. The facility will provide a major technological push to the units reeling under high competition. The CFC will also enhance the co-operation and joint action among cluster stakeholders to improve their competitiveness to meet the demands of the domestic as well as international markets.

Introduction

1. Introduction

1.1 Overview of the Cluster

There are about 800 light manufacturing MSME units in the Rohtak Fastener Cluster, which are primarily engaged in the production of various types of fasteners, tractor, auto parts, railway components, steel fabrication and machining components, mainly catering to the automobile industry. Of these 800 units, 73% are micro units, 25% small scale, and only 2% medium scale units. The other major industry segments that the cluster caters to includes castings, chemicals & paints, electroplating, forging, heat treatment, industrial fasteners, plastic products, railway equipment, rubber products, and textiles.

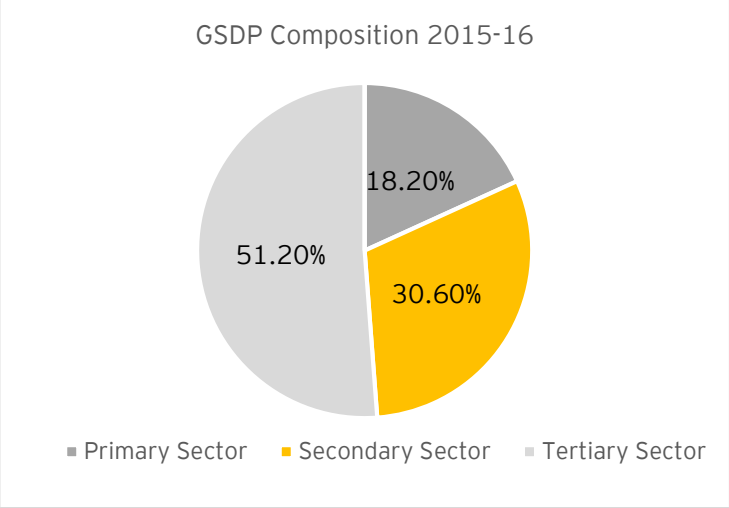
Rohtak is one of the major industrial hubs of the state, supplying auto components to the large auto industry in North India. The proximity to the national capital also makes it a lucrative business destination industrially and commercially with auto& auto-parts related units form a major chunk of the industries in the region. Amongst the MSME manufacturing clusters in India, Rohtak Fastener Cluster is a lesser known but strategically important given its proximity to the Auto Industry located in the NCR region (Faridabad, Gurugram). Rohtak is a regional hub for micro and small scale fasteners manufacturing. The commonly produced fasteners in the cluster include:

- Hex head bolts/screws
- Socket screws
- Philips head screws
- Self-tapping screws

1.2 Geographic and Economic Traits

The state of Haryana was formed on 01 November 1966. It is situated in the northwest of India with the capital of Chandigarh as a Union Territory. The state is surrounded by Delhi, Rajasthan, & Uttar Pradesh with around 30% of the total area of the state falling under National Capital Region (NCR). The state stands 21st in terms of its area. According to the Census of India 2011, the state is 18th largest by the population. Over the last 5 decades since its formation in 1966, Haryana has transformed and matured into a diversified economy with a thriving secondary and tertiary sector. Although Haryana has an area covering just 1.3 per cent of the country, Haryana contributes nearly 3.63 per cent to India's GSDP. During 2004-16, the state's GSDP grew at a compound annual growth rate (CAGR) of 12.12 per cent.

Figure 1: GSDP Composition 2015-16



1.3 Economic Scenario of the State

Haryana is 11th state in the country in terms of GSDP, with growth rate of around 6.5%. With just 1.3% of the total area of the country, Haryana contributes to nearly 3.4% of India's GDP. Haryana, with just 1.37% of the country's geographical area and 1.97% of country's total population, is counted among the first few states with the highest per capita income. The state economy is predominantly agricultural.

The industry sector contributes about 18% of the total GSDP of the state. Haryana is fast emerging as one of the most favoured investment destinations in India. The globalization of markets and a resilient economy have given an incredible drive to the industrial sector in Haryana, which already has a competitive advantage in terms of strategic location, basic infrastructure as well as large skilled, educated and young workforce. Besides, the State has investor-friendly policies and regulatory environment as outlined in its recent EPP 2015. It is one of the leading states in terms of industrial production, especially passenger cars, mobile cranes, two-wheelers & tractors. It is the 2nd largest contributor of food grains to India's central pool, accounts for more than 60% of the export of basmati rice in the country and is 3rd largest exporter of software.
The state is in transition from agrarian to manufacturing sector. The state is gradually transforming from an agrarian economy to an industrial economy. To boost the growth rate further and make Haryana a favourable investment destination, the State has developed the Enterprise Promotion Policy in 2015. With the Enterprise Promotion Policy-2015, the state has envisaged a sustainable industrial spectrum in the state with a special focus on MSMEs in its endeavour for effecting a balanced regional and sustainable development. In order to accelerate the industrial growth in the state, the focus of the government is on holistic development, i.e., by encompassing initiatives for resource efficiency improvement, smarter technology, and environment friendly methods which reduce resource consumption.

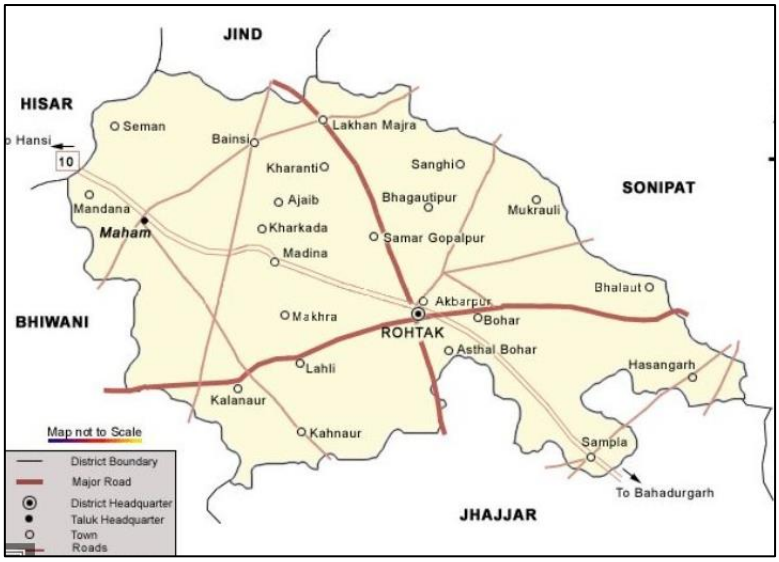
1.4 Demographic Trends of Rohtak

The Rohtak district is situated in the south east of Haryana state. It has an area of about 1670 square kilometers It is bound by Jind and Sonipat districts on the north, Jhajjar district on the south, Jhajjar and Sonipat district on the east, and Hisar and Bhiwani districts on the west side. Rohtak is located 70 km northwest of New Delhi and 250 km south of the state capital Chandigarh at the NH 10. It is fast emerging as a fasteners hub of Haryana.

Haryana Urban Development Authority (HUDA) and Haryana State Industrial and Infrastructure Development Corporation (HSIIDC) have multiple industrial estates and areas in the district which house facilities belonging to a plethora of industrial sectors.

As per 2011 census, the district has a population of 10.5 lakh (5.5 lakh males and 5 lakh females). The Rohtak has a population density of 466 per sq. km. There are 146 villages and 151 panchayats in the Rohtak district. About six lakh people (58%) live in the rural part of the district and the rest 4.5 lakh in the urban areas.

Figure 2: District Map of Rohtak



Sector Overview

2. Sector Overview

Fasteners industry is a major sub-sector within the engineering sector and industrial fasteners emerging as a mature and a highly specialized industry. The auto Original Equipment Manufacturing (OEMs) are the largest market for industrial fasteners, which is expected to register a consistent volume growth in the near future. The burgeoning demand for durable goods and a strong rebound in the motor vehicle output are anticipated to fuel growth at a faster pace in the global industrial fasteners market.

Given the expected growth in the sector, the need for efficient, corrosion resistant, strong and cost effective industrial fasteners has become imperative in any industrial machine due to their core functionality of mechanically joining various parts, devices or surfaces together.

2.1 Brief Global Scenario

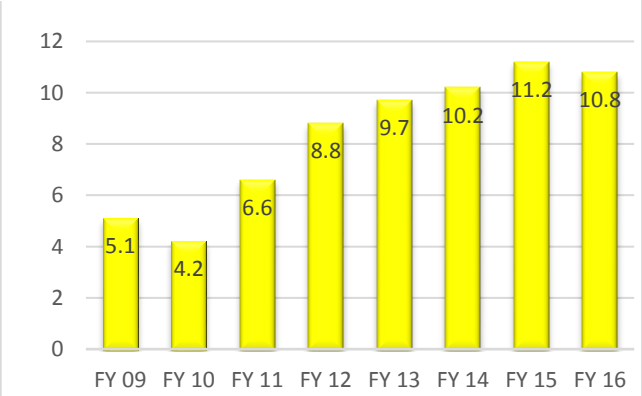
Globally, the auto component market is a highly diversified sector that involves engine and auto component manufacturers, and including aftermarket parts manufacturers, suppliers, dealers, and retailers. The global engineering industry is growing at an annual rate of 4-5 percent with an estimated seven lakh business units to be created, generating revenue of USD 725 billion. The sizeable revenue growth over the past five years can be attributed, primarily due to strong investments in infrastructure, building and industrial construction in developing economies across the globe. The growth in the emerging Brazil, Russia, India, China, recently added South Africa (BRICS) economies has created a demand for engineering products. The rapid expansion in consumer spending and booming export markets are further driving the high demand.

The manufacturing of auto components is gradually shifting toward Asian countries such as China, India, and others because of higher market potential and the low-cost manufacturing options available. In China and India, OEMs are focused on helping the suppliers improve and grow their businesses. The Strong growth in the industry has attracted a pool of companies, including major foreign companies, to operate in China's auto component market. The growing importance of electronics and functional integration of green components and sustainable products will drive growth in the industry, in the future

2.2 India Scenario

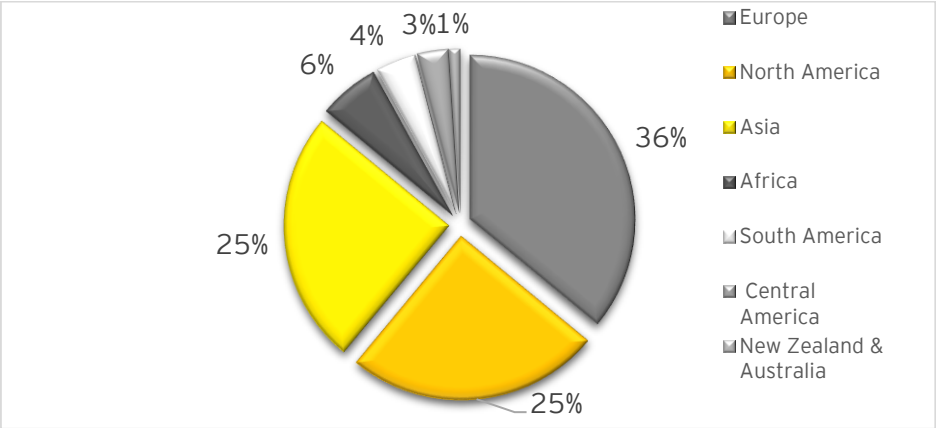
The Indian auto components industry has emerged as one of India's fastest growing manufacturing sectors and globally a competitive one. The auto component sector in India registered 8.8% increase in turnover from US$38.5bn in FY 2014-15 to US$39bn in FY 2015-16, and is expected to reach US$115 billion by FY20-21. The industry is growing at a CAGR of 6% in the last 6 years (2010-2016), and contributed 2.3% to India's GDP.

Figure 3: Auto Components Exports from India*



It provided direct employment to 1.50 mn people (in FY 2015-16). India is estimated to have the potential to become one of the top five auto component economies by 2025.India'sexports of auto components increased at a CAGR of 11.31 per cent, during FY09-FY16, with the value of auto component exports increasing from USD 5.1 Bn in FY09 to USD10.8 Bn in FY16. As per Automobile Component Manufacturers Association (ACMA) forecasts, automobile component exports from India are expected to reach US$70-billion by 2026.Europe accounts for the largest share of Indian auto components exports 36% followed by North America 25% and Asia 25%, 6% Africa, 4% by South America, 3% by Central America & 1% by New-Zealand & Australia.

Figure 4: Country wise breakup of auto components exports from India



India's component industry has achieved the capability to manufacture the entire range of auto components, such as engine components, drive and transmission components, suspension and braking components, electrical components, and body and chassis components. The number of manufacturing units in the unorganised sector of Auto component manufacturers are far higher than those in the organised one (100:7) but the organised sector accounts for 85 per cent of total industry turnover (FY15). Additionally, the quality of components made in India has improved significantly in the last decade and 11 Indian auto components' companies have won 14 Deming Prize in FY15. This is indicative of best manufacturing and shop floor practices being adopted by Indian manufacturers such as 5-S, 7-W, Kaizen, TQM, TPM, 6 Sigma & Lean Manufacturing

Overall, the automotive component industry caters to 3 broad categories of the market:

- Original equipment manufacturers (OEM) or vehicle manufacturers comprise 60 percent total demand
- Replacement market that comprises 25 percent of the total demand
- Export market that comprises primarily of international tier-I suppliers and constitutes 15 percent of total demand

2.3 Auto & Auto Components Sector in Haryana

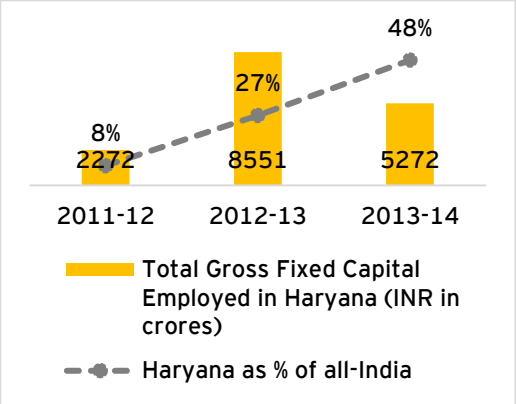
Haryana is one of the prominent manufacturing states of the country with focus on various industries including light engineering, textiles, automotive & auto components etc. 50% of

India's passengers car production, 39% of India's two wheelers production & 11% of India's tractor production; automotive sector forms the core manufacturing in Haryana. Over the last decade, the automobile sector has grown at a phenomenal rate.

Haryana offers a strategic edge to the engineering industry in terms of market access, presence of major OEMs & industrial land to investors. Maruti Suzuki plants at Gurugram & Manesar, Honda's2wheeler Plant at Manesar & Hero MotoCorp motorcycle Plant at Gurgaon/Dharuhera, Escorts at Faridabad are the anchors which have facilitated growth in the automobiles & auto components sector. Haryana is the preferred destination for auto & auto components manufacturers. Gurugram & Faridabad are important automobile centres & host to many large automotive players. The state provides the ecosystem for auto industry that captures the entire value chain, from production of components to presence of OEMs /assemblers and the logistics.

Figure 5 provides details of the net value added, gross fixed capital formation, and employment by the automobiles & auto components sector in Haryana as well as the state contribution of the sector to national levels from 2011-12 to 2013-14[1]:

Figure 5: Automobile Industry Trends in Haryana



2.4 Cluster Scenario

The Growth of fasteners industry in Rohtak, is attributed to the setting up of Lakshmi Precision Screws (LPS) Ltd - a high tensile large manufacturing unit which was established in Rohtak during early 1970s. Today, this company is a pioneer in providing fastening technology globally having Joint Ventures (JVs) with several global fastener companies. Its establishment led to development of many ancillaries in the region with LPS establishing over 100 ancillaries of its own during 80s to boost its exports worldwide.

Later, the state Government established an industrial estate that offered plots to aspiring entrepreneurs. This was followed by establishment of two more industrial estates – Industrial development Colony (IDC) and Industrial Modern Township (IMT). All the light

Source: [1] Annual Survey of Industries

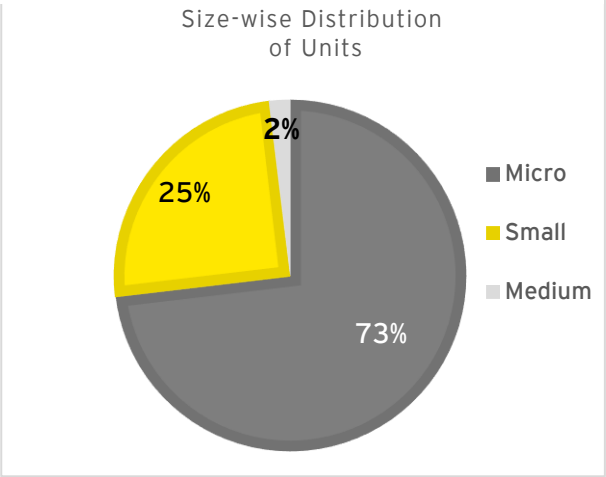
manufacturing micro and small scale units in Rohtak are scattered in these three industrial estates.

Many of the micro/small scale fasteners manufacturing units of Rohtak are supplying their produce to LPS. With three plants in Rohtak and one in Manesar having a total production capacity of 25,000 metric tons (MT) per annum and catering to the needs of various sectors such as wind energy, oil & gas, locomotives, automobiles, agriculture equipment (tractors/combines), machine building and so on; LPS is the major buyer of the cluster products.

2.5 Nature of Cluster

There are about 800 light manufacturing MSME units in the Rohtak cluster, which are primarily engaged in the production of various types of fasteners and tractor/auto parts, railway components, steel fabrication and machining components, mainly catering to the automobile industry. Of these 800 units 73% are micro units, 25% small scale, and only 2% medium scale units. Out of these, the number of registered fastener based micro and small units in Rohtak district are about 430 with the district being a hub of fasteners manufacturing and auxiliary services The majority of fasteners based MSMEs in Rohtak are pertaining the auto engineering domain. The cluster is located around 70 km from the capital New Delhi, which is spread across three industrial townships—Industrial Development Colony (IDC), HSIDC Estate and Industrial Modern Township (IMT).

Figure 6: Size-wise Distribution of Cluster Units



Almost all the 800 light manufacturing MSME units of Rohtak cluster are concentrated in three industrial estates:

1. Industrial Development Colony (IDC)—this is the oldest and the main industrial estate of Rohtak with a concentration of about 50% of the units. The estate has units having plots size measuring 500 and 1000 sq yard plots
2. HSIIDC Estate—developed by HSIIDC to provide plots (measuring 312, 450 and 1000 sq meters) to increasing number of manufacturing units in the Rohtak.
3. Industrial Modern Township (IMT)—a new industrial township for comparatively bigger units having plot sizes of 4050 sq. m.

Most of the engineering based manufacturing units in the cluster manufacture different types of fasteners and automotive components catering mainly to the demand of the automobile industry. The four main families of fasteners manufactured using wire drawing processes include:

- Hex head
- Socket screws
- Philips head screws

- Self-tapping screws

Under these categories there are an array of fasteners (different types, sizes, weights) that are manufactured. Other than the fasteners, many small scale units are also manufacturing automotive components in which these fasteners are used. While the final product that is supplied to tier-I supplier is produced mainly by the small scale units, the micro enterprises do a lot of job work related to production of fasteners. Conventional machines like cold header, threading machines, slotting machines, cold forged headers etc. are used for finishing the products.

Figure 7: Products of the Cluster

Auto parts

Auto component

Fastners

Diagnostic Study Findings

3 Diagnostic Study Findings

A diagnostic study was undertaken by the cluster members inNovemebr2017 to map the existing business processes in the cluster, identify the gaps, and understand the requirements of the cluster. It was observed that most units required Mini Tool Room and Material Testing Centre, as they were currently availing these services from external service providers at high prices, and often with production delays. Additionally, external service providers sometimes do not accept low volume orders from MSEs.

The DSR was approved in the validation meeting by the SPV members on January2018 and was subsequently approved by the department of Industries & Commerce and permission to undertake the Detailed Project Report (DPR) was granted (as provided in Annexure 1. The SPV was granted permission to go ahead with preparation of DPR for the cluster. The major findings of the DSR are presented in the following sections.

3.1 Cluster Actors and their role

The primary stakeholders in the cluster are the MSME units based in various parts of the Rohtak. The other stakeholders include the major industry associations, government agencies (mainly DIC, regulatory bodies, vendors, academic/training institutes and Financial Institutions. These cluster actors provide various services and support to the cluster units. Some of the major cluster actors located in and outside the cluster and catering to the units of the region are mentioned below:

Industry Associations

A. Industry Associations:

- **Rohtak IDC Industries Association**

Rohtak IDC Industries Association is the most prominent industry association of the cluster having about 200 members. Most of the members are micro and small scale fasteners manufacturers. The association addresses the issues related to the welfare and grievance redressal of their member industries.

The association is concerned about the survival of micro level fasteners manufacturers of Rohtak which are becoming uncompetitive due to lack of auxiliary facilities in the cluster and is supporting the creation of the CFC for fasteners and automotive cluster for MSE units. It also regularly organizes seminars for business development for its members such as vendor buyer meets, interaction with foreign business delegations, active participation in organizing exhibitions & trade fairs at a national and state level, etc.

B. Government Organizations:

- District Industries Centre (DIC)

DIC is the most important government stakeholder for the cluster. The office of DIC comes under the Dept. of Industries and is headed by General Manager who is assisted functional managers and technical field officers. DIC promotes and routes subsidy to micro and small enterprises in the region. The State Mini Custer Development Scheme under which the

Fastener manufacturing units want to set up a CFC will also be implemented through the DIC office. The Rohtak DIC is actively promoting cluster development in the district and also helps the local units register under Unique Aadhar Memorandum (UAM). It has a pivotal role in fostering cluster units in formation of SPV.

- **MSME-Development Institute, Karnal**

It is a field office of the Development Commissioner (MSME), Ministry of MSME, Karnal, which is an apex body for formulating, coordinating and monitoring the policies and programmes for promotion and development of MSMEs in the country. MSME-DI along with its Branch office at Bhiwani provides a wide range of extension / support services to the MSMEs in the State of Haryana.

