Draft Detailed Project Report
Auto Components Cluster
Faridabad

Submitted to,

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

Report No. 2017-CHD-003

December 2017

Submitted by,
Faridabad Auto Component Cluster SPV

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

1 December 2017

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 Centre (CFC) at Auto Components Cluster, Faridabad 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 Detailed Project Report is based on studies of and discussions with:

- Directorate of Industries, Govt. of Haryana
- MSME-DI, Delhi
- DIC, Faridabad
- Members of the SPV
- Auto component manufacturing units located in and around Faridabad
- Representatives of industrial associations of Faridabad viz. HCCI (Faridabad chapter), FIMTIA, FIA, FCCI, FSIA.
- Industry experts
- Secondary research

Our work has been limited in scope and time and we stress that procedures that are more detailed 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. The 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 (CFC) at auto components cluster, Faridabad 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').

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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 DPR. 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 Anil Choudhary, Joint Director, DIC Faridabad** for his proactive support and guidance to the team during the entire process.

We would like to convey our sincere thanks to members of **"Faridabad Chamber of Commerce and Industry, Faridabad Small Industries Association, Faridabad IMT Industries Association, and Faridabad Industries Association "** for their support during the on-site visits and interactions with Auto Component units in Faridabad as well as facilitation in conducting stakeholder consultations. Further, we would also like to thank officials of **DIC, Faridabad** for providing support and information related to Auto Component units in Faridabad.

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

Abbreviations

ACMA	Automotive Components Manufactures Association
AICTE	All India Council for Technical Education
BDS	Business Development Services
CAGR	Compound Annual Growth Rate
CFC	Common Facility Centre
DIC	District Industries Centre
DSR	Diagnostic Study Report
DEC	Delhi Engineering College
FUPD	Front Under Protection Device
FIMTIA	Faridabad IMT Industries Association
FIA	Faridabad Industries Association
FCCI	Faridabad Chamber of Commerce & Industries
FTA	Free Trade Agreement
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
HCV	Heavy Commercial Vehicles
HMT	Hindustan Machine Tools
HCCI	Haryana Chamber of Commerce & Industry
HVSU	Haryana Vishawkarma Skill University
HT	High Tensile
HMC	Horizontal Machining Centre
ICRA	Information and Credit Rating Agency
ISO	International Organization for Standardization
IIF	Institute of Indian Foundry man
kW h	Kilowatt Per hour
MSME	Micro, Small and Medium Enterprises
MSME-DI	MSME – Development Institute
MSEs	Micro & Small Enterprises
MS	Mild Steel

NCR	National Capital Region
NIT	National Institute of Technology
NATRiPS	National Automotive Testing and R&D Infrastructure Projects
NSIC	National Small Industries Corporation
OEM	Original Equipment Manufacturer
PSU	Public Sector Undertaking
PNB	Punjab National Bank
PEC	Faridabad Engineering College
SIDBI	Small Industries Development Bank of India
SWOT	Strength, Weaknesses, Opportunities and Threats
SLSC	State Level Steering Committee
SCV	Small Commercial Vehicles
RLI	Regional Labour Institute
UAM	Udyog Aadhar Memorandum
ZED	Zero Defect Zero Effect

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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 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 Development Scheme providing grant under its EPP 2015.

In this context, this Detailed Project Report (DPR) has been prepared to seek grant-in-aid assistance under the State Mini Cluster Development Scheme to set up a state-of-the art Common Facility Centre (CFC) in Auto Component cluster at Faridabad District, Haryana.

About the Faridabad Auto Component Cluster

Globally, Europe accounts for the largest share of Indian auto components exports at 36% followed by North America & Asia at 25%, Africa at 6%, South America at 4%, Central America at 3%, New-Zealand & Australia at 1%. A cost-effective manufacturing base keeps costs lower by 10-25% as compared to operations in Europe and Latin America.

India is emerging as a global hub for auto components sourcing. Amongst the Original Equipment Manufacturer (OEM) customers, auto components products are used highest for passenger vehicles with market share of 46%, followed by 2-3 wheeler with a share of 25%, commercial vehicles across the spectrum from SCVs to HCVs consuming 20% while farm and construction equipment consume the remaining 11%. The Indian auto components industry is expected to register a turnover of US$ 100 billion by 2020. India's export of auto components could account for as much as 26% of the market by 2021 & it become the third largest in the world by 2025.

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

The Faridabad cluster majorly consists of 15 industrial segments, ranging from manufacturing of soaps to cranes. A vast majority of units in Faridabad are from the three industrial segments: Automobile Parts (35%), Sheet Metal Components (14%) and Fabrication (11%) while remaining industry segments (textiles, chemicals, foundry etc.) contribute to 40 % of the units. The focus of this detailed project report is centered around auto components and related units, as they constitute 60% of the cluster units.

There are about 14,000 total manufacturing units in Faridabad district, Haryana, most of them micro and small. The auto components cluster comprises of 4200 micro and small units, of which 12 units have joined hands to form a Special Purpose Vehicle (SPV) to set up a Common Facility Centre (CFC) to address common problems of the cluster. The annual

turnover of the cluster (micro and small units) is about INR 20000 crore. The cluster units are engaged in manufacturing of tractor/auto parts, railway components, steel fabrication etc. Most of the units are engaged in manufacture of tractor/auto components. About 60% of all the MSMEs in Faridabad fall under three broad industry segments – **automobile parts** (35%), **sheet metal components** (14%) and **fabrication** (11%). The other major industry segments include castings, chemicals & paints, electroplating, forging, heat treatment, industrial fasteners, plastic products, railway equipment, rubber products, and textiles.

Diagnostic Study and Interventions

A diagnostic study was undertaken in September 2017 to map the existing business processes in the cluster, identify the gaps, and understand the requirements of the cluster. The EY PMU team compiled the diagnostic study report (DSR) in close coordination with cluster members and the District Industries Centre, Faridabad. The awareness level of the cluster units (on new Auto Component technologies, heat treatment, electroplating technologies & cluster development initiatives, etc.) was found to be satisfactory. Additionally, it was observed that most of the units deploy out-dated technologies and are unable to meet the requirements of the OEMs due to lack of availability of modern machines/equipment. The quality of products is ordinary due to dependence on manual techniques and conventional machines. These major pain areas necessitated an urgent intervention. In this context, the units decided to establish a CFC.

The DSR was validated by Joint Director, DIC, Faridabad on 28th September 2017 & approved by the Director Industries & Commerce, Haryana on 21st November 2017. The DSR approval letter provided in the **Annexure-1**. The SPV was granted permission to go ahead with preparation of Detailed Project Report (DRP) for the cluster. The Draft DPR was validated by the DI & C on 25th November 2017 at Faridabad & subsequently approved for the consideration during next State Level Steering Committee. The Minutes of Meeting for DPR validation are attached as **Annexure-2.**

Proposed Common Facility Centre

The proposed CFC will have modern machining facilities for auto component units such as metal cutting centre, heat treatment centre, electroplating centre, pollution control device etc.

Such a common facility will both supplement and complement the activities of firms in the cluster. The proposed common facilities will be utilized by the SPV members and will be available to non-members units within and outside the cluster. The facility will provide a much-needed infrastructure push to the cluster units and will enable them to become more competitive.

Special Purpose Vehicle for Project Implementation

After the diagnosis study, the cluster units came together to form a Special Purpose Vehicle (SPV) by the name of '**Faridabad Auto Component Cluster.**' The SPV has been set up as a partnership firm registered under section 58 & 59 of the Indian Partnership Act. DIC, Faridabad has played an important role in SPV formation by cluster stakeholders. The SPV

already includes about 12 members who are subscribing to the necessary contribution of the firm. The proposed CFC will be implemented on public-private partnership basis through the SPV '**Faridabad Auto Component Cluster'** by availing support from Government of Haryana (under EPP 2015).

Project Parameters, Viability and Sustainability

Faridabad Auto Component cluster with support from State Government (under the Mini Cluster Development Scheme) is planning to set up a CFC having state-of-the-art laser cutting, heat treatment, & electroplating facilities to undertake testing work of cluster units with a total project cost of about **Rs. 241.43 lakhs**. However, the maximum eligible project cost as per the scheme guidelines is Rs 200 lakhs, with government of Haryana's grant restricted to 90% of max eligible project cost i.e. to Rs 180 lakhs. Hence, the SPV members have proposed to contribute entire amount beyond Rs. 180 lakhs, taking their overall contribution to about **25.44% of the total project cost.** The total contribution of SPV members will amount to **Rs. 61.43 lakhs.** Support from State Government is envisaged at **Rs. 180.0 Lakhs.**

The cost of the project and proposed means of finances is tabulated below:

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**			**Eligible**
	a. Indigenous	162.44	200.00	
	b. Imports	0.00		
	c. Secondary Machines	46.63		
	Sub Total (B)	**209.07**	**200.00**	
3	**Miscellaneous fixed assets (C)**	**1.75**	**0.00**	**Not eligible for grant**
4	**Preliminary & Preoperative Expenses (D)**	**14.87**	**0.00**	
5	**Contingency**			
	a. Building @ 2%	0.00	0.00	
	b. Plant & Machinery @ 5%	10.45	0.00	
	Sub Total (E)	**10.45**	**0.00**	
6	**Margin money for working capital**			
	(Working capital required @ 75% C.U.)	5.29	0.00	
	Sub Total (F)	**5.29**	**0.00**	
	Grand Total (A+B+C+D+E+F)	**241.43**	**200.00**	

The total project cost is estimated to be Rs. 241.43 lakhs. As indicated above, assistance from the Govt. of Haryana is envisaged to the tune of Rs. 180 lakhs. SPV contribution is to the tune of Rs. 61.43 lakhs (over 25%) of the total project cost. The means of financing are presented below:

S. No.	Source of finance	Project cost up to INR 200.00 lakhs (max eligible as per scheme)		Project cost over INR 200.00 lakhs		Total Amount (INR in lakhs)
		Percentage Contribution	Amount (INR in lakhs)	Percentage Contribution	Amount (INR in lakhs)	
1	Grant-in-aid under State Mini Cluster Development Scheme(Govt. of Haryana)	90	180.00	0	0	180.00
2	Contribution of SPV	10	20.00	100	41.43	61.43
	Total	**100**	**200.00**	**100**	**41.43**	**241.43**

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's financial indicators

Sn. No.	Particulars	Estimates
1	BEP (cash BEP at initial operating capacity of 75%)	69.57%
2	Av. ROCE (PAT/CE)	26.26%
3	Internal Rate of Return (IRR)	20.86%
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. 127.04 lacs) at a conservative project life of 10 years
5	Payback period	5.54 years with Grant-in-aid assistance from GOH

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

Project Implementation

Project implementation will be done within a period of about 10 months upon receipt of approval of grant-in-aid assistance from the Government of Haryana under State Mini

Cluster Development Scheme. The project will be implemented by the SPV in close association with DIC, Faridabad. It is proposed to constitute a Cluster Development Coordination Committee (CDCC), constituted under the Chairmanship of Director of Industries, Government of Haryana to oversee all cluster development projects in Haryana under State Mini Cluster Development Scheme. The committee may operate under the overall monitoring of the State Level Steering Committee (SLSC).

The cluster units will be at benefit in marketing and communication to OEMs when they have the capacity to directly supply hi-quality auto components in large quantities at reasonable prices. The automobile industry is set to grow at a tremendous pace in the coming years owing to higher disposable incomes and easy credit availability. There are several new car models launched and being launched by the manufacturers. They are setting up additional production facilities, and consequently would rely on the tractor components and auto components units of Faridabad to meet their demands locally instead of importing them, as it would not be cost effective. This gives opportunity to the cluster to increase its market size and share by manufacturing high quality products.

The proposed facility will be open to all cluster firms to enable them to get job work done to cater to the Auto Component requirements of the market. The facility will also provide an opportunity to micro units to increase their capacity utilization and profitability. The facility will provide a major infrastructural 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.

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1. Introduction

1.1 Overview of the cluster

As per industry estimates, there are about 15000 manufacturing units in Faridabad district, Haryana. The cluster comprises of more than 4200 micro and small Auto Component units. The annual turnover of the cluster (micro and small units) is about INR 25000 Crore. The cluster units are engaged in manufacturing of tractor/auto parts, railway components, steel fabrication, fasteners etc. Most of the units are engaged in manufacture of tractor/auto components. About 60% of all the MSMEs in Faridabad fall under three broad industry segments – **automobile parts** (35%), **sheet metal components** (14%) and **fabrication** (11%). 12 MSME units have come together and are willing to form a Special Purpose Vehicle (SPV) for setting up a Common Facility Centre (CFC) to address common problems of the cluster under Mini cluster scheme.

1.2 About the State & District

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

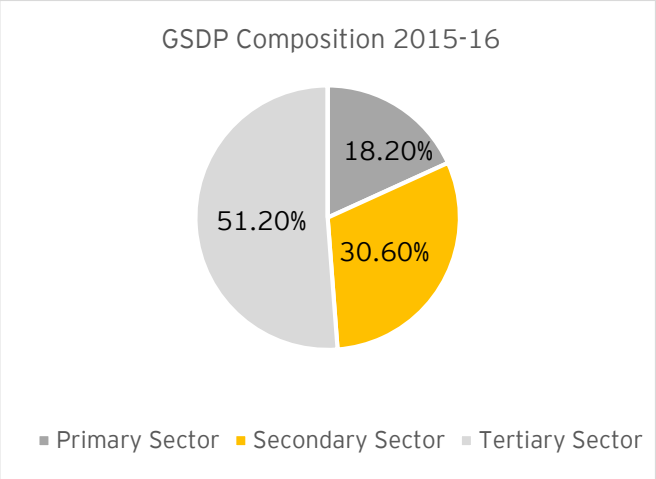

Figure 1 GSDP Composition 2015-16 of Haryana

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 and large number of skilled, educated and young workforce. Besides, the State has an investor-friendly policy and regulatory environment. It is one of the leading states in terms of industrial production, especially passenger cars, mobile cranes, two-wheelers & tractors. It is the second 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 third largest exporter of software.

Faridabad is the largest city in the district with a total population of 1,809,733 as per 2011 census. The district has a population density of 2,442 per square kilometre. Faridabad district comprises approximately 7% of the State's total population. It is one of the major industrial hubs of the state as well as North India. Large and renowned brands have their manufacturing facilities in the district. The district is well connected by road and railway with the National Highway No. 2 passing through the district.

1.3 Industrial Scenario of Faridabad District

Faridabad is a leading industrial district of Haryana, a popular choice for setting up industry due to its proximity to Delhi and its location on the Delhi Mathura Road. Much before the creation of Gurugram as the poster boy for Industrial Development in Haryana, Faridabad was the favourite destination of Industries. Faridabad is famous for manufacturing of Tractors, Switchgears, Refrigerators, Shoes, Tyres, Readymade Garments, construction machineries, Auto Mobile Parts and Light Engineering Products. Although, in the recent times, it has fallen much behind the neighbouring towns of Noida and Gurgaon in attracting new investment in IT sector. It still occupies an important place in the list of manufacturing hubs. The modern phase of the city began under the Pakistani Refugee Resettlement Project, with foundations of industrial development being founded here by 1950.

By the 1980s, real estate prices and labour costs began soaring in Okhla, and by the 1990s, production started moving to surrounding areas, including Faridabad. Faridabad's proximity to Delhi, easy availability of raw materials, and lower land costs made it an attractive location for engineering units to migrate. In addition, there was an influx of labour into Faridabad due to lower cost of living.

Presently, HUDA and HSIIDC have developed Industrial Estates/Areas in Faridabad-Ballabgarh Industrial Complex having around 3,000 Industrial plots in Sectors 4, 5, 6, 13, 24, 25, 27A, B, C & D, 58, 59 spread all over the District. State Govt. agencies have also developed a separate zone for 'Electroplating units' in Sector 58 Faridabad. The Development work in IMT Faridabad is complete and allotment of plots is in process.

1.4 Geographical Traits

The district Faridabad came into existence on 15th August 1979 as the 12th district of the state. The new district was carved out from erstwhile Gurugram district. Faridabad is about 25 Kilometres from Delhi in 28° 25' 16" North Latitude and 77° 18' 28" East Longitude. Union Territory of Delhi (National Capital) bound it on its north, Palwal District in the south, Gurgaon district on the west and State of Utter Pradesh on its east. The river Yamuna separate the district boundary on eastern side with UP State. Delhi-Agra National Highway No.2 passes through centre of District. There are three railway stations (viz. Faridabad Main, New Town and Ballabgarh) on the Delhi-Mathura triple track broad-gauge line of the Indian Railway.

1.5 Demographic Trends and Economic Structure

The district having an approximate area of 742.90 Sq. Km. accommodates a population of 17, 98,954 (2011 Population census figures) i.e. 7.10% of the state population. Almost 80% population of the district is urbanized. The district has almost flat plains. The river Yamuna flows on its entire eastern boundary. The sex ratio in Faridabad according to 2011 population census is 871 against 877 in the state while literacy rate is 83.0 against 76.64 in the state. It is the most densely populated district in the state.

There are about 14,000 micro & small and medium industries in Faridabad providing direct and indirect employment to nearly half a million people and ranks 9th largest industrial estate in Asia. The combined turnover is estimated to be about **Rs. 1500 billion**. Many

international/ multinational companies like JCB, Yamaha Motors, Whirlpool, Goodyear, Larsen & Toubro, Asia Brown Boveri, GKN Invel, Woodward Governor, and Castrol besides Escorts, Eicher, Cutler Hammer, Hyderabad Asbestos, and Nuchem are operating in this belt.

Sector Overview

2. Sector Overview

Faridabad is a major hub for mixed industrial engineering in Haryana with a prominent footprint of industrial giants such as Lafarge, JCB, Escorts, Tafe Tractors, L&T, M & M, Maruti Suzuki etc. The presence of these large units has led to the creation of a strong ancillary units base. The Faridabad cluster majorly constitutes of 15 industrial segments, ranging from manufacturing of soaps to cranes. A vast majority of mixed engineering based units in Faridabad are from the three industrial segments: Automobile Parts (35%), Sheet Metal Components (14%) and Fabrication (11%) while remaining industry segments (textiles, chemicals, foundry etc.) contribute to 40 % of the units. The focus of this detailed project report is Auto Components and related units, as they constitute 60% of the cluster units.

2.1 Global Scenario

Globally, Europe accounts for the largest share of Indian auto components exports at 36% followed by North America & Asia at 25%, Africa at 6%, South America at 4%, Central America at 3%, and New Zealand at 1%. Auto- Component sector as a whole can be classified into the following sub-sectors - engine parts, drive transmission & steering parts, body and chassis, suspension and braking parts, equipment, electrical parts and others such as fan belts, die castings, sheet metal parts.

According to the Automotive Components Manufacturers Association of India (ACMA), the Indian auto components industry is expected to register a turnover of US$ 100 billion by 2020 backed by strong exports ranging between US$ 80- US$ 100 billion by 2026, from the current US$ 11.2 billion.[1]

India is emerging as a global hub for auto components sourcing. A cost-effective manufacturing base keeps costs lower by 10-25 percent as compared to operations in Europe and Latin America. Relative to its competitors, India is geographically closer to key automotive markets like the Middle East and Europe. Global auto-component players are increasingly adopting a dual-shore manufacturing model.