- **Haryana State Infrastructure & Industrial Development Corporation (HSIIDC)**

HSIIDC is a major agency in the State to promote the setting up and promotion of small, medium and large scale industrial units. The Corporation also acts as a State-level financial institution and provides long term loans for industrial projects. The important activities of the Corporation are:

- Development of industrial areas/ estates
- Helps entrepreneurs on matters such as securing registrations/ licences/clearances from the statutory/other authorities.
- Provision of term-loans

- **Haryana Urban Development Authority (HUDA)**

HUDA is the urban planning agency of the state of Haryana in India. It was established in 1937. It plays a key role in land development and execution of development works like roads, water supply, sewage, and drainage etc.

- **National Small Industries Corporation (NSIC)**

NSIC was established in the year 1955 with a view to promote, aid and foster growth of small industries in the country. Rohtak industry is served by the NSIC office in Bahadurgarh. It provides diverse services to SMEs. Some of the services and schemes offered by NSIC are:

- Helps entrepreneurs in purchasing machinery and equipment
- Equipment leasing and working capital finance
- Raw material assistance and information on technological up gradation
- Composite loan scheme and export assistance

- **Engineering Export Promotion Council (EEPC) of India**

EEPC is sponsored by the Ministry of Commerce & Industry, Government of India and caters to the Indian engineering sector. As an advisory body it actively contributes to the policies of Government of India and acts as an interface between the engineering industry and the Government. Set up in 1955, EEPC India now has a membership base of over 13,000 out of whom 60% are SMEs. EEPC India organizes a large number of promotional activities such as buyer-seller meets (BSM) – both in India and abroad, overseas trade fairs/exhibitions, and pavilion/information booths in selected overseas exhibitions to demonstrate the capabilities

of Indian engineering industry and to provide the overseas buyers with true value as propagated by Brand India.

The other entities are **Dakshin Haryana Bijli Vitran Nigam (DHBVN),** the local power distribution utility (for new power supply connections, change requests in contract demand, billing related matters for regular and open access consumers, schedule of power cuts etc.), the **Haryana State Pollution Control Board** (for CTO from pollution perspective), Municipal Corporation of Rohtak (for common local operational issues related to water supply, drainage etc.) and the **Labour Department, Haryana** (for regular check of compliance on laws related to labour & fire safety by the Haryana Safety Council).

C. Academic and R&D Institutions:

- **Industrial Training Institute (ITI), Rohtak**

ITI Rohtak was established in 1960, in an area of about 19 acres, with 40 classrooms and 38 workshops equipped with necessary machineries. The institute's aim is to provide technical competence to the youth under the supervision of qualified & experienced group Instructor in order to build technically qualified human resource for the industry.

- **Engineering Colleges**

Rohtak has a couple of engineering colleges namely– Vaish Engineering College and Jat Engineering College running courses in various streams of Engineering.

- **Dynamic Tech Institute**

This institute has been recently set up by a few progressive members of the Rohtak IDC industries association to train candidates exclusively for the local fasteners industry. The association took this initiative as there was no formal system of training available (expect ITI) to train workers as per the requirements of the fasteners industry.

D. Banks / FIs

- **Haryana Financial Corporation (HFC)**

Haryana Financial Corporation, based in Chandigarh was promoted jointly by the Government of Haryana and the Industrial Development Bank of India (IDBI). HFC has been approved by SEBI as a category-I merchant banker. The corporation's activities include merchant banking, trade finance, lease finance and term lending. The corporation has diversified its range of financial services to include no-fund-based assistance in the form of guarantees, letter of credit and forex services. The DPR for the project shall be appraised by HFC.

- **Small Industries Development Bank of India (SIDBI)**

SIDBI is the apex financial institution responsible for the growth and development of the MSME sector. Almost all the government subsidy schemes and bilateral lines of credit are

implemented through SIDBI. The business strategy of SIDBI is to address the financial and non-financial gaps in MSME eco-system. Financial support to MSMEs is provided by way of (a) Indirect / refinance to banks / Financial Institutions for onward lending to MSMEs and (b) direct finance in the niche areas like risk capital, sustainable finance, receivable financing, service sector financing, etc.

- **Punjab National Bank (PNB), Rohtak**

PNB is the lead bank of the Rohtak and most of the units have a banking relationship with the bank.

E. Leading Manufacturers

The growth of the fastener industry in Rohtak is largely attributed to Laxmi Precision Screws. It is the major buyer of cluster products and is tier-1 supplier to OEMs. LPS is high tensile large manufacturing unit which was established in Rohtak during early 1970s.The major tier 1 suppliers based in the cluster who are being catered to by the cluster units are Tight well Fasteners, Rohtas Engineering.

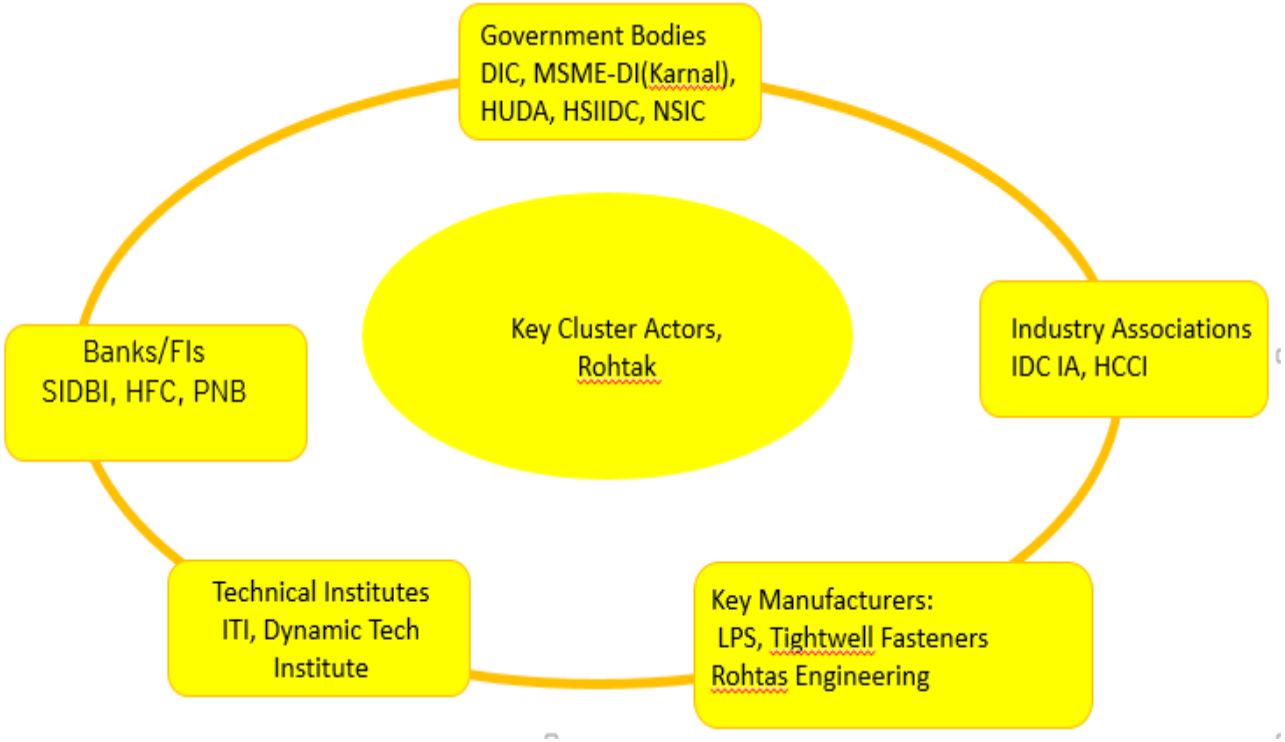
- **Auxiliary service units**

The fasteners industry is highly dependent on micro level auxiliary units which perform a lot of job work. The auxiliary services units involve material hardening, cleaning, platting and various specific pre-process like tempering, electro-plating. Another category includes heat treatment and platting units. Also there are machining units, involved in die making and other machining related jobs. However the technologies employed by these units are conventional and are not pro-environment. The cluster needs a CFC that has modern pro-environment machines to provide these services.

The proposed machines for the Tool Room will strengthen the cluster with the following:

- Good Tool design and manufacturing facilities within the Cluster and obviating the need for relying on facilities at other locations.
- Obtain tools economically.
- Obtain tools in short time and thus deliver their products faster to their customers.
- Improve quality of their products
- Improve productivity and Reduce rejections
- Rapid Prototyping proposed for new product development will facilitate Rapid Tooling for the Industry.

Figure 7: Key Cluster Actors



3.2 Cluster Market, Employment and Turnover

The cluster units operate at the low end of the product value chain. This is highlighted by the fact that most of the units in the cluster are Tier-II and Tier-III suppliers or sell in the open market. The auto component industry which accounts for 60% of the Cluster's turnover works in various Tiers as enumerated below:

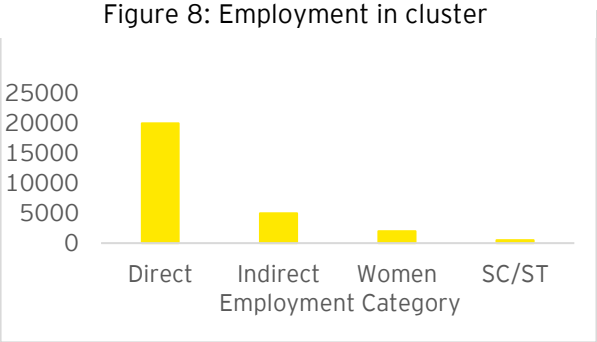
- Tier-1 delivers directly to the final assembly and closely co-operates with OEM's to design, manufacture and deliver complex modules. They generally supply to more than one OEM. Their suppliers are lower-tier enterprises.
- Tier 2 produces parts as fasteners/sub-assemblies and delivers to Tier 1

The Rohtak units supply their produce to tier-I suppliers who further supply it to the OEMs. The market of the cluster products predominately lies in the tier-I suppliers based in the cluster and industrial towns of Faridabad, Gurgaon and Manesar. The major tier 1 suppliers based in the cluster who are being catered to by the cluster units include:

- Laxmi Precision Screws Limited
- Tightwell Fasteners
- Rohtas Engineering

The Rohtak Fasteners Cluster provides direct employment to over two lakh persons and indirect employment to over five thousand persons). These include about two thousand women workers and 500 workers belonging to the SC/ST category. Most of the workforce is immigrant labour from states of Bihar, UP, MP and Rajasthan.

Figure 8: Employment in cluster



On average each small scale unit in Rohtak employs about 10-12 persons (4 skilled and 6-8 semi-skilled and helpers). The units are facing acute shortage of manpower and require a large number of skilled workers/operators and semi-skilled workers.

The situation has mainly worsened after the implementation of Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme, due to which the inflow of labour from some main states like Bihar and UP has substantially reduced. The units in the Rohtak cluster follow an eight hour shift and have adopted a two shift operation cycle. The units operate for 300 days in a year. Most of the training is on-the-job where worker joins as helper and graduates into an operator with time.

The cumulative turnover of the 800 MSME cluster units is estimated at INR 2000 crores (20 billion rupees). The total production of these units exceeds one lakh tons The average annual turnover of a small scale unit is five crores per annum.

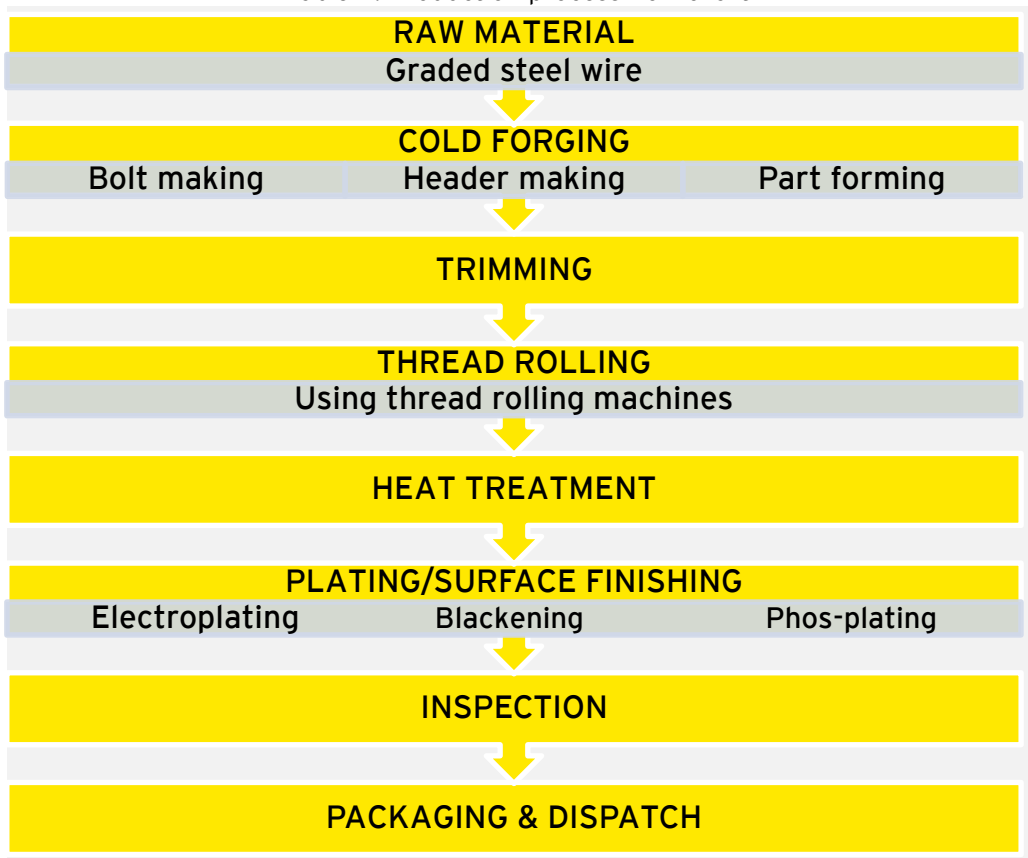
Table 1: Cluster Turnover

Particulars	Unit	Value
Turnover	Crores (INR)	2,000
Production	Tonne	1,00,000

3.3 Production Process

Most of the products (screws) are manufactured through a cold forged process. Manufacturing process of a typical screw is highlighted in Table 2

Table 2: Production process flow chart



Forging: It is a process of giving desired shape of a metal piece by the application of the external force. It is the basic operation in most bolts and screws to give them a desired shape. Almost all the fasteners in Rohtak micro/small scale industry are forged using the cold forging technique as the size/weight of fasteners manufactured is not too large/heavy. Cold Forging is the process of forming the shape of a metal piece by external forces in ambient conditions. It is done at room temperature or near room temperature. In Cold forging, the grain structure will be uniform and takes the shape of the contour of the tools used while upsetting the raw material to the desired head shape. So this gives higher strength of the forged part compared to the machine part and the surface finish thus obtained a 'A' grade product. Parts like self-tapping screws, Machine screws having Phillips and 'pozidriv' are forged through cold forging only. Different steps involved in forging a Bolts /Screws are as follows:

Cold Heading: It is the basic operation in most bolt and screw units of Rohtak to give their heads. It is in the form of metal wire into various shapes in a cold, or unheated, state. A cold header is a horizontal type of punch press in which the metal is first cut off, then formed by one or more blows from the punches which force the bolts into its eventual properly shaped head.

Impact Extrusion: Cold impact extrusion is the deformation of metal in closed or semi-closed tools. This deformation is all done by compression that is at stress levels above the yield compression, but below the ultimate strength compression.

Progressive-Forming: It is the execution of several steps (slotting, threading, and trimming) involved in producing a fastener through different machines. Nuts and bolts go through different progressive forming processes. Nuts are made in a machine called a nut former. The nut former automatically forms plain metal blanks by forming them into hexagonal blanks as round wire is fed into the machine. Bolts are formed by bolt-maker in which blanks are cut off from round wire stock and are automatically headed and additional stations that trim, point, and roll or cut threads.

With modern technologies available in Taiwan and China, these different tasks are performed by single automatic machines. Most of industries are screw manufacturers having set up of mainly three basic machines – cold header, slotting and thread rolling machines. The cluster units have mainly deployed second hand machines for manufacturing of products, imported, mainly from Taiwan, Japan, Italy and Germany.

Heat-Treatment: It is a process utilized to change certain characteristics of metals and alloys in order to make them more suitable for a particular kind of application. Heat Treatment is very essential for mechanical properties such as strength, hardness, ductility, toughness, and wear resistance of the alloys.

Heat Treatment is done for improving the mechanical properties of the steel (fastener) such as tensile and yield strength. This is accomplished by altering the molecular structure of steel in order to produce more durable microstructure. The structure of steel is composed of two variables:

- Grain Structure: The arrangement of atoms in a metal.
- Grain Size: The size of the individual crystals of metal. Large grain size is generally associated with low strength, hardness, and ductility

During the alloy process elements such as carbon are introduced to the metal. These added elements interrupt the flow of the individual grains, increasing strength. Thus, control of the metal crystal structure is a key element in successful heat treating. Thereafter, quenching, hardening, tempering, annealing and normalizing also form an important component of this process. But, the facilities for heat treatment are not up to the mark in the cluster as these are performed by micro level units using old conventional technologies.

Plating and Coatings: Plating is deposition of an adherent metal onto the surface of a base metal. Hot Dip Galvanizing, electroplating, vacuum, sherardizing, or mechanical plating are various types of plating that accomplishes practically all deposition. The commonly used plating medium in the cluster is electroplating, blackening and phos-plating. Electroplating is the deposition of a metallic coating onto an object by putting a negative charge onto the object and immersing it into a solution which contains a salt of the metal to be deposited. The metallic ions of the salt carry a positive charge and are attracted to the par. When they reach it, the negatively charged part provides the electrons to reduce the positively charged ions to metallic form. Plating by electrolysis, or electroplating is commonly used because it permits the control of the thickness of the plating. The cluster also lacks modern pro-environment electroplating facilities.

Almost the entire energy requirement of the cluster is met through electricity. All the machines for forging, trimming, thread rolling and heat treatment are run on power. The power in the cluster is being supplied by Uttar Haryana Bijli Vitran Nigam (UHBVN). Though the cluster units face small intermittent power cuts, the power availability has been found to be satisfactory. Most of the units have also installed generators sets for back-up in the event of a power failure. Major energy consuming equipment are electric motors fitted on various machines and air compressors.

The processes like heat treatment and plating are outsourced to micro level players who have old, inefficient, anti-environment facilities. This process related requirements are very essential to manufacture a quality fastener that meets the standards set up by OEMs. However, the fasteners industries lack these facilities and hence end up producing low quality fastener, face rejections and loss of business.

Product quality/testing

The manufacturing units in the Rohtak cluster are supplying to tier-1 suppliers and follow the material and design/technical specifications provided by them. Tier-1 suppliers in turn adhere to the standards of their respective automobile OEM buyers. The units in the cluster are required to get physical, metallurgical and chemical properties of their material (steel wire) and final products tested by an accredited lab. Since none of the units have an in-house testing facility, they rely on outside labs to get these tests done.

Presently, there is no NABL accredited testing lab in the cluster and the units have to avail services of testing labs situated in Faridabad, Gurgaon and Delhi. This often causes significant production delays and cost inefficiencies. The major testing requirements include Spectro, Tensile Testing, Hardness Testing, Torque and Surface testing. There is an urgent need to provide NABL accredited lab facilities in the cluster. The cluster needs a common testing facility where mechanical and chemical testing of material/finished products can be done.

Additionally, most of the units have not adopted any lean manufacturing/statistical quality control/ process standardization techniques such as 5S, Kaizan, six sigma, total productivity enhancement, TQM etc., resulting in lesser operational efficiency. Implementation of these techniques is essential for units manufacturing auto components and is central to their competitiveness as these units operate on a QCD (Quality, Cost and Delivery) mechanism

set up by the tier-1 suppliers/OEMs. Implementation of lean manufacturing tools can immensely increase the productivity and reduce production costs of these units who are reeling under tremendous competition and constrained margins.

3.4 Value Chain Analysis

Value chain analysis of the most commonly produced cluster products (knitwear top) has been conducted to ascertain the major cost areas and identify suitable interventions. The value chain analysis of a Hex Bolts is provided in Table 3:

Table 3: Value Chain Analysis of for Manufacturing of Hex Bolts

S.No.	Description	Value Added (in INR)	Total Value (in INR)	% of cost of production
1	Raw Material Grade (15*25) @ 60/Kg	0	5.54	53.22
2	Traub Machine Cutting	0.80	6.34	60.90
3	CNC Turning	2.28	8.62	82.80
4	Rolling	0.100	8.72	83.77
5	Heat Treatment	0.37	9.09	87.32
6	Electro Plating	0.63	9.72	93.37
7	REJECTION @ 2 %		0.19	1.87
			9.91	95.24
8	OVERHEAD @ 5%		0.50	4.76
9	Total Production Cost		10.41	100.00
10	PROFIT Margin @ 10%		1.04	
11	Selling Cost		11.45	

The value chain analysis has been prepared based on the stakeholder consultation. It can be observed that the basic raw material amounts to **36%** of total cost of production. CNC Turning is outsourced, and currently accounts for approximately **22%** of the total cost of production. The competitiveness of the cluster units can also be increased by targeting the major cost area like CNC Turning, and providing material testing common facilities to the units in order to lower manufacturing cost and improve the product quality and reduce rejection cost.

3.5 Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

A SWOT (Strength, Weaknesses, Opportunity and Threat) analysis of the manufacturing units in the cluster is carried out keeping in mind the marketing, technology, product quality, skills, inputs, innovation, business environment and energy/environment compliance of the units. This has helped elaborate upon the situation of the cluster and the same has been provided in table 4.

Table 4: SWOT analysis of the Cluster

Area	Current situation		Future	
	Strengths	Weaknesses	Opportunities	Threats
Market	▸ Steady local demand for cluster products ▸ Proximity to the Delhi NCR region ▸ Strong ancillary arrangement of tier-1 suppliers with large industries.	▸ Lack of direct access to OEMs ▸ Sales only confined to local tier-1 suppliers and getting exploited ▸ Lack of marketing experts in the region ▸ No Systematic Marketing effort ▸ Lack of brand-building for the products ▸ Lack of knowledge of domestic and foreign markets	▸ Growing domestic market potential due steady growth in auto industry ▸ Potential to supply directly to OEMs ▸ Encourage buyer-supplier contacts through fairs, meets, web portal etc. ▸ Export potential in niche markets ▸ Develop common platform for marketing. ▸ Continuous global OEM's to reduce cost and source components from low cost countries	▸ Intense competition from global markets ▸ Increasing FTA (Free Trade Agreement) that are being signed by India with ASEAN countries may hurt them as they become more competitive in pricing.

Area	Current situation		Future	
	Strengths	Weaknesses	Opportunities	Threats
Technology/ Product Quality	▶ Capability to produce low volumes competitively ▶ Easy availability of second hand imported machines	▶ Low degree of mechanisation ▶ Absence of modern heat treatment and electroplating facilities ▶ Absence of NABL certified testing facilities in the cluster ▶ Lack of tooling and design facilities ▶ No R&D on products being manufactured	▶ Setting up vacuum based heat treatment, pro-environment electroplating, NABL accredited lab facilities under CFC mode ▶ Setting up a mini tool room in the cluster	▸ Increased cost of production ▸ Low production scales ▸ Unavailability of skilled manpower to operate modern machines ▸ Might lose competition to vendors with sophisticated technology based outside cluster
Skill/ Manpower	▸ Skills acquired on-the-job Competent entrepreneurial skills ▸ Establishment of a new private institute for fasteners industry	▸ Lack of coordination between SMEs and technical institutes for providing training ▸ Absence of regular updation of curriculum as per needs of industry ▸ No mapping of skill-sets required ▸ Inability to recruit/retain diploma engineers	▸ Customized training programs on required skills (operations, soft skills etc.) ▸ Engagement with Technical Institutes for skill development programs ▸ Conduct training needs assessment	▸ Youth interested to work in other lucrative sector resulting in shortage of skilled labour especially sincere one. ▸ Non-availability of skilled manpower
Inputs	Easy availability of raw materials from large manufacturers & local dealers	▸ No web portal displaying prices and sources of raw materials ▸ Higher cost for capital and working capital as compared with competing countries ▶ Fluctuation in raw material quality and prices ▶ No energy audits practiced	▸ Potential to develop a portal displaying information (price, suppliers) of raw materials. ▸ Potential to have a common platform for bulk purchase of raw material. Thus negotiating on the raw material cost.	Rise in price of raw material and fuels

Area	Current situation		Future	
	Strengths	Weaknesses	Opportunities	Threats
			► Also, rework on the interest rate for finance. ► Potential to reduce raw material wastages through implementation of lean manufacturing techniques	
Business Environment	► Steady growth in domestic demand ► Cluster well known as Auto Component Hub across North India ► Conducive policy and regulatory initiatives ► Active State Govt. and schemes for development of the sector ► Proactive industries associations in Rohtak	► Low awareness about government schemes among MSMEs ► Higher cost of industrial land in the cluster ► Lack of common infrastructure/CFC facilities ► No long term vision of MSMEs	► Need for better awareness of government schemes and regulations ► Need for CFCs for Raw Material and Final Product Testing	► Rapid changes in external environment e.g. local OEMs start procurement from more viable source ► Stringent adherence to Environmental policies may affect the MSMEs
Energy/ Environment	► Abundant power availability ► Non-dependence on fossil-fuels	► Lack of knowledge of energy efficiency resulting in higher energy consumption ► Absence of pro-environment electroplating facilities ► Lack of cluster attitude towards energy efficiency ► Usage of conventional machines is leading to excess energy consumption	► Regular checks on maintaining energy efficiency ► Establish CFC with latest technologies for setting up of modern tool room and testing lab facilities under CFC mode	► Stricter regulations leading to closure of units undertaking hazardous electroplating

3.6 Major Issues / Problem Areas of the Cluster

The major problems identified in the cluster are related to technology and infrastructure gap:

- Absence of tool room facility for meeting the tooling and design requirements:

The cluster lacks proper tool room having facilities for tool and dyes design and manufacture. While there are few unorganized micro units that design and make tools/dyes within the cluster, they are, at most times, ordered from outside sources. Since, tools may require multiple trials to ensure that the correct component is produced, close physical proximity of producer and user of tools is an advantage and gains importance as the complexity of production increases. Outdated manufacturing technologies are adopted by enterprises, depending upon the machines and equipment available with them. The cluster lacks modern technology and needs equipment for speed, accuracy and complexity of parts to be manufactured.

- Absence of NABL certified testing facilities for chemical/physical testing of material/finished products:

  In today's hypercompetitive market scenario, domestic OEMs have become increasingly quality conscious, demanding for both chemical composition and physical properties of the raw materials used by their vendors to be tested by a third party. Entry of global players in the auto sector, the quality supplied to the end user needs to be of international standards. The increasing international orientation and forays into the international markets made the focus on quality and conformance to standards which are critical to not only remain competitive but also to survive.

  Presently, the cluster does not have high end testing lab for chemical and physical testing of the raw material and finished products. Therefore a lab for physical, metallurgical and chemical testing of raw materials/finished products is urgently required. The tier-1 suppliers like LPS based in Rohtak have these testing facilities in-house and thus are able to supply to OEMs. Whereas, the micro and small scale units of the cluster do not have access to these testing facilities in the cluster and thus cannot supply directly to OEMs directly and also have to face rejection of entire lot at times.

In addition, the cluster also lacks hi-tech heat treatment (hardening & tempering) and pro-environment electroplating facilities. Due to inexistence of these facilities, the units are manufacturing poor quality products, facing rejections, having material wastages and losing market shares. These facilities if provided through CFC in the cluster with government support will help the units become more productive and move up the value chain.

3.7 Key technologies missing

The key technologies missing in the cluster along with the proposed solution to be set up under the CFC is given in Table 5.

Table 5: Technology Gaps Identified and Intervention Proposed

S. No.	Facility/Equipment	Technology Gaps Identified	Technology Interventions
1	Mini Tool Room	• The cluster lacks proper tool room having facilities for tool and dyes design and manufacture. No facility for design and prototyping • No software technology for CAD/CAM available. No facility for manufacture of dyes using simulation techniques. • Due to lack of equipment, software and skill, quality moulds, dies and other production aids are being procured from far flung areas such as Bangalore, Pune and Chennai in India • The Cluster lacks modern machining technology	• Setting up of a mini tool room with CAD/CAM software's • Hi-tech machining centre equipped with CNC, VMC machines
2	NABL Accredited Testing Lab	• Absence of NABL certified testing facilities for chemical/physical testing of material/finished products. • The absence of a certified lab is counter-productive • The raw material is purchased on faith from dealers and importers. • The finished product cannot be tested for purity and hence carries no authentication. The purity remains approximation. This often causes significant production delays and cost inefficiencies as material needs to be sent to other locations for testing	• Setting up of a NABL accredited lab for physical, metallurgical and chemical testing of raw materials/finished products

The proposed machines for the Tool Room will strengthen the cluster with the following:

- Tool design and manufacturing facilities within the Cluster and obviating the need for relying on facilities at other locations.
- Obtain tools economically.
- Obtain tools in short time and thus deliver their products faster to their customers.
- Improve quality of their products
- Improve productivity and Reduce rejections

.

3.8 Cluster growth potential

The potential for the Rohtak Fasteners Cluster to grow is enormous, owing to the growing demand of Auto & Auto Component Industry in India and internationally. It provides a

strategic locational advantage due to its close proximity to the Auto industrial hubs in Gurugram and Faridabad,

Currently, the cluster units are facing challenges in terms of cost competitiveness, quality and capacity. They are obtaining these services from external providers, which is increasing their costs as a result of which the units often get priced out and face loss of orders.

Against this backdrop, if these units are provided facilities of a mini tool room and Material testing centre under the CFC mode, their production costs and inefficiencies will be reduced. These units will be empowered to compete in the national and international markets.

Diagnostic Study Recommendations

4 Diagnostic Study Recommendations

Based upon the diagnostic study and discussions with various stakeholders of the cluster and the gaps identified, a mix of hard and soft interventions have to be undertaken with Government support to improve the competitiveness of the units in Rohtak. The soft interventions are planned by the SPV and hard intervention in the shape of CFC (Facility of Mini Tool Room and Testing Lab for the raw material and final product) has been proposed. These facilities if provided through the CFC will enable the units to enhance the competitiveness of these units and reduce rejection rate.

The cluster has presence of proactive industries associations that frequently organises business oriented awareness and training programs for the youth who are from technical institutes through industry-academia interface. Hence, the cluster does not intend to obtain government funding for soft interventions.

The recommendations for hard interventions have been elaborated in subsequent sections. The recommendations were finalized in a stakeholder consultation conducted with key members of the cluster in Rohtak in December 2017.

4.1 Soft Interventions for Setting up a CFC

- **Member Meetings:** Cooperation and trust building among members is foremost condition for smooth functioning of the cluster and SPV. A meeting was organized by cluster members during the month of December 2017 in Rohtak to enhance cooperation among member units and to obtain inputs for the DPR. Members of the cluster were informed about the registration of company for the cluster and identification of land for the CFC. Members of the cluster raised their concerns during the meeting which were resolved by other members of the cluster. Additionally, several subsequent meetings have been conducted by members in order to discuss machinery requirements, share leading practices, etc.

- **Meetings with Vendors:** The members of the cluster have held meetings with multiple vendors for procuring machines for the Tool Room and necessary equipment for material Testing center. The members has been actively working with the machinery suppliers to understand the working, specifications of machines.

4.2 Hard Interventions for Setting up a CFC

The cluster needs the following common infrastructural facilities on an urgent basis to ensure the survival of the units through enhanced competitiveness. The Rohtak IDC Industries Association with support from State Government's State Mini-Cluster

Development Scheme is willing to set up a Common Facility Centre having state-of-the-art testing and tooling facilities with a total project cost of about INR 2.11 Cr.

The proposed facilities in CFC along with their description, usage and tentative costs are detailed below:

4.2.1 Mini Tool Room

It is said in industrial circles that "Tool Room is the back bone of the engineering industry". Tools, Moulds, Dies and other Production Aids – collectively called "Tools" - give shape and accuracy to the products.

If the tools being used are of low quality, final product will also be of low quality, even if an extremely skilled operator using very high quality raw material is operating it. Therefore, good design and fabrication of tools is extremely important. A state of the art mini tool room is therefore being proposed as part of the CFC. The details of the machines for the proposed facility is provided below:

CNC (Computerized Numerical Control) Machines:

The CNC machines use controls with data furnished by programmers and operators to calculate the individual steps in machining and other processes for the machine tools being designed. In machining, use of CNC (Computerized Numerical Control) Technology is increasing but CNC potential is less tapped in the cluster as most of the job work is done on conventional lather machines or old 2-axis CNCs whereas the actual potential of CNC can only be tapped by using 4 or 5 axis machines.

Vertical Machining Centre: CNC vertical machining center (VMCs) remain machine shop staples. These milling machines have vertically oriented spindles that approach work pieces mounted on their table from above and commonly perform 2.5- or 3-axis machining operations. They are less costly than horizontal machining center (HMCs), which makes them attractive to small job shops as well as larger machining operations. In addition, the performance of these machines has increased over the years, leveraging technologies such as high-speed spindles and advanced CNC capabilities (including conversational control programming).

Bandsaw Machine: It is designed for cutting metal and is used principally to produce an accurate square or metered cut on the workpiece to a desired length or contour. It functions by drawing a long continuous blade containing cutting teeth through the work-piece Metal-cutting bandsaws are usually equipped with brushes or brush-wheels to prevent chips from becoming stuck in between the blade's teeth. Systems which cool the blade with cutting fluid are also common equipment on metal-cutting bandsaws.

Spectro Polishing Machine: It is deployed to get flat and parallel finish on the sample for high precision spectro-analysis. The blower casing and the dust collector are made integral with the main body which makes the machine compact and aesthetically superior. The rotating disc is dynamically balanced and mounted directly on the motor shaft instead of using belt, this ensures a uniform and noiseless operation.

Abrasive Cut off Machine It is deployed for cutting ferrous metals. Abrasive saws typically use composite friction disk blades to abrasively cut through the steel. The blower casing and the dust collector are made integral with the main body which makes the machine compact and aesthetically superior. The rotating disc is dynamically balanced and mounted directly on the motor shaft instead of using belt, this ensures a uniform and noiseless operation.

The proposed machines for the Tool Room will strengthen the cluster with the following:

- Good Tool design and manufacturing facilities within the Cluster and obviating the need for relying on facilities at other locations.
- Obtain tools economically.
- Obtain tools in short time and thus deliver their products faster to their customers.
- Improve quality of their products
- Improve productivity and Reduce rejections
- Rapid Prototyping proposed for new product development will facilitate Rapid Tooling for the Industry.

4.2.2 NABL Certified Material Testing Lab

Digital Profile Projector: It uses overhead illumination with a large display and perfectly positioned screen resulting in instantly traceable images compared with a template. It features a digital readout protractor screen (including zero-setting, ABS/INC coordinate switching functions) for easy and correct angle measurement. Clear and bright images which offer easy and quick inspection of non-reflective work-pieces such as plastic parts or printed materials are possible because of the optional oblique surface illumination units

Spectrometer: This instrument is used for routine analysis and precise analysis of material testing for incoming and outgoing inspections in the metal industry around the world. It determines all of the elements used in the metal industry, including metal analysis of carbon, phosphorous, sulphur and nitrogen.

Digital Microscope with Camera: Used for microscope imaging solutions to help you assemble, inspect, measure, analyze, and document your results while ensuring the highest level of accuracy. It also improves production efficiency and reduce muscle strain from repetitive tasks. It works more efficiently thanks to the precise and fast surface measurement solution.

Salt Spray Testing Chamber: Salt Spray Testing Chamber is a popular corrosion test method, used to check corrosion resistance of materials and surface coatings. Usually, the materials to be tested are metallic and finished with a surface coating which is intended to provide a degree of corrosion protection to the underlying metal. The appearance of corrosion products (rust or other oxides) is evaluated after a pre-determined period of time.

Coating Thickness Tester: Coating Thickness Tester is used for automatic recognition of ferrous and non-ferrous substrates. It is a portable meter designed for non-invasive coating thickness measurements. The tester uses dual technology that provides automatic recognition of ferrous (magnetic induction measurement) and non-ferrous (eddy current measurement) substrates. Featuring two measuring modes: Single and Continuous.

4.3 Expected Outcome after Intervention

The project will be beneficial both for individual units and the cluster as a whole. The setting up of the CFC is expected to generate the following benefits for the cluster units:

- Enhanced value addition for cluster products
- Significant reduction in cost of production and higher capacity utilization by each unit
- Increased productivity and reduced inefficiencies
- Higher degree of competitiveness of cluster enterprises
- All cluster firms shall be encouraged to use the facility. Many micro unit entrepreneurs who could not afford to significantly contribute by way of necessary investment to the equity base of the project have also been accommodated
- The CFC will generate more job opportunities both at the cluster and individual unit level due to enhanced capacity utilization

- The CFC is also expected to enhance the levels of cooperation and joint-action amongst cluster stakeholders and SPV members to cooperate in other areas such as joint marketing initiatives, common raw material procurement and so on.
- It will also complement the efforts of state government in promoting clusters in the state and serve as a model for upgrading MSME clusters.

Special Purpose Vehicle (SPV) for Project Implementation

5 SPV for Project Implementation

The micro and small units at Rohtak Fasteners Cluster came together to form a Special Purpose Vehicle (SPV) as a private limited company under section 7 of the Companies Act, 2013 and rule 8 of the Companies (Incorporation) Rules, 2014. The SPV is named as **'ROHTAK FASTENERS CFC PRIVATE LIMITED'** with CIN U28999HR2018PTC072968. The SPV was registered on March 12, 2018. The certificate of registration along with Memorandum of Association (MoA) and Articles of Association (AoA) are provided in the annexure. The company has an authorized capital of INR 2 Lakh which shall be enhanced in the near future. The members are micro and small sized firms (registered units) in Rohtak involved in manufacturing of all kinds of fasteners and auto parts.

DIC, Rohtak and the State Government both played an important role in SPV formation by cluster stakeholders. The SPV was incorporated in March 12, 2018 and already includes about 11 members who are subscribing to the necessary equity base of the company. The SPV shall be open for new members to join and for the existing members to leave while maintaining a minimum member base of at least 10 at all times. The proposed CFC will be implemented on public-private partnership basis through SPV **'Rohtak Fasteners CFC Pvt. Ltd'** by availing support from the Government of Haryana's State Mini Cluster Development Scheme (under EPP 2015).

The SPV members have a track record of cooperative initiatives. SPV members are also members of prominent cluster associations. Cluster members have been autonomously undertaking several soft interventions to enhance knowledge and exposure of the cluster units on new trends in this industry industry and enhancing productivity of their units.

The SPV has conducted a series of stakeholder consultations (with various members, DIC Rohtak, and EY experts) during finalization of project components, selection of technologies and development of Detailed Project Report. The SPV has been instrumental in spreading awareness about cluster development under State Mini Cluster Development Scheme in Rohtak and has also helped in validation of DSR. It has kept the State Government and the DIC Rohtak engaged during the entire period of development of DSR and DPR.

5.1 Shareholder profile and Shareholding mix

List of Directors: The SPV has two directors. The details of the directors are furnished in the table below. Other than these directors, the SPV will have provision of having one director each from the state (DIC) and the state government. The SPV comprises members from micro and small fastener manufacturing units. It is homogeneous in nature due to similar products and activities performed by the cluster units.

S. No.	Director Name	Name of the unit	Unit address
1	Mrs Jayshree Khator	JAYSHREE ENTERPRISES	PLOT NO:-158 IDC ROHTAK
2	Mrs Tulika Jain	ADINATH AUTOMOTIVE	PLOT NO:-238 , IDC ROHTAK

The lead promoters/ shareholders have several years of successful experience in Auto components manufacturing and are also well versed with the benefits of cluster development initiatives. These units are financially viable in nature. Post the DSR validation, the DIC Rohtak also acknowledged the genuineness and enthusiasm of the SPV members to undertake the project initiatives under the State Mini Cluster Development Scheme and has recorded that the CFC demand is authentic.

Members of the SPV have been engaged in manufacturing of auto components and fasteners in Rohtak for several years. SPV directors/ members of the SPV also have considerable experience in marketing and manufacturing of auto components and fasteners. Directors/members have been in close interactions with technical experts, government institutions and machinery suppliers.

The SPV was formed with the objective of taking up cluster level activity in a joint and coordinated manner, wherein all units have equal say. The shareholding pattern of members of the registered SPV includes the contribution from every member of SPV and no individual shareholder holds more than 10 per cent equity stake in the capital of the company. The details of SPV members along with their contact persons, unit details, UAM numbers and products manufactured are provided in table below:

Table 6: Details of SPV Members of Rohtak Fasteners Cluster

S No	Contact Person	Name & Address Of Enterprises	Contact No	UAM No	Annual Turnover	Investment	Employment	Product
1	Mrs Jayshree Khator	JAYSHREE ENTERPRISES , 158 IDC ROHTAK	9215549575	HR16A0001068	0.12	0.3	7	Fasteners & Auto Parts
2	Mrs Tulika Jain	ADINATH AUTOMOTIVE ,238 , IDC ROHTAK	9215515700	HR16B0000006	2	1.5	15	Fasteners & Auto Parts
3	Mr Naveen Sharma	N.S.INTERNATIONAL ,PLOT NO:-40 ,IDC ROHTAK	9996648738	HR16B0000771	12	1	27	Fasteners & Auto Parts
4	Mr Surinder Jain	SINGLA PRECISION SCREWS , PLOT NO:-177 ,IDC ROHTAK	9812026528	HR16B0001328	3	2	25	Fasteners & Auto Parts
5	Mr Surender Sanewal	SANEWAL AUTO ENGRS ,PLOT NO:-253 ,IDC ROHTAK	9254070002	HR16B0000265	24	6	60	Fasteners & Auto Parts
6	Mr Jitender Balhara	M/S S.K.ENGINEERS ,OPPOSITE LPS LTD HISSAR ROAD ROHTAK	9050900027	HR16B0000196	0.28	0.4	9	Fasteners & Auto Parts
7	Mr Sumit Jain	VAISHNAVI FASTENERS NEAR IDC ROHTAK	9215550100	HR16A0001316	0.12	0.1	6	Fasteners & Auto Parts
8	Mr Varun Jain	HIND AUTOMOTIVE ,PLOT NO:-512 ,MANDIR WALI GALI	9034664866	HR16B0001082	0.5	0.7	9	Fasteners & Auto Parts
9	Mr K .K .Shaji	STAMY AUTOMOTIVE , IDC ROHTAK	9215515699	HR16A0001091	0.2	0.18	8	Fasteners & Auto Parts
10	Mr Parveen Sharma	PARGATI ENGINEERS ,IDC ROHTAK	9896049511	HR16A0001128	1	0.2	6	Fasteners & Auto Parts
11	Mrs Manju Sanewal	SANEWAL ENGRS ,PLOT NO:-118 ,IDC ROHTAK	9254070003	HR16A0001332	0.12	0.15	3	Fasteners & Auto Parts
12	Mr S K Mathur	SAGAR STEEL PLOT NO:-19 ,IDC HISSAR ROAD ROHTAK	9254033381	HR16B0001073	0.14	1	8	Wire Drawing

5.2 Initiatives undertaken by the SPV

As mentioned in detail in section 4.1, the SPV members have proactively undertaken a lot of capacity building initiatives to promote the cooperation among cluster units and enhance knowledge and exposure of the units. The major initiatives are:

- Regular member meetings for discussion on the CFC as well as technologies, marketing, discussion on incentives available to MSMEs, Seminar on GST
- Participation in various programs for capacity building, awareness generation and technological advancement in the cluster.
- Identification of building to be taken on lease for the SPV.
- The preparation of DSR was led by an EY LLP consultant and the presentation for the DSR validation was also done by the EY LLP consultant.