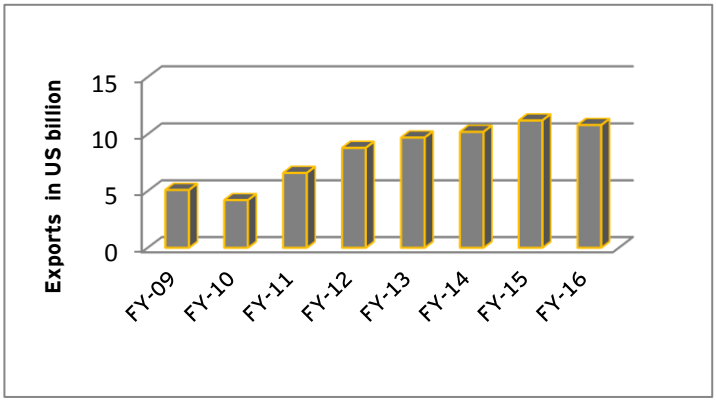

Figure 2: Export of auto components

India' s export of auto components increased at CAGR of 11.36% during the financial year of 2009-2016 with the value of auto components exports increasing from USD 5.1 billion in FY-2009 to USD 10.8 billion in FY-2016.

[1] ACMA annual report 2015-2016

2.2 India Scenario

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Over the last decade, the automotive components industry has scaled three times to reach US$ 39 billion in 2015-16 while exports have grown even faster to US$ 10.8 billion. This has been driven by strong growth in the domestic market and global market integration (including exports) of several Indian suppliers.[3]The Indian auto components industry is expected to grow by 8-10 per cent in FY 2017-18, based on higher localisation by OEMs, higher components content per vehicle, and rising exports from India, as per ICRA Limited.

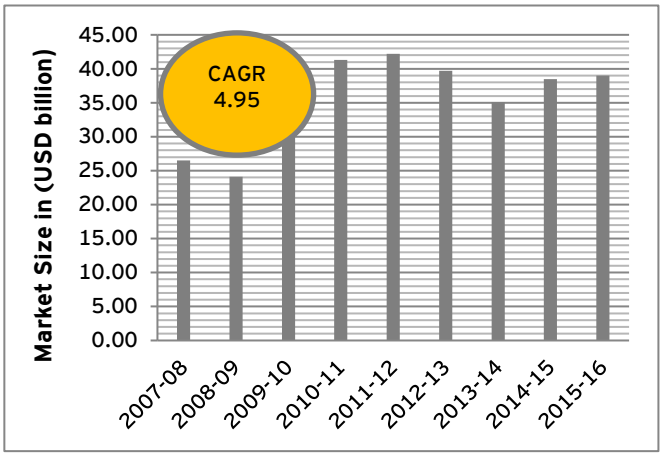

Figure 3: Market size of auto components (in US billion)

Over the last decade, the automotive components industry has scaled three times to reach US$ 39 billion in 2015-16 while exports have grown even faster to US$ 10.8 billion. This has been driven by strong growth in the domestic market and global market integration (including exports) of several Indian suppliers.[4]The Indian auto components industry is expected to grow by 8-10 per cent in FY 2017-18, based on higher localisation by OEMs, higher components content per vehicle, and rising exports from India, as per ICRA Limited India's exports of auto components could account for as much as 26 per cent of the market by 2021.

[2] ACMA annual report 2015-2016
[3] https://www.ibef.org/industry/autocomponents-india.aspx
[4] https://www.ibef.org/industry/autocomponents-india.aspx

India is the largest tractor manufacturer, second highest two-wheeler & bus manufactures, fifth heavy truck manufacturer, sixth largest car manufacturer & eighth largest commercial vehicle manufacturers in the world.[5] Favourable government policies such as Auto Policy 2002, Automotive Mission Plan 2006-2016, National Automotive Testing and R&D Infrastructure Projects (NATRiPs), have helped the Indian auto components industry achieve considerable growth.

The Indian auto-components industry can be broadly classified into organised and unorganised sectors. The organised sector caters to the Original Equipment Manufacturers (OEMs) and consists of high-value precision instruments while the unorganised sector comprises low-valued products and caters mostly to the aftermarket category.

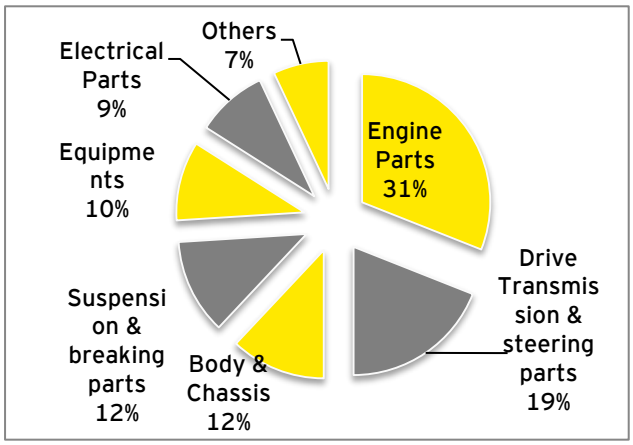

Figure 4: Production of Product range of auto components

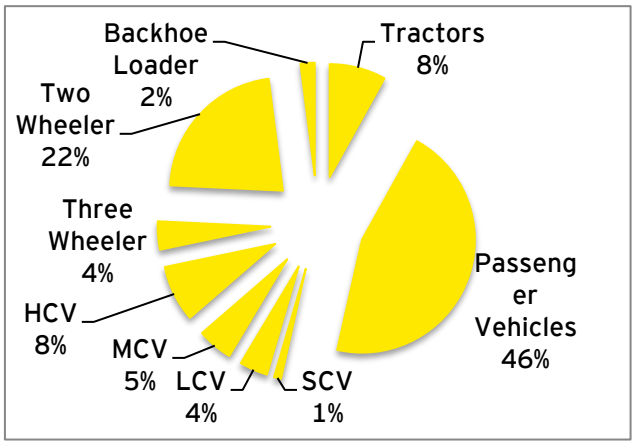

Figure 5: Segment wise auto components supply to OEM

2.3 Cluster Scenario

Haryana is one of the prominent auto-component manufacturing hub in India with 50% of India's passengers car production, 39% of India's two wheelers production & 11% of India's tractor production. Over the last decade, the automobile sector has grown at a phenomenal rate. Figure 6 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[6]:

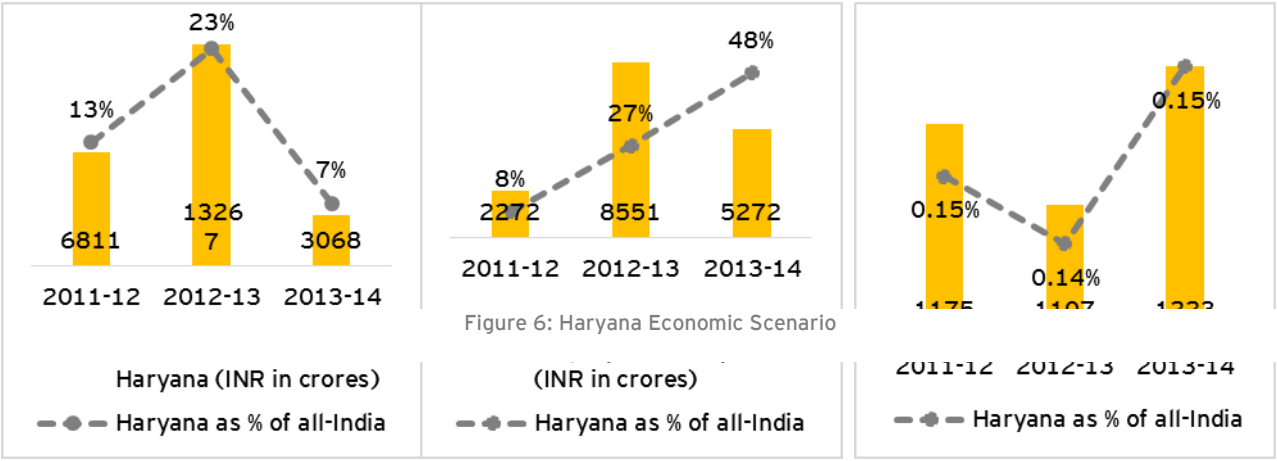

Figure 6: Haryana Economic Scenario

[5] https://www.ibef.org/industry/autocomponents-india.aspx

[6] Annual Survey of Industries

Source: Annual Survey of Industries

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 Two wheeler Plant at Manesar & Hero MotoCorp's 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 with a presence of about 50 are located in Haryana and Gurugram & Faridabad as the important automobile centres & host too many large automotive players. The state has managed to provide the necessary support and capture the entire value chain from production of components to presence of OEMs /assemblers to logistics facilities & to ultimately facilitate retail/exports.

Diagnostic Study Findings

3. Diagnostic Study Findings

The diagnostic study has undertaken in the cluster during September 2017 to map the existing business processes in the cluster, identify the gaps, and understand the requirements of the cluster. The diagnostic study report (DSR) was compiled by EY PMU with inputs from cluster SPV in close coordination with the DIC, Faridabad. Additionally, it was observed that most of the cluster units deploy obsolete technologies and are unable to meet the requirements of the market due to lack of availability of modern machines/equipment. The finishing of products is ordinary due to dependence on manual techniques and conventional machines.

The Director Industries & Commerce, Haryana approved the DSR on 21st November 2017. The approval of DSR and permission to undertake the Detailed Project Report (DPR) are provided in **Annexure 1**. The SPV was granted permission to go ahead with preparation of DPR for the cluster. The DPR has been validated by DI&C & approved for the next coming SLSC. The minutes of meeting provided in **Annexure 2.** The major findings of the DSR are presented below:

3.1 Cluster Actors and their role

The primary stakeholders in the cluster are the Auto Component units based in various parts of the Faridabad district. The other stakeholders include the major industry associations, government agencies, regulatory bodies, raw material suppliers, financial institutions and academic/training institutes. These cluster actors provide various services to the cluster units. Some of the major cluster actors are located outside the cluster and catering to the units of the region. The key stakeholders for Faridabad Auto Component cluster are:

A. Government Bodies

- **District Industries Centre (DIC), Faridabad**

  DIC is the most important government stakeholder for the cluster. The office of DIC comes under the Dept. of Industries and is headed by the Deputy Director who is assisted by functional managers and technical field officers. DIC promotes and routes subsidy to micro and small enterprises in the region. The Mini Cluster Scheme under which the Auto Component units want to set up a CFC will also be implemented through the DIC office. The Faridabad DIC is actively promoting cluster development in the district and helps the local units register under Unique Aadhar Memorandum (UAM). It would play a key role in formulation of the Auto Component units SPV.

- **MSME-Development Institute (MSME-DI), Delhi**

  MSME-Development Institute, Delhi is a field office of the Development Commissioner (MSME), Ministry of MSME, New Delhi, 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 provides a wide range of extension / support services to the MSMEs in the state.

- **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, etc.

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

  National Small Industries Corporation (NSIC) was established in the year 1955 with a view to promote aid and foster growth of small industries in the country. Faridabad industry is served by the NSIC branch office in Faridabad. It provides diverse services to MSMEs in Faridabad such as:

  - Help entrepreneurs in purchasing machinery and equipment
  - Equipment leasing and working capital finance
  - Information on technological up gradation
  - Composite loan scheme and export assistance

- **Haryana State Pollution Control Board (HSPCB)**

  HSPCB is a major stakeholder for the industries operating in the region from the environmental viewpoint. The main functions of the board are: (a) to make sure that the units comply with the environmental regulations; (b) to collect and disseminate information relating to pollution and the prevention, control or abatement thereof; (c) to encourage, conduct and participate in investigations and research relating to problems of pollution. The board also has to implement the regulations laid out by Central Pollution Control Board (CPCB). Faridabad Auto Component cluster shall be required to obtain clearances form HSPCB to start its CFC operations.

B. Industry Associations

- **Haryana Chamber of Commerce & Industries, Faridabad Chapter (HCCI)**

  HCCI is the apex industry association of the MSMEs of Haryana and has presence in all major industrial districts of Haryana. HCCI raises and addresses the problems faced by industries in the state in a coordinated manner through its chapters. It also liaisons closely with the State and the Central Government to raise its concerns for development of industries in the state in a collective manner. Haryana Chamber of Commerce and Industry Faridabad is the major industry association of the cluster. Having over 500 engineering units as members, the association addresses the issues related to the welfare and grievance redressal of their member industries.

- **Faridabad IMT Industries Association (FIMTIA)**

  FIMTIA was incorporated on 29 September 2014. It is classified as Guarantee and Association Company and is registered at Registrar of Companies, Delhi. FIMTIA addresses the problems faced by the industries in Faridabad and is a major industry association of the cluster. Having over 250 engineering units as members, the association addresses the issues related to the welfare and grievance redressal of their member industries. Many of the SPV members are members of this association.

- **Faridabad Industries Association (FIA)**
  A group of enterprising industrialists established Faridabad Industries Association in 1952. The Association plays key role in establishing connect between the industry and the Government. FIA has about 500 members and is one of the most effective and out spoken industry association in the Northern Region. Besides, helping the industry in terms of getting their views across to the Government and addressing individual company's grievances, the Faridabad Industries Association is also involved in various corporate social responsibilities like environment, sports, cultural, rural education, blood donation camp etc.

- **Faridabad Chamber of Commerce and Industry (FCCI)**
  FICCI is an organization with 18 years of history of serving the interests of industries located in Faridabad. The main objective of FICCI is to promote, develop and facilitate industries, trade and commerce and create a friendly environment, unanimity amongst its members. FCCI holds regular meetings with the members to discuss the common problems faced by the industry and find solutions to common problems.

- **Faridabad Small Industries Association (FSIA)**
  FSIA is the largest association of MSMEs in Haryana, and has been representing problems of small industries and working towards their overall development. The association has MoUs with Small Industries Development Bank of India (SIDBI) and National Small Industries Corporation (NSIC) to provide various services to MSMEs. FSIA is also actively associate with various national bodies like CII, FICCI, etc. FSIA provides free services such as filing of income tax returns, preparation of balance sheet, sales tax consultation, allotment of PAN, TAN & TDS procedures, etc. to new entrepreneurs for the first 2 years. 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.

C. BDS Providers/ Banks / FIs

- **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.

- **Haryana Financial Corporation (HFC)**

  The Government of Haryana and the Industrial Development Bank of India (IDBI) promoted Haryana Financial Corporation, based in Chandigarh jointly. 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/Public sector bank

- **Syndicate Bank, Faridabad**

  Punjab National Bank is the lead bank of the Faridabad district and many local Auto Component units have a banking relationship with Punjab National Bank. SPV shall obtain the working capital loan from Punjab National Bank for operation of CFC under Mini cluster scheme.

D. Educational Institutes

- **YMCA Institute of Engineering (YMCA IE), Faridabad:** YMCA is a state university located in Faridabad, in the state of Haryana. It was established in 1969. National Assessment and Accreditation Council, an autonomous body funded by the UGC, has accredited the University with 'A Grade'. It is offering B.Tech courses in several Engineering fields such as Computer Engineering, Information Technology, Mechanical Engineering, Electrical Engineering, Electronics & Communication Engineering and Electronics Instrumentation & Control.

- **Institute of Indian Foundry men (IIF):** IIF focuses on promoting education, research, training and development to Indian foundry men and to serve as a nodal point of reference between the customers and suppliers of the Indian foundry industry on a global scale. It helps in capacity building of entrepreneurs in the foundry sector in Faridabad.

- **Delhi Engineering College, Faridabad (DEC):** DEC is offering teachings and instructions in engineering and applied sciences at a level that is comparable to the very best in the World. DEC is an ISO 9001:2008 certified college. DEC is offering B.Tech (4 year) Degree program (regular) in Mechanical Engineering, Electrical and Electronics Engineering & Civil Engineering affiliated to AICTE, DTE, and Ministry of HRD & Govt. of India.

- **Haryana Vishwakarma skills university (HVSU):** HVSU has been enacted by the legislature of the state of Haryana with an objective to establish a Skill University in order to facilitate and promote skill, entrepreneurship development, skill based education and research in the emerging areas of manufacturing, textile, design, logistics, transportation, automation, maintenance, etc. and to raise skill level in various fields related to these areas. The University is also offering the diploma & undergraduate courses for automobiles engineering.
- **Regional Labour Institute, (RLI) Faridabad:** RLI focuses on Industrial Safety and organising training programs for the shop floor workforce. Other academic institutions like Manav Rachna International University (MRIU), also provide training to engineering students in the premises of the industrial unit for process re-engineering along with FIA.

E. Leading Manufacturers

Some of the leading vendors/auto component manufacturers in Faridabad include Sarna Engineering works, JS Industries, Reva Industries, and Paul Global Enterprises and so on.

Major OEM: Maruti Suzuki plants at Gurugram & Manesar, Honda Two wheeler Plant at Manesar & Hero MotoCorp's motorcycle Plant at Gurgaon/Dharuhera, Escorts, JCB & Tafe Tractors at Faridabad are the anchors, which have facilitated growth in the automobiles & auto components sector.

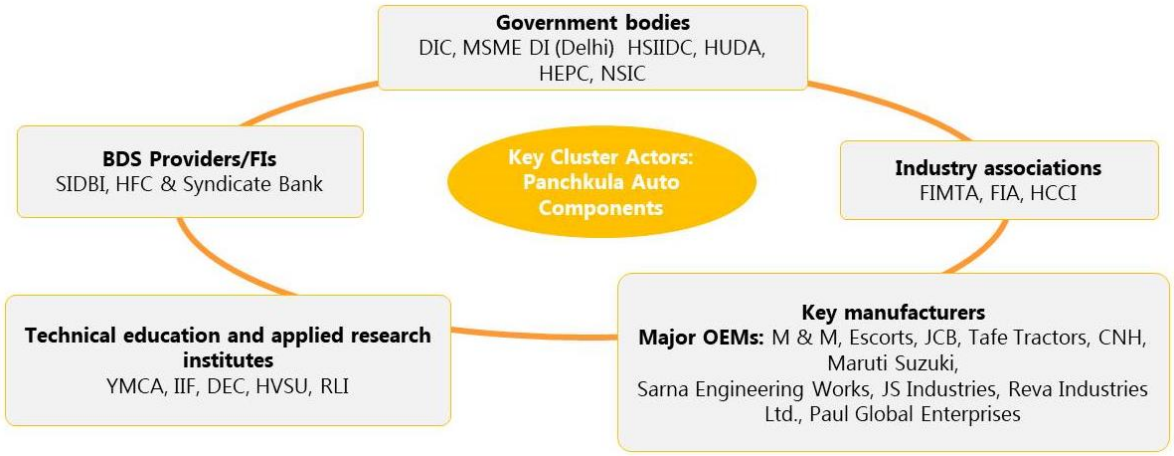

Figure 7: Key Cluster Actors

3.2 Cluster Turnover, Market and Employment

The cumulative annual turnover of the auto components cluster is estimated to be around Rs. 20,000 crores. However, there is an enormous potential of increasing the production from cluster units by reducing the outsourcing of activities by units to private players. This would also result in enhanced turnover.

The majority of engineering units in the cluster are vendors to large manufacturers, supplying various components to OEMs. The OEMs generally have a pool of permanent vendors registered with them for supplying all kinds of products on demand basis. The major OEMs that are being catered by the cluster units have been mentioned in the previous section. The OEMs directly invite quotations from the vendors and no intermediately is involved in the business exchange.

The Faridabad auto components industry is labour intensive. The cluster provides employment to about 3,00,000 persons for activities including manufacturing, fabrication, cutting, moulding, finishing, painting, etc. On average, micro units employ approximately 15 people, and small units in the cluster employ approximately 50 people. The Faridabad

auto components industry employs a good number of women, with about 30% of the workforce comprising of women.

However, there is an enormous potential to improve the quality of products and reduce the cost of production by employing efficient technology as common facility. This would also result in increased turnover. Currently, units are charged high prices for services such as forging, electroplating & laser cutting, which affect their competitiveness. The DSR focuses on identifying these issues and recommend around these.

3.3 Production Process

Although large varieties of products are manufactured by, each category of units, and the processes followed by these units broadly remains the same. Most of the vendors manufacture the components based upon drawings provided by their respective OEMs.