5.3 SPV Roles and Responsibilities

The SPV will play an important guiding role in the overall management and operations of the CFC. It will provide direction to the management of the CFC and will monitor usage and performance of the CFC. The SPV will constantly report to the state government about the performance of the CFC. The major roles and responsibilities that are envisaged to be performed by the SPV post the submission of this DPR are mentioned below:

- Coordinating with the state industry department for DPR approvals in the SLSC
- Accompanying EY experts to various meetings at the state government departments
- Execution of land registration in SPV name
- Garnering the SPV project contribution from the members
- Formation of purchase committees for procurement of goods and services
- Establishing, operating and maintaining all common facilities as mentioned in the DPR
- Obtain any statutory approvals/clearances from various government departments
- Recruit appropriate professionals to ensure smooth execution of the CFC
- Collection of user charges from members and other users of the facilities as per the decided rates so as to meet the recurring expenses and future expansions of the CFC. While various estimates on user charges / service fee are presented in this DPR, all decisions including usage priority of facilities by members will be made on the basis of decision by members of SPV.
- Preparation and submission of progress reports to state industry department

The Memorandum and Articles of Association of the Cluster SPV indicates the democratic process in terms of decision making on the basis of votes. All members of SPV will meet once every fortnight/month to discuss/resolve operational issues. The management of the CFC will be a two tier structure for smooth and uninterrupted functioning. The executive body i.e. Board of Directors (BoD) will include the directors of the company, including one nominee of State Government (DIC). They will also remain present during meetings.

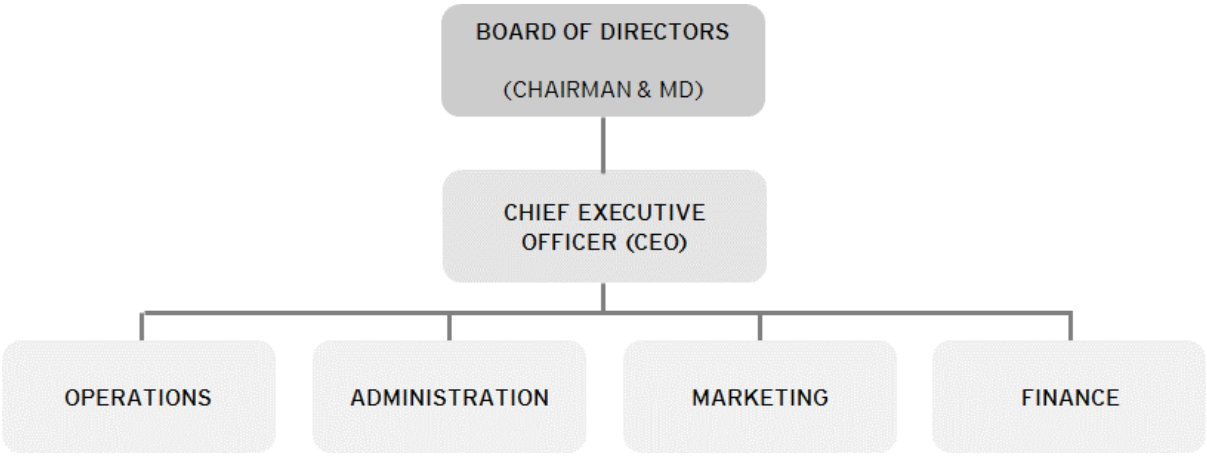
While various estimates on user charges/service fees are presented in this DPR, all decisions including usage priority of facilities by members will be made by unanimous decision of the members. The CFC will seek direction and guidance from the SPV BoD, and the day-to-day

administration will be taken care of by the management that shall be appointed by the SPV BoD. Their role is detailed below:

1. **Board of Directors**: The BoD will be the main governing body and will oversee the operations of the CFC. They will have the decision making power in terms of fixing user fees (for members and non-members) and usage of reserves etc. for future expansion. The Chairman and Managing Director will oversee the entire operations; each Director will be entrusted with specific responsibility like marketing, technical, finance, public relations etc. based on their interests and experience.

2. **Managerial, Technical and Administrative staff**: A competent and well qualified professional with a background in the manufacturing of auto components industry will be appointed as the Chief Executive Officer (CEO) also called Cluster Development Executive (CDE), who will look after day-to-day operations of the CFC and shall be directly reporting to the Board of Directors. The facility will have its own expert staff (supervisors, operations and helpers) as per the requirement. The details of manpower and other requirements are already mentioned in the DPR in the Project Economics section. There shall be provisions for administrative staff such as accounts personnel, marketing professional, store-keepers etc. to ensure effective functioning of the CFC. The proposed organizational structure of the CFC is given in figure below:

Table 7: Organisational Structure



Project Economics

6 Project Economics

6.1 Project Cost

The total project cost is estimated at **INR 211.73 Lakhs** (INR 2.12 crores). The project cost for setting up a CFC in the Rohtak Fasteners Cluster includes the following:

1. Building on lease
2. Machinery and equipment
3. Miscellaneous fixed assets
4. Preliminary & Pre-operative expenses
5. Contingency
6. Margin money for working capital

The detail of each project component is provided below:

6.1.1 Building

The SPV shall lease one floor of a building on a 10 year irrevocable lease. The SPV has identified the building and obtained a letter establishing the availability of the building. The building is located at Plot No. 136, IDC, Hisar Road, Rohtak, Haryana. The available area is 3500 square feet and the monthly rent for the first year would be at the going lease market rate i.e. INR 0.50 lakh (INR 6 lakhs in year 1) with an annual increase at the market rate (estimated at 10%).

6.1.2 Plant and Machinery

As detailed in section 4.2 (Hard interventions), CNC, VMC machines, band saw machine, abrasive cut-off machine, Belt Grinder, Spectro Polishing Machine and others. For the Material Testing Centre various testing instruments have been recommended to enable cluster units enhance their competitiveness. These machines have been categorized as primary and secondary. The machines that shall be used primarily for job work have been categorized as primary, whereas, the auxiliary/supporting machines have been categorized as secondary machines. The major facilities proposed at the CFC are for manufacture of auto parts and fasteners as well as testing facility. The total cost of plant and machineries has been estimated at **INR181.61** lakhs including taxes, and contingency works out to INR 9.08 lakhs.

The details of the proposed machinery items are presented in the table below:

Table 8: List of Proposed Plant & Machinery

PLANT & MACHINERY								
S. No.	**Machine Name**	**Quantity**	**Basic Price**	**Total Basic Price**	**GST as Applicable**	**Total Price**	**Supplier Options**	**Model / Specifications**
A	**Primary Machinery**							
1	Slant bed CNC lathe sj 500 lm	1	16.80	16.80	3.02	19.82	Ace Designers	Ace Slant bed CNC lathe sj 500 lm& with all accessories as per scope of supply
2	CNC lathe model APOLLO	1	12.85	12.85	2.31	15.16	Ace Designers	ACE Apollo CNC
3	Slant bed CNC lathe j 300 lm	2	14.45	28.90	5.20	34.10	Ace Designers	ACE Slant bed CNC J 300 lm
4	CNC Vertical Machining Centre	2	21.86	43.72	7.87	51.59	Ace Manufacturing Systems	CNC VMC Super Winner
5	Automatic Bandsaw machine	1	6.30	6.30	1.13	7.43	Malwa Machine Tools (Ind) Pvt Ltd.	MMT-210 TCA
6	Belt Grinder	1	0.17	0.17	0.03	0.20	SRI Equipments	Belt Grinder Machine
	Instruments for Testing Lab							
1	Digital Profile Projector	1	5.33	5.33	0.96	6.29	SRI Equipments	VT400
2	Spectrometer	1	16.57	16.57	2.98	19.55	SRI Equipments	Spectrometer chemical anlysis
3	Digital Microscope with Camera	1	1.30	1.30	0.23	1.53	SRI Equipments	Trinocular stereozoom microscope with poll stand & USB CMOS camera
4	Hardness Tester	1	0.29	0.29	0.05	0.34	SRI Equipments	Hardness Tester
5	Digital Coating Thickness Gauge	1	0.25	0.25	0.05	0.30	SRI Equipments	Digital Coating Thickness Gauge
6	Salt Spray Test Chamber	1	7.50	7.50	1.35	8.85	SRI Equipments	HSN Code 9801

PLANT & MACHINERY								
S. No.	Machine Name	Quantity	Basic Price	Total Basic Price	GST as Applicable	Total Price	Supplier Options	Model / Specifications
7	Double Disc Polishing Machine	1	0.62	0.62	0.11	0.73	SRI Equipments	Double Disc Polishing Machine(Heavy duty
8	Abrasive Cut-off Machine	1	1.39	1.39	0.25	1.64	SRI Equipments	Abrasive Cut-off Machine
9	Spectro Polishing Machine	1	0.58	0.58	0.10	0.68	SRI Equipments	Spectro Polishing Machine
	Sub Total (A)	**17**	**106.26**	**142.57**	**25.66**	**168.23**		
B	**Secondary Machinery**							
1	D.G. SET 140 KVA	1	7.14	7.14	1.29	8.43	Industrial Equipment Facility	140 KVA Kirloskar (Koel green)
2	Air Compressor	1	1.35	1.35	0.24	1.59	Service Equipment Company	Elgi Recip. Air Comp.
3	3 Phase rolling Contract Servo Controller AV Regulator	1	2.85	2.85	0.51	3.36	Globe Rectifiers	HSN Code 9801
	Sub Total (B)	**3**	**11.34**	**11.34**	**2.04**	**13.38**		
	Grand Total	**20**	**117.60**	**153.91**	**27.70**	**181.61**		

6.1.3 Miscellaneous Fixed Assets

The CFC would also require fixed assets such as furniture, fixtures, computer, etc. for smooth running of operations. The total estimated capital expenditure for purchase of miscellaneous fixed assets is estimated to be **INR 1.85 Lakhs**. Details are provided in the table below.

Table 9 : Miscellaneous Fixed Assets

MISCELLANEOUS FIXED ASSETS (INR in Lakh)		
S. No.	Particulars	Amount
1	Office computer-1	0.30
2	Furniture (tables & chairs)	0.40
3	Office items and allied items	0.50
4	Power Back up (UPS-1)	0.15
5	Firefighting equipment	0.50
	Total	**1.85**

6.1.4 Preliminary and Pre-operative Expenses

Another major component of the project cost is the preliminary and pre-operative expenses. The preliminary expenses are envisaged as expenses incurred for registration of SPV, legal and administrative expenses, tendering forms, tendering cost, etc.

Pre-operative expenses include expenses for electricity connection charges, refurbishment of the building, administrative establishment, travelling, bank charges, stationery, telephone, and overhead expenses during machinery testing period such as salaries, machine testing cost, bank charges, travelling, etc. The total expenditure for preliminary and pre-operative expenses is estimated at **INR 10.52 lakh** (details provided in the table below).

Table 10: Preliminary and Pre-Operative Expenses

PRELIMINARY & PRE OPERATIVE EXPENSES (INR in Lakh)		
S. No.	Particulars	Amount
1	Company Formation Charges	0.70
2	Tender forms & tendering cost	1.00
3	Project Report Preparation (DSR & DPR)	Nil
4	Project Management Charges	Nil
5	Travelling Cost	0.25
6	Machine testing cost	0.30
7	One time electricity connection charges	1.84
8	Refurbishment expenses	2.00
9	Lease deed registration charges	1.43
10	Security Deposit (Rent)	1.00
11	Bank Appraisal Charges	0.50
12	NABL accreditation expenses	1.50
	Total	**10.52**

6.1.5 Provision for Contingencies

As per the guidelines of State Mini Cluster Development Scheme, a provision for contingencies has to be made on plant & machinery and building (not applicable in this case as the building is being taken on a lease basis). Contingencies on plant and machinery have been estimated at 5% that amounts to **INR 9.08 lakhs.**

6.1.6 Margin Money for Working Capital

The total working capital requirement during the first year of operation at 75% capacity utilization is estimated at **INR 32.66 lakh** with margin money requirement of INR 8.66 Lakh (being more than 25% of working capital requirement as margin). The working capital requirement has been calculated based on requirement of one month of operational expenses and three months' debtor collection period. The calculation has been provided in the subsequent section.

6.1.7 Summary Project Cost

A summary of the total estimated project cost as per actual and as per State Mini Cluster Development Scheme is presented in the table below:

Table 11: Total Project Cost

PROJECT COST (INR in Lakh)				
S. No.	Particulars	Total Project Cost	Amount as per Guidelines	Remarks
1	**Land & Building**			
	a. Land Value	0.00	0.00	Eligible (Max 25% of total of L&B, P&M, and Misc. F.A.)
	b. Land Development	0.00		
	c. Building & Other Civil Works	0.00		
	d. Building Value	0.00		
	Sub Total (A)	**0.00**	**0.00**	
2	**Plant & Machinery**			
	a. Indigenous	168.23	181.61	Eligible
	b. Imports	0.00		
	c. Secondary Machines	13.38		
	Sub Total (B)	**181.61**	**181.61**	
3	**Miscellaneous fixed assets (C)**	**1.85**	**0.00**	
4	**Preliminary & Preoperative Expenses (D)**	**10.52**	**0.00**	Not eligible for grant
5	**Contingency**			
	a. Building @ 2%	0.00	0.00	
	b. Plant & Machinery @ 5%	9.08	0.00	
	Sub Total (E)	**9.08**	**0.00**	
6	**Margin money for working capital @ 75% C.U. (F)**	**8.66**	**0.00**	
	Grand Total (A+B+C+D+E+F)	**211.73**	**181.61**	

6.2 Means of Finance

The project will be financed from two sources: equity from SPV, and grant-in-aid from Govt. of Haryana (under State Mini Cluster Development Scheme, EPP-2015). Working capital

loan, if required, will be secured from Axis Bank. The assistance to the project from Govt. of Haryana under the State Mini Cluster Development Scheme is envisaged to the tune of 90% of the project cost for project up to 200 lakhs. SPV will be required to contribute 10% of project cost for project cost up to INR 200 lakh. In this case, the eligible project cost is INR 181.61 lakh. Hence, the **assistance from Govt. of Haryana is subjected to maximum INR 163.45 lakh** (90% of INR 181.61 lakh). The SPV members have proposed to contribute the entire amount beyond INR 163.45 lakhs, taking their overall contribution to about 23% of the **total project cost of INR 211.73 lakh**. **The total contribution of SPV members will amount to INR 48.28 lakhs.** Details of the means of finance are provided in the table below:

Table 12 : Means of Finance

Means of Finance		
S. No.	**Source of finance**	**Total Amount (INR in Lakh)**
1	Grant-in-aid under State Mini Cluster Development Scheme (Govt. of Haryana)	163.45
2	Contribution of SPV	48.28
	Total	**211.73**

Detailed Means Of Finance							
S. No.	**Source of finance**	**Project cost up to INR 200 lakh**		**Project cost over INR 200 lakh**			**Remarks**
		Percentage Contribution	**Amount (INR in lakh)**	**Percentage Contribution**	**Amount (INR in lakh)**	**Total Amount (INR in lakh)**	
1	Grant-in-aid under State Mini Cluster Development Scheme (Govt. of Haryana)	90%	163.45	0%	0.00	163.45	As per EPP, 2015 GoH contribution is max 90% (Including soft intervention expenses)
2	Contribution of SPV	10%	18.16	100%	30.12	48.28	
	Total	**100%**	**181.61**	**100%**	**30.12**	**211.73**	

6.2.1 Share Capital

The contribution of the SPV members will be by way of subscription to shares in the SPV registered as a Private Limited Company. The extent of paid-up share capital/equity contribution would be **INR48.28 lakhs** contributed by the cluster SPV.

The authorized share capital of the company is INR 25 Lakh at present which shall be increased in due course. The extent of share capital/equity contribution by each member will be restricted to a maximum of 10% of total contribution to the share capital of the company.

6.2.2 Grant-in-Aid

Grant-in-aid of INR163.45 lakh is expected from Government of Haryana. The amount received by the way of grant under State Mini Cluster Development Scheme will only be utilized to procure plant and machinery for the project.

6.3 Expenditure Estimates

In this section, a detailed estimate of expenditure of the CFC has been conducted on eight hour single shift (i.e. 8 hour) operation basis. This has been estimated based upon extensive inputs by the cluster members and the prevalent rates of consumables, utilities and manpower in the cluster. This section considers annual cost of undertaking job work and expenditure estimates. The critical components related to expenditure comprise consumables, manpower, electricity and also expenditure on repair and maintenance of assets, insurance and administrative overheads.

Other elements comprise expenditures by the way of interest toward working capital loans, miscellaneous expenses and non-cash depreciation expenditure.

6.3.1 Consumables

Machines installed at the CFC shall require consumables during operations and completion of the job work. Consumables are critical components of project facilities and may be understood in terms of needles, lubrication, oil, diesel, batteries, etc.

Table 13: Consumables

CONSUMABLES REQUIRED FOR MACHINES												
S. No.	Machine Name	No. Of Machines	Particulars	Monthly Amount per Machine (Rs.)	Total monthly Amt (Rs. In Lakh)	Consumables required annually (Rs. In Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)
							Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-10
							75%	80%	85%	90%	95%	100%
A.	**Primary Machines**											
1	Slant bed CNC lathe sj 500 lm	1	Coolant, Oiling, inserts	4000	0.04	0.48	0.36	0.38	0.41	0.43	0.46	0.48
2	CNC lathe model APOLLO	1	Coolant, Oiling, Inserts	3500	0.04	0.42	0.32	0.34	0.36	0.38	0.40	0.42
3	Slant bed CNC lathe j 300 lm	2	Coolant, Oiling, Inserts	4000	0.08	0.96	0.72	0.77	0.82	0.86	0.91	0.96
4	CNC Vertical Machining Centre	2	Coolant, Oiling, Inserts	7000	0.14	1.68	1.26	1.34	1.43	1.51	1.60	1.68
5	Automatic Bandsaw Machine	1	Coolant, Oiling, blade	3500	0.04	0.42	0.32	0.34	0.36	0.38	0.40	0.42
	Testing Lab											
6	Belt Grinder	1	Coolant, Oiling, Inserts	1000	0.01	0.12	0.09	0.10	0.10	0.11	0.11	0.12
7	Double Disc Polishing Machine	1	Coolant, Oiling, Inserts	2000	0.02	0.24	0.18	0.19	0.20	0.22	0.23	0.24
8	Spectro Polisihing Machine	1	Polishing chemical	1500	0.02	0.18	0.14	0.14	0.15	0.16	0.17	0.18
9	Abrasive Cut-off Machine	1	Coolant, Oiling, Inserts	1000	0.01	0.12	0.09	0.10	0.10	0.11	0.11	0.12
10	Digital Profile Projector	1	Calibration	200	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02
11	Spectrometer	1	Calibration	200	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02
12	Digital Microscope with Camera	1	Calibration	200	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02

CONSUMABLES REQUIRED FOR MACHINES												
S. No.	Machine Name	No. Of Machines	Particulars	Monthly Amount per Machine (Rs.)	Total monthly Amt (Rs. In Lakh)	Consumables required annually (Rs. In Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)
13	Hardness Tester	1	Calibration	200	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02
14	Digital Coating Thickness Gauge	1	Calibration	1000	0.01	0.12	0.09	0.10	0.10	0.11	0.11	0.12
15	Salt Spray Test Chamber	1	Chemicals	5000	0.05	0.60	0.45	0.48	0.51	0.54	0.57	0.60
B.	**Secondary Machines**											
1	D.G. SET 125 KVA fuel	1	Diesel	4125	0.04	0.50	0.37	0.40	0.42	0.45	0.47	0.50
	Total				0.49	5.93	4.45	4.74	5.04	5.34	5.63	5.93
	Consumables per month					0.49	0.37	0.40	0.42	0.44	0.47	0.49

6.3.2 Manpower Requirement

Another major expenditure head is the manpower. Facilities installed at CFC will require manpower to function effectively. The total manpower requirement for the project would be about 18 persons. The manpower required under project has been divided under two categories: Direct & Indirect. Direct manpower is required for operation of machines while indirect manpower is required for administrative purposes. The annual expenditure on salary component for direct manpower is estimated at INR 22.37 lakh and for indirect at INR 9.50 lakhs. The total expense on manpower is projected at INR 31.88 lakh per annum.

The details of monthly and yearly expenses for manpower required for running the project is provided in table below:

Table 14: Expenditure Related to Salary (direct manpower - machine operators and helpers

DIRECT MANPOWER				
Category	No. of Manpower Required	Salary per month per person (INR)	Total Salary Per Month (INR)	Total salary & wages/ year (INR lakh)
Supervisor & Programmer	1	20,000.00	20,000.00	2.40
Operator CNC M/c	4	15,000.00	60,000.00	7.20
Operator VMC M/c	2	15,000.00	30,000.00	3.60
Helper	6	8,500.00	51,000.00	6.12
Office boy	1	8,500.00	8,500.00	1.02
	14	**67,000.00**	**1,69,500.00**	**20.34**
Add: Perquisites/Fringe Benefits @ 10%				**2.03**
Total				**22.37**

Table 15: Expenditure Related to Salary (indirect manpower – administrative and support staff)

INDIRECT MANPOWER				
Category	No. of Manpower Required	Salary per month per person (INR)	Total Salary Per Month (INR)	Total salary & wages per Year (INR lakh)
Cluster Development Executive (CDE)	1	40,000.00	40,000.00	4.80
Accountant	1	12,000.00	12,000.00	1.44
Security Guard	2	10,000.00	20,000.00	2.40
	4	**62,000.00**	**72,000.00**	**8.64**
Add: Perquisites/Fringe Benefits @ 10%				**0.86**
Total				**9.50**

6.3.3 Utilities

The most important utility required in the project is power supply. Proposed CFC requires power for operation of machinery as well as other supporting equipment for smooth operations. The total connected load requirement has been estimated at 55.66 kW. The table below depicts the machine and equipment wise power requirement in the CFC. The

drawn power is conservatively assumed at 30.36 kW (@60% of the connected load) in the case of operating facilities and shop floor.

Table 16: Machine & Equipment (facility) wise power requirement

UTILITIES			
S. No.	Machine & Equipment	Power Requirement (kW)/ Connected Load	Total power requirement (60% of drawn power) kWh
1	Slant bed CNC lathe sj 500 lm	7.50	4.50
2	CNC lathe model APOLLO	3.70	2.22
3	Slant bed CNC lathe j 300 lm(2)	15.00	9.00
4	CNC Vertical Machining Centre model(2)	15.00	9.00
5	Automatic Band Shaw Machine	2.40	1.44
6	Testing Lab	5.00	3.00
7	Administrative Facilities	2.00	1.20
	Total Connected load for CFC	**50.60**	**30.36**
	Buffer Connected Load (10% of Total Connected Load)	**5.06**	
	Total	**55.66**	

The power requirement for operation of core machinery and equipment and administrative facilities is 50.60 kW. The facility is heavily based on electricity for operations and will also require additional 10% connected load as a buffer to get the electricity connection. The total connected load for the CFC is estimated to be 55.66 kW.

Fixed charges for connection of 55.66 kW @ INR 131 per kW equals INR 7,291/- per month and monthly consumption charge @ INR 7.25 per unit for 6072 units consumed will amount to INR 44,022/- per month. This has been calculated based on the prevalent rates of the power provider.

The table below presents the envisaged annual expenditure in terms of power related charges.

Table 17: Annual Expenditure Statement vis-à-vis Power Charges

Power charges at various C.U.										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	75%	80%	85%	90%	95%	100%	100%	100%	100%	100%
Fixed	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Variable	3.96	4.23	4.49	4.75	5.02	5.28	5.28	5.28	5.28	5.28
Total	**4.84**	**5.10**	**5.37**	**5.63**	**5.89**	**6.16**	**6.16**	**6.16**	**6.16**	**6.16**
Per month	**0.40**	**0.43**	**0.45**	**0.47**	**0.49**	**0.51**	**0.51**	**0.51**	**0.51**	**0.51**

6.3.4 Annual Repairs and Maintenance Expenses

The annual repairs and maintenance expenses for building have been estimated of INR 0.10 lakh and repairs and maintenance expenses for plant and machinery to be INR 5.45 lakh. The total annual repair & maintenance expenses are estimated at INR 5.55 lakh. The details are presented in the table below:

Table 18: Annual Repairs and Maintenance Expenditure

ANNUAL REPAIR AND MAINTENANCE EXPENSES (INR lakh)	
Repair & Maintenance of Building	0.10
Repair & Maintenance of Plant and Machineries @ 3%	5.45
Total	**5.55**

Insurance and miscellaneous Administrative Expenses

Insurance is a critical component of asset protection at the CFC. Insurance is computed on the basis of 0.5 percent on the fixed assets. Cost of insurance shall remain as a fixed cost and is projected at INR 0.95 lakh and the miscellaneous administrative expenses are estimated at INR 2.40 lakh per year. The total expenses (insurance and miscellaneous administrative expenses) will be INR 3.35 lakh per year. These expenses are fixed irrespective of the change in capacity utilization.

The details are presented in the table below:

Table 19: Insurance and Miscellaneous Administrative Expenses

OTHER EXPENSES(INR in Lakh)	
Insurance Charges (Estimate @ 0.5% on fixed assets (such as buildings, civil works, and Plant & machinery, including related contingency expenses of approx.	0.95
Miscellaneous Expenses (Stationery, communication, travelling, and other misc. overheads)	2.40
Total	**3.35**

6.4 Working Capital Requirements

Working capital has been calculated in terms of one month's operating expenses required for the CFC as well as three months' debtor collection period. The operating expenses includes in form of consumables, salaries and utilities.

The working capital requirement of the project for the one month of operation has been considered for consumables and expenses. The SPV will contribute the margin money for working capital and rest of working capital will be borrowed from local bank. While calculating the project cost, minimum 25% of working capital is shown as margin for working capital and the remaining will be borne by SPV as borrowings. The total working capital is estimated to be INR 32.66 lakh during the first year of operation (75% C.U.). Further, total working capital required at an operating capacity of 80% during the second year comes out to Rs. 34.78 lakh. The corresponding margin money for working capital requirement at 75% &80% capacity utilization in the first 2 years amounts to INR 8.66 lakh and INR10.78 lakh respectively, and the corresponding loan amounts at INR 24 lakh for both years.

The details are presented in the table below:

Table 20: Working Capital Requirements

WORKING CAPITAL (INR in Lakh)											
S. No.	Particulars	Period	As per Capacity Utilization								
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
			75%	80%	85%	90%	95%	100%	100%	100%	100%	100%
1	Consumables	1 month	0.37	0.40	0.42	0.44	0.47	0.49	0.49	0.49	0.49	0.49
2	Utilities (Power)	1 month	0.40	0.43	0.45	0.47	0.49	0.51	0.51	0.51	0.51	0.51
3	Working Expenses (Manpower)	1 month	2.19	2.28	2.38	2.47	2.56	2.66	2.66	2.66	2.66	2.66
4	Sundry Debtors (Sales Value)	3 months	29.70	31.68	33.66	35.64	37.62	39.60	39.60	39.60	39.60	39.60
5	Working capital (Total expenses)		32.66	34.78	36.90	39.02	41.14	43.26	43.26	43.26	43.26	43.26
6	Working Capital Margin		8.66	10.78	12.90	15.02	17.14	19.26	19.26	19.26	19.26	19.26
7	Working Capital Loan		24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
8	Interest on Working capital loan @11% p.a.		2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64
9	Working Cap Margin %age		26.52%	31.00%	34.97%	38.50%	41.67%	44.53%	44.53%	44.53%	44.53%	44.53%

6.5 Depreciation Estimates

Estimates of depreciation are non-cash expenditure and presented in this section on the basis of Written down Value (WDV) methods. Accounting for depreciation would facilitate sustainability of operations in terms of developing a fund for replacement of assets. The relevant fund that is accumulated could facilitate the replacement of such assets toward the end of the envisaged asset life of 10 years. Depreciation of plant and machinery is considered at 15% a year, computers at 60% per year, furniture at 10% per year, and miscellaneous fixed assets at the rate of 15% a year. The computation of depreciation as per WDV method is provided in the tables below.

Table 21: Depreciation based on WDV

DEPRECIATION (WRITTEN DOWN VALUE METHOD) (INR in Lakh)										
Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Land										
Opening Balance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Less : Depreciation	-	-	-	-	-	-	-	-	-	-
Closing Balance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building and Civil work										
Opening Balance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Less: Depreciation @ 10%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Closing Balance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plant & Machinery										
Opening Balance	190.69	162.09	137.78	117.11	99.54	84.61	71.92	61.13	51.96	44.17
Less: Depreciation @ 15%	28.60	24.31	20.67	17.57	14.93	12.69	10.79	9.17	7.79	6.63
Closing Balance	162.09	137.78	117.11	99.54	84.61	71.92	61.13	51.96	44.17	37.54
Computers										
Opening Balance	0.30	0.12	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00
Less: Depreciation @ 60%	0.18	0.07	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Closing Balance	0.12	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Furniture										
Opening Balance	0.40	0.36	0.32	0.29	0.26	0.24	0.21	0.19	0.17	0.15
Less: Depreciation @ 10%	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Closing Balance	0.36	0.32	0.29	0.26	0.24	0.21	0.19	0.17	0.15	0.14
Other Misc. Fixed Assets										

DEPRECIATION (WRITTEN DOWN VALUE METHOD) (INR in Lakh)										
Particulars	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Opening Balance	0.65	0.55	0.50	0.45	0.40	0.36	0.33	0.29	0.26	0.24
Less: Depreciation @ 15%	0.10	0.06	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.02
Closing Balance	0.55	0.50	0.45	0.40	0.36	0.33	0.29	0.26	0.24	0.21
Total Depreciation	28.92	24.48	20.78	17.65	15.00	12.75	10.84	9.22	7.84	6.66
Depreciated value	163.12	138.65	117.87	100.22	85.21	72.46	61.62	52.40	44.56	37.90

6.6 Income/Revenue estimates

The CFC is expected to generate revenue by way of user charges that shall be levied based upon the job work per hour done by the machines as well as number of tests conducted in a day. The user charges shall vary based upon the user i.e. the SPV members and non SPV members. The user charges will be less for the SPV members as compared to non SPV members. Firms based outside Rohtak shall be charged a premium for availing the CFC services. The major income sources for the CFC are envisaged by the way of manufacturing auto components and fasteners.

The user charges have been estimated based upon the operational expenses of the CFC and the prevalent market rates in Rohtak. User charges for secondary machineries have not been considered as a part of revenue. Estimation of user charges for availing services at CFC has been done on a conservative basis.

The relevance and appropriateness of user charges is also evident from the fact that the rates fixed help meet operating expenditures and provide sustainable replacement of assets. It is also envisaged that the CFC will generate enough income to sustain and grow, making it an absolutely viable project.

The estimated user charges are presented in table below:

Table 22: User Charges for Machinery

REVENUE GENERATION AT CFC												
S. No.	Machine Name	No. Of Machines	Revenue per machine per day (Rs.)	No. Of Working days per month	Total Revenue per month (Rs. lakh)	Annual Revenue generation (in Rs. lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)
							Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-10
							75%	80%	85%	90%	95%	100%
1	Slant bed CNC lathe sj 500	1	4500	25	1.13	13.50	10.13	10.80	11.48	12.15	12.83	13.50
2	CNC lathe model APOLLO	1	4000	25	1.00	12.00	9.00	9.60	10.20	10.80	11.40	12.00
3	Slant bed CNC lathe j 300 lm	2	4500	25	2.25	27.00	20.25	21.60	22.95	24.30	25.65	27.00
4	CNC Vertical Machining Centre model	2	5000	25	2.50	30.00	22.50	24.00	25.50	27.00	28.50	30.00
5	Automatic Band Shaw Machine	1	2500	25	0.63	7.50	5.63	6.00	6.38	6.75	7.13	7.50
	Sub Total (A)				**7.50**	**90.00**	**67.50**	**72.00**	**76.50**	**81.00**	**85.50**	**90.00**
S. No.	Material Testing Facility	No. Of Tests per day	Rate per test (Rs.)	No. Of Working days per month	Total Revenue per month (Rs. lakh)	Annual Revenue generation (in Rs. lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)
							Year 1	Year 2	Year 3	Year 4	Year 5	Year 6-10

REVENUE GENERATION AT CFC												
S. No.	Machine Name	No. Of Machines	Revenue per machine per day (Rs.)	No. Of Working days per month	Total Revenue per month (Rs. lakh)	Annual Revenue generation (in Rs. lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)	Amount (in Rs. Lakh)
6	Belt Grinder + Double Disc Polishing + Abrasive Cut-off + Spectro Polishing (according to no. of samples prepared in a day)	6	1500	25	2.25	27.00	20.25	21.60	22.95	24.30	25.65	27.00
7	Digital Profile Projector	12	150	25	0.45	5.40	4.05	4.32	4.59	4.86	5.13	5.40
8	Spectrometer	12	200	25	0.60	7.20	5.40	5.76	6.12	6.48	6.84	7.20
9	Digital Microscope with Camera (crackness)	12	250	25	0.75	9.00	6.75	7.20	7.65	8.10	8.55	9.00
10	Hardness Tester	12	150	25	0.45	5.40	4.05	4.32	4.59	4.86	5.13	5.40
11	Digital Coating Thickness Gauge	12	100	25	0.30	3.60	2.70	2.88	3.06	3.24	3.42	3.60
12	Salt Spray Test Chamber	12	300	25	0.90	10.80	8.10	8.64	9.18	9.72	10.26	10.80
	Sub Total (B)	**78**			**5.70**	**68.40**	**51.30**	**54.72**	**58.14**	**61.56**	**64.98**	**68.40**
	Total (A+B)				**13.20**	**158.40**	**118.80**	**126.72**	**134.64**	**142.56**	**150.48**	**158.40**

6.7 Estimation of profitability: Income and Expenditure statement

The projections for income and expenditures of the CFC have been conducted for ten years. The projections have been undertaken based upon the income and expenditure heads mentioned in previous sections. The projected statements highlight income, expenses, profits earned, income tax and net profit etc. The details are presented in the table below:

The total gross revenue is estimated to be INR 118.80 lakhs per annum on an operating capacity of 75%. For projection purposes, operating capacity of 75% is considered during first year, 80% during second year, 85% during third year and 100% from 6th year onwards.

The income tax rates have been considered depending upon the announcements made in the Budget 2017 and the tax applicable on a company. Income tax has been considered at 25.75 % on taxable profit inclusive of all the tax components. The incidence of tax ranges from INR 9.28 lakhs in the first year to INR 21.32 lakhs in year 10.

As evident from the table below, the project is financially viable. A cumulative surplus of about INR 507.55 lakh shall be earned by the SPV even after accounting for taxation and depreciation at the end of ten years. This surplus generated shall be used for further addition in the machinery or improvement and up-gradation of facilities. Additionally, the SPV intends to conduct a lot of other development activities in the cluster that shall be funded through the surplus earned at the CFC.

Table 23: Income and Expenditure Statement

PROFIT & LOSS ACCOUNT										
Particulars	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Number of working days	300	300	300	300	300	300	300	300	300	300
Number of shift	1	1	1	1	1	1	1	1	1	1
Capacity Utilisation in %	**75%**	**80%**	**85%**	**90%**	**95%**	**100%**	**100%**	**100%**	**100%**	**100%**
A. Income										
(User/ Service Charge)	**118.80**	**126.72**	**134.64**	**142.56**	**150.48**	**158.40**	**158.40**	**158.40**	**158.40**	**158.40**
B. Cost of Production :										
1. Utilities Power (Fixed + Variable)	4.84	5.10	5.37	5.63	5.89	6.16	6.16	6.16	6.16	6.16
2. Direct labour and wages	16.78	17.90	19.02	20.14	21.26	22.37	22.37	22.37	22.37	22.37
3. Consumable	4.45	4.74	5.04	5.34	5.63	5.93	5.93	5.93	5.93	5.93
4. Repair and Maintenance	4.16	4.44	4.72	4.99	5.27	5.55	5.55	5.55	5.55	5.55
5. Depreciation	28.92	24.48	20.78	17.65	15.00	12.75	10.84	9.22	7.84	6.66
Total Cost of production	**59.15**	**56.66**	**54.92**	**53.75**	**53.06**	**52.76**	**50.85**	**49.23**	**47.85**	**46.68**
C. Administrative expenses :										
6. Manpower (Indirect)	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50
7. Rent	6.00	6.60	7.26	7.99	8.78	9.66	10.63	11.69	12.86	14.15
8. Insurance	0.95	0.82	0.69	0.59	0.50	0.43	0.36	0.31	0.26	0.22
9. Misc Expense	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Total Administrative Expenses	**18.86**	**19.32**	**19.86**	**20.48**	**21.19**	**21.99**	**22.90**	**23.90**	**25.03**	**26.27**
D. Financial expenses :										
10. Interest on Working capital loan @ 11% per annum	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64

PROFIT & LOSS ACCOUNT										
Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Total Financial Expenses	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64
E. Total Expenses B+C+D	80.65	78.62	77.42	76.87	76.89	77.40	76.39	75.77	75.52	75.59
F. Profit A - E	38.15	48.10	57.22	65.69	73.59	81.00	82.01	82.63	82.88	82.81
G. P&P Expenses written off	2.10	2.10	2.10	2.10	2.10	0.00	0.00	0.00	0.00	0.00
H. Income before Tax (F-G)	36.05	46.00	55.12	63.59	71.49	81.00	82.01	82.63	82.88	82.81
I. Adjustment of Loss	-	-	-	-	-	-	-	-	-	-
J. Income Tax (@ 25.75% for company)	9.28	11.84	14.19	16.37	18.41	20.86	21.12	21.28	21.34	21.32
K. Net Profit /Loss for the year	26.77	34.15	40.93	47.21	53.08	60.14	60.89	61.35	61.54	61.49
L. Cumulative Surplus	26.77	60.92	101.85	149.06	202.14	262.28	323.18	384.53	446.07	507.55

6.8 Cash flow statement

Cash flow statement indicates the cash balance and the liquidity position of the project over the years. The table below presents the sources and disposal/uses of funds statement of the project.

Table 24: Cash Flow Statement

CASH FLOW STATEMENT											
Particulars	Construction Period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
A. Source Funds :											
1. Cash Accruals (Profit Before Tax + Interest Paid)		40.79	50.74	59.86	68.33	76.23	83.64	84.65	85.27	85.52	85.45
2. Increase in capital	48.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Depreciation		28.92	24.48	20.78	17.65	15.00	12.75	10.84	9.22	7.84	6.66
4. Increase in WC Loan		24.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. Increase in Grant-in-aid from GoH	163.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Sources of Funds	**211.73**	**93.72**	**75.22**	**80.64**	**85.98**	**91.24**	**96.40**	**95.49**	**94.48**	**93.36**	**92.11**
B. Use of Funds :											
1. P&P Expenses	10.52	-	-	-	-	-	-	-	-	-	-
2. Increase in fixed assets	192.54	-	-	-	-	-	-	-	-	-	-
3. Increase in Loans & Advances		36.00	7.20	8.64	10.37	12.44	14.93	17.92	21.50	25.80	30.96
4. Increase in Sundry Debtors		29.70	1.98	1.98	1.98	1.98	1.98	0.00	0.00	0.00	0.00
5. Increase in Stock of Consumables		0.37	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00
6. Interest paid		2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64
7. Taxes paid		8.82	11.72	14.08	16.26	18.31	20.74	21.10	21.27	21.34	21.32
Total Use of Funds	**203.07**	**77.53**	**23.56**	**27.36**	**31.28**	**35.39**	**40.31**	**41.66**	**45.41**	**49.78**	**54.92**

CASH FLOW STATEMENT											
Particulars	Construction Period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
C. Net Surplus (A -B)	8.66	16.19	51.66	53.28	54.71	55.84	56.09	53.83	49.08	43.58	37.19
D. Cumulative Surplus	8.66	24.85	76.51	129.79	184.49	240.34	296.42	350.25	399.33	442.92	480.11

The cash flow statement showcases the available net surplus for 10 years of the CFC operations. As most of the capital expenditure is being supported as grant under the State Mini Cluster Development Scheme, EPP-2015, therefore it does not have any negative effect on the Cash flow, in terms of interest, etc.

6.9 Projected Balance Sheets

The annual balance sheets for the CFC have been projected based upon estimates in the earlier sub-sections with regard to various current and fixed liabilities and also current and fixed assets. As evident from the projections, a considerable amount of reserves and surplus gets accumulated. These shall also be utilized for expansion of the CFC and undertaking other cluster development activities. Decision on deployment of reserves and surplus accumulated will be based on the performance of the project and requirements of cluster firms and members of the SPV. The projected balance sheets are provided in the table below:

Table 25: Balance Sheet

PROJECTED BALANCE SHEET											
Particulars	**At the end of impl. Period**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
1. Fixed Assets :											
Gross Block	192.54	192.54	163.62	139.15	118.37	100.72	85.71	72.96	62.12	52.90	45.06
Less : Depreciation (WDV)		28.92	24.48	20.78	17.65	15.00	12.75	10.84	9.22	7.84	6.66
Net Block	192.54	163.62	139.15	118.37	100.72	85.71	72.96	62.12	52.90	45.06	38.40
Total Fixed Assets (A)	**192.54**	**163.62**	**139.15**	**118.37**	**100.72**	**85.71**	**72.96**	**62.12**	**52.90**	**45.06**	**38.40**
2. Current Assets :											
Cash & bank Surplus (B.F)	8.66	24.85	76.51	129.79	184.49	240.34	296.42	350.25	399.33	442.92	480.11
Sundry Debtors		29.70	31.68	33.66	35.64	37.62	39.60	39.60	39.60	39.60	39.60
Stock of consumables (1 month)		0.37	0.40	0.42	0.44	0.47	0.49	0.49	0.49	0.49	0.49
Advance Tax		8.82	11.25	13.48	15.55	17.49	19.82	20.06	20.21	20.28	20.26
Other Current Assets		36.00	43.20	51.84	62.21	74.65	89.58	107.50	128.99	154.79	185.75
P&P Exp	10.52	8.42	6.31	4.21	2.10	0.00	0.00	0.00	0.00	0.00	0.00
Total current Assets (B)	**19.19**	**108.16**	**169.35**	**233.40**	**300.45**	**370.56**	**445.91**	**517.91**	**588.63**	**658.08**	**726.21**
Total Assets (A+B)	**211.73**	**271.78**	**308.49**	**351.77**	**401.16**	**456.28**	**518.87**	**580.02**	**641.53**	**703.14**	**764.61**
3. Current Liabilities :											

PROJECTED BALANCE SHEET											
Particulars	**At the end of impl. Period**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Working Capital Loan		24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
Provision for Taxation		9.28	11.84	14.19	16.37	18.41	20.86	21.12	21.28	21.34	21.32
Total Current Liabilities (C)		**33.28**	**35.84**	**38.19**	**40.37**	**42.41**	**44.86**	**45.12**	**45.28**	**45.34**	**45.32**
4. Fixed Liabilities											
Shareholders' Contribution	48.28	48.28	48.28	48.28	48.28	48.28	48.28	48.28	48.28	48.28	48.28
Grant from GoH	163.45	163.45	163.45	163.45	163.45	163.45	163.45	163.45	163.45	163.45	163.45
Reserves and Surplus		26.77	60.92	101.85	149.06	202.14	262.28	323.18	384.53	446.07	507.55
Total Fixed Liabilities (D)	**211.73**	**238.50**	**272.65**	**313.58**	**360.79**	**413.87**	**474.01**	**534.91**	**596.26**	**657.80**	**719.28**
Total Liabilities (C+D)	**211.73**	**271.78**	**308.49**	**351.77**	**401.16**	**456.28**	**518.87**	**580.02**	**641.53**	**703.14**	**764.61**

6.10 Break-even analysis

The break-even (BE) estimates of the project indicate the level of activity at which the total revenues of the project equal the total costs. The Break even percentage indicates whether the fixed costs are being covered by the revenue generated from the operations, as well as profits are being generated after paying for such fixed costs. As per the calculations, the CFC achieves break even in the first year itself as no major interest costs are being incurred. Hence, BE estimates at level of activity relevant to the first year and subsequent years of activity are provided in the table below:

Table 26: Break Even Estimates

BREAKEVEN POINT AT VARIOUS C.U. (INR in Lakh)										
Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Capacity Utilization	75%	80%	85%	90%	95%	100%	100%	100%	100%	100%
A. Total Earning by way of user charges	118.80	126.72	134.64	142.56	150.48	158.40	158.40	158.40	158.40	158.40
B. Variable costs										
Consumables	4.45	4.74	5.04	5.34	5.63	5.93	5.93	5.93	5.93	5.93
Utilities (power- variable charge)	3.96	4.23	4.49	4.75	5.02	5.28	5.28	5.28	5.28	5.28
Interest on WC Loan	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64	2.64
Repair & Maintenance	4.16	4.44	4.72	4.99	5.27	5.55	5.55	5.55	5.55	5.55
Manpower (Direct)	16.78	17.90	19.02	20.14	21.26	22.37	22.37	22.37	22.37	22.37
Total Variable Cost (B)	31.99	33.95	35.91	37.86	39.82	41.78	41.78	41.78	41.78	41.78
C. Contribution (A-B)	86.81	92.77	98.73	104.70	110.66	116.62	116.62	116.62	116.62	116.62
D. Fixed Overheads (Cash)										
Manpower (Indirect)	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50
Utilities (Power - fixed charges)	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Rent	6.00	6.60	7.26	7.99	8.78	9.66	10.63	11.69	12.86	14.15
Insurance	0.95	0.82	0.69	0.59	0.50	0.43	0.36	0.31	0.26	0.22
Misc. Expenditure	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40

BREAKEVEN POINT AT VARIOUS C.U. (INR in Lakh)										
Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Capacity Utilization	75%	80%	85%	90%	95%	100%	100%	100%	100%	100%
Sub-total (D)	19.73	20.19	20.73	21.35	22.06	22.87	23.77	24.78	25.90	27.15
E. Fixed Overheads (Non-cash)										
Depreciation	28.92	24.48	20.78	17.65	15.00	12.75	10.84	9.22	7.84	6.66
Preliminary & Pre-operative expenses written off	2.10	2.10	2.10	2.10	2.10	0.00	0.00	0.00	0.00	0.00
Sub-total (E)	31.03	26.58	22.88	19.76	17.11	12.75	10.84	9.22	7.84	6.66
F. Total Fixed Overheads (D+E)	50.76	46.78	43.61	41.11	39.17	35.62	34.61	34.00	33.74	33.81
Breakeven point (F/C)	58.47%	50.42%	44.17%	39.27%	35.40%	30.54%	29.68%	29.15%	28.93%	28.99%

Book break-even is achieved at 58.47% (of operational capacity at 75%) and at 50.42% (of operational capacity at 80%). The operations of the CFC are expected to break-even and realize profit from first year of operations. Therefore, very low risk is involved in the project.