The production process for each category of engineering product is mentioned below:

- **Tractor/auto part units**

  The raw material is welded first in the welding section. If the material is having rust on its surface it goes for shot blasting where the air and small iron particles are forced on material to clean the surface. Based on requirements, processes such as milling, boring, radial drilling operations are done. If required, the process such as welding is carried out. Depending on the type of parts to be manufactured, bench drilling and bush millings are done. Spare spots are developed over materials, which are wielded which are later removed by hand filling. Then it goes to blower painting booth for painting and is then dispatched.

Figure 8: Production flow chart of auto/tractor components

- **Sheet fabrication units**

  These units use metal sheets as raw materials (to produce different auto/ tractor/ crane components) which are bent into desired shapes according to the customer requirements. Production is carried out though a number of processes such as

shearing, bending, wielding, punching, pressing, grinding and painting. The below-mentioned processes account for maximum energy consumption.

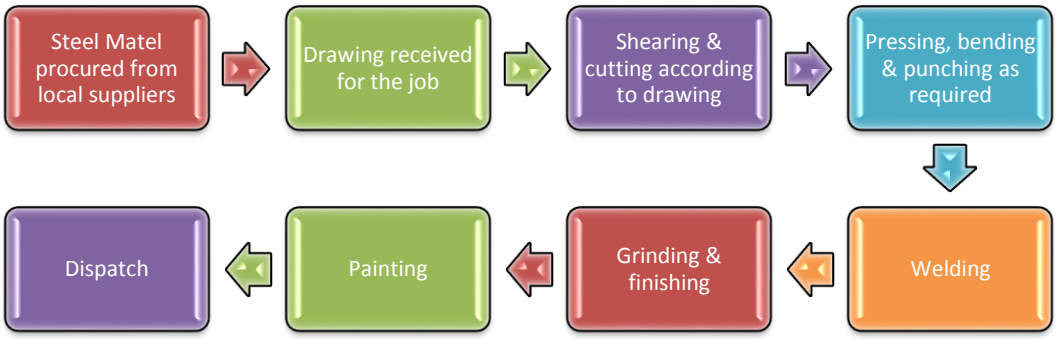

Figure 9: Production flow chart of steel fabrication units

- **Foundry**

The foundry units in the cluster are manufacturing automotive castings. The major steps involved in the production process are detailed below:

- **Mould sand preparation:** Fresh sand is mixed with bentonite and other additives and mixed in muller to make green sand.
- **Moulding:** The mould sand is pressed by machines or manually on the pattern to make the mould. Then the upper and lower halves of mould are assembled together to prepare the complete mould.
- **Charging:** The charged metallic such as pig iron, scrap, foundry returns and other alloys are weighted and charged in the furnace for melting.
- **Melting:** The metal charge is melted in either a cupola or an induction furnace.

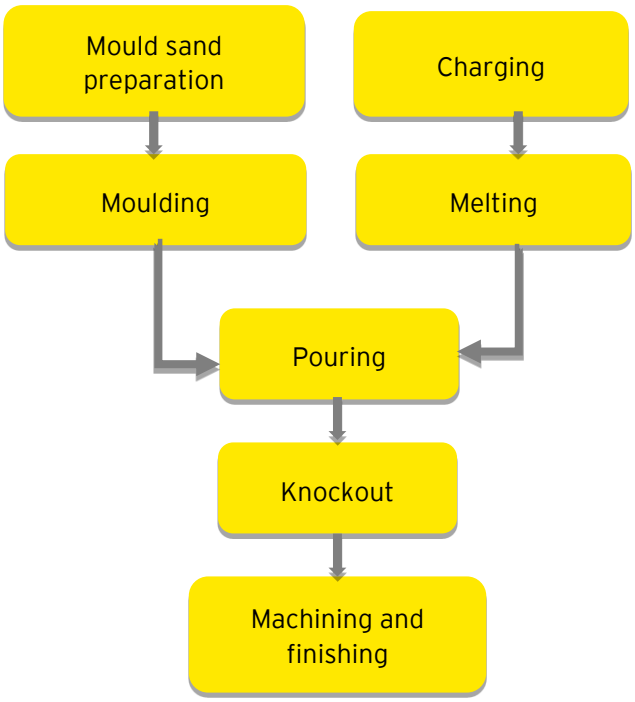

Figure 10: Production flow chart of Foundry

- **Top Link Assembly:** Process flow chart of top link assembly is mentioned below:

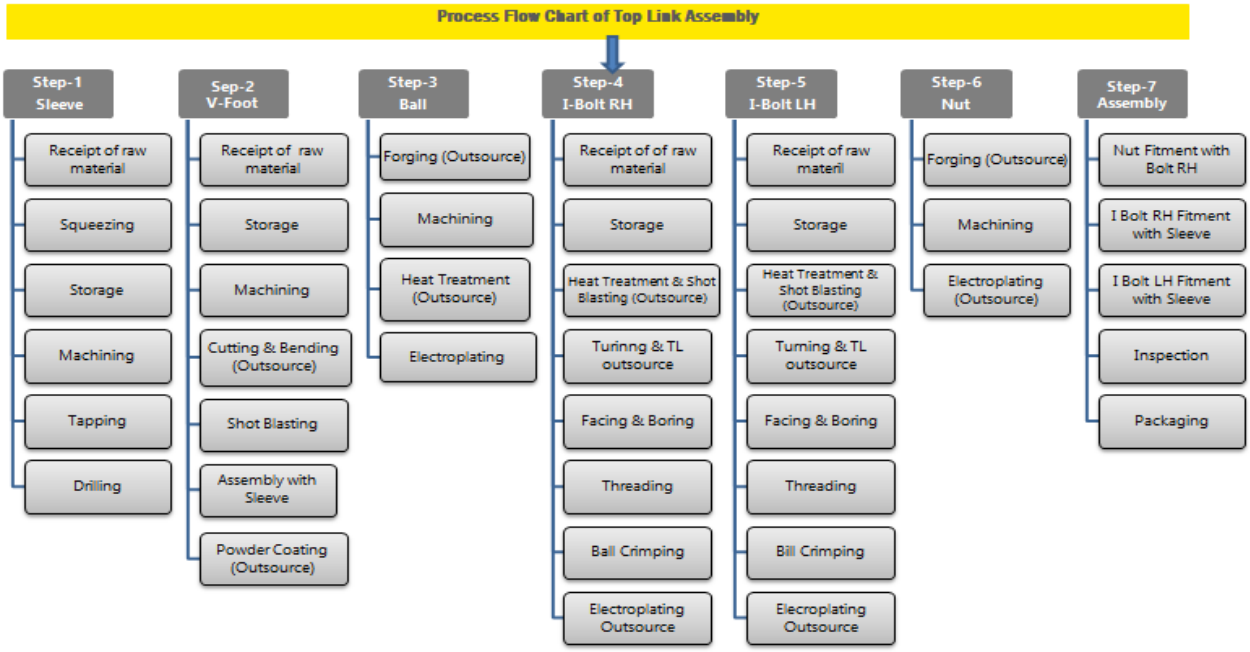

Figure 11: Production flow chart of top link assembly

3.4 Value Chain Analysis

Value chain analysis of the most commonly produced cluster product has been conducted to ascertain the major cost areas and identify suitable interventions. The value chain analysis is provided in table 1:

Table 1: Value Chain Analysis of top link assembly

Particulars	Value Added	Total Value (Rs.)	% of cost of production
Raw Material Cost (Link Assembly RH, Ball LH, Ball RH, Sleeve, Handle, Nut, Retainer, Assembly)	432	432	61.6
Processing	81	513	11.6
Manpower	41	554	5.8
Electricity	30	584	4.3
Inventory carrying cost	16	600	2.3
Heat Treatment	52	652	7.4
Electroplating	42	694	6.0

Rejection & other Overhead	7	701	1.0
Total Production Cost	701		
Profit Margin (5.2%)	37		
Selling Price	738		

The value chain analysis has been prepared based on the stakeholder consultations. It can be observed from the table above that raw materials amount to 61.6% of total selling price. Post the creation of the CFC, there will be reduction in raw material consumption and a subsequent reduction of cost of production. As the products are manufactured through old machinery, about 11.6% of cost of production is attributed to processing cost. The electricity cost is around 4.3% of the selling price. Heat treatment & electroplating is 13.4% of the selling cost, which can be reduced after implementation of the CFC. The overheads & rejection cost is 1.0% of the total selling price. The competitiveness of the cluster units can be increased by targeting these major cost areas and providing better facilities to the units.

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

A SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of the auto component units in the cluster has been carried out keeping in mind the technology, marketing, product quality, skills, inputs, innovation, business environment and energy/environment compliance of the units. The SWOT analysis is provided in table:

Table 2: SWOT analysis of the cluster

Area	Current situation		Future	
	Strengths	Weaknesses	Opportunities	Threats
Market	► Auto components industry has established tie-ups with OEMs for orders ► Cluster located within Faridabad Industrial area, which is well connected. ► Cluster located in the proximity of Delhi, which is a major supply hub. ► Presence of a large number of Anchor units in the region. Like JCB, JBM, Escorts, Tafe Tractors, Maruti Suzuki, etc.	► Presence of other large players to whom bulk orders are made. ► Due to lack of Economies of Scale, they are unable to compete in global markets. ► Lack of technology up gradation keeps them away from markets.	► As the major Automakers are converging to India, it has the potential to become Global manufacturing hub for Auto Components. ► Adhere to quality standards by taking assistance from Govt. schemes.	► Intense competition from global market. ► Over dependence on a few OEMs ► Increasing FTA (Free Trade Agreement) that are being signed by India with ASEAN countries may hurt them as they become more competitive in pricing
Technology /Product Quality	► Availability of Skilled labour and qualified engineers is at par with developed world.	► Low degree of mechanisation ► Absence of laser cutting facilities	► Increased level of mechanisation ► Setting up laser cutting machine under CFC mode.	► Increase in cost of production ► Increase in awareness of people on quality certifications shall lead

Area	Current situation		Future	
	Strengths	Weaknesses	Opportunities	Threats
	► Presently the labour cost is competitive vis-a-vis international markets.	► Absence of modern heat treatment & electroplating facilities ► Poor resource efficiency / higher energy consumption ► Absence of hammering facility cluster for heavy engineering products ► High cost of die making prohibiting manufacturers from moving to other products quickly.	► Setting up heat treatment & electroplating centre under CFC mode. ► Increased the resource efficiency & energy consumption. ► Setting up the forging hammer facility. ► Enhance the quality of final product.	to losing out to business / requirement for more stringent testing procedures. ► Competition from vendors manufacturing products at lower costs with laser cutting, heat treatment & electroplating facilities ► Faster technology obsolescence.
Skill/Manpower	► Availability of Skilled labour and qualified engineers is at par with developed world. ► Presently the labour cost is competitive vis-a-vis international markets.	► Lack of coordination between MSMEs and technical institutes for providing technical training. ► Absence of regular updating of curriculum as per needs of industry.	► Customized training programs on required skills (operations, soft skills etc.) ► Engagement with Technical Institutes for skill development programs	► Youth interested to work in other lucrative sectors resulting in shortage of skilled labour especially sincere one.

Area	Current situation		Future	
	Strengths	Weaknesses	Opportunities	Threats
Inputs	▶ Availability of raw materials from local dealers. ▶ Buyers sometimes specify dealers from whom they want materials	▶ No web portal displaying prices and sources of raw materials. ▶ Higher cost for capital and working capital as compared with competing countries	▶ 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. ▶ Also, rework on the interest rate for finance.	▶ Also, rework on the interest rate for finance.
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 Faridabad.	▶ 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.	▶ Create awareness of government schemes and regulations. ▶ Create CFCs for Raw Material (raw material banks) and final product testing and large unit for processing of common process that ensures economies of scale.	▶ Change in policies like zoning plans etc. ▶ Prohibitive land costs may stall expansion resulting lack of Economies of Scale ▶ Stringent adherence to Environmental policies may affect the MSMEs
Energy/ Environment	▶ Increased focus on environment due to requirement from buyers.	▶ Lack of knowledge of energy efficiency resulting in higher energy consumption.	▶ Regular checks on maintaining energy efficiency.	▶ Soaring power tariff ▶ Increased focus on environment standards

Area	Current situation		Future	
	Strengths	Weaknesses	Opportunities	Threats
		▶ Absence of pro-environment electroplating facilities. ▶ Usage of conventional machines leading to excess energy consumption	▶ Establish CFC with latest technologies for Auto Components at Faridabad.	▶ Stricter regulations leading to closure of units undertaking hazardous electroplating

3.6 Major Issues / Problem Areas of the Cluster

The key cluster related problems identified are below:

- Absence of Laser Cutting machine: Metal cutting is an important part of the manufacturing process for a majority of auto components. At present, the cluster units are using profile projection for metal cutting, which is unable to cut the sheet metal according to the proper dimension. This leads to material wastage & the cost of the production is increased. In addition, some of the units are cutting the sheet metal with help of sharing machine, which is time-consuming process & results in delays in production. The capacity of the units to sheet metal up to 12mm only. Therefore, by establishment laser cutting machine units are able to cut the metal up to 32 mm. The laser-cutting machine can help to reduce the wastages & increase production capacity of the units.
- Absence of Heat Treatment facilities: Heat treatment is an essential element of producing a quality auto component. Heat Treatment of components is carried out to enhance the strength/ mechanical properties of the material like tensile strength, hardeness, impact strength, torque strength, fatigue strength etc. These properties provide strength, hardness, ductility, toughness, and wear resistance to the product. Heat Treatment is required for improving the mechanical properties of the steel such as tensile and yield strength. The facilities for heat treatment are to be outsourced by the cluster units. At present, the cluster units are depending on private player for heat treatment, which is time-consuming process, & private player charges high prices.

- Absence of Electroplating Facilities: Coating and plating is among the most essential production process of tractor parts, auto parts, sheet metal parts & fastener. Electroplating is essential for every type and size of tractor parts, auto parts, sheet metal parts & fastener. For resistance to corrosion and improving appearance, various protective coatings are required on the tractor parts, auto parts, sheet metal & fasteners. Coatings also impart special property to the tractor parts, auto parts & fastener in order to control the amount of torque, which is required to tighten a threaded tractor parts, auto parts & fastener. At present, the cluster units are depending on private player for electroplating facilities. The following facilities will set up under the cluster banner:

    - 3 Barrel
    - Drying Machine

    Due to inexistence of these facilities, the units face frequent production delays, cost inefficiencies, rejections, material wastages and loss in market shares. These facilities if provided through CFC in the cluster with government support will help units become competitive and move up the value chain.

3.7 Key technologies missing

The technological gaps on various fronts that the CFC proposes to target, along with scope and illustration of major facilities is provided in table 4.

Table 3: Rationale for hard interventions

Rationale for proposed hard interventions under CFC mode	
Critical technology gaps in the cluster	**Proposed technology interventions to enhance cluster's competitiveness through CFC mode**
Metal Cutting Centre	
At present, the cluster units are using profile projection for metal cutting. The profile projection is unable to cut the metal according to the proper dimension, which leads to material wastage & the cost of the production is increased. Additionally the units have the capacity to cut upto 12 mm metal sheet. Most of the units are also using shearing machine for metal cutting. The lack of a laser-cutting machine also results in production delays and material wastage.	Laser cutting machine can be used at CFC to cut through electrically conductive materials by means of an accelerated jet of hot plasma. The laser-cutting machine cut the metal sheet in proper shape. This machine has the capacity to cut metal sheet up to 32 mm. This improves the quality significantly. In addition, the machine is also useful to cut heavy fork, hydraulic stand for JCB machines. It also helps to reduce the wastages of material. This facility will be used at the CFC on commercial basis.
Heat Treatment Centre	
Heat treatment is an essential element of producing quality auto components. The facilities for heat treatment are not up to the mark in the cluster as micro level units using old conventional technologies perform these. The cluster has an obsolete facility using manual processes for heat treatment. There is a lot of waiting time and the desires quantity and quality is not achieved. Due to obsolete heat treatment facilities, the products often are rejected at the buyer end. At present, the cluster units depend on private player for heat treatment that is time-consuming process & private player charges high prices.	In heat treatment, the whole process takes place in near vacuum and quenching is done by high pressure gases injected from all sides, thus avoiding differential quenching and subsequent distortion. Since the component treated by this process has no scale formation and minimal distortion, they can be used immediately. The facility will assist in economic and efficient Heat Treatment of products, especially for auto components. Also along with the heat treatment facility, hardening, tempering & case hardening machines will be set up. By establishing this facility under the banner of CFC, units can save time & increase the production capacity of the cluster units. This facility will run on commercial basis.

Electroplating Centre	
Coating and plating is among the most essential production part of tractor parts, auto parts, sheet metal parts & fastener. Electroplating is essential for every type and size of tractor parts, auto parts, and sheet metal parts. For resistance to corrosion and improving appearance various protective coatings are required on the auto products. Coatings also impart special property to the tractor parts, auto partsin order to control the amount of torque, which is required to tighten a threaded tractor parts, auto parts & fastener. At present, the cluster units are dependent on private player for electroplating facilities, which is time consuming & cost intensive .	Coating will impart special property to the tractor parts, auto parts & fastener to control the amount of torque, which is required to tighten a threaded tractor parts, auto parts & fastener. The following facilities will set up under the cluster banner: ► 3 barrel ► Drying Machine ► ETP At present, the cluster units are dependent on private player for electroplating facilities. By providing this facility the cluster units, will be able to enhance their production capacity.

3.8 Cluster growth potential

Haryana is a leading auto-components manufacturing state in India and the auto components cluster in Faridabad is a strategic one given is its proximity to New Delhi and presence in the NCR. The NCR region has one of the largest concentration of automobile manufacturers, besides Pune and Chennai. Most of the output of the cluster is for the auto components industry thus proximity to the OEMs is an advantage. Many of the tier-1 suppliers are also based nearby and buy in bulk from the cluster units.

The cluster units will be at benefit in marketing and communication to OEMs when they have the capacity to directly supply hi-quality auto components in large quantities at reasonable prices. The automobile industry is set to grow at a tremendous pace in the coming years owing to higher disposable income and easy credit availability. There are several new car models being launched and = by the manufacturers and this would require setting up of additional production facilities. They would also rely on the tractor components and auto components units of Faridabad to meet their demands locally instead of importing them.. This gives opportunity for the Cluster to increase its market size and share.

The Faridabad Auto Components cluster has an amazing potential to grow and supply good quality products at right price and in right time to OEMs, if provided with a state-of-the art centre of excellence having modern laser cutting, heat treatment, electroplating facilities under the banner of Common Facility Centre.

Diagnostic Study Recommendations

4. Diagnostic Study Recommendations

Based upon the DSR and subsequent discussions with various cluster stakeholders and members of Faridabad Auto Component cluster during formulation of this Detailed Project Report (DPR), a CFC comprising of hard interventions is being proposed to enhance the competitiveness of the cluster units. These have to be undertaken with government support to ensure the survival and growth of the Auto Component units in Faridabad. The recommendations for both soft and hard interventions have been elaborated in subsequent sections.

4.1 Soft Interventions Recommended and Action Taken

The cluster stakeholders have a history of undertaking joint initiatives some of the major soft interventions conducted by the cluster units autonomously are mentioned below:

1. **Capacity Building and Awareness Generation:** One of the primary recommendations for soft interventions was to build the capacities of cluster units and generate awareness among stakeholders regarding cluster development (collective approach to address their issues) and benefits available to them in the form of cluster. In this regard, the cluster units had organized a series of workshops, the details of which are provided below:

   - **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 August 2017 in Faridabad to enhance cooperation among member units and to obtain inputs for the DPR. Members of the cluster were informed about the registration of partnership firm for the cluster and identification of land for the CFC. Members of the cluster raised their concerns during the meeting that were resolved by other members of the cluster.