6.11 Feasibility analysis summary and sustainability indicators

A summary of the financial analysis in terms of key financial indicators such as Return on Capital Employed (ROCE), Net Present Value (NPV), Break Even Point (BEP) and the Internal Rate of Return (IRR) is presented in the table below. The indicators validate the financial viability and sustainability potential of the proposed project.

Table 27: Financial Analysis

FEASIBILITY		
S. No.	Particulars	Estimates
1	BEP (cash BEP at initial operating capacity of 75%)	58.47%
2	Av. ROCE (PAT/CE)	33.53%
3	Internal Rate of Return (IRR)	26.96%
4	Net Present Value (at a discount rate of 10 per cent) - incorporating viability gap funding (grant) by GoH	NPV is positive and high (Rs. 186.87 lacs) at a conservative project life of 10 years
5	Payback period	4.52 years with Grant-in-aid assistance from GOH
6	DSCR	Not Applicable (non-availment of term loan in this project)

The annual estimates in the context of ROCE (EBIT/Capital Employed) are presented in the table below:

Table 28: Calculation of Return on Capital Employed

RETURN ON CAPITAL EMPLOYED (ROCE)											
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	AVG
ROCE	18.27%	22.97%	27.28%	31.28%	35.01%	39.50%	39.98%	40.27%	40.39%	40.36%	33.53%

The average value of ROCE (with grant-in-aid) is 33.53%. This indicates the high techno-economic viability of the project should the government contribute a significant portion of the project cost as grant. Capital employed includes both grant-in-aid from the government as well as SPV contribution.

The Net Present Value is estimated at Rs. 186.87 at a discount rate of 10%. However, as reflected from the high values of NPV, it is positive at even 10%, the rate at which bank offers debt capital facility and even at higher discount rates. Project IRR is high at over 26.96% (at a conservative project life of 10 years). This substantiates the viability of the project.

6.12 Additional revenue sources

Additional sources of revenue shall also be explored by the SPV by offering procurement and marketing services in future to more enterprises. The SPV members are strong believers of the cluster concept and would like to explore the potential of undertaking cluster initiatives to improve the backward and forward linkages of the cluster units.

However, in order to ensure conservativeness in income estimates, in the initial years, the income earning possibilities of such revenues are not captured in this DPR.

6.13 Risk Analysis & Sensitivities

Risk in the project is relatively low in the context of the following:

- **Promoters are experienced**: Risk in the project is quite low given the strength and profile of the SPV members. They have considerable experience not only in the plastic packaging industry but also in undertaking cluster developmental initiatives.
- **Facility is pre-marketed:** Evidently, complete capacity of the core facility to be established in terms of various facilities may be easily availed by members of the SPV themselves, thus the facility would already have a captive market.
- **Sustainability indicators in terms of the strength of the SPV and the economics of the project:** Evidence of cooperative initiatives of SPV members as articulated in previous chapters; for instance, in terms of pursuing several joint efforts, registering the SPV and proceeding towards procurement of land, and securing commitment from members, vis-à-vis progressively mobilizing necessary paid up capital, all reflect the strength of the SPV.

High economic viability indicators upon considering the benefits of grant-in-aid under the state mini cluster scheme and EPP 2015 also serve as evidence of techno-economic viability and sustainability of the project. A sensitivity analysis has been carried out to ascertain the impact on the project, should there be any loss of revenue. This has been calculated assuming drop in user charges. Major financial parameters are still attractive. The important parameters related to the sensitivity analysis are presented in the table below:

Table 29: Sensitivity Analysis

SENSTIVITY ANALYSIS					
S. No.	Particulars	Base case	With 5% decline in user charge	With 10% decline in user charge	With 15% decline in user charge
1	BEP (cash BEP at operating capacity of 75%)	58.47%	62.77%	67.74%	73.58%
2	Internal Rate of Return (IRR)	26.96%	24.50%	21.93%	19.24%
3	Av. ROCE (PAT/CE) (with Grant)	33.53%	30.28%	26.99%	23.65%
4	Net Present Value (at a discount rate of 10 per cent) - incorporating viability gap funding (grant) GoH	186.87	155.77	124.68	93.59

Even assuming a fall in user charge, ROCE is favourable. From the above it is evident that the project is very viable even under (unlikely) risky environment circumstances.

6.14 Assumptions for financial calculations:

The financial statements and project profitability estimates in this DPR are based on the following assumptions:

1. The total project cost is pegged @ INR 211.73 lakh on the basis of estimates and quotations.

2. To finance the project, a total of INR 211.73 lakhs is required. The financing will consist of grant from the Government of Haryana and contribution by SPV.
3. In the financial projections and analysis, year 2018 is the envisaged period of project implementation also involving installation of plant, machinery and other equipment. This period will commence from the date of final approval by the State Level Steering Committee under the State Mini Cluster Development Scheme. The financial projections thereafter are prepared for 10 years of operation starting 2018.
4. The registered SPV will manage CFC, and these services are to be used by the SPV to member as well as non-member units. The common facility will benefit registered SPV as well as non-member firms who (in some cases) may not afford to contribute to necessary equity capital.
5. The CFC will operate for 25 days a month, that is, for 300 days a year on an eight hour single shift basis. Operation on single shift basis is assumed for purposes of projecting income estimates.
6. Capacity utilization is assumed at 75% in the first year; 80% for second year, 85% for third year and 100% from sixth year onwards. Machines will operate for 1 shift (8 hours/shift).
7. The workings with regard to expenses related to the project have been tabulated and categorized in terms of those related to consumables, manpower, electricity, and miscellaneous administrative expenditures.
8. Repairs and maintenance is provided @ 3% of plant and machinery cost at varying capacity utilization.
9. Insurance is provided @ 0.5% on fixed assets including building & civil works, machinery, contingency as fixed cost at all capacity utilization.
10. Electricity connection required for the CFC shall cost at Rs. 3300 as security deposit and service charge per kW connected load as per the regulatory norms in Haryana.
11. Fixed charges per kW of electric connection shall be charged @ INR 131 per kW and variable charges @ INR 7.25 per unit consumed.
12. Income estimates have been projected most conservatively. The prescribed user charges are competitive vis-à-vis charges for similar services in other regions.
13. Depreciation on fixed assets is calculated on Written Down Value (WDV) method for all purposes.
14. Provision for income tax has been made @ 25.75% including cess. This is the rate prescribed for Private Limited Companies.
15. Profitability estimates in terms of ROCE, NPV and IRR are computed considering operating results for first 10 years of operation.
16. Debtors Payback Period has been taken at 3 months for calculation of working capital limits.
17. Perquisites/FBT have been taken at 10% for manpower calculation.

Project Implementation and Monitoring

7 Project Implementation and Monitoring

7.1 Envisaged Implementation Framework

1. **Time frame:** Project implementation is envisaged to involve a time-frame of about 6 months upon receipt of final approval of grant-in-aid assistance from the Government of Haryana under mini cluster scheme.

2. **User Base:** The facilities may be used by SPV members and non-members. However, the charges will vary. The SPV will also be open for new entrants subject to them subscribing to the shareholding of the SPV, and them being genuinely pro-active and interested in cluster initiatives. The BoD of the SPV can decide on same or differential user charges for both members and non-members or based upon the volume of the output.

3. **Project implementation schedule:** The project implementation schedule envisaged over a period of 7 months involves several activities. They are elaborated upon in the table below:

Table 30: Project Implementation Schedule

Activity/Month	1	2	3	4	5	6
Collecting Contribution from SPV members						
Receipt of final sanction from GoH						
Transfer of building in the name of SPV						
Refurbishment of building						
Formation of purchase committee						
Inviting E tenders for building construction and purchase of machines						
Obtaining statutory clearances and approvals						
Purchase of machinery and equipment						
Installation and trial run of machinery and equipment						
Arrangement of working capital						
Monitoring of the project by BoD						
Monitoring of the project by PMC						

Activity/Month	1	2	3	4	5	6
Commencement of operations of the facility						

4. **Contractual agreements/MoU with member units:** Agreements have been indicatively finalized in terms of utilization of assets in respect of shareholders.
   A total of 12 units are participating in the SPV and all these units have agreed to contribute towards the SPV share of the project cost. The utilization of the common facility will be in line with the proposed shareholding pattern. The consent letter wherein the member units agree for payments of 10% share of cost of CFC will be submitted in due course of and as per final approval from Government of Haryana.

5. **Memorandum and By-Law of Registered Company:** MOA, AOA and bye laws are indicative of the management and decision making structure of the SPV. All the members of SPV have paid an advance and are members of the Registered Private Entity. Few other units are also willing to be members of the SPV and once the CFC is approved and sanctioned from government of Haryana, many more members will be interested to subscribe to the shares of the SPV.

6. **Availability of Building& Status of Acquisitions**: A building will be leased by the SPV for the proposed CFC in Rohtak district. A floor of a building of area 3000 square feet has already been identified by the SPV and a letter establishing the proof of availability of the building has been acquired and attached in the annexure.

7. **Availability of Requisite Clearances:** A building with all required clearances will be leased by the SPV. Electricity is already available in the area and the building is connected to the grid. The other required clearances (environment, labor etc.) shall be obtained in due course.

8. **O & M Plan:** The revenue stream for O&M is dependent on realization of user charges from the SPV members and other users/MSMEs in the case of various facilities. As detailed in the financial section, the cash incomes are sufficient to meet operating expenditures, overheads as well as depreciation for sustainable replacement of assets. The SPV will also have to keep a track of maintenance of assets through collection of user charges from the members/ users.

7.2 Monitoring Mechanism

As mentioned in the implementation schedule, the following key activities shall be conducted during establishment of the CFC:

- Refurbishment of building
- Purchase of machinery & commissioning
- Trial production
- Commercial production

The successful implementation of above activities will depend on the following aspects:

- Implementation of above within the time frame
- Supervising and overseeing the implementation of the proposals and fine tuning and advocating more measures if needed, depending on the site conditions
- Project level monitoring indicators to evaluate the implementation of the CFC proposal at recommended intervals
- Suitable purchase mechanisms for proposed plant & machinery
- Periodical reporting of the status of implementation and monitoring of the results of key performance indicators, and
- Constant evaluation of the measures implemented based on the data available from project level monitoring and status reports and providing directions accordingly.

In addition, for implementing the Mini Tool Room & Material Testing Centre, a Project Management Committee (PMC) comprising the GM, DIC, Rohtak, and representatives of SPV and EY experts shall be constituted to directly oversee effective monitoring and implementation. The project will be implemented through SPV and PMC will report progress of implementation to the Director Industries, Haryana.

Conclusion


celebrate
WORLD
GROWTH
TAKE
Entrepreneur
passionate
GALA
options
IDEA
WORLD

8 Conclusion

The micro and small fasteners units of Rohtak are dependent on external service providers for availing Tool Room and Material Testing services, as a result of which they often face increased costs and production inefficiencies. Job-work providers often do not accept low-volume orders from SMEs, or charge high prices for this. SMEs are not priority customers for the job-work providers, and thus they often delay MSMEs orders if they receive bulk orders from larger players. As a result SMEs are unable to compete with other domestic and international players.

Against this backdrop, the fasteners units in Rohtak require support to Tool Room and Material Testing Centre for manufacturing and testing job work. This will reduce their costs, increase efficiency and enable them to be more competitive in the market.

The global automotive market has been growing at a steady rate. India's auto component sector is one of the oldest industries in Indian economy dating back to several decades. The Indian auto components industry has emerged as one of India's fastest growing manufacturing sectors and globally a competitive one. The industry is growing at a CAGR of 6% in the last 6 years (2010-2016), and contributed 2.3% to India's GDP. Haryana is one of the prominent manufacturing states of the country with focus on various industries including light engineering, textiles, automotive & auto components etc. 50% of India's passengers car production, 39% of India's two wheelers production & 11% of India's tractor production; automotive sector forms the core manufacturing in Haryana. Over the last decade, the automobile sector has grown at a phenomenal rate. Although, many auto component units in Rohtak have evolved and cater to the big players in automotive both in national and international markets. The small and micro units who cater to the tier2 & 3 suppliers face many constraints. They have to obtain services from external service providers. These service providers often do not accept low volume orders from MSMEs, or charge high prices. In addition, MSMEs are not priority customers for the service providers, and thus they often delay orders placed by MSMEs if they receive bulk orders from larger players.

Due to this, the following have been proposed in the CFC:

- Mini Tool Room
- Material Testing Centre

The total project cost (including plant/machinery and building) is estimated to be **INR 211.73 lakhs.** The project shall be implemented by the SPV **'Rohtak Fasteners CFC Pvt. Ltd.'** which has been constituted by the cluster firms. The SPV has proactively undertaken a number of initiatives for capacity building and knowledge enhancement of the cluster. A number of capacity building programs and exposure visits have been organised by the SPV for the benefit for its members.

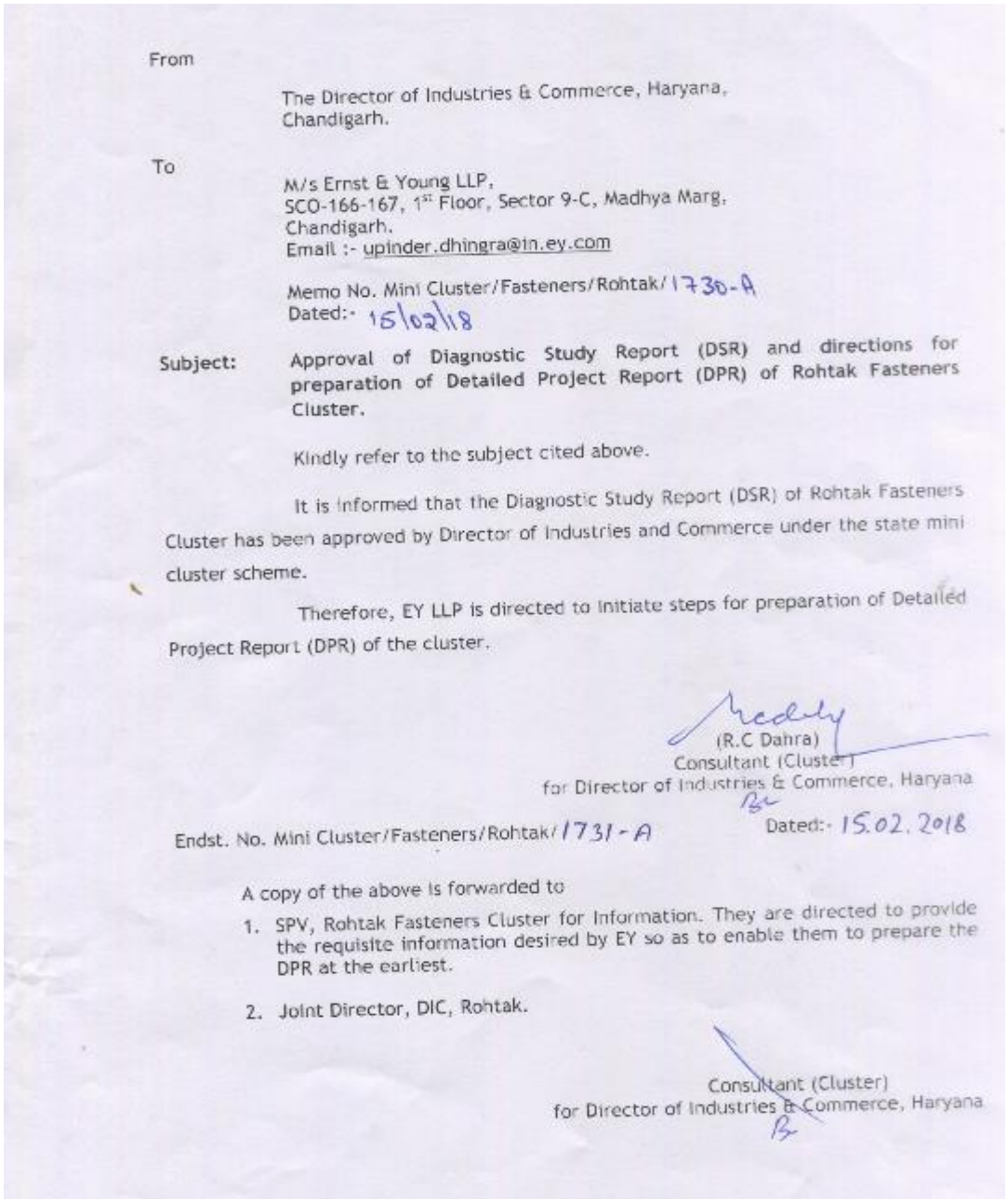
The CFC will be set up with support from DIC and the state government (Department of Industries). The building for the project has already been identified by the SPV and shall be acquired on lease basis upon the final approval by State Government. The state industry

department is envisaged to provide grant for setting up of the modern machines under the Mini-Cluster scheme, EPP 2015. The SPV members have proposed to contribute **INR 48.28 lakhs.** Support from Mini Cluster Development Scheme of the State Government of Haryana Haryana is envisaged for **INR163.45lakhs**. Working capital requirement for the project will be provided by preferred bank. The project is financially viable and is expected to generate enough revenue to ensure its sustainability.

Annexures


celebrate
Entrepreneur
passionate
GALA
WORLD
IDEA
options

Annexure 1: Letter of Approval of DSR and directions for DPR preparation



From

The Director of Industries & Commerce, Haryana,
Chandigarh.

To

M/s Ernst & Young LLP,
SCO-166-167, 1st Floor, Sector 9-C, Madhya Marg,
Chandigarh.
Email :- upinder.dhingra@in.ey.com

Memo No. Mini Cluster/Fasteners/Rohtak/1730-A
Dated:- 15/02/18

Subject: **Approval of Diagnostic Study Report (DSR) and directions for preparation of Detailed Project Report (DPR) of Rohtak Fasteners Cluster.**

Kindly refer to the subject cited above.

It is informed that the Diagnostic Study Report (DSR) of Rohtak Fasteners Cluster has been approved by Director of Industries and Commerce under the state mini cluster scheme.

Therefore, EY LLP is directed to initiate steps for preparation of Detailed Project Report (DPR) of the cluster.

(R.C Dahra)
Consultant (Cluster)
for Director of Industries & Commerce, Haryana

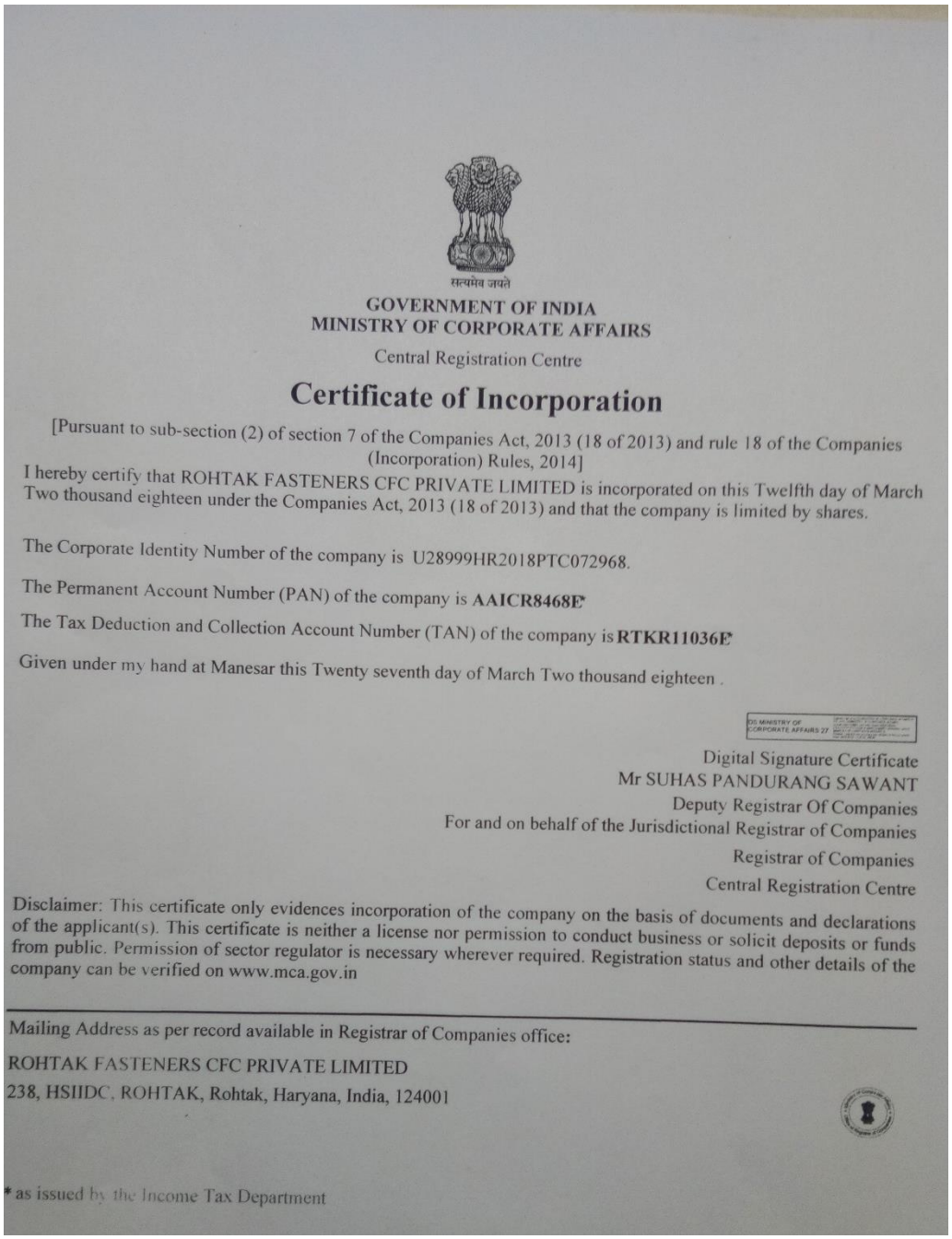
Endst. No. Mini Cluster/Fasteners/Rohtak/1731-A Dated:- 15.02.2018

A copy of the above is forwarded to

1. SPV, Rohtak Fasteners Cluster for information. They are directed to provide the requisite information desired by EY so as to enable them to prepare the DPR at the earliest.
2. Joint Director, DIC, Rohtak.

Consultant (Cluster)
for Director of Industries & Commerce, Haryana

Annexure 2 (a): SPV Certificate of Incorporation



सत्यमेव जयते

GOVERNMENT OF INDIA
MINISTRY OF CORPORATE AFFAIRS

Central Registration Centre

Certificate of Incorporation

[Pursuant to sub-section (2) of section 7 of the Companies Act, 2013 (18 of 2013) and rule 18 of the Companies (Incorporation) Rules, 2014]

I hereby certify that ROHTAK FASTENERS CFC PRIVATE LIMITED is incorporated on this Twelfth day of March Two thousand eighteen under the Companies Act, 2013 (18 of 2013) and that the company is limited by shares.

The Corporate Identity Number of the company is U28999HR2018PTC072968.

The Permanent Account Number (PAN) of the company is **AAICR8468E**

The Tax Deduction and Collection Account Number (TAN) of the company is **RTKR11036E**

Given under my hand at Manesar this Twenty seventh day of March Two thousand eighteen .

Digital Signature Certificate
Mr SUHAS PANDURANG SAWANT
Deputy Registrar Of Companies
For and on behalf of the Jurisdictional Registrar of Companies
Registrar of Companies
Central Registration Centre

Disclaimer: This certificate only evidences incorporation of the company on the basis of documents and declarations of the applicant(s). This certificate is neither a license nor permission to conduct business or solicit deposits or funds from public. Permission of sector regulator is necessary wherever required. Registration status and other details of the company can be verified on www.mca.gov.in

Mailing Address as per record available in Registrar of Companies office:

ROHTAK FASTENERS CFC PRIVATE LIMITED
238, HSIIDC, ROHTAK, Rohtak, Haryana, India, 124001

* as issued by the Income Tax Department

Annexure 2(b): Shareholding Pattern of Rohtak Fasteners CFC Private Limited

ROHTAK FASTENERS CFC PVT LTD

PLOT NO:-238, HSIIDC, HISSAR ROAD ROHTAK

Date: 14-03-2018

The Director
Department of industries & Commerce,
Govt. of Haryana,
Sector 17,
Chandigarh
Subject: Shareholding Pattern of Rohtak Fasteners CFC Private Limited

Dear Sir

The shareholding pattern of the company in line with the Mini Cluster Scheme of Govt. of Haryana is as below:

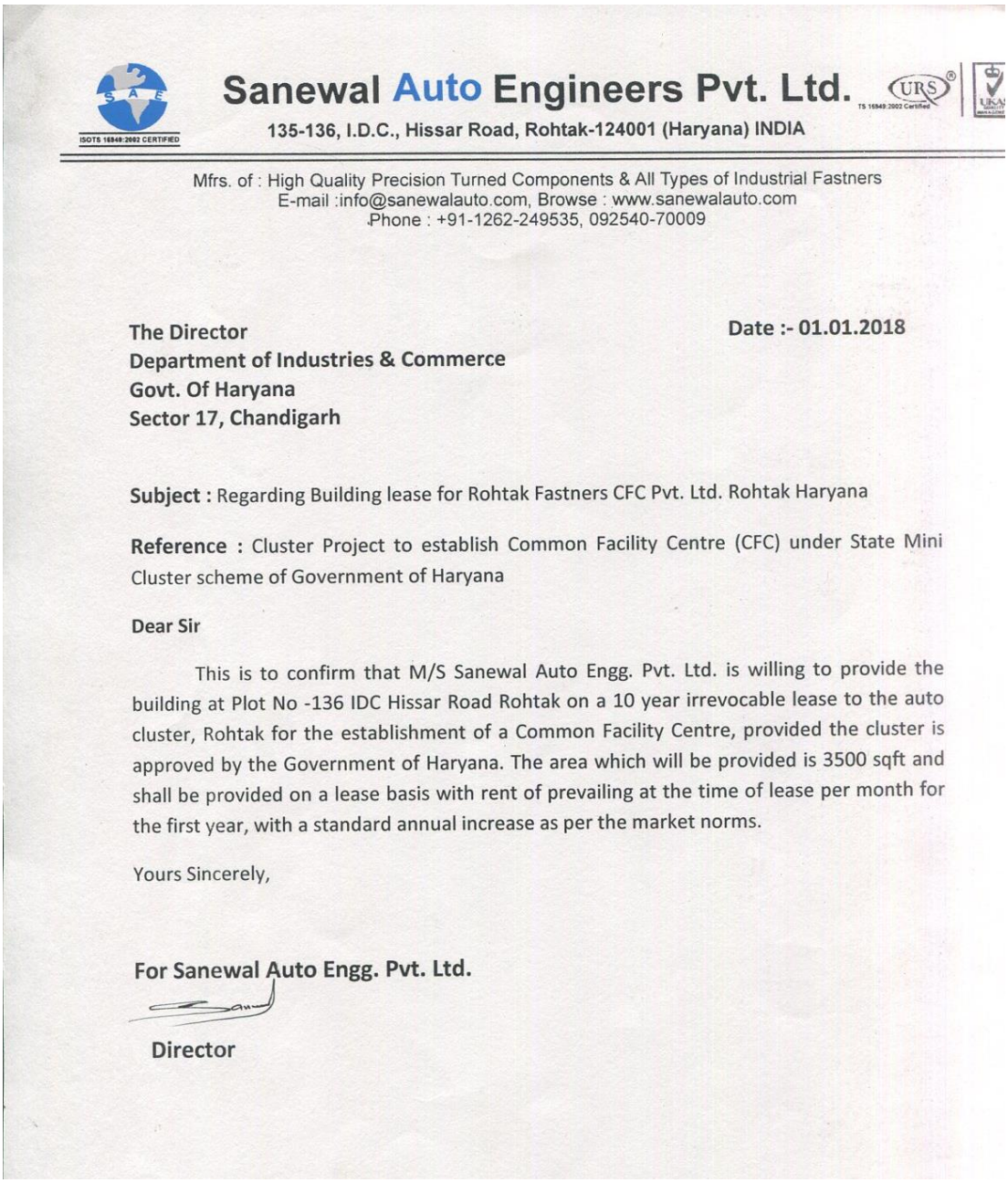
Sr. No	Name of the Shareholder	% of Shareholding
1	Jayshree Khator	10%
2	Tulika Jain	10%
3	Naveen Sharma	8%
4	Surinder Jain	8%
5	Surender Sanewal	8%
6	Jitender Balhara	8%
7	Sumit Jain	8%
8	Varun Jain	8%
9	K.K. Shaji	8%
10	Parveen Sharma	8%
11	Manju Sanewal	8%
12	S.K.Mathur	8%
	Total	**100**

Yours sincerely
For Rohtak Fasteners CFC Private Limited

Director

Annexure 2(c): Copy of Memorandum of Association (MoA) and Article of Association (AoA)

Annexure 3: Consent letter for Building



Sanewal Auto Engineers Pvt. Ltd.

135-136, I.D.C., Hissar Road, Rohtak-124001 (Haryana) INDIA

Mfrs. of : High Quality Precision Turned Components & All Types of Industrial Fastners
E-mail :info@sanewalauto.com, Browse : www.sanewalauto.com
Phone : +91-1262-249535, 092540-70009

The Director
Department of Industries & Commerce
Govt. Of Haryana
Sector 17, Chandigarh

Date :- 01.01.2018

Subject : Regarding Building lease for Rohtak Fastners CFC Pvt. Ltd. Rohtak Haryana

Reference : Cluster Project to establish Common Facility Centre (CFC) under State Mini Cluster scheme of Government of Haryana

Dear Sir

This is to confirm that M/S Sanewal Auto Engg. Pvt. Ltd. is willing to provide the building at Plot No -136 IDC Hissar Road Rohtak on a 10 year irrevocable lease to the auto cluster, Rohtak for the establishment of a Common Facility Centre, provided the cluster is approved by the Government of Haryana. The area which will be provided is 3500 sqft and shall be provided on a lease basis with rent of prevailing at the time of lease per month for the first year, with a standard annual increase as per the market norms.

Yours Sincerely,

For Sanewal Auto Engg. Pvt. Ltd.

Director

Annexure 4: Machinery Quotations

卐 रामा 卐

Mobile : +91-9013940134
+91-8882391717

SRI EQUIPMENTS

Manufacturer, Trader & Exporter
No. 2275, Om Nagar, Babarpur, New Delhi-110044
E-mail : sriequipments.india@gmail.com / sushilsharma007@gmail.com

QTN No. : - SRIE/QTN/277/01/17-18/2018 **Dated:** 17/01/2018

To,
M/s – ROHTAK FASTNERS CFC PVT. LTD,
Plot No. 40, IDC, Hissar Road, Rohtak, Haryana India.
T: +91-9996648732, **Mob:** - +91-9996648732
E-mail: shrikishankhator@gmail.com; sales@nsinternationalindia.com

KIND ATTN: MR. KHATOR, Dear Sir, Thanks for your valuable enquiry. As per our telephonic discussion held today, please find the below our best offer for your kind reference.

SL No	Description	Qty.	Unit rate in Rs.	DISCOUNT	Total Amount
1	**ITEM: BELT GRINDER MACHINE** **BELT TYPE:** Endless **BELT DIMENSIONS:** 100mm width & 900mm length **MOTOR POWER:** 1/2 H.P. Single Phase **CONSTRUCTION:** Corrosion Resistant	1	Rs. 23,800/-	Rs. 7,300/-	Rs. 16,500/-
			Sub Total		Rs. 16,500/-
			Tax: GST		@ 18%
			Packing & Forwarding (Semi Packing)		Included
			Installation & Training (Delhi & NCR - Included)		Included
			Freight		As per actual

OTHER TERMS & CONDITIONS:

1. Quoted Price: **Ex-Works Factory**.
2. Warranty 1 year against manufacturing defects.
3. Delivery Period is **READY STOCK** from the date of advance Payment with official purchase order
4. Validity Period of the quotation is 30 days from the date of offer.
5. Payment: 100% payment advance Against PI.

Due to continuous development or improvement specifications are subjected to changes without prior notice

Thanks & Regards

Signed

Sushil Sharma
SRI Equipments II New Delhi II 110044
Mob: +91 9013940134 II Tel: +91 11 68888133
sriequipments.india@gmail.com II http://www.indiamart.com/sriequipments/

卐 राम 卐

Mobile : +91-9013940134
+91-8882391717

SRI EQUIPMENTS

Manufacturer, Trader & Exporter
No. 2275, Om Nagar, Babarpur, New Delhi-110044
E-mail : sriequipments.india@gmail.com / sushilsharma007@ymail.com

QTN No. : - SRIE/QTN/274/01/17-18/2018 **Dated:** 17/01/2018

To,
M/s – ROHTAK FASTNERS CFC PVT. LTD.,
Plot No. 40, IDC, Hissar Road, Rohtak, Haryana India.
T: +91-9996648732, **Mob: -** +91-9996648732
E-mail: shrikishankhator@gmail.com; sales@nsinternationalindia.com;

KIND ATTN: MR. KHATOR, Dear Sir, Thanks for your valuable enquiry. As per our telephonic discussion held today, please find the below our best offer for your kind reference.

Sl. No	Description	Qty.	Unit rate in Rs.	DISCOUNT (SPECIAL)	Total Amount
1	**ITEM: SALT SPRAY CHAMBER** (HSN Code: 9801) **WORKING SIZE:** **900 x 600 x 500 mm (L x W x H) – SST-300** **1000 x 800 x 600 mm (L x W x H) – SST-500** **MADE OF: Triple Walled** FRP sheet insulated by Glass wool fiber **CONTROLLER:** PID TYPE **STANDARD: ASTM-B117, JIS-Z2371, ISO-9227, DIN** Equipped with the auto water level controller to avoid the inconvenience to refill the water by manpower. Auto Cut-off in case of lack of water in working chamber Auto Cut-off in case of lack of NaCl solution in solution tank. Automatic Cut-off when test will complete Easy to clean, Zero Maintenance, Durable, Rustles, Leakage proof	1 1	Rs. 3,45,000/- Rs. 5,25,000/-	Rs. 51,750/- Rs. 78,750/-	Rs. 2,93,250/- Rs. 4,46,250/-
			Wooden Packing		Rs. 10,500/Pc
			Freight		Extra, AS Per Actual;
			Installation & Training		Included
			Tax: GST @ Total Taxable Amount		**@ 18%**

OTHER TERMS & CONDITIONS:

1. Quoted Price: **Ex-Works Factory**.
2. Warranty 1 year against manufacturing defects.
3. Delivery Period is **READY STOCK** from the date of advance Payment with official purchase order
4. Validity Period of the quotation is 30 days from the date of offer.
5. Payment: 100% payment advance Against PI.

Due to continuous development or improvement specifications are subjected to changes without prior notice

Thanks & Regards

Signed

Sushil Sharma
SRI Equipments II New Delhi II 110044
Mob: +91 9013940134 II Tel: +91 11 68888133
sriequipments.india@gmail.com II http://www.indiamart.com/sriequipments/

卐 श्री 卐

Mobile : +91-9013940134
+91-8882391717

SRI EQUIPMENTS

Manufacturer, Trader & Exporter
No. 2276, Om Nagar, Babarpur, New Delhi-110044
E-mail : sriequipments.india@gmail.com / sushilsharma007@ymail.com

QTN No. : - SRIE/QTN/271/01/17-18/2018 **Date: 17/01/2018**

To,
M/s – ROHTAK FASTNERS CFC PVT. LTD.,
Plot No. 40, IDC, Hissar Road, Rohtak, Haryana India.
T: +91-9996648732, **Mob: - +91-9996648732**
E-mail: shrikishankhator@gmail.com; sales@nsinternationalindia.com;

KIND ATTN: Mr. KHATOR, Sir, as per our recent telephonic discussion held today, please find the below our best

Subject: Techno-Commercial Offer for ABRASIVE CUT-OFF MACHINE. (HEAVY DUTY CUTTING MACHINE)

SL. NO.	DESCRIPTION	QTY.	UNIT RATE IN RS.	DISCOUNT @ 10%	AMOUNT (RS.)
1	**ITEM: ABRASIVE CUT-OFF MACHINE. (HEAVY DUTY CUTTING MACHINE)** **Sample Holding Vice:** 360° Rotating Vice Floor Mounted Abrasive cut off machine for cutting the ferrous materials - **Cutting Capacity:** up to mm to 70 mm. - **MOTOR :** 5 HP, 3 Phase; **Pump** : 0.25 HP, - **Cutting Action** : Vice Movement Type (x-y), Effortless Cutting, Larger throat for accommodating little Odd shape jobs. - **Power transmission:** V-belt from motor to wheel pulley. - **Wheel size** : Abrasive 10" diameter 2mm thickness - **Movement** : X & Y only - **Standard Accessories:** Flanges - 2 nos. - **Vice key etc.** • **Cutting Wheels - 1 No with the machine.**	1	Rs. 1,63,000/-	Rs. 24,450/-	Rs. 1,38,550/-
				Sub Total	**Rs. 1,38,550/-**
				Tax: GST	@ 18%
				Wooden Packing & Forwarding (If Required)	Rs. 7,500/-
				Freight	As per actual
				Installation & Training (Delhi & NCR)	Included

OTHER TERMS & CONDITIONS:

1. Quoted Price: **Ex-Works Factory**.
2. Warranty 1 year against manufacturing defects.
3. Delivery Period is **READY STOCK** from the date of advance Payment with official purchase order
4. Validity Period of the quotation is 30 days from the date of offer.
5. Payment: 100% payment advance Against PI.

Due to continuous development or improvement specifications are subjected to changes without prior notice

Thanks & Regards

Signed

Sushil Sharma
SRI Equipments II New Delhi II 110044
Mob: +91 9013940134 II Tel: +91 11 68888133
sriequipments.india@gmail.com II http://www.indiamart.com/sriequipments/

卐 राम 卐

Mobile : +91-9013940134
+91-8882391717

SRI EQUIPMENTS

Manufacturer : Trader & Exporter
No. 22/5, Om Nagar, Badarpur New Delhi-110044
E-mail : sriequipments.india@gmail.com / a..shilsharma00@gmail.com

QTN No. : - SRIE/QTN/276/01/17-18/2018 **Date: 17/01/2018**

To,
M/s – ROHTAK FASTNERS CFC PVT. LTD.,
Plot No. 40, IDC, Hissar Road, Rohtak, Haryana India.
T: +91-9996648732, **Mob: -** +91-9996648732
E-mail: shrikishankhator@gmail.com; sales@nsinternationalindia.com;

Subject: Techno-Commercial Offer for Digital Coating Meter

Sl. No.	Description	Qty.	Quoted Unit rate in Rs.	Amount (after 15% Discount)
1	**ITEM:DIGITAL COATING THICKNESS GAUGE** Ferrous & Non-Ferrous base Coating: Zinc, Paint, Powder Coating, **Range** : up to 1000 micron **Feature:** • Latest Technology with use of Microcontroller and SMD'S. • Highest Accuracy and Resolution. • Spring Loaded Probe for uneven Surface. • Zero and Set buttons with test foils for calibration.	1	Rs. 28,500/-	Rs. 24,225/-
			Sub Total	Rs. 24,225/-
			Tax: GST	@ 18%
			Packing & Forwarding **(If required)**	N/A
			Freight	As per actual
			Total Taxable Amount	Rs. 24,225/-

OTHER TERMS & CONDITIONS:

1. Quoted Price: **Ex-Works Factory**.
2. Warranty 1 year against manufacturing defects.
3. Delivery Period is **READY STOCK** from the date of advance Payment with official purchase order
4. Validity Period of the quotation is 30 days from the date of offer.
5. Payment: 100% payment advance Against PI.

Due to continuous development or improvement specifications are subjected to changes without prior notice

Thanks & Regards

Signed

Sushil Sharma
SRI Equipments II New Delhi II 110044
Mob: +91 9013940134 II Tel: +91 11 68888133
sriequipments.india@gmail.com II http://www.indiamart.com/sriequipments/

卐 श्री 卐

Mobile : +91-9013940134
+91-8882391717

SRI EQUIPMENTS

Manufacturer, Trader & Exporter
No. 22/5, Om Nagar, Badarpur, New Delhi-110044
E-mail : sriequipments.india@gmail.com / sushilsharma007@ymail.com

QTN No. : - SRIE/QTN/269/01/17-18/2018 **Dated:** 16/01/2018

To,

M/s – ROHTAK FASTNERS CFC PVT. LTD.,
Plot No. 40, IDC, Hissar Road, Rohtak, Haryana India.
T: +91-9996648732, **Mob:** - +91-9996648732
E-mail: shrikishankhator@gmail.com; sales@nsinternationalindia.com

KIND ATTN: Mr. S. K. KHATOR, Dear sir, Thanks for your valuable enquiry. As per our telephonic discussion held today, please find the below our best offer for your kind reference.