   - **Awareness program on Infrastructure Scheme:** An awareness program on infrastructure schemes was organised by the Faridabad Industries Association with association of All India Industry Association Chamber of Faridabad in the month of July 2017. Members of the auto components attended the programme and were made aware of the various government infrastructure scheme & raised

their concerns during the program, which were resolved by other members of the cluster.

- **Awareness program on GST:** An awareness program on GST was organised by Faridabad IMT Industries Association in the month of July 2017. The member of Faridabad auto components cluster also attended the workshop. During the programme, the members of the cluster raised their points which were resolved by the presenter.

- **Awareness programme on ZED (Zero Effect Zero Defect):** FIA organised an event on September 2017 in Panchkula with the help of QCI, New Delhi on Zero Defect, Zero Effect in which 42 members too part and shared their views with the faculty of Government of India. The members of Faridabad auto components cluster also attended the awareness on ZED.

4.2 Hard Interventions (Machines / Technology in the proposed CFC)

The auto components units in Faridabad need technological support to enhance their competitiveness. The units are reeling under stiff competition and low margins, and require modern high capacity automatic machines, other related equipment to get their job work done and reduce their production costs. The following common infrastructural facilities are being proposed for the CFC, with support from the state industry department.

- **Plasma Laser Cutting Machine (32mm)** Plasma cutting machine can be used at CFC to cut through electrically conductive materials by means of an accelerated jet of hot plasma. Typical materials involve plasma torch including steel, Stainless steel, aluminium, brass and copper, although other conductive metals may be used for cutting as well. The plasma cutting machine works by sending an electric arc through a gas that is passing through a constricted opening. It produce a very hot and very localized "cone" to cut with, they are extremely useful for cutting

sheet metal in curved or angled shapes. This machine has the capacity to cut metal sheet upto 32 mm with given dimension. This improves the quality significantly.

At present, the cluster units are using profile projection for metal cutting. The profile projection is unable to cut the metal according to the proper dimension, which leads to material wastage, inconsistent quality and the cost of the production is increased. The units have the capacity to cut upto 20 mm metal sheet. In addition, the profile cutting machine is unable the metal according to the proper dimension which leads to material wastage & increased the cost of production.

- **Heat Treatment Facility**

Heat treatment centre helps to change certain characteristics of metals and alloys in order to make them more suitable for a particular kind of application. It is essential for mechanical properties such as strength, hardness, ductility, toughness, and wears resistance of the alloys. The process involves altering the molecular structure of steel in order to produce more durable microstructure. 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 form an important component of this process.

The facilities for heat treatment are not up to the mark in the cluster as micro level units are using old conventional technologies to perform these. The heat treatment centre facility will consist of following machines under the banner of CFC:

- **Continuous Furnace & Tempering**

Continuous furnaces are the right choice for processes with fixed cycle times such as drying or preheating, curing, aging, vulcanization or degassing. The furnaces are available for various temperatures up to a maximum of 1400 °C. The furnace design depends on the required throughput, the process requirements for heat treatment and the required cycle time. The conveyor technology is tailored to the required working temperature, geometry and weight of the charge and to the requirements regarding available space and integration into the process chain.

A method for alleviating this problem is called tempering. Most applications require that quenched parts be tempered. Tempering consists of heating steel below the

lower critical temperature to impart some toughness. Higher tempering temperature is sometimes used to impart further ductility, although some yield strength is lost. Tempering may also be performed on normalized steels. At present, the cluster units are depended on private player for this facility, which led to delays in production.

- **Case Hardening & Tempering Chamber**
  This thermo-chemical process is designed to enrich the work piece with carbon. The method applied at harder metal is based on gas carburization, which can be very easily regulated and allows precise specifications for subsequent hardening profiles. After carburization, the components are hardened and then stress relieved in a tempering process. Besides their high surface harnesses and resistance to wear, the heat-treated work pieces also exhibit high fatigue strengths. Specific time and temperature variations during the carburizing, hardening, and stress relief processes serve to optimize the material properties and minimize changes to geometry caused by these processes' special batching techniques. At present, the cluster units are dependent on private player for this facility, which leads to delays in production & increases the cost of production.

- **Electroplating Plant**
  Platings are the 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 part 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.

- **Effluent Treatment Plant**
  The plant will be designed for treating industrial wastewater discharge during plating process for its reuse and safe disposal. The ETP will be medium sized in capacity to handle water discharge of approx. 20 KLD/ day and for treating electroplating related effluents such as oil, physio-chemical, zinc, nickel etc. The treated water will be used for irrigation.

4.3 Expected Outcome after Intervention

The project will be beneficial for Auto Component units in 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.
- Higher degree of competitiveness of cluster enterprises.
- Scope for the cluster to target new market segments by developing new and improved products.
- The requirements of SPV members are adequate to utilize the capacity of the CFC. Nevertheless all cluster firms shall be encouraged to use the facility. Many micro and small 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 even with low equity contribution.
- 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 micro enterprise clusters.

Table 4: Expected Outcome of CFC

Area	Current Scenario	Expected Out Comes
Production Units	About 15000 MSMEs	About 15300 MSMEs
Competitiveness	Most of the units are unable to price their products competitively, and are priced out by other countries	Units will be able to competitively price their products and compete with international players in the market Better export competitiveness
Employment	About 300000	About 305000
Technology	• No digital laser metal cutting facilities with prices that allow for competitiveness • No latest forging hammer, heat treatment, Electroplating facility with prices that allow for competitiveness	• Digital laser cutting facilities for units to use at a nominal fee • Hammer facility for units to use at a nominal fee • Continuous Furnace & Tempering Case Hardening & Tempering Chamber, Hardening & Tempering Chamber facilities for units to use at nominal fee • 3 Barrel & Drying Machine facilities to use at nominal fee
Production	• Delays • High costs	• Quick Production • Lowered production costs • Competitive prices
Turn Over	About 20000 crores	Will increase by 10% each year

Special Purpose Vehicle (SPV) for Project Implementation

5. SPV for Project Implementation

The micro units at Auto Component cluster, Faridabad came together to form a Special Purpose Vehicle (SPV) as partnership firm under the Partnership Act, 1932. The SPV is named as **'Faridabad Auto Components Cluster'**. The SPV was registered on 7th December 2017. The partnership registration deed is attached as **Annexure-3.** The members are micro-sized firms (registered units) involved in Auto Component related activities, predominately based in Faridabad.

DIC, Faridabad both played an important role in SPV formation by cluster stakeholders. The SPV includes about 11 members who are subscribing to the necessary contribution of the partnership. 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 'Faridabad Auto Components Cluster' by availing support from Government of Haryana (under EPP 2015) state mini cluster development scheme.

The SPV members have a strong record of accomplishment 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 Auto Component and enhancing productivity of their units as mentioned in the previous sections. These include exposure to cluster development initiatives in other clusters, exposure visits to fairs, registration under UAM and awareness programs on GST, new trends in Auto Component industry, lean manufacturing, design interventions and new technologies. These programs were conducted in collaboration with DIC and BDS providers, FIMTIA and so on.

The EY team has conducted a series of stakeholder consultations (with various members, DIC, Faridabad and other 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 scheme in Faridabad and has helped in validation of findings and recommendations. It has kept the state government and the DIC Faridabad engaged during the entire period of preparation of DSR and DPR.

5.1 Shareholder profile and Shareholding mix

List of Partners: The SPV has eleven partners. The details of the lead partners are furnished in the table 6. Other than these partners, the SPV will have provision of having one partner (without financial stake and without any liability) from the state government. The SPV comprises members from micro & small auto components manufacturing units. It is homogeneous in nature due to similar products and activities performed by the cluster units.

Table 5: List of lead Partners

S. No.	Contact Person	Company Name	Address of Unit
1	Mr. Pappujit Singh Sarna	JS Industries	16/2 Karkhanan Bagh Mathura Road Faridabad
2	Mr. KP Mangla	SM Auto Industries	E-9 Sector 23, Sanjay Colony Faridabad
3	Mr. Tarundeep Sarna	Sarna Engineering Works	Karkhanan Bagh Mathura Road Faridabad

The lead partners have several years of successful experience in production of auto products and are well versed with the benefits of cluster development initiatives. These units are financially viable in nature.

Members of the SPV have been engaged in production of auto components products in Faridabad for several years. The partners of the SPV also have considerable experience in marketing and manufacturing of auto components products. The partners have been in close interactions with technical experts, government institutions and machinery suppliers. The DIC Faridabad also acknowledged the genuineness of the SPV members to undertake project initiatives under state mini cluster scheme as well as verified the existence of the SPV members. The verified list is provided in **Annexure 4**.

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 partner holds more than 10% equal contribution in partnership firm. Details of SPV members along with their contact persons, unit details, UAM numbers and products manufactured are provided in table 6.

Table 6: Details of SPV Members of Auto Component Cluster, Faridabad

S.No.	Contact Person	Company Name	Contact No.	Address of Unit	Products	UAM Number
1	Mr. Pappujit Singh Sarna	JS Industries	9810039398	16/2 Karkhanan Bagh Mathura Road Faridabad	Tractor auto parts, sheet metal fabrication	HR03B0004618
2	Mr. Nimit Paul	Paul Global Enterprises	9811520250	Plot No. 1 Chanda Complex Dharam Kanta Raod, Faridabad	Auto Components	HR03B0007001
3	Mr. KP Mangla	SM Auto Industries	9417317853	E-9 Sector 23, Sanjay Colony Faridabad	Tractor Components	HR03A0000824
4	Mr. Tarundeep Sarna	Sarna Engineering Works	981851287	16/2 Karkhanan Bagh Mathura Road Faridabad	Tractor Parts	HR03B0005253
5	Mr. Baljeet Singh	Anmol Auto Electricals	9810407238	23B/17 Industrial Area, NIT Faridabad	Tractor Components	HR03B0003131
6	Mr. Rajesh Kumar	Five ESS Precision Components Pvt. Ltd	9810260536	3D/4A B.P NIT, Faridabad	Auto Components	HR03B0003216
7	Mr. OP Bhatia	Brasso Forge Ltd.	981110198	Khasra No. 44/12/3/1 Air Faridabad, India	Auto Components	HR03C0000294
8	Mr. Jasmit Singh	Scaff Build India	9818549987	Sareen Complex, 16/2, Mathura Road, Faridabad	Scaffolding Items	HR03B0006937
9	Mr. Karan Malik	International Automotive	9899284254	Plot No. 6 Samyepur Industrial Area Sector-56 Faridabad	Auto Components	HR03B0004495
10	Mr. Balraj Goyal	Reva Industries Ltd	9810014144	Plot No 28 Sector 25 Faridabad	Crane Components Manufacturing	HR030001013
11	Mr. Charanjit Singh	Sarna Enterprises	7503041999	725 Raja Garden Sector 19 Faridabad	Tractors Parts	HR03B0006985

5.2 Initiatives undertaken by the SP

As detailed in section 4.1 (Soft interventions recommended and action taken), 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. These initiatives have been undertaken in collaboration with DIC, EY, MSME-DI, FIMTIA, FIA etc. The major initiatives are:

- Pursuing initiatives in close coordination with DIC and MSME-DI Faridabad to facilitate understanding of cluster development, common procurement, marketing, available government support, latest technology for common facility etc.
- Exposure visit to NCR to understand the latest available technology and machinery related to Auto Component manufacturing. This would help them to adopt latest methods and machinery for Auto Component and made them more competitive in market.
- Exposure visits to trade fairs and machinery fairs for auto components in NCR and large factories in other locations to understand the technology, market requirement and available opportunities.
- Conducting various programs for capacity building, awareness generation and technological advancement in the cluster as well as participation in similar programs organized by stakeholders.
- Identification of building on lease in the name of SPV.

5.3 SPV Roles and Responsibilities

The SPV will play an important role in the overall management and operations of the CFC. It will provide directions towards 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 based on decision by members of SPV.

- Preparation and submission of progress reports to state industry department.

The Partnership deed of the cluster SPV indicates the terms of decision-making based on mutual consent of all the partners. 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. lead working partners will include office bearers elected/nominated from time to time, 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 Partners, and the day-to-day administration will be taken care of by the management that shall be appointed by the SPV Partners. Their role is detailed below:

1. **Lead Partners**: The lead working partners 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 lead working partners will oversee the entire operations; each partner 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 qualified professional with a background in the Auto Component industry will be appointed as the Manager, who will look after day-to-day operations of the CFC and shall be directly reporting to the lead working partners. In addition, a Cluster Development Executive having knowledge and experience in the cluster development domain will be hired. Each facility (cutting, heat treatment, electroplating etc.) will have its own expert staff (supervisors, operations and helpers) as per the requirement. The details of workforce and other requirements are already mentioned in the Project Economics section. There shall be provisions for administrative staff such as accounts personnel, marketing professional, etc. to ensure effective functioning of the CFC.

Project Economics

6. Project Economics

6.1 Project Cost

The actual total cost of setting up a CFC, Faridabad Auto Component cluster is estimated **at Rs. 241.43Lakhs.**

The total cost estimation includes the following project components:

1. Building
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

SPV has identified a building that shall be taken on lease & obtained a letter establishing the availability of the building. The building is located at Plot No. 16/2 Mathura Road Karkhana Bag, IMT Industrial Area Haryana. The available area of the building is 8125 sq. Ft and monthly rent for the first year would be INR 1, 25,000/- with annual increase at the market rate (estimated at 10%)

The document establishing the proof for availability of building is provided in ***Annexure 5***. The SPV members shall entirely provide the amount required to lease of building as their contribution towards the project cost.

Table 7: Requirement of building

BUILDING - LEASE BASIS		
S.No.	**Particulars**	**Actual Cost**
1	Building Area (sq. ft.)	8125
2	Monthly Rent (INR lakh)	1.25
3	Rent for first year (INR lakh)	15.00
4	Year on year increase in rent @	10.00%

6.1.2 Plant and Machinery

As detailed in section 4.2 (Hard interventions) laser-cutting machine, heat treatment & electroplating facilities are required with essential props. Those particulars have been recommended to enable cluster units enhance their competitiveness. The 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 total cost of plant and machinery including secondary machine has been estimated at Rs. 209.07 lakhs and contingency works out to Rs. 10.45 Lakhs.

The details of the proposed machinery items are presented in the table 10. The detailed specifications and quotations of the machines are provided in **Annexure 7**. The SPV has considered quotations for machinery from suppliers based on the manufacturer's reputation, service support, price and quality. However, an open online tendering system shall be followed for procurement of these machines during project execution, and selected vendors will be further invited to negotiate.

Table 8: List of Proposed Plant & Machinery

S. No.	Machine Name	Qut.	Basic Price	Total Basic Price	Gst as Applicable *	Total Price	Grand Total	Supplier Options
		Indi.	Indigenous	Indigenous	Indigenous	Indigenous		
A	**Primary Machinery**							
1	CNC Plasma Profile cutting machine	1	15.70	15.70	2.83	18.53	18.53	System Engineers Cutting & Welding P. Ltd.
2	Electrically Heated Vertical Retort Type Gas Carburising Furnace	1	18.95	18.95	3.41	22.36	22.36	System Engineers Cutting & Welding P. Ltd.
3	Carbon Potential Control System (Oxygen Probe)	1	1.75	1.75	0.32	2.07	2.07	System Engineers Cutting & Welding P. Ltd.
4	Oil Quenching Tank	1	6.95	6.95	1.25	8.20	8.20	System Engineers Cutting & Welding P. Ltd.
5	Electrically Heated Forced Air Circulation Furnace for Tempering	1	7.85	7.85	1.41	9.26	9.26	Simplicity Engineers P. Ltd.
6	Electrically Heated Vertical Circular	1	6.95	6.95	1.25	8.20	8.20	Simplicity Engineers P. Ltd.

	Batch Type Spray Washing Machine							
7	Continuous Furnus for heat treatment	1	36.00	36.00	6.48	42.48	42.48	Simplicity Engineers P. Ltd.
8	Electroplating plant with ETP	1	38.51	38.51	6.93	45.44	45.44	Simplicity Engineers P. Ltd.
9	Shot Blasting Machine	1	5.00	5.00	0.90	5.90	5.90	Simplicity Engineers P. Ltd.
	Sub Total (A)	**9**	**137.66**	**137.66**	**24.78**	**162.44**	**162.44**	
B	**Secondary Machinery**							
1	Plasma station with sensor	1	4.45	4.45	0.80	5.25	5.25	System Engineers Cutting & Welding P. Ltd.
2	Plasma power source	1	11.50	11.50	2.07	13.57	13.57	Simplicity Engineers P. Ltd.
3	UPS for CNC controller (3 kVA online)	1	0.40	0.40	0.07	0.47	0.47	Simplicity Engineers P. Ltd.
4	Electrical supply points (MCB's)	1	0.10	0.10	0.02	0.12	0.12	Simplicity Engineers P. Ltd.
5	Earthing for CNC system and Plasma	1	0.25	0.25	0.05	0.30	0.30	Simplicity Engineers P. Ltd.
6	Compressor (5 HP)	1	0.90	0.90	0.16	1.06	1.06	Simplicity Engineers P. Ltd.
7	Air Drier (15 CFM)	1	0.35	0.35	0.06	0.41	0.41	Simplicity Engineers P. Ltd.
8	Servo stabilizer (30 kVA) / (50 kVA)	1	0.55	0.55	0.10	0.65	0.65	System Engineers Cutting & Welding P. Ltd.
9	Foundation pillars and cutting bed	1	0.60	0.60	0.11	0.71	0.71	Simplicity Engineers P. Ltd.
10	DG Set 250 KVA	1	13.77	13.77	2.48	16.25	16.25	Kirloskar
11	ETP	1	6.65	6.65	1.20	7.85	7.85	Hemkund Enterprise
	Sub Total (B)	**11**	**39.52**	**39.52**	**7.11**	**46.63**	**46.63**	
	Grand Total	**20**	**177.18**	**177.18**	**31.89**	**209.07**	**209.07**	

6.1.3 Miscellaneous Fixed Assets

The CFC would also require fixed assets such as furniture, fixtures, fire-fighting equipment, first-aid equipment etc. for smooth running of operations. The total estimated capital expenditure for purchase of miscellaneous fixed assets is estimated to be Rs. 1.75 Lakhs. Details are provided in the table 9.

Table 9: Miscellaneous Fixed Assets

Miscellaneous fixed assets Particulars	Amount (INR in Lakhs)
Office items and allied items, furniture, fixtures, fire-fighting equipment and back-up power supply etc.	1.75
Total	1.75

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, detailed civil engineering drawings with estimates, tendering forms, and tendering cost etc.

Pre-operative expenses include expenses for electricity connection charges, administrative establishment, travelling, bank charges, stationery, telephone, overhead expenses during construction and machinery testing period; such as salaries, machine testing cost, bank charges, travelling etc. The total expenditure for preliminary and pre-operative expenses are estimated at Rs. 14.87 Lakhs (details provided in the table 12).

Table 10: Preliminary and Pre-Operative Expenses

S. No.	Particulars	Amount
1	Partnership Registration Charges	0.05
2	Tender forms & tendering cost	0.50
3	Project Report Preparation (DSR & DPR)	Nil
4	Project Management Charges (consultant hired by govt)	Nil
5	Travelling Cost	0.20
6	Cost of Refurbishment, electricity fittings, plumbing	0.20
7	One time electricity connection charges (260 kWh) (3300 per kWh)	8.58
8	Lease deed registration charges	3.59
9	Security Deposit (Rent)	1.25
10	Bank Appraisal Charges	0.50
	Total	**14.87**

6.1.5 Provision for Contingencies

Provision for contingencies has to be made on machinery. As the building will be acquired on lease, no contingency has been provided for the same. Contingencies on plant and machinery have been estimated at 5% amounting to Rs. 10.45 lakh.

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 Rs. 19.29 lakh with margin money requirement of Rs. 5.29 lakh (which is 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 the calculation has been provided in the subsequent section.

6.1.7 Summary Project Cost

A summary of total estimated project cost as per actual and as per mini cluster scheme is presented in the table 13.

Table 11: Total Project Cost

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**			**Eligible**
	a. Indigenous	162.44	200.00	
	b. Imports	0.00		
	c. Secondary Machines	46.63		
	Sub Total (B)	**209.07**	**200.00**	
3	**Miscellaneous fixed assets (C)**	**1.75**	**0.00**	**Not eligible for grant**
4	**Preliminary & Preoperative Expenses (D)**	**14.87**	**0.00**	
5	**Contingency**			
	a. Building @ 2%	0.00	0.00	
	b. Plant & Machinery @ 5%	10.45	0.00	
	Sub Total (E)	**10.45**	**0.00**	
6	**Margin money for working capital**			
	(Working capital required @ 75% C.U.)	5.29	0.00	
	Sub Total (F)	**5.29**	**0.00**	
	Grand Total (A+B+C+D+E+F)	**241.43**	**200.00**	

6.2 Means of Finance

The project will be financed from two sources: contribution from SPV, and grant-in-aid from Govt. of Haryana (under State Mini Cluster Development Scheme, EPP (2015). The assistance to the project from Govt. of Haryana under State Mini Cluster Development Scheme is envisaged to the tune of 90% of max project cost of 200 lakhs. The SPV will be required to contribute 10% of project cost for project cost up to Rs. 200 lakh and any amount in excess of 200 lakh. Hence, the SPV members have proposed to contribute Rs. 61.43 lakh and GoH aid will be Rs. 180.00 lakh.

Table 12: Means of Finance

S. No.	Source of finance	Project cost up to INR 200.00 lakhs (max eligible as per scheme)		Project cost over INR 200.00 lakhs		Total Amount (INR in lakhs)
		Percentage Contribution	Amount (INR in lakhs)	Percentage Contribution	Amount (INR in lakhs)	
1	Grant-in-aid under State Mini Cluster Development Scheme(Govt. of Haryana)	90	180.00	0	0	180.00
2	Contribution of SPV	10	20.00	100	41.43	61.43
	Total	**100**	**200.00**	**100**	**41.43**	**241.43**

6.2.1 Share Capital

The contribution of the SPV members will be by way of capital contribution in the SPV registered as a Partnership firm. The extent of capital contribution would be Rs. 61.43 lakh contributed by the cluster SPV.

The total capital of the partnership firm is Rs. 10 lakh at present, which shall be increased in due course. The extent of capital contribution by each partner will be restricted to a maximum of 10% of total contribution to the capital of the partnership firm.

6.2.2 Grant-in-Aid

Grant-in-aid of Rs. 180.00 lakh is expected from the Government of Haryana. The amount received by the way of grant under State Mini Cluster Development scheme will 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 given on eight-hour single shift operation basis. The cluster members and work force in the cluster have estimated this based upon extensive inputs. This section considers annual cost of undertaking job work and expenditure estimates. The critical components related to

expenditure comprise consumables, work force, 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 in 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 Oil, grease, chemicals, gas, thinner& diesel and others.

Table 13: Consumables

S. No.	Machine Name	No. Of Machines	Particulars	Total monthly Amt (Rs.)	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
						75%	80%	85%	90%	95%	100%
A.	**Primary Machines**										
1	CNC Plasma Profile cutting machine	1	Grease, Hydraulic Oil	8000.00	0.96	0.72	0.77	0.82	0.86	0.91	0.96
2	Electrically Heated Vertical Retort Type Gas Carburizing Furnace	1	Gas, Chemical, Thinner	16000.00	1.92	1.44	1.54	1.63	1.73	1.82	1.92
3	Carbon Potential Control System (Oxygen Probe)	1	Gas, Chemical, Thinner	15000.00	1.80	1.35	1.44	1.53	1.62	1.71	1.80
4	Oil Quenching Tank	1	Oil	10000.00	1.20	0.90	0.96	1.02	1.08	1.14	1.20
5	Electrically Heated Forced Air Circulation Furnace for Tempering	1	Gas, Chemical, Thinner	16000.00	1.92	1.44	1.54	1.63	1.73	1.82	1.92
6	Electrically Heated Vertical Circular Batch Type Spray	1	Gas, Chemical, Thinner	20000.00	2.40	1.80	1.92	2.04	2.16	2.28	2.40

	Washing Machine										
7	Continuous Furnas	1	Gas, Chemical, Thinner	20000.00	2.40	1.80	1.92	2.04	2.16	2.28	2.40
8	Electroplating	1	Oil, Zinc, Chemical, other chemical, Gas	20000.00	2.40	1.80	1.92	2.04	2.16	2.28	2.40
B.	**Secondary Machines**										
1	DG Set	1	Diesel	10000.00	1.20	0.90	0.96	1.02	1.08	1.14	1.20
2	ETP	1	Filter, Oil & Servicing	10000.00	1.20	0.90	0.96	1.02	1.08	1.14	1.20
	Total				**17.40**	**13.05**	**13.92**	**14.79**	**15.66**	**16.53**	**17.40**
	Consumables per month				**1.45**	**1.09**	**1.16**	**1.23**	**1.31**	**1.38**	**1.45**

6.3.2 Manpower Requirement

Another major expenditure head is the work force. Therefore, the facilities installed in the CFC will require work force to function effectively as mentioned in section 5.3 of the report. The total work force requirement for the project would be about 14 persons. The work force required under project has been divided under two categories: Direct & Indirect. Direct work force is required for operation of machines while indirect work force is required for administrative purposes. The annual expenditure on salary component for direct work force is estimated at Rs.16.17 lakh and for indirect at 8.51 lakhs. The total expense on work force is projected at Rs. 2.06 lakh per month and Rs. 24.68 lakh per annum. The details of monthly and yearly expenses for work force required for running the project is provided in table 14 & 15:

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

Category	No. of Manpower Required	Salary per month per person (INR)	Total Salary Per Month (INR)	Total salary & wages per Year (INR lakh)
DIRECT MANPOWER				
Supervisor	1	22,000.00	22,000.00	2.64
Operator	3	18,000.00	54,000.00	6.48
Helper	3	9,500.00	28,500.00	3.42
Loading/Unloading Labour	2	9,000.00	18,000.00	2.16
Total	**9**	**58,500.00**	**122,500.00**	**14.70**
Add: Perquisites/Fringe Benefits @ 10%				**1.47**
Sub Total (A)				**16.17**

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

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	25,000.00	25,000.00	3.00
Accountant	1	15,000.00	15,000.00	1.80
Office Assistant/Office Boy	1	8,500.00	8,500.00	1.02
Security Guard	2	8,000.00	16,000.00	1.92
	5	**56,500.00**	**64,500.00**	**7.74**
Add: Perquisites/Fringe Benefits @ 10%				**0.77**
Sub-Total (B)				**8.51**
Total (A) + (B)	**14**			**24.68**

6.3.3 Utilities

The most important utilities required in the project are 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 at262.40 kW. The table below depicts the machine and equipment wise power requirement in the CFC. The drawn power is conservatively assumed at 60% of the connected load in the case of operating facilities and shop floor. The details of the utilities given in the table no. 16

Table 16: Machine & Equipment power requirement

S. No.	Machine & Equipment	Power Requirement (kW)/ Connected Load	Total power requirement (60% of drawn power) kWh
1	CNC Plasma Profile cutting machine	2.00	1.20
2	Electrically Heated Vertical Retort Type Gas Carburizing Furnace	100.00	60.00
3	Electrically Heated Forced Air Circulation Furnace for Tempering	81.00	48.60
4	Electrically Heated Vertical Circular Batch Type Spray Washing Machine	20.00	12.00
5	Continuous Furnas	20.00	12.00
6	Electroplating with ETP	25.00	15.00
	Administrative	2.00	1.20
	Total Connected load for CFC	**250.00**	**150.00**
	Buffer Connected Load (5% of Total Connected Load)	**12.40**	
	Total	**262.40**	

The power requirement for operation of core machinery and equipment, testing lab and administrative facilities is 262.40 kWh. Electricity required for shop floor activities in terms of operation of core machinery and equipment is 30000 units per month. The facility is heavily based on electricity for operations and will require additional 5% connected load as a buffer to get the electricity connection. The total connected load for the CFC is estimated to be 262.40 kW.

Fixed charges for connection of 262.40 kW @ Rs. 173 per kW equals Rs. 45,395.20. The monthly units consumption is 30000 units & monthly energy charges @ Rs. 9.00 per unit equals Rs. 2,70,000/-. This has been calculated based on the prevalent rates of the power provider.

Table 17 presents the estimated annual expenditure in terms of power related charges.

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

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	75%	80%	85%	90%	95%	100%
Fixed	5.45	5.45	5.45	5.45	5.45	5.45
Variable	24.30	25.92	27.54	29.16	30.78	32.40

Total	29.75	31.37	32.99	34.61	36.23	37.85
Per month	2.48	2.61	2.75	2.88	3.02	3.15

6.3.4 Annual Repairs and Maintenance Expenses

The annual repair and maintenance expenses have been estimated to be Rs. 6.37 lakh. The details are presented in the table no. 18:

Table 18: Annual Repairs and Maintenance Expenditure

S. No.	Expenditure component	Particulars	Amount per annum (@ 100% C.U. in Rs. Lakh)	Amount per annum (@ 80% C.U. in Rs. Lakh)	Amount per annum (@ 85% C.U. in Rs. Lakh)
1	Repair & maintenance	Building: repair & maintenance @ 2%	0.10	0.08	0.09
2		Plant & machinery: repair & maintenance @ 3%	6.27	5.02	5.33
Total			6.37	5.10	5.42

6.3.5 Insurance and miscellaneous Administrative Expenses

Insurance is a critical component of asset protection at the CFC. Insurance is computed based on 0.5 % on the fixed assets. Cost of insurance shall remain as a fixed cost. Miscellaneous administrative expenses are estimated at a lump sum of Rs. 1.20 lakh per year. The cost of miscellaneous expenses is also considered to be fixed irrespective of scale of operation. The details are presented in the table no 19:

Table 19: Insurance and Miscellaneous Administrative Expenses

No.	Expenditure component	Particulars	Amount per annum (@ 100% C.U. in Rs. Lakh)
1	Insurance	Estimate @ 0.5% on fixed assets (such as buildings, civil works, and Plant & machinery, including related contingency expenses	1.10
2	Miscellaneous administrative expenditure	Stationery, communication, travelling, and other misc. overheads	1.20
Total			2.30

6.4 Working Capital Requirements

Working capital has been calculated in terms of one month's operating expenses required for the CFC. The operating expenses include consumables, salaries, utilities, repair & maintenance, insurance and miscellaneous administrative expenses. The details are presented in the table no 20:.

Table 20: Calculation of Working capital requirement

S. No.	Particulars	Period	As per Capacity Utilisation									
			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	1.09	1.16	1.23	1.31	1.38	1.45	1.45	1.45	1.45	1.45
2	Utilities (Power)	1 month	2.48	2.61	2.75	2.88	3.02	3.15	3.15	3.15	3.15	3.15
3	Working Expenses (Manpower)	1 month	1.72	1.79	1.85	1.92	1.99	2.06	2.06	2.06	2.06	2.06
4	Rent	1 month	1.25	1.38	1.51	1.66	1.83	2.01	2.21	2.44	2.68	2.95
5	Sundry Debtors (Sales Value)	1 month	12.75	13.60	14.45	15.30	16.15	17.00	17.00	17.00	17.00	17.00
6	Working capital (Total expenses)		**19.29**	**20.54**	**21.80**	**23.07**	**24.37**	**25.67**	**25.88**	**26.10**	**26.34**	**26.61**
7	Working Capital Margin		5.29	6.54	7.80	9.07	10.37	11.67	11.88	12.10	12.34	12.61
8	Working Capital Loan		14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
9	Interest on Working capital loan @11% p.a.		1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
10	Working Cap Margin %age		27.41%	31.83%	35.78%	39.33%	42.54%	45.47%	45.89%	46.35%	46.85%	47.39%

The working capital requirement of the project for one month of operation has been considered for consumables and expenses. The SPV will contribute the margin money for working capital. While calculating the project cost, more than 25% of working capital has been calculated as margin, and the remaining will be borrowed by SPV from local bank. The total working capital required during the first year of operation (75% C.U.) is estimated to Rs. 19.29 lakh. Further, total working capital required at an operating capacity of 80% comes out to Rs.20.54 lakh. The corresponding margin money for working capital requirement at 75% & 80% capacity utilisation amounts to Rs. 5.29 lakh and Rs.6.54 lakh respectively, and the corresponding loan amounts at Rs. 14.00 lakh respectively.

6.5 Depreciation Estimates

Estimates of depreciation are non-cash expenditure and presented in this section based on Written down Value (WDV) method. Accounting for depreciation would facilitate sustainability of operations in terms of developing a fund for replacement of assets. The relevant fund that accumulated could facilitate the replacement of such assets toward the end of the envisaged asset life of 10 years. Depreciation of building is at the rate of 10% per year, plant and machinery at 15% a year (envisaged project life of 10 years prior to replacement of assets), furniture at 10%, computer at 60% and depreciation of other miscellaneous fixed assets at the rate of 15% a year as per the WDV method. Depreciation based on Written down Value method (WDV) method has been used for computation of income tax. The computation as per WDV method is as mentioned in the table no 21:

Table 21: Depreciation based on WDV

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	219.53	186.60	158.61	134.82	114.59	97.40	82.79	70.38	59.82	50.85
Less: Depreciation @ 15%	32.93	27.99	23.79	20.22	17.19	14.61	12.42	10.56	8.97	7.63
Closing Balance	186.60	158.61	134.82	114.59	97.40	82.79	70.38	59.82	50.85	43.22
Computers										
Opening Balance	0.50	0.20	0.08	0.03	0.01	0.01	0.00	0.00	0.00	0.00
Less: Depreciation @ 60%	0.30	0.12	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00
Closing Balance	0.20	0.08	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Furniture										
Opening Balance	0.50	0.45	0.41	0.36	0.33	0.30	0.27	0.24	0.22	0.19
Less: Depreciation @ 10%	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02
Closing Balance	0.45	0.41	0.36	0.33	0.30	0.27	0.24	0.22	0.19	0.17
Other Misc. Fixed Assets										
Opening Balance	0.75	0.64	0.57	0.52	0.46	0.42	0.38	0.34	0.30	0.27

Less: Depreciation @ 15%	0.11	0.06	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.03
Closing Balance	0.64	0.57	0.52	0.46	0.42	0.38	0.34	0.30	0.27	0.25
Total Depreciation	**33.39**	**28.22**	**23.94**	**20.33**	**17.28**	**14.69**	**12.48**	**10.61**	**9.03**	**7.67**
Depreciated value	**187.88**	**159.67**	**135.73**	**115.40**	**98.12**	**83.44**	**70.95**	**60.34**	**51.31**	**43.64**

6.6 Income/Revenue estimates

The CFC is expected to generate revenue by way of user charges that shall be levied based upon the hours a machine is operated for a particular job. 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. The major income sources for the CFC are envisaged by the way of providing heat treatment facilities, electroplating facility, laser metal cutting facilities etc.

The user charges have been estimated based upon the operational expenses of the CFC and the prevalent market rates in Faridabad. 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 a viable project.

The estimated user charges for various machineries are presented in table no 22:

Table 22: User Charges for Machinery

S. No.	Machine Name	User Charge per hour (Rs.)	No. Of Working hours per day	No. Of Working days per month	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
					75%	80%	85%	90%	95%	100%
1	CNC Plasma Profile cutting machine	1000	8	25	18.00	19.20	20.40	21.60	22.80	24.00
2	Electrically Heated Vertical Retort Type Gas Carburizing Furnace	1250	8	25	22.50	24.00	25.50	27.00	28.50	30.00
3	Electrically Heated Forced Air Circulation Furnace for Tempering	1500	8	25	27.00	28.80	30.60	32.40	34.20	36.00
4	Electrically Heated Vertical Circular Batch Type Spray Washing Machine	1250	8	25	22.50	24.00	25.50	27.00	28.50	30.00
5	Continuous Furnas	1250	8	25	22.50	24.00	25.50	27.00	28.50	30.00
6	Electroplating with ETP	1500	8	25	27.00	28.80	30.60	32.40	34.20	36.00
7	Shot Blasting Machine	750	8	25	13.50	14.40	15.30	16.20	17.10	18.00
	Total				**153.00**	**163.20**	**173.40**	**183.60**	**193.80**	**204.00**

Total gross revenue in-flow is estimated to Rs. 153.00 lakhs per annum on an operating capacity of 75%. For projection purposes, operating capacity of 80% is considered during second year, 85% during third year and 100% capacity from sixth year onwards.

Table 23: Income and Expenditure Statement

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 Utilization in %	**75%**	**80%**	**85%**	**90%**	**95%**	**100%**	**100%**	**100%**	**100%**	**100%**
A. Income										
(User/ Service Charge)	**153.00**	**163.20**	**173.40**	**183.60**	**193.80**	**204.00**	**204.00**	**204.00**	**204.00**	**204.00**
B. Cost of Production :										
1. Utilities Power (Fixed + Variable)	29.75	31.37	32.99	34.61	36.23	37.85	37.85	37.85	37.85	37.85
2. Direct labour and wages	12.13	12.94	13.74	14.55	15.36	16.17	16.17	16.17	16.17	16.17
3. Consumable	13.05	13.92	14.79	15.66	16.53	17.40	17.40	17.40	17.40	17.40
4. Repair and Maintenance	4.78	5.10	5.42	5.73	0.70	6.37	6.37	6.37	6.37	6.37
5. Depreciation	33.39	28.22	23.94	20.33	17.28	14.69	12.48	10.61	9.03	7.67
Total Cost of production	**93.10**	**91.54**	**90.88**	**90.89**	**86.09**	**92.47**	**90.27**	**88.40**	**86.81**	**85.46**
C. Administrative expenses :										
6. Manpower (Indirect)	8.51	8.51	8.51	8.51	8.51	8.51	8.51	8.51	8.51	8.51
7. Rent	15.00	16.50	18.15	19.97	21.96	24.16	26.57	29.23	32.15	35.37
8. Insurance	1.10	0.94	0.80	0.68	0.58	0.49	0.42	0.35	0.30	0.26
9. Misc Expense	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Total Administrative Expenses	**25.81**	**27.15**	**28.66**	**30.36**	**32.25**	**34.36**	**36.70**	**39.30**	**42.17**	**45.34**
D. Financial expenses :										
10. Interest on Working capital loan @ 11% per annum	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
Total Financial Expenses	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**	**1.54**
E. Total Expenses B+C+D	**120.45**	**120.23**	**121.08**	**122.78**	**119.89**	**128.38**	**128.52**	**129.24**	**130.52**	**132.34**
F. Profit A - E	**32.55**	**42.97**	**52.32**	**60.82**	**73.91**	**75.62**	**75.48**	**74.76**	**73.48**	**71.66**
G. P&P Expenses written off	2.97	2.97	2.97	2.97	2.97	0.00	0.00	0.00	0.00	0.00
H. Income before Tax (F-G)	**29.58**	**39.99**	**49.35**	**57.84**	**70.94**	**75.62**	**75.48**	**74.76**	**73.48**	**71.66**
I. Adjustment of Loss	-	-	-	-	-	-	-	-	-	-

J. Income Tax (@30.9% partnership)	9.14	12.36	15.25	17.87	21.92	23.37	23.32	23.10	22.70	22.14
K. Net Profit /Loss for the year	20.44	27.64	34.10	39.97	49.02	52.26	52.16	51.66	50.77	49.51
L. Cumulative Surplus	20.44	48.08	82.18	122.15	171.17	223.42	275.58	327.23	378.01	427.52

As evident from the table above, the project is financially viable. A cumulative surplus of about Rs.427.52 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 many other development activities in the cluster that shall be funded through the surplus earned at the CFC.