Sl. No	Description	Qty.	Unit rate in Rs.	DISCOUNT @ 10%	Total Amount
1	**ITEM: SPECTROMETER (CHEMICAL ANALYSIS)** **For Testing** - Fe Base & Non Fe Base (Cu & Al) Only **CALIBRATIONS**: Low & High Alloys Steel, Cu Alloys like Brass, Bronze & Al Alloy **TECHNOLOGY**: Multi CCD Optical Emission Spectrometer **TECHNICAL SPECIFICATIONS**: Detailed catalog is attached	1	Rs. 19,50,000/-	Rs. 2,52,500/-	**Rs. 16,57,500/-**
			Sub Total		**Rs. 16,57,500/-**
			Tax: GST		Extra @ 18%
			Packing & Forwarding (Wooden)		Extra @ 2.75%
			Installation & Training (Delhi & NCR)		Extra @ Rs. 25,000/-
			FOR at ROHTAK FASTNERS CFC PVT. LTD | ROHTAK | HR		Rs. 4,500/-

OTHER TERMS & CONDITIONS:

1. Quoted Price: Ex-Factory / Works
2. Warranty 1 year against manufacturing defects.
3. Delivery Period is **6 to 8 weeks** from the date of advance Payment with official purchase order
4. Installation of equipments **at ROHTAK FASTNERS CFC PVT. LTD** | ROHTAK | HR
5. Validity Period of the quotation is 30 days from the date of offer.
6. Payment: 75% payment advance with the official PO & remaining against PI or before delivery at the time of Inspection.

Due to continuous development or improvement specifications are subjected to changes without prior notice.

Thanks & Regards

Signed:

Sushil Sharma (Upadhyay)
SRI Equipments II New Delhi II 110044
Mob: +91 9013940134 II Tel: +91 11 68888133
sriequipments.india@gmail.com II http://www.indiamart.com/sriequipments/

Mobile : +91-9013940134
+91-8882391717

SRI EQUIPMENTS

Manufacturer, Trader & Exporter
No. 2278, Om Nagar, Babarpur, New Delhi-110044
E-mail : sriequipments.india@gmail.com / sushilsharma007@gmail.com

QTN No. : - SRIE/QTN/275/01/17-18/2018 **Dated: 17/01/2018**

To,

M/s – ROHTAK FASTNERS CFC PVT. LTD.,
Plot No. 40, IDC, Hissar Road, Rohtak, Haryana India.
T: +91-9996648732, **Mob:** - +91-9996648732
E-mail: shrikishankhator@gmail.com; sales@nsinternationalindia.com;

KIND ATTN: MR. KHATOR, Dear Sir, Thanks for your valuable enquiry. As per our telephonic discussion held today, please find the below our best offer for your kind reference.

Sl. No	Description	Qty -	Unit rate in Rs.	DISCOUNT @ 15%	Total Amount
1	**ROCKWELL HARDNESS TESTING MACHINES** **OPERATION TYPE:** Mechanical **TECHNICAL SPECIFICATIONS:** 1) Test Load: 60, 100, 150 (Rockwell), 2) Initial Loads (Kgf): 10 3) Maximum Load (Kgf): 150 4) Max. Test Height (mm): 230 mm 5) Depth of Throat (mm): 155 mm 6) Size of Base (mm) (Approx.): 475 x 170 mm 7) Nett Weight (kg.) (Approx.): 70 Kgf	1	Rs. 33,850/-	Rs. 5,078/-	Rs. 28,772/-
			Sub Total		**Rs. 28,772/-**
			Tax: GST @ 18%		Rs. 5,179/-
			Packing & Forwarding **(Wooden - If Required)**		Rs. 1,500/-
			Installation & Training		Included
			Freight		As Per Actual

OTHER TERMS & CONDITIONS:

1. Quoted Price: **Ex-Works Factory**.
2. Warranty 1 year against manufacturing defects.
3. Delivery Period is **READY STOCK** from the date of advance Payment with official purchase order
4. Validity Period of the quotation is 30 days from the date of offer.
5. Payment: 100% payment advance Against PI.

Due to continuous development or improvement specifications are subjected to changes without prior notice

Thanks & Regards

Signed:

Sushil Sharma
SRI Equipments II New Delhi II 110044
Mob: +91 9013940134 II Tel: +91 11 68888133
sriequipments.india@gmail.com II http://www.indiamart.com/sriequipments/

SRI EQUIPMENTS

Mobile : +91-9013940134, +91-8882391717

Manufacturer, Trader & Exporter

QTN No. : - SRIE/QTN/312/02/17-18/2018

Dated: 21/02/2018

To,

ROHTAK FASTNERS CFC PVT. LTD,
Plot No. 40, IDC, Hissar Road, Rohtak, Haryana India.
T: +91 9996648732, Mob: - +91-9996648732;
E-mail: shrikishanskator@gmail.com; sales@nsinternationalindia.com

KIND ATTN: MR. KHATOR, Thanks for your new enquiry, as per our recent telephonic discussion held today, please find the below our best

S.NO	DESCRIPTION	QTY	RATE
1.	**TRINOCULAR STEREOZOOM MICROSCOPE WITH POLE STAND** Eyepiece (Anti fungus) Wide field 10X (paired) F.O.V. 20mm., **Zooming Range & Ratio:** Zoom 0.7X to 4.5X with magnification ratio of 1:6.4 Magnification Range: 7X-45X. Working Distance: 100 mm. Mechanical Body • Track stand with fan type base. • Lateral zoom control movement. • Clip for holding specimen. • Base size is 285mm X 238mm. Illumination System • Incident and transmitted light systems with LED lamps. • Both lights are regulated with power supply and has separate brightness controls. Standard Accessories Operating manual, dust cover, guarantee card and Styrofoam molded pack.	ONE PIECE	Rs. 1,52,500/- (Discount Rate of 15% is applicable on Quoted Basic Price)
2.	**DIGITAL USB CMOS MICROSCOPE CAMERA** **MODEL : DGI 210** **Features:** • 2.0 megapixels with progressive scanning CMOS image sensor. • No compression, no interpolation. • Support still image capture(JPG,BMP) • Standard C-Mount makes connection to any microscope easy. Macro lens setups are also supported	ONE PIECE	

	➢ Resolution: 2592X1944(8bit);480 Mibt/Sec,DC5V±5% ➢ Pixel size : 2.2mmX2.2mm. ➢ Frame Rate .8fps@2592X1944 30 fps@640 x480 Auto White Balance. ➢ Shutter Electronic10μs–32ms,Auto exposure ➢ Operating Temp: 0°C ~ 60°C		
3.	**WELD INSPECTION/CHECK SOFTWARE** **Specification:** **WITH Weld Area Inspection software:** It is a powerful easy- to-use tool that enhances your ability to quickly and efficiently handle your most critical welding measurement and documentation software needs. Weld Check's measurement module allows you to quickly measure such items as your fillet welds, throat, leg lengths and penetration. Use Weld Check Measurement Tolerance indicator to improve performance by having the software automatically tell you if a measurement is out of the tolerance range.	ONE PIECE	
		Sub Total (After 15% Discount)	Rs. 1,29,625/-
		Tax: GST	@ 18%
		Installation & Training Charges (Delhi & NCR Only)	Included
		Freight	As per actual

OTHER TERMS & CONDITIONS:

1. Quoted Price: Ex Works Factory.
2. Warranty 1 year against manufacturing defects.
3. Delivery Period is READY STOCK from the date of advance Payment with official purchase order
4. Validity Period of the quotation is 30 days from the date of offer.
5. Payment: 100% payment advance Against PI.

Due to continuous development or improvement specifications are subjected to changes without prior notice

Thanks & Regards

Sushil Sharma
SRI Equipments || New Delhi || 110044
Mob: +91 9013940134 **|| Tel:** +91 11 68888136
sriequipments.india@gmail.com || http://www.indiamart.com/sriequipments/

卐 राम 卐

Mobile : +91-9013940134
+91-8882391717

SRI EQUIPMENTS

Manufacture : Trader & Exporter
No. 22/8, Om Nagar, Badarpur, New Delhi-110044
E-mail : sriequipments.india@gmail.com / sushilsharma0078@ymail.com

QTN No. : - SRIE/QTN/268/01/17-18/2018 **Dated:** 17/01/2018

Quotation for profile projector Vertical 300

Technical Specifications Profile Projector MODEL VT 300	
Screen diameter (mm)	Φ 300 mm
Rotating range	0°~ 360°
Rotating angle scale	**Digital Angle Encoder Deg / Min / Secs.**
Magnification Lens	**10x mounted on indexing turret designed for 3 Optics with extra magnifier glass to enlarge the existing image of 10x**
Standard Work Stage	400 mm x 290 mm
Measuring range X/Y Axis	**300 mm X 190 mm**
Electronica Make Software systems with 19" flat screen Monitor, PC, keyboard, mouse. Additionally DRO System	**Profile generation on the computer screen while inspection, Addition of Dimensions and Geometric tolerance, import / export to DXF for comparison, report generation both in excel and graphical format. Additional DRO system for general measurement of Length, Dia. / width, radius, angle etc.**
Indicator scale	**0.001mm**
Linear Accuracy	**(3.5 + L / 55)um**
Contour Illumination Accuracy	< 0.05% on screen
Surface Illumination Accuracy	< 0.075% on screen
Contour Illumination	150W, 24V with Heat Filter and Fan cooled system.
Surface Illumination	150W, 24V–2 nos. with Heat Filter and Fan cooled & **additionally 02 extra fiber lights**
Illumination System	Dual Beam Split Light source with Light Control Intensifiers system to adjust bright surface Illumination Contrast for clear and sharp display on Screen, All bulbs are individually fan cooled for minimum heat generation
Accessories	**1. Pedestal Stand,** **2. Rotary Table to align the components** **3. PC system with stand**
PRICES	**RS. 5,32,500/-**

Features of our Profile Projector:

- Mechanical hardware of ergonomic design with highest standards of workmanship and finish.

INDUSTRIAL EQUIPMENTS COMPANY
AN ISO 9001, 14001, 50001 & OHSAS 18001 Certified Company
Corporate Office: S.C.O 36, Sector 26, Madhya Marg, Chandigarh – 160019
Tel: +91 172 4374444, 4374455 . Fax: +91 172 4374466
E – mail: iec.chandigarh@iecgensets.com . www.iecgensets.com
Power Delivered

Ref No : IEC/2017-18/BG/18 JAN. 15/01/2018

M/S. ROHTAK FASTENERS CFC PVT. LTD
ROHTAK-124001

SUBJECT : QUOTE FOR SUPPLY OF KIRLOSKAR (KOELGREEN) ELECTRIC GENERATING SET.

Sir,

This is in reference with your enquiry for subject requirement received by us telephonically. As desired by you, we are submitting our most competitive offer for your favorable consideration.

SPECIFICATONS:
Supply of Electric Generating Set **(CPCB NORMS COMPLIANT)** comprising **KIRLOSKAR (KOEL GREEN)** Engine and **KIRLOSKAR GREEN** Alternator mounted and aligned on a common base frame complete with all standard accessories like Fuel tank, Standard Control Panel, AVM Pads fitted on Base Frame,12 VDC Battery (KOEL Green make), Leads & Acoustic Enclosure.

RATING	PHASE	ENGINE / MODEL	BHP @1500 RPM	BASIC UNIT PRICE in Rs
140 KVA	THREE	KIRLOSKAR (KOELGREEN) / 6R1080 TAG1	175	7,14,000.00

The above offer is made subject to following

TERMS & CONDITIONS:

PRICES : **- Works Barwala (HR),Freight on Inclusive Basis**, Transit Insurance to your account

GOODS & SERVICE TAX : Inclusive **@18% at present on quoted Basic Price**, although rates applicable at the time of dispatch will be charged

Ace Designers Ltd
Plot No. 533, 10th Main, IV Phase, Peenya Industrial Area,
Bangalore, Karnataka, India -
Main Ph.: 22186700 Fax: 91-80-22186723
E-mail: acesales@acedesigners.co.in
Website: http://www.acemicromatic.net

GSTIN No. : 29AABCA2364F1ZW PAN No. :

Subjected to BANGALORE - JURISDICTION

Quotation / Proforma

Date: 09-01-2018

Quote Ref No. : ACE/ACE89492/QUO-26775-Q6B9S6 Quote Revision ID : 0

Details of Receiver (Billed to)
Rohtak Fasteners CFC Center
Hissar Road
Rohtak-124001
Haryana

GSTIN No
PAN No

Details of Consignee (Shipped to)
Rohtak Fasteners CFC Center
158 IDC Hissar Road,Rohtak

Rohtak-124001
Haryana

GSTIN No
PAN No

Kind Attn.	Mr. Kishan Khator / Prop.
Contact No	+91-9215549575
Email ID	shrikishankhator@gmail.com
Opp. ID	ACE89492
Freight Charges	Supplier Account Non Chargeable
Transit Insurance	Supplier Account Non Chargeable

SL.No	Desciption	HSN	Qty	Rate Rs.	Amount Rs.	Packing Charges	Insurance Charges Rs.	Freight Charges Rs.	Sub Total	IGST		CGST		SGST		Total
										Rate	Amount	Rate	Amount	Rate	Amount	
1	ACE CNC Lathe Model: APOLLO & with all accessories as per scope of supply	84581100	1	1,285,000.00	1,285,000.00	0.00	0.00	0.00	1,285,000.00	18%	231,300.00	0%	0.00	0%	0.00	1,516,300.00
	TOTAL															1,516,300.00

Rupees in words : Fifteen Lakh Sixteen Thousand Three Hundred and Rupees and Zero Paise Only

RTGS Details :Benificiary Name: Ace Designers Ltd, **Benificiary Bank:** Syndicate Bank, Syndicate Bank, Karnataka-
IFSC Code: SYNB0000461, **Account No:** 04611250000145

Terms and Conditions: Payment should be made within due date or interest will be charged @ 18% P.A

Note :

For Ace Designers Ltd,

Prepared By: mmtrtk sales

Checked By: mmtrtk sales

AUTHORISED SIGNATORY

Ace Designers Ltd

Plot No. 533, 10th Main, IV Phase, Peenya Industrial Area, Bangalore, Karnataka, India -
Main Ph.: 22186700 Fax: 91-80-22186721
E-mail: [illegible]
Website: http://www.acemicromatic.net

GSTIN No.: [illegible] PAN No.:
Subjected to BANGALORE - JURISDICTION

Quote Ref No. : ACE/ACE87296/QUO-24355-CBY353

Quote Revision ID : 0

Quotation / Proforma

Date: 18.11.2017

Details of Receiver (Billed to)
Rohtak Fasteners CFC Center
Hissar Road
Rohtak-124001
Haryana

GSTIN No
PAN No

Details of Consignee (Shipped to)
Rohtak Fasteners CFC Center
Hissar Road

Rohtak-124001
Haryana

GSTIN No
PAN No

Kind Attn.: Mr. Kishan Kharor / Prop.
Contact No: +91-[illegible]
Email ID: [illegible]@gmail.com
Opp. ID: ACE87296
Freight Charges: Supplier Account Non Chargeable
Transit Insurance: Supplier Account Non Chargeable

Sl. No	Description	HSN	Qty	Rate Rs.	Amount Rs.	Packing Charges	Insurance Charges Rs.	Freight Charges Rs.	Sub Total	IGST		CGST		SGST		Total
										Rate	Amount	Rate	Amount	Rate	Amount	
1	Ace Slant Bed CNC Lathe J 300 LM & with all accessories as per scope of supply	84581100	4	1,445,000.00	5,780,000.00	0.00	0.00	0.00	5,780,000.00	18%	1,040,400.00	0%	0.00	0%	0.00	6,820,400.00
	TOTAL															6,820,400.00

Rupees in words : Sixty Eight Lakh Twenty Thousand Four Hundred and Rupees and Zero Paise Only

RTGS Details :Benificiary Name: Ace Designers Ltd, Benificiary Bank: Syndicate Bank, Syndicate Bank, Karnataka-
IFSC Code: SYNB0000461, Account No: 04611250000185

Terms and Conditions: Payment should be made within due date or interest will be charged @ 18% P.A.

Note :

For Ace Designers Ltd,

AUTHORISED SIGNATORY

Prepared By: mmtrk sales

CheckedBy: mmtrk sales

Effective Date:
12/13/2017

1

Plot No. 533, 10th Main, IV Phase, Peenya Industrial Area, Karnataka, Bangalore - India.
Phone: 22186700, Fax: 91-80-22186721

Ace Micromatic Group Company

Ace Designers Ltd
Plot No. 533, 10th Main, IV Phase, Peenya Industrial Area,
Bangalore, Karnataka, India -
Main Ph.: 22186700 Fax: 91-80-22186723
E-mail: acesales@acedesigners.co.in
Website: http://www.acemicromatic.net

GSTIN No. : 29AABCA2364F1ZW PAN No. :

Subjected to BANGALORE - JURISDICTION

Quotation / Proforma

Date: 09-01-2018

Quote Ref No. : ACE/ACE89493/QUO-26776-F1D7H5 Quote Revision ID : 0

Details of Receiver (Billed to)
Rohtak Fasteners CFC Center
Hissar Road
Rohtak-124001
Haryana

GSTIN No
PAN No

Details of Consignee (Shipped to)
Rohtak Fasteners CFC Center
158 IDC Hissar Road,Rohtak

Rohtak-124001
Haryana

GSTIN No
PAN No

Kind Attn.	Mr. Kishan Khator / Prop.
Contact No	+91-9215549575
Email ID	shrikishankhator@gmail.com
Opp. ID	ACE89493
Freight Charges	Supplier Account Non Chargeable
Transit Insurance	Supplier Account Non Chargeable

SL.No	Desciption	HSN	Qty	Rate Rs.	Amount Rs.	Packing Charges	Insurance Charges Rs.	Freight Charges Rs.	Sub Total	IGST		CGST		SGST		Total
										Rate	Amount	Rate	Amount	Rate	Amount	
1	Ace Slant Bed CNC Lathe SJ 500 LM & with all accessories as per scope of supply	84581100	1	1,680,000.00	1,680,000.00	0.00	0.00	0.00	1,680,000.00	18%	302,400.00	0%	0.00	0%	0.00	1,982,400.00
	TOTAL															1,982,400.00

Rupees in words : Nineteen Lakh Eighty Two Thousand Four Hundred and Rupees and Zero Paise Only

RTGS Details :Benificiary Name: Ace Designers Ltd, **Benificiary Bank:** Syndicate Bank, Syndicate Bank, Karnataka-
IFSC Code: SYNB0000461, **Account No:** 0461125000145

Terms and Conditions: Payment should be made within due date or interest will be charged @ 18% P.A

Note :

For Ace Designers Ltd,

Prepared By: mmtrtk sales

Checked By: mmtrtk sales

AUTHORISED SIGNATORY

Effective Date : 1/9/2018

1

Our offices

Ahmedabad
2nd Floor, Shivalik Ishaan
Near CN Vidhyalaya,
Ambawadi,
Ahmedabad - 380 015
Tel: + 91 79 6608 3800
Fax: + 91 79 6608 3900

Bengaluru
"UB City", Canberra Block
12th & 13th floor
No.24, Vittal Mallya Road
Bengaluru - 560 001
Tel: + 91 80 4027 5000,
+ 91 80 6727 5000
Fax: + 91 80 2210 6000
Fax: + 91 80 2224 0695

Chandigarh
1st Floor, SCO: 166-167
Ernst & Young Pvt. Ltd.
Sector 9-C, Madhya Marg,
Chandigarh, Punjab 160009
Tel: +91 172 6717800
Fax: +91 172 6717888

Chennai
TPL House, 2nd floor
No 3, Cenotaph Road
Teynampet
Chennai - 600 018
Tel: + 91 44 4219 4400
+ 91 44 6632 8400
Fax: + 91 44 2431 1450

Hyderabad
205, 2nd floor
Ashoka Bhoopal Chambers
Sardar Patel Road
Secunderabad - 500 003
Tel: + 91 40 6627 4000
Fax: + 91 40 2789 8851

Oval Office, 18, iLabs Centre,
Hitech City, Madhapur,
Hyderabad – 500081
Tel: +91 40 6736 2000
Fax: +91 40 6736 2200

Kochi
9th Floor, Abad Nucleus
NH-49, Maradu PO
Kochi, Kerala 682304, India
Tel: + 91 484-3044000
Fax: + 91 484 2705393

Kolkata
22, Camac Street
Block 'C', 3rd floor
Kolkata - 700 016
Tel: + 91 33 6615 3400
Fax: + 91 33 2281 7750

Mumbai
6th floor & 18th floor
Express Towers
Nariman Point
Mumbai - 400 021
Tel: + 91 22 6657 9200 (6th floor)
+ 91 22 6665 5000 (18th floor)
Fax: + 91 22 22876401 (6th floor)
+ 91 22 2282 6000 (18th floor)

Block B-2, 5th Floor,
Nirlon Knowledge Park,
Off Western Express Highway,
Goregaon (E), Mumbai – 400 063
Tel: +91 22 6749 8000
Fax: +91 22 6749 8200

15th Floor, The Ruby, 29,
Senapati Bapat Marg, Dadar (W), Mumbai
- 400 028, India
Tel: +91 22 6192 000

NCR
Golf View Corporate Tower – B
Near DLF Golf Course
Sector 42
Gurgaon – 122002
Tel: + 91 124 464 4000
Fax: + 91 124 464 4050

6th floor, HT House
18-20 Kasturba Gandhi Marg
New Delhi - 110 001
Tel: + 91 11 4363 3000
Fax: + 91 11 4363 3200

4th and 5th Floor, Plot No. 2B, Tower 2,
Sector 126, NOIDA – 201 304
Gautam Budh Nagar, UP, India
Tel: +91 120 671 7000
Fax: _91 120 671 7171

Pune
C-401, 4th floor
Panchshil Tech Park
Yerwada (Near Don Bosco School)
Pune - 411 006
Tel: + 91 20 6603 6000
Fax: + 91 20 6601 5900

Ernst & Young LLP

Assurance | Tax | Transactions | Advisory

About EY
EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global limited, each of which is a separate legal entity.
Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit ey.com.

Ernst & Young LLP is one of the Indian client serving member firms of EYGM Limited. For more information about our organization, please visit www.ey.com/in.

Ernst & Young LLP is a Limited Liability Partnership, registered under the Limited Liability Partnership Act, 2008 in India, having its registered office at 22 Camac Street, 3rd Floor, Block C, Kolkata - 700016

ED 0515

Artwork by: JG

EY refers to the global organization, and/or one or more of the independent member firms of Ernst & Young Global Limited