6.7 Computation of Income tax

The income tax implication is computed at the rate of 30.90 per cent that is, 30 per cent plus education cess @ 3 per cent. The incidence of tax ranges from Rs. 9.14 Lakh per annum for year 1 to Rs. 22.14 lakh per annum in year 10.

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

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 (Net Profit + Interest Paid)		34.09	44.51	53.86	62.36	75.45	77.16	77.02	76.30	75.02	73.20
2. Increase in capital	61.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Depreciation		33.39	28.22	23.94	20.33	17.28	14.69	12.48	10.61	9.03	7.67
4. Increase in WC Loan		14.00	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	180.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Sources of Funds	**241.43**	**81.48**	**72.73**	**77.80**	**82.69**	**92.73**	**91.85**	**89.51**	**86.91**	**84.04**	**80.87**
B. Use of Funds :											
1. P&P Expenses	14.87	-	-	-	-	-	-	-	-	-	-
2. Increase in fixed assets	221.28	-	-	-	-	-	-	-	-	-	-
3. Increase in other Assets	5.29	1.25	1.37	1.40	1.43	1.46	1.49	0.40	0.44	0.49	0.54
4. Increase in Sundry Debtors		12.75	0.85	0.85	0.85	0.85	0.85	0.00	0.00	0.00	0.00
5. Interest		1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
6. Taxation		9.14	12.36	15.25	17.87	21.92	23.37	23.32	23.10	22.70	22.14
Total Use of Funds	**241.43**	**24.68**	**16.12**	**19.04**	**21.69**	**25.77**	**27.25**	**25.27**	**25.08**	**24.73**	**24.22**
C. Net Surplus (A -B)		**56.80**	**56.60**	**58.76**	**61.00**	**66.96**	**64.60**	**64.24**	**61.83**	**59.31**	**56.65**
D. Cumulative Surplus		**56.80**	**113.41**	**172.17**	**233.16**	**300.12**	**364.72**	**428.96**	**490.79**	**550.10**	**606.75**

The cash flow statement highlights the available net surplus for 10 years of the CFC operations. Depreciation is also considered on a higher side on the WDV method for cash flow calculations along with adjusted preliminary expenses. As most of the capital expenditure is being supported as grant under the State Mini Cluster Development Scheme, Govt. of Haryana, 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 current and fixed assets. As evident from the projections, a considerable amount of reserves and surplus is 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 no 25:

Table 25: 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	221.28	221.28	187.88	159.67	135.73	115.40	98.12	83.44	70.95	60.34	51.31
Less : Depreciation (WDV)		33.39	28.22	23.94	20.33	17.28	14.69	12.48	10.61	9.03	7.67
Net Block	221.28	187.88	159.67	135.73	115.40	98.12	83.44	70.95	60.34	51.31	43.64
Total Fixed Assets (A)	**221.28**	**187.88**	**159.67**	**135.73**	**115.40**	**98.12**	**83.44**	**70.95**	**60.34**	**51.31**	**43.64**
2. Current Assets :											
Cash & bank Surplus (B.F)		56.80	113.41	172.17	233.16	300.12	364.72	428.96	490.79	550.10	606.75
Sundry Debtors		12.75	13.60	14.45	15.30	16.15	17.00	17.00	17.00	17.00	17.00
Margin Money for WC Loan	5.29	5.29	6.54	7.80	9.07	10.37	11.67	11.88	12.10	12.34	12.61
Other Current Assets		1.25	1.38	1.51	1.66	1.83	2.01	2.21	2.44	2.68	2.95
P&P Exp	14.87	11.89	8.92	5.95	2.97	0.00	0.00	0.00	0.00	0.00	0.00
Total current Assets (B)		**87.98**	**143.84**	**201.87**	**262.17**	**328.47**	**395.41**	**460.05**	**522.32**	**582.12**	**639.31**
Total Assets (A+B)	**241.43**	**275.87**	**303.50**	**337.60**	**377.57**	**426.59**	**478.85**	**531.01**	**582.66**	**633.43**	**682.95**
3. Current Liabilities :											
Working Capital Loan		14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
Total Current Liabilities (C)		**14.00**	**14.00**	**14.00**	**14.00**	**14.00**	**14.00**	**14.00**	**14.00**	**14.00**	**14.00**
4. Fixed Liabilities											
Shareholders' Contribution	61.43	61.43	61.43	61.43	61.43	61.43	61.43	61.43	61.43	61.43	61.43
Grant from GoH	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00
Reserves and Surplus		20.44	48.08	82.18	122.15	171.17	223.42	275.58	327.23	378.01	427.52
Total Fixed Liabilities (D)	**241.43**	**261.87**	**289.50**	**323.60**	**363.57**	**412.59**	**464.85**	**517.01**	**568.66**	**619.43**	**668.95**
Total Liabilities (C+D)	**241.43**	**275.87**	**303.50**	**337.60**	**377.57**	**426.59**	**478.85**	**531.01**	**582.66**	**633.43**	**682.95**

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. From this point, a project is expected to start generating profits. 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 no 26:

Table 26: Break Even Estimates

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Capacity Utilization	75%	80%	85%	90%	95%	100%
A. Total Earning by way of user charges	153.00	163.20	173.40	183.60	193.80	204.00
B. Variable costs						
Consumables	13.05	13.92	14.79	15.66	16.53	17.40
Utilities (power- variable charge)	24.30	25.92	27.54	29.16	30.78	32.40
Interest on WC Loan	1.54	1.54	1.54	1.54	1.54	1.54
Repair & Maintenance	4.78	5.10	5.42	5.73	0.70	6.37
Manpower (Direct)	12.13	12.94	13.74	14.55	15.36	16.17
Total Variable Cost (B)	55.80	59.41	63.03	66.65	64.91	73.88
C. Contribution (A-B)	97.20	103.79	110.37	116.95	128.89	130.12
D. Fixed Overheads (Cash)						
Manpower (Indirect)	8.51	8.51	8.51	8.51	8.51	8.51
Utilities (Power - fixed charges)	5.45	5.45	5.45	5.45	5.45	5.45
Rent	15.00	16.50	18.15	19.97	21.96	24.16
Insurance	1.10	0.94	0.80	0.68	0.58	0.49
Misc. Expenditure	1.20	1.20	1.20	1.20	1.20	1.20
Sub-total (D)	31.26	32.60	34.11	35.81	37.70	39.81
E. Fixed Overheads (Non-cash)						
Depreciation	33.39	28.22	23.94	20.33	17.28	14.69
Preliminary & Pre-operative expenses written off	2.97	2.97	2.97	2.97	2.97	0.00
Sub-total (E)	36.36	31.19	26.91	23.30	20.25	14.69
F. Total Fixed Overheads (D+E)	67.62	63.79	61.02	59.11	57.95	54.49
Break even point (F/C)	69.57 %	61.47 %	55.29 %	50.54 %	44.96 %	41.88 %

Book break-even is achieved at 69.57 % (of operational capacity at 75 percent) and at 41.88% (of operational capacity at 100%). The operation of the CFC is expected to break-even early and realise profit regularly. Therefore, very low risk is involved in the project.

Moreover, the SPV members have the potential to run the facility for longer than one shift resulting in enhanced capacity utilization and generation of more revenues. In that case, project will break even earlier than estimated. Additionally, the approach has been to develop projections based upon conservative estimates (costs on a higher side and user charge/ revenues on a lower side) whereas, in real the revenues may be far higher.

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

S. No.	Particulars	Estimates
1	BEP (cash BEP at initial operating capacity of 75%)	69.57%
2	Av. ROCE (PAT/CE)	26.26%
3	Internal Rate of Return (IRR)	20.86%
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. 127.04 lacs) at a conservative project life of 10 years
5	Payback period	5.54 years with Grant-in-aid assistance from GOH

The annual estimates in the context of ROCE are presented in the table below:

Table 28: Calculation of Return on Capital Employed

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Av.
ROCE = EBIT/Capital Employed											
ROCE	12.89 %	17.20%	21.00%	24.60 %	30.02%	31.96%	31.90%	31.60%	31.07%	30.32 %	**26.26 %**

The average value of ROCE (with grant-in-aid) is 26.26%. 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 considered are those elements excluding the grant component to the project

The Net Present Value (NPV) is estimated at a discount rate of 10%.However, as reflected from the high values of NPV, it is positive at even 10% discount rate, the rate at which bank offers debt capital facility and even at higher discount rates. Project IRR is high at over 20.86% (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 Auto Component 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, 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 development scheme, Govt. of Haryana 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 no 29:

Table 29: Sensitivity 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%)	69.57%	75.51%	82.57%	90.94%
2	Internal Rate of Return (IRR)	20.86%	17.82%	14.59%	11.07%
3	Av. ROCE (PAT/CE) (with Grant)	26.26%	22.42%	18.55%	14.60%
4	Net Present Value (at a discount rate of 10 per cent) - incorporating viability gap funding (grant) GoH	127.04	88.63	50.22	11.28

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 @ Rs. 241.43 lakh based on estimates and quotations.

2. To finance the project, a total of Rs. 241.43 lakhs is required. The financing will consist of grant from government to Haryana and contribution by SPV.

3. In the financial projections and analysis, year 2018 is the envisaged period of project implementation also involving construction of buildings and installation of plant, machinery and other equipment. This period will commence from the date of final approval by the State Level Steering Committee under Mini-Cluster Development Scheme. The financial projections thereafter are prepared for 10 years of operation starting 2019.

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 & sixth year and 100% thereafter. This is a conservative estimate for first 6 years as SPV members alone could avail of over 100 per cent of the installed capacity on single-shift basis.

7. The workings with regard to expenses related to the project have been tabulated and categorized in terms of those related to consumables, work force, electricity, and miscellaneous administrative expenditures.

8. Repairs and maintenance is provided @ 2% of building cost and @ 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 @ Rs. 173 and variable charges @ Rs. 9 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.

14. Provision for income tax has been made @ 30.9%. This is the rate prescribed for Partnership firms as per the recent Budget 2017.

15. Profitability estimates in terms of ROCE, NPV, and IRR are computed considering operating results for first 10 years of operation..

16. Profitability estimates in terms of ROCE, NPV, and IRR are computed considering operating results for first 10 years of operation.

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 10 months upon receipt of final approval of grant-in-aid assistance from the Government of Haryana under mini cluster scheme.

2. **User Base:** SPV members and non-members may use the facilities. 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 lead-working partners 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 10 months involves several activities. The schedule is elaborated in the table no 30:

Table 30: Project Implementation Schedule

Activity/Month	1	2	3	4	5	6	7	8	9	10
Collecting Contribution from SPV members										
Registration of Building Lease deed in the name of SPV										
Receipt of final sanction from GoH										
Preparation of Civil works drawing										
Formation of purchase committee										
Inviting E tenders for purchase of machines Construction of facilities										
Construction Facilities										
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 Lead Working Partners										
Monitoring of the project by PMC										
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 11 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% cost of capital of CFC will be submitted in due course of time and as per final approval from Government of Haryana.

5. **Register partnership firm:** The partnership deed is 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 has been identified by SPV for the CFC with area of 8125 sq. ft. and will be taken on lease after approval of DPR.

7. **Availability of Requisite Clearances:** Necessary required clearances will be procured by the SPV. Electricity is already available in the area and the proposed CFC can easily be 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:

- Civil Alterations
- Electrical works
- 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.

It is proposed to constitute a governance mechanism in the form of a **Cluster Development Co-ordination Committee (CDCC) under the chairmanship of Director of Industries, Government of Haryana** to oversee all cluster development projects in Haryana. The CDCC will look after the project under Mini Cluster Scheme to be implemented under the state's Enterprise Promotion Policy 2015.

The committee may operate under the overall monitoring of the State Level Steering Committee (SLSC). Other key stakeholders such as representatives of cluster SPV, related government departments, support institutions, cluster level industry associations and consultants may be inducted as members under the committee.

The members may comprise the following:

i. Director, Industries and Commerce, Government of Haryana (Chairman)
ii. Concerned Joint Director, Department of Industries and Commerce
iii. JD, DIC Faridabad
iv. HUDA state officer
v. Commercial bank general Manager
vi. President of related industry association
vii. Directors of related SPV
viii. EY Cluster Development Expert under MSME project

The meeting of CDCC may be held on a quarterly basis to review performance of the clusters. The CDCC will guide monitoring and implementation of the project.

The project will be implemented through SPV. SPV will report progress of implementation to the CDCC as well as State Level Steering Committee and DIC Faridabad.

Conclusion


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8. Conclusion

The cluster faces an absence of laser cutting, automatic forging hammer facility, heat treatment & electroplating facilities. In the absence of these facilities, products from the cluster face high rate of rejection at the buyers end. The conventional method of cutting metal results in low quality & wastage of sheet. The large players in Faridabad have state of the art laser cutting facilities, forging hammer facility, heat treatment & electroplating facilities available in- house and they enjoy access to OEM market across the country.

The future of Auto Component industry is bright, particularly in the Faridabad region, the market possibility for high quality Auto Component products. . However the lack of laser cutting, heat treatment & electroplating facility and related infrastructure, needs to be addressed by setting up a CFC since without these facilities. The cluster firms have not been able to obtain bulk orders from large customers. This has been mainly due to lack of quality, production capacity and poor quality of product. The technologies required for up gradation are extremely expensive and any individual units in the cluster cannot adopt the same. Hence, the following facilities have been proposed in the CFC:

- Advanced Laser Cutting facilities
- Value added Heat Treatment facilities
- Value added Electroplating with ETP

The total project cost (including plant/machinery and buildings) is estimated to be Rs. 2.41 crores. For implementing the project, the Special Purpose Vehicle will set up the CFC with support from state government of Haryana under PPP mode. The facility will provide major infrastructural push to the units reeling under high competition. Additionally, the automobile market is set to grow significantly in the future and will provide immense opportunities to the units of Faridabad to supply high quality products in large quantities at competitive prices. The Project will enhance the capability of the cluster in the above areas and improve its competitiveness to meet the soaring demand. The CFC will be set up with support from DIC and the state government (Department of Industries) under PPP mode. The land and building for the project has already been identified by the SPV and shall be acquired on lease upon in final approval by State Government. The state industry department shall provide grant for setting up of the state of the art equipment under the Mini-Cluster Development scheme, Haryana EPP 2015. The SPV members have proposed to contribute Rs.61.43 lakhs of the project cost and the support from Mini Cluster Development Scheme of the State Government of Haryana is envisaged at Rs. 180.00 lakh. Syndicate Bank will provide working capital requirement for the project.

The project is financially viable and is expected to generate enough revenue to ensure its sustainability.

Annexures


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9. Annexures

Annexure 1: DSR approval & DPR preparation Letter

From

The Director of Industries & Commerce, Haryana.

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/Auto Component/Faridabad/ -19889
Dated:- 21/11/2012

Subject: **Approval of DSR and directions for preparation of Detailed Project Report of Faridabad Auto Components Cluster**

Kindly refer to the subject cited above.

It is informed that the Diagnostic Study Report (DSR) of Faridabad Auto Components 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/Auto Component/Faridabad/ -AA Dated:- 21/11/2012
19889

A copy of the above is forwarded to

1. SPV, Faridabad Auto Components 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, Faridabad.

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

Annexure 2: MoM of DPR Validation

Stakeholder Validation meeting of Draft Detailed Project Report (DPR) of Faridabad Auto Components Cluster under State Mini Cluster Scheme (EPP 2015) held under the chairmanship of Sh. Ashok Sangwan, IAS, Director Industries & Commerce, Haryana, Govt. of Haryana

Date: 25th Nov. 2017	**Time: 02:30 PM-03:30 PM**	**Venue: Hotel Park Plaza, Sector-21 Faridabad**
Agenda: ➢ Presentation on the Draft DPR of Faridabad Auto Components Cluster ➢ Discussion on proposed facilities in the CFC particularly plant and machineries ➢ Validation of recommendations by key stakeholders ➢ Outlining the next steps and the way forward		
Attendees ▸ Sh. Ashok Sangwan, IAS, Director, Industries & Commerce, Haryana (Chairperson) ▸ Members of Faridabad Auto Components SPV ▸ Representatives of Faridabad IMT Industries Association) ▸ Sh. Chandan Nagasuri, EY PMU ▸ Sh. Vinod Kumar, EY PMU ▸ Sh. Chetan Bajpayee, EY PMU		

Members of Faridabad Auto Components (SPV created for project execution) welcomed Sh. Ashok Sangwan. Sh. Pappujit Sarna, Director, SPV extended gratitude to Department of Industries, Govt. of Haryana, & EY team for putting their efforts to prepare DPR for Faridabad Auto Components cluster in time. EY team shared the key aspects of the draft DPR of the cluster and highlighted about the proposed hard recommendations. . Sh. Ashok Sangwan highlighted state government's proactive role in ensuring growth of the state's MSMEs and various incentives available to MSMEs under EPP 2015. He urged the participants to avail benefits under other incentives available under EPP 2015.

Sh. Chandan Nagasuri provided an overview of the cluster and elaborated on various aspects of the proposed project. The major project component as highlighted are mentioned below:

1. Building: The area required for the proposed facility is estimated to be around 8125 sq. feet. The SPV has identified a suitable building (having proximity to all SPV members) having adequate space for the CFC and the building shall be taken on a 10 year irrevocable lease. The SPV has also obtained a letter from the building owner establishing the availability of the building for lease. The building is located at IMT industrial area Faridabad, Haryana.

2. Plant & Machinery: The participants outlined the proposed recommendations i.e. plasma laser cutting, heat treatment & electroplating facilities. These facilities can enable the auto components units of Faridabad comply with all quality norms laid down by OEMs & become more competitive. The participants also mentioned that they would

also install an Effluent Treatment Plant for treatment of effluents at the CFC. The DI inquired about the details of technology of the ETP.

3. Total Cost of the Project: The total cost of the project is estimated to be 235.04 Lakhs. The contribution of the State Government is envisaged at Rs. 180.00 Lakhs & the contribution of the SPV is the remaining Rs. 55.04 Lakhs.

Further, the role of SPV in executing the project was highlighted. Participants informed that the cluster units have registered a SPV by the name and style of 'Faridabad Auto Components Cluster CFC' as a Partnership firm, to implement Mini cluster scheme of Govt. of Haryana. SPV has proved its ability to undertake hard intervention under the project and is geared up to take the project to its logical conclusion.

Discussion and Action Points

Machinery: The participants elaborated on the need for various facilities like laser cutting, Heat Treatment & Electroplating proposed under the CFC. The following points were further discussed:

- DI inquired about the usage of the proposed laser cutting, heat treatment & electroplating facilities by the cluster units. The SPV members mentioned that units are at present dependent on private players who often charge high price and do not accept small orders from micro and small units.
- Sh. Tarunjit Sarna informed about the challenges faced by auto components manufacturing units due to lack of laser cutting, heat treatment & electroplating and explained the need of these facilities as the key requirement to auto components manufacturing units to expand the market. He also added that these facilities will enable an increase in the production of the individual units.
- Working model of CFC was also explained to the members. Participants were also informed that the cluster units will bring their material at the CFC by paying user fee as decided by SPV. CFC will also be open to non-members. SPV shall fix charges for members and non-members separately.

Finally, SPV members validated the recommendations as mentioned in the DPR and gave consent for submission of DPR to state government for further actions.

The DI also appreciated the project and in his concluding remarks, appreciated the efforts of members of Auto Components cluster for coming together to form SPV to avail benefits under mini cluster scheme. He assured the support of Government of Haryana in realizing the CFC. He also informed the participants that the DPR will be taken up for approval in the upcoming State Level Steering Committee Meeting.

The list of participants & photographs of the meeting given below:

DPR Stakeholder Validation Meeting for Faridabad Auto Components Cluster held under the Chairmanship of Sh. Ashok Sangwan IAS, DISC at Faridabad on 25th Nov 2017

S.No	Name	Unit Name	Address	Contact No.	Signature
1.	Avneet Singh	Sarna Enterprises	725A Raja Garden Old Mkt E-9 Sec 23 NIT FBD	7503041997	
2.	R.P. Mangla	S.M. Auto Ind.		9212577079	
3.	K. Malik	International Auto Comp			
4.			Plot No 6 Sanjay Pur Rd	9313557308	
5.					
6.	Pappu Jt Sm	J.S. Industries	Saraan Complex	9810039798	
7.					
8.	Tarundeep Saera	Saera Engg Works	16/2 Kalkhana Bagh, Faridabad	9818511287	
9.	Dheeraj Bhatia	Brass Forge	IMT, Fbd.	9811193971	
10.	Suresh Kumar	Anmol Auto	2nd Apex Flr	8447668748	
11.	Jasmit Singh	Self Born Indu.	1612 Kankhana Bagh Mathura Rd	9818549987	
12.	Surender Kr. Verma	Ravi Ind.	Plot - 28 Sec-25 Faridabad	9650291333	
13.	Jitender Singh	Five Ess Precision Comp. Pvt. Ltd. DIC Faridabad	Plot No-18, DABUA - PALI ROAD, NIT FBD.	9910301628	
14.	Chetan Prakash Bajpai			8222191942	
15.	Chandan Nagasuri	PMU, EY	—	—	
16.	RK Panigrahi	EY PMU	—	—	
17.	Vinod Kumar	EY PMU		98144-82400	

Annexure 3 : Partnership Deed

Bond

Indian-Non Judicial Stamp
Haryana Government

Date : 20/11/2017

Certificate No. E0T2017K347

GRN No. 31039690

Stamp Duty Paid : ₹ 101

Penalty : ₹ 0

Deponent

Name : Faridabad Auto Components cluster
H.No/Floor : 0 Sector/Ward : 0 Landmark : 16 2 mathura road
City/Village : Faridabad District : Faridabad State : Haryana
Phone : 0

Purpose : Partnership Deed **to be submitted at Concered department**

The authenticity of this document can be verified by scanning this QrCode Through smart phone or on the website https://egrashry.nic.in

NOTARY Distt. Ballabgarh Ved Parkash Advocate Distt. Faridabad Haryana (India) LICENCED BY GOVT. OF INDIA

PARTNERSHIP DEED

This Deed of Partnership is made at Faridabad on this 20th day of NOV.2017 between:-

1. Mr. PAPPUJIT SINGH SARNA S/o Late Sh. Jaswant Singh Sarna R/o 257, Sector 15, Faridabad, Mobile No. 9810039398, Partner of M/s J.S Industries Unit at 16/2, Karkhana Bagh, Mathura Road, Faridabad (Haryana) UAM No. HR0380004618 Products Tractor Parts (hereinafter called the Party of the First part.)

And

2. Mr. NIMIT PAUL S/o Sh. Naresh paul R/o 250, Sector-15, Faridabad Mobile No. 9811520250 Prop. of M/s Paul Global Enterprises, Unit at Plot No. 1, Chanda Complex, Dharam Kanta Road, Mujessar, Faridabad (Haryana) UAM No. HR0380007001 Products Auto Component (hereinafter called the Party of the Second Part.)

And

3. Mr. K.P. MANGLA S/o Sh.Mool Chand Mangla R/o D-813, Piyush Height, Greater Noida. (U.P) Mobile No. 9212570079Prop. Of M/s S.M Auto Industries, Unit at E-9, Sector-23, Sanjay Colony, Faridabad (Haryana) UAM No. HR03A0000024 Products Tractor Component (hereinafter called the Party of the Third Part.)

And

4. Mr. TARUNDEEP SARNA S/o Sh.Gurvinder Singh Sarna R/o 287, Sector 15, Faridabad Mobile No. 9818511287 Partner of M/s Sarna Engineering Works, Unit at 16/2, Karkhana Bagh, Mathura Road, Faridabad (Haryana) UAM No. HR03B0005253 Products tractor Parts (hereinafter called the Party of the Forth Part.)

And

5. Mr. BALJEET SINGH S/o Sh. D.S Bhatia R/o 255, Sector-15, Faridabad Mobile No. 9810407238 Prop. of M/s Anmol Auto Electricals, Unit at Plot No. 23B/17, Industrial Area, NIT, Faridabad (Haryana) UAM No. HR03B0003131 Products Tractor Component (hereinafter called the Party of the Fifth Part.)

And

6. Mr. RAJESH KUMAR S/o Sh. L.D Kumar R/o 3D/40A, N.I.T Faridabad Mobile No. 9810260536 Director. of M/s Five Ess Precision Components (p) Ltd. Unit at 3D/40-A, BP, NIT, Faridabad (Haryana) UAM No. HR03B0006216 Products Auto Component (hereinafter called the Party of the Sixth Part.)

And

7. Mr. O.P. BHATIA S/o Sh.Shyam Lal Bhatia R/o 543 Sector-17, Faridabad Mobile No. 981110198 Director. of M/s Brasso Forge Ltd. Unit at Khasra No. 44/12/3/1, Air Force Road, Jawahar Colony, N.I.T Faridabad (Haryana) UAM No. HR03C0000294 Products Auto Component (hereinafter called the Party of the Seventh Part.)

And

8. Mr. JASMIT SINGH S/o Smt. R.P. Kaur R/o 287, Sector-15, Faridabad Mobile No. 9818549987 Partner. of M/s Scaff Build India, Unit at Sareen Complex, 16/2, Mathura Road, Faridabad (Haryana) UAM No. HR03B0006937 Products Scaffolding items (hereinafter called the Party of the Eighth Part.)

And

9. Mr. KAPIL MALIK S/o Sh.R. D. Malik R/o 474, Sector-15A, Faridabad Mobile No. 9899284254Prop. of M/s International Automotive, Unit at Plot No. 6, Samyepur Industrial area, Samyepur Road, Sector-56, Faridabad (Haryana) UAM No. HR03B0004495 Products Tractor Component (hereinafter called the Party of the Ninth Part.)

And

10. Mr. BALRAJ GOYAL S/o Late sh. S. P. Goyal R/o 109, Sector-21A, Faridabad Mobile No. 9810014144Director. Of M/s Reva Industries Ltd, Unit at Plot No. 28, Sector-25, Faridabad (Haryana) UAM No. HR03B0001013 Products Crane Manufacturing (hereinafter called the Party of the Tenth Part.)

And

11. Mr. CHARANJIT SINGH S/o Late Sh.Jaswant Singh R/oH.No. 725, Raja Garden, Sector-19, Faridabad Mobile No. 7503041999 Prop. Of M/s Sarna Enterprises' Unit at 725, Raja Garden, Sector-19, Faridabad (Haryana)-121002 UAM No. HR03B0006985 Products Tractor Parts (hereinafter called the Party of the Eleventh Part.)

Whereas No deed in Writing has been executed evidencing the terms and conditions Governing the mutual rights and interest of the parties of this partnership.

AND WHEREAS it is considered expedient to execute such a document now, therefore this deed of partnership provides and confirm as under:-

1. NAME & STYLE:- that the business of partnership firm shall be carried in the name and style of**M/s FARIDABAD AUTO COMPONENTS CLUSTER.**

2. PRINCIPAL PLACE OF BUSINESS: - that the principal place of business shall be **16/2, Mathura Road, Karkhana Bagh, Faridabad-121002**. However other branch or branches can be opened at such other place or places as the partners may determine from time to time.

3. BUSINESS:- That the business of the partnership shall compriseof, Forgings, Heat Treatment, Plating,and Profile cutting, job works related mainly to auto component industry. However, partners with their mutual consent can also do the other business.

The major objectives on the business include:

(i) To function as Special Purpose Vehicle (SPV) and Set up Common Facility Centre(CFC) and other infrastructure activities for auto components industry, for the benefits of its members and Industry/concerned stake holders following the guidelines and notifications for Mini Cluster Scheme of Government of Haryana.

(ii) To undertake works/schemes/programs of the Government relating to growth and development of auto component Industry and carry out/conduct soft and hard intervention activities under Mini Cluster Scheme of Government of Haryana.

(iii) To act as a resource centre for development and strengthening network as business development Services related to Technology, Market, Capacity building and Hand holding support for the purpose of growth and development of the auto component industry under Mini Cluster Scheme of Government of Haryana.

(iv) To make available raw material to all members of auto component industry at competitive rates by opening of raw material bank.

(v) To render assistance and encouragement as may be necessary to persons engaged in auto component industry.

(vi) To undertake research work in connection with development auto component industry.

(vii) To conduct training programs/seminars for capacity building of partners and other key stakeholders.

4. That a nominated officer of the state government shall be inducted as a partner in the firm at a suitable time without any financial stake in the firm.
5. CAPITAL: -Each partner will make an investment into the capital of the firm. That no partner will invest over 10% in the capital of the firm. The amount invested shall be credited to their firm account.
6. DURATION: -Thatthe partnership will remain in force for a period of 10 years and may be extended at will of all partners.
7. PRIVILEGES AND RIGHTS: - That all the rights, privileges good will quota rights, registration rights, distributorship rights etc, granted to the firm shall vest exclusively with the partnership.
8. ACCOUNTS: - That the bank account will be opened in a scheduled bank which is operated by three working partners with mutual consent of all Partners.
9. THAT the usual and proper books of accounts in English shall be maintained and the same be opened to inspection to all parties.
10. THAT the first account shall be closed on 31 March of the succeeding year.
11. THAT no salary or incentive will be paid to any of the partners.
12. THAT no interest or dividend will be paid to any partners on capital.
13. THAT no profit will be distributed amongst any of the partners. All profit shall be ploughed in the business & added to reserves &surplus for future use/expansion.
14. THAT the partnership shall be deemed to have commenced on and w.e.f **20th November 2017.**
15. THAT either of the partners can also arrange funds for the firm from banks, financial institutions or from any other outside institution/ party with the consent of other partner.

16. THAT the tax liability relating to the firm shall be adjusted in the books of accounts of every year. The partners shall however bear by themselves the personal tax liabilities in respect of their shares in the profits of firm.
17. THAT the firm shall not in any manner be responsible for any debts or obligations of any of the partners.
18. THAT any partner may retire from the firm by giving one month's notice in writing to the other partners who shall take care to settle the accounts during that period of notice. The retiring partner shall be entitled only to the amount standing to the credit of his capital account.However, the total number of partners at any given point of time shall not be below 10.
19. THAT any new partner shall be introduced in the firm with the written consent of other partners.
20. THAT the partners will hire a professional Cluster Development Executive (CDE) having knowledge of cluster development aspects to run the Common Facility Centre (CFC) as per the guidelines of the State Mini Cluster Development Scheme of Govt. of Haryana. No partner will be a CDE.
21. THAT any other matter not set out herein before shall be governed by the provisions of the Indian partnership Act, 1932 as amended from time to time.
22. THAT any term [s] or clause [s] of the instant deed can be varied, altered and/or added to with the mutual consent of both the partners and such variation/ alteration/ addition of the terms/ clause shall be either expressed in writing or be implied from the conduct of partners.
23. THAT in case of any dispute between the partners arising out of the instant partnership the same shall be referred to an arbitrator to be appointed by mutual consent of partners and the reference shall be decided in accordance with the provisions of the Arbitration & Conciliation Act, 2015 as amended from time to time.
24. The below partners will be working partners of the firm and shall be a part of the Purchase Committee constituted as per the guidelines of State Mini Cluster Development Scheme of Govt. of Haryana.

S.NO.	NAME	COMPANY NAME	ADDRESS
1.	PAPPUJIT SINGH SARNA	J.S. INDUSTRIES	16/2, SAREEN COMPLEX, UNDER BADKHAL FLYOVER, FARIDABAD
2.	K.P MANGLA	S.M AUTO INDUSTRIES	E-9, SECTOR-23, SANJAY COLONY, FARIDABAD
3.	TARUNDEEP SARNA	SARNA ENGINEERING WORKS	16/2, MATHURA ROAD, KARKHANA BAGH, FARIDABA

IN WITNESSES WHERE OF THE PARTNERS HEREUNDER HAVE SET THEIR RESPECTIVE HANDS TO THE CORRECTNESS OF THIS PARTNERSHIP DEED IN THE PRESENCE OF THE FOLLOWING WITNESSES, AT THE DATE AND PLACE MENTIONED ABOVE.

I know the deponent and he/she has affixed his/her Thumb impression in my presence

WITNESSES:-

1. (SUNIL KUMAR)

2. (JAGJIT SINGH)

Party of the First Part

(PAPPUJIT SINGH SARNA)

Party of the Second Part

(NIMIT PAUL)

Party of the Third Part

(K.P. MANGLA)

ATTESTED AS IDENTIFIED

Shri Ram Notary Faridabad (Haryana)

07 DEC 2017

Party of the Fourth Part

(TARUNDEEP SARNA)

Party of the Fifth Part

(BALJEET SINGH)

Party of the Sixth Part

(RAJESH KUMAR)

Party of the Seventh Part

(O.P. BHATIA)

Party of the Eighth Part

(JASMIT SINGH)

Party of the Ninth Part

(KAPIL MALIK)

Party of the Tenth Part

(BALRAJ GOYAL)

Party of the Eleventh Part

(CHARANJIT SINGH)

ATTESTED AS IDENTIFIED

Ved Ram Notary

07 DEC 2017

Annexure 4: Verification of units by DIC, Faridabad

From

The Joint Director
District Industries Centre
Faridabad

To

The Director of Industries & Commerce, Haryana
Chandigarh (Cluster)
Memo No. DIC/FBD/ 2238
Dated: 30/10/2017

Subject: **Verification report of Application submitted under Mini Cluster Scheme-Faridabad Auto Components Cluster**

This in reference to your letter no 15703-A on dated 15.09.2017 from your office, please find below the verification report:

The following information/document attached herewith:

(i) All the 12units have been verified & have filled the UAM.
(ii) The Common Facility Centrebeing proposed as part of the hard intervention will be setup in conforming zone.
(iii) The application form submitted by the SPV has been duly checked for completeness and the information contained therein has been verified.
(iv) List of products manufactured, investment & employment has been mentioned in the application form.

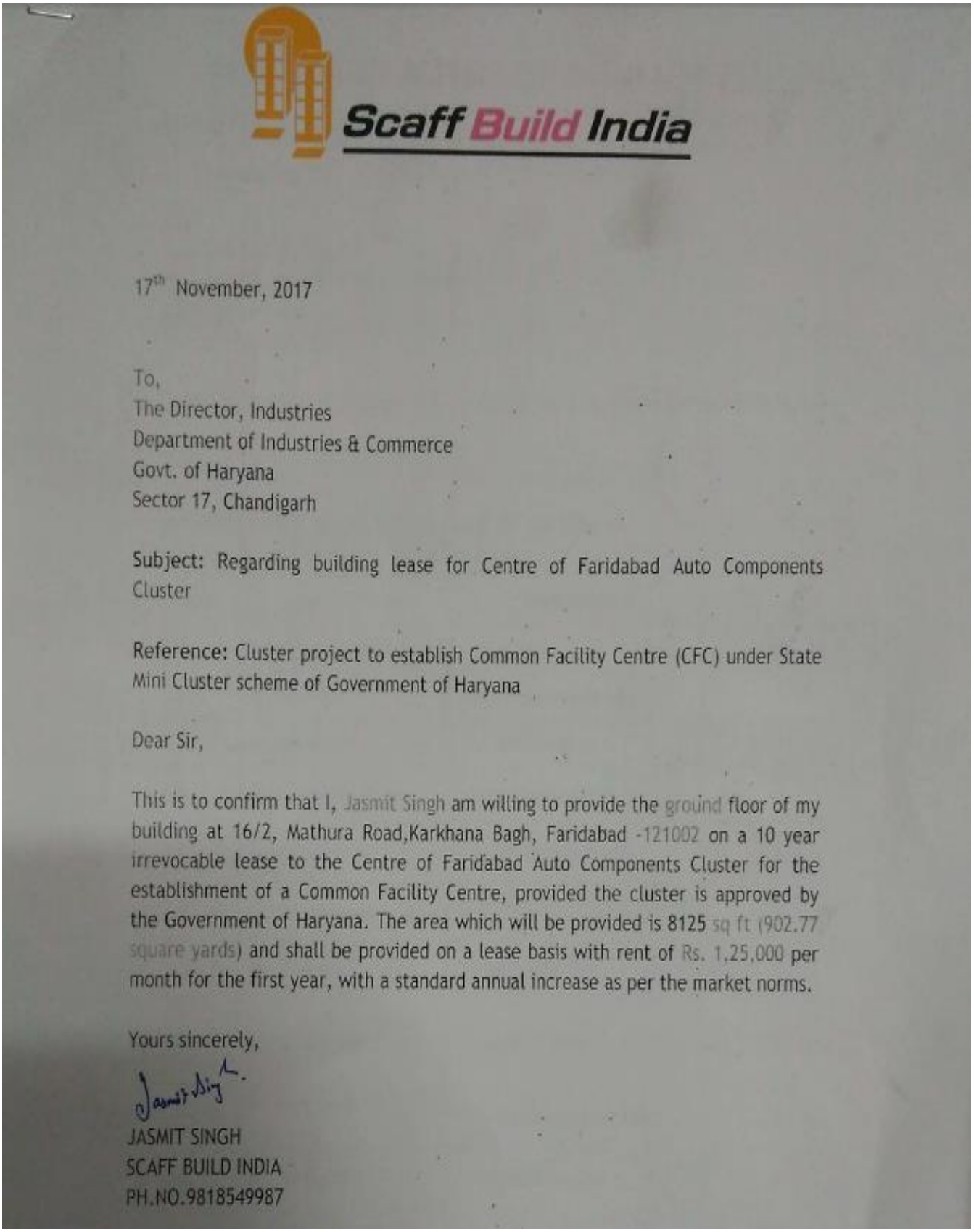
The demand of the cluster is genuine and case may be taken up under Mini Cluster Scheme. So, it is recommended that the cluster may be approved as per the policy guidelines.

JointDirector
District Industries Centre
Faridabad

	Contact Person	Company Name	Contact No.	Address of Unit	Products	UAM Number
1	Mr. Pappujit Singh Sarna	JS Industries	981003 9398	16/2 Karkhanan Bagh Mathura Road Faridabad	Tractor auto parts, sheet metal fabrication	HR03B0004618
2	Mr. Sahil Lamba	Goodwell Industries	981000 6282	Prithla Dhatir Road, Village Dudhola, Palwal, Faridabad	Tractor parts,	HR20B0000543
3	Mr. Nimit Paul	Paul Global Enterprises	981152 0250	Plot No. 1 Chanda Complex Dharam Kanta Raod, Faridabad	Auto Components	HR03B0007001
4	Mr. KP Mangla	SM Auto Industries	941731 7853	E-9 Sector 23, Sanjay Colony Faridabad	Tractor Components	HR03A0000824
5	Mr. Tarundeep Sarna	Sarna Engineering Works	981851 287	16/2 Karkhanan Bagh Mathura Road Faridabad	Tractor Parts	HR03B0005253
6	Mr. Baljeet Singh	Anmol Auto Electricals	981040 7238	23B/17 Industrial Area, NIT Faridabad	Tractor Components	HR03B0003131
7	Mr. Rajesh Kumar	Five ESS Precision Components Pvt. Ltd	981026 0536	3D/4A B.P NIT, Faridabad	Auto Components	HR03B0003216
8	Mr. OP Bhatia	Brasso Forge Ltd.	981110 198	Khasra No. 44/12/3/1 Air Faridabad, India	Auto Components	HR03C0000294
9	Mr. Jasmit Singh	Scaff Build India	981854 9987	Sareen Complex, 16/2, Mathura Road, Faridabad	Scaffolding Items	HR03B0006937
10	Mr. Karan Malik	International Automotive	989928 4254	Plot No. 6 Samyepur Industrial Area Sector-56 Faridabad	Auto Components	HR03B0004495
11	Mr. Balraj Goyal	Reva Industries Ltd	981001 4144	Plot No 28 Sector 25 Faridabad	Crane Manufacturing	HR030001013
12	Mr. Charanjit Singh	Sarna Enterprises	750304 1999	725 Raja Garden Sector 19 Faridabad	Tractors Parts	HR03B0006985

Verified by AD DIC Faridabad

Annexure 5: Building Availability Proof



Scaff Build India

17th November, 2017

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

Subject: Regarding building lease for Centre of Faridabad Auto Components Cluster

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 I, Jasmit Singh am willing to provide the ground floor of my building at 16/2, Mathura Road,Karkhana Bagh, Faridabad -121002 on a 10 year irrevocable lease to the Centre of Faridabad Auto Components Cluster 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 8125 sq ft (902.77 square yards) and shall be provided on a lease basis with rent of Rs. 1,25,000 per month for the first year, with a standard annual increase as per the market norms.

Yours sincerely,

Jasmit Singh

JASMIT SINGH
SCAFF BUILD INDIA
PH.NO.9818549987

Annexure 6: Shareholding Pattern

FARIDABAD AUTO COMPONENTS CLUSTER

16/2, MATHURA ROAD, KARKHANA BAGH, FARIDABAD-121002
PHONE: 0129-4100510, 2296608, Mob:- 9818511287, 9999824257
E-mail: sarnatarun@gmail.com

17th, November, 2017

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

Subject: Shareholding pattern for Centre of Faridabad Auto Components Cluster

Dear Sir,

As per the Mini Cluster Scheme, Govt. of Haryana, please find below mentioned shareholding pattern

S.No.	Contact Person	Company Name	No of shares allotted
1	Mr. Pappujit Singh Sarna	JS Industries	10
2	Mr. Nimit Paul	Paul Global Enterprises	9
3	Mr. KP Mangla	SM Auto Industries	9
4	Mr. Tarundeep Sarna	Sarna Engineering Works	9
5	Mr. Baljeet Singh	Anmol Auto Electricals	9
6	Mr. Rajesh Kumar	Five ESS Precision Components Pvt. Ltd	9
7	Mr. OP Bhatia	Brasso Forge Ltd.	9
8	Mr. Jasmit Singh	Scaff Build India	9
9	Mr. Kapil Malik	International Automotive	9
10	Mr. Balraj Goyal	Reva Industries Ltd	9
11	Mr. Charanjit Singh	Sarna Enterprises	9

Yours sincerely,

Partner/ Director, Faridabad Auto Components Clusters

Annexure 7: Machinery Quotations

SYSTEM ENGINEERS
CUTTING & WELDING PRIVATE LIMITED

Ref: SE/P_CNC/17-18/JSF_4 Dated: 17-10-17

M/s Faridabad Auto components cluster
Faridabad

Sir

Thanks for the courtesy extended to me during our visit to you regarding a CNC Plasma cutting machine. Further to the discussion we had, suggested machine configurations are given below:

Option I

CNC Plasma Profile cutting machine Model FINECUT- 4, 000 x 8, 000
(Dual Longitudinal drive)

TECHNICAL SPECIFICATIONS:

• Effective Cutting width	3, 000 mm
• Effective Cutting length	7, 000 mm
• CNC controller	Hi tech Globus Windows
• CNC controller software	Latest version
• Drives and motors	Digital AC servo (Panasonic)
• Maximal moving speed	12, 000 mm/min
• Software	Professional
• Oxy fuel cutting capacity	150 mm
• Oxy fuel sensor	Capacitive

Price: INR 12, 90, 000/- Ex Faridabad

Add on:

(i) Plasma station with sensor AVC

Price: INR 1, 55, 000/-

(ii) Plasma power source

Hypertherm USA model: PMX 105 (20 mm capacity)

Price: INR 4, 50, 000/-

Machine rail extendable any time @ 16, 000/- per effective cutting length

Corp Office: Plot Number 24, Pragati Vihar, Sector 59, Faridabad,
Haryana – 121 004 Ph: +91-0129 – 2211528, 2211719
E-mail: sk_kalra@vsnl.net, Website: www.systemengineers.co.in

SYSTEM ENGINEERS
CUTTING & WELDING PRIVATE LIMITED

Option II

CNC Plasma Profile cutting machine Model FINECUT_h - 4, 000 x 8, 000
(Dual Longitudinal drive)

TECHNICAL SPECIFICATIONS:

• Effective Cutting width	3, 000 mm
• Effective Cutting length	7, 000 mm
• CNC controller	Hi tech Globus Windows
• CNC controller software	Latest version
• Drives and motors	Digital AC servo (Panasonic)
• Maximal moving speed	12, 000 mm/min
• Software	Professional
• Oxy fuel cutting capacity	200 mm
• Oxy fuel sensor	Capacitive

Price: INR 15, 70, 000/- Ex Faridabad

Add on:

(iii) Plasma station with sensor — AVC from Hypertherm USA

Price: INR 4, 45, 000/-

(iv) Plasma power source

Hypertherm USA model: Max Pro 200 (32 mm capacity)

Price: INR 11, 50, 000/-

Machine rail extendable any time @ 22, 000/- per effective cutting length

Corp Office: Plot Number 24, Pragati Vihar, Sector 59, Faridabad,
Haryana – 121 004 Ph: +91-0129 – 2211528, 2211719
E-mail: sk_kalra@vsnl.net, Website: www.systemengineers.co.in

SYSTEM ENGINEERS
CUTTING & WELDING PRIVATE LIMITED

Overview - CNC system:

Advance technology –high reliability –easy to use

- Multi-Tasking
- Clear and intuitive operator interface
- Context dependent keyboard layout and user interface
- Easy understandable pictograms
- Multi-Lingual user interface
- Robust components according to standard industry level
- Optimized processes

Extract of the function list

- Restart cut after "Mains off"
- Graphic editing of part programs
- Graphic display of the part program with display of current torch position
- Automatic zoom and dynamic zoom function
- Plate alignment compensation automatic rotation of the part program after manual establishment of the actual plate position
- Nesting – dxf graphic
- DIN/EIA input format
- Unlimited reversing
- Programmable kerf compensation
- Jump in program with/without movement (ie. hole piercing point, line number)
- Consumable and technology data base ,display of

Drives AC servo Qty – 3 No.

- Drive up to max 12 meter/minute.
- For higher positioning speeds
- AC servo motors
- Drives with rack and pinion transmission
- High dynamic response
- Maintenance free

Corp Office: Plot Number 24, Pragati Vihar, Sector 59, Faridabad, Haryana – 121 004 Ph: +91-0129 – 2211525, 2211719

SYSTEM ENGINEERS
CUTTING & WELDING PRIVATE LIMITED

Customer scope of supply :		**Approx. price:**
• UPS for CNC controller (3 kVA online)	-	INR 40, 000/-
• Electrical supply points (MCB's)	-	INR 10, 000/-
• Earthing for CNC system and Plasma	-	INR 25, 000/-
• Compressor (5 HP)	-	INR 90, 000/-
• Air Drier (15 CFM)	-	INR 35, 000/-
• Servo stabilizer (30 kVA) / (50 kVA)	-	INR 55, 000/-
• Foundation pillars and cutting bed	-	INR 60, 000/-

MACHINE FEATURE:

Main Frame and track:

High Clearance design, aerodynamically balanced.
Double side longitudinal AC Digital drive system via rack and pinion.
Encoder and gearbox on same shaft gives 100% surety for backless free movement.
Transverse drive system again with rack and pinion same as longitudinal drive.
The gantry carriage is light weighted and with high rigidity. The precise gear and rack on longitudinal and transverse direction. Machine has function of position inspection, so the running accuracy is very high.
AC digital motors.
It has the function of constant speed and kerf offset, so the cutting accuracy is high.
Machine has added feature of reducing the speed of cutting at corners.
Machine is equipped with auto compensator on drive sides.
To suit Indian working condition CNC control panel on the left hand side.
Limit switches and mechanical stopper for X and Y axis.
Emergency switches on front panel.
Machine equipped with Precision track made from heavy-duty precision, machined railway track gives accuracy and stability to the machine for the whole of working life. Rail is firmly supported on machined block with adjustment in all three axis.
Machine fitted with cable brag chain in longitudinal and transverse axis keeping hoses tidy and improves movement control.
Machine built in ISO 9001 Certified workshop and having CE certificate.

Corp Office: Plot Number 24, Pragati Vihar, Sector 59, Faridabad,
Haryana – 121 004 Ph: +91-0129 – 2211525, 2211719
E-mail: sk_kalra@vsnl.net, Website: www.systemengineers.co.in

SYSTEM ENGINEERS
CUTTING & WELDING PRIVATE LIMITED

Machine with following spec:

Input power	230V/50Hz
Power consumption	2 KVA (approx.)

Quality Standards (CE):

Cutting quality	DIN 2310 First grade
Accuracy	±0.3 mm (Repeat accuracy, all test by scriber)

Plasma cutting station / Arc Voltage / IHS/ Anti collision

Torch station has two fixed guide rollers and two adjustable guide rollers
Torch adjustable in X-Y plane
System has micro switch for limits.
Cable and hoses guided through Drag chain.
Limit switches for left/right side
Plasma interface built in. At any time high end system can be interfaced to the machine.
Torches fitted with Flash back arrester
Machine fitted with Arc voltage Height sensor.

Hose/cable set

Main hoses and cable form scope of supply and comes along with machine. You need to provide gas connection, Electrical supply points, and air for plasma at one point.

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E-mail: sk_kalra@vsnl.net, Website: www.systemengineers.co.in

SYSTEM ENGINEERS
CUTTING & WELDING PRIVATE LIMITED

OTHER COMMERCIAL TERMS:

Tax: GST @ 18% extra

Installation/Commissioning/Training Installation, commissioning and training of CNC Profile cutting system is provided by System Engineers. You need to provide lodging and boarding for two engineers during this period.

Payment Terms
30% as advance balance before shipment of CNC machine.

Warrantee

Complete system is warranted for one year from the date of installation.

After Sales Services	M/s System Engineers will provide after sales service support.
Delivery	20 -25 days (for option I) 45 -50 days (for option II)
Validity of Quotation	30 days

Thanking You

Yours Sincerely

For System Engineers Cutting & Welding Pvt. Ltd.

Hardil Aziz Singh
09356252217

Corp Office: Plot Number 24, Pragati Vihar, Sector 59, Faridabad,
Haryana - 121 004 Ph: +91-0129 - 2211528, 2211719
E-mail: sk_kalra@vsnl.net, Website: www.systemengineers.co.in

Simplicity Engineers P Ltd.
Regd. Office & Works,
B-99 Mayapuri, Phase I
New Delhi 110064,India

Tel:(011) 28116979/28113048
E-Mail: implicity@simplicityfurnaces.net
Website : www.simplicityfurnaces.net
CIN No.U74899DL1973PTC06804

NR:002
2nd November, 2017

Kind Attention : Mr. Tarundeep Singh Sarna - 9818511287
Director
M/S FARIDABAD AUTO COMPONENTS CLUSTER
16/2 Karkhana bagh
Faridabad

SUB: SIMPLICITY ELECTRICALLY HEATED VERTICAL RETORT TYPE GAS CARBURISING FURNACE WITH MATCHING QUENCHING, WASHING & TEMPERING EQUIPMENTS

We thank you for the kind courtesy extended to the undersign while his visit on 27th October, 2017 and the discussions we had with you regarding your requirement of Gas Carburising furnace for through hardening / carburising of components parts .

Based on specifications given by you we are enclosing herewith our offer for ***SIMPLICITY ELECTRICALLY HEATED VERTICAL RETORT TYPE GAS CARBURISING FURNACE OF size 900 mm Dia x 1500 mm Depth suitable for a batch load of 1000 to 1250 kgs gross .***

We have offered the Gas Carburising Furnace with brick lining and ceramic fibre for energy efficient heating and minimum wall losses.

Heating effected by coil type heating elements uniformly distributed in the furnace chamber for free radiation and uniform heating. Special element support arrangement ensure minimum wall losses and easy maintenance.

Furnace provided with heat resistant steel sealed Retort & Retort cover with gas tight sealing and powerful recirculation fan assembly for good convection heating and temperature uniformity within the retort.

Retort cover assembly provided with hydraulic lifting and swivelling arrangement for convenient quick opening and closing of the retort cover.

Furnace temperature controlled in suitable heating zones through Digital Temperature Controllers for maintaining desired temperatures.

A Timer & Hooter is provided to get an audio visual indication of completion of the process time /soaking period.

Furnace provided with feeding arrangement for carburising liquid and Oxygen Probe for furnace atmosphere.

Alongwith the above we have also enclosed our offer for matching ***Quenching , Washing & Tempering Equipments.***

The Quenching Tank offered of capacity 8,000 Ltrs. provided with 2 Nos. Agitators, external cooling unit with pump for circulation and accessories.

Spray type Washing Machine offered with suitable accessories and also skimmer for removing oil.

After quenching of parts, a Batch Type ***Tempering Furnace*** *is also offered for tempering of parts.*

Tempering Furnace of sturdy construction, good insulation and heating effected by low watt designed heating elements uniformly distributed in the furnace.

Furnace provided with powerfull recirculation fan assembly for good hot air circulation for convection heating and temperature uniformity.

Furnace provided with manually operated lift and swing aside door properly insulated.
Furnace temperature controlled automatically through digital temperature controller with safety back up controller. Prices mentioned are ex-our works. Packing & Forwarding , Actual Freight & Insurance shall be extra as applicable.

IGST @ 18% will be charged extra or as applicable at the time of supply. (HSN Code : 85141000)

We have also enclosed our General Terms and Conditions as part of our offer.

We trust you will find our offer in line with your requirement and we look forward to your further advice.

Thanking you,

Kind regards,

Radha Krishan

Simplicity

Simplicity Engineers P Ltd.
Regd. Office & Works,
B-99 Mayapuri, Phase I
New Delhi 110064,India

Tel:(011) 28116979/28113048
E-Mail: implicity@simplicityfurnaces.net
Website : www.simplicityfurnaces.net
CIN No.U74899DL1973PTC06804

QUOTATION FOR SIMPLICITY ELECTRICALLY HEATED VERTICAL RETORT TYPE GAS CARBURISING FURNACE

TECHNICAL DATA

Charge Size :	
Dia	*900 mm*
Depth	*1500 mm*
Temperature	*800 – 920 Deg. C*
Connected Load	*135 KW*
No. of Heating Zones	*2 Nos independently controlled with over-riding controller for retort.*
Type of Heating Elements	*Ni/Cr 80-20 coil type*
Type of control	*Automatic On / Off*
Type of Lining	*Brick Lining and Ceramic Fibre*
Type or Drip Feed System	*By gravity*
HP of Fan Motor	*3 HP*
Door Lifting	*Hydraulic*
HP of power pack motor	*3 HP*
Material for Retort	*AISI 310 – 6 mm thick*
Type of Retort	*Dished bottom*
Material for Lid	
- Hot Portion	*AISI 310 – 6 mm thick*
- Cold Portion	*Mild Steel*

Material for water jacket	*Mild Steel*
Sealing between retort/	
Retort cover	*Neoprene seal water cooled*
Requirement of Water	*1 M3/hour at 30 Deg. C at 2 Kg./Cm2*
Electric Supply	*415 + / - 5%V, 3 Ph. 50 c/s.*

SCOPE OF SUPPLY:

- *FURNACE SHELL DULY LINED & FITTED WITH COIL TYPE HEATING ELEMENTS*	*1 NO.*
- *RETORT MADE OUT OF AISI 310 MATERIAL*	*1 NO.*
- *RETORT COVER AND FAN ASSEMBLY MADE OUT OF AISI 310 MATERIAL COMPLETE*	
WITH MOTOR, IMPELLER & SHAFT.	*1 NO.*
- *DRIP FEED PANEL*	*1 NO.*
- *HYDRAULIC DOOR LIFTING ARRANGEMENT*	*1 NO..*
- *AUTOMATIC TEMP. CONTROL PANEL*	*1 NO.*
- *CARBON POTENTIAL CONTROL SYSTEM*	
(OXYGEN PROBE)	*1 NO*
- *TIMER & HOOTER*	*1 NO.*

OPTIONAL :

PAPERLESS TEMPERATURE CONTROLLER	*1 NO.*

-

Simplicity Engineers P Ltd.
Regd. Office & Works,
B-99 Mayapuri, Phase I
New Delhi 110064,India

Tel:(011) 28116979/28113048
E-Mail: implicity@simplicityfurnaces.net
Website : www.simplicityfurnaces.net
CIN No.U74899DL1973PTC06804

SIMPLICITY QUENCHING TANK

CAPACITY 8,000 LTRS.

Quenching Tank fabricated out of mild steel plates suitably reinforced with sections. The tank will be provided with hinged type door at the center and fitted with the following:

2 Nos. Agitators fitted with motor.

One external cooling unit i.e. Plate type Heat Exchanger of adequate capacity duly connected to the tank.

Pump for circulation of water from and to the quenching tank through the heat exchanger with

Stainer pipe line, valves etc.

Digital indicator for temperature

(Water Cooling arrangement to Heat Exchanger to be provided by customer)

Simplicity Engineers P Ltd.
Regd. Office & Works,
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New Delhi 110064,India

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E-Mail: implicity@simplicityfurnaces.net
Website : www.simplicityfurnaces.net
CIN No.U74899DL1973PTC06804

SIMPLICITY ELECTRICALLY HEATED FORCED AIR CIRCULATION FURNACE FOR TEMPERING

TECHNICAL DATA

Effective Chamber Size :	
Dia	*900 mm*
Depth	*1500 mm*
Connected Load	*81 KW*
Max. temperature	*600 Deg,. C*
Type of Heating Elements	*Coil Type*
No. of Zone	*1 No.*
Type of Control	*Automatic ON/OFF*
No. of Fan	*1 No.*
Material for Baffle, Shaf and Impeller	
of Fan	*AISI 304*
Electric Supply	*415 + \ - 5%V, 3 Ph. 50 c/s.*

EXCLUSIONS:

- *Packing, Forwarding, Freight and Insurance Charges.*
- *Civil engineering work. The foundation lay-out drawings shall be provided by us.*
- *Supply and laying of electrical cables from the mains to panel and panel to the furnace and auxiliaries.*
- *Supply and laying of all utility connections like oil / gas / cooling water, etc. from the source to the furnace and auxiliaries.*
- *The equipments offered are suitable for heat treatment process mentioned, however, the actual process parameters are to be defined by the customer.*
- *Storage, Service Tank, Pipe Lines to furnace and auxiliaries.*
- *Rails, Tracks, Flue Ducts, Chimney, Exhaust Arrangement as required.*
- *Trays, Baskets, Fixtures, Coiler, De-coiler, Crane, Compressor and any other support equipments.*
- *Unloading at site and shifting of materials from stores to the erection site.*
- *While installation Crane facility, Erection Tools and Tackles, Gas Cutting Set, Welding Set, Compressed Air, Casual Labour, etc.*
- *The equipments positioned and utilities connected by customer.*
- *Any other item not specifically mentioned in our offer.*

Simplicity Engineers P Ltd.
Regd. Office & Works,
B-99 Mayapuri, Phase I
New Delhi 110064,India

Tel:(011) 28116979/28113048
E-Mail: implicity@simplicityfurnaces.net
Website : www.simplicityfurnaces.net
CIN No.U74899DL1973PTC06804

OFFER NO. 29814

DATED: 02-11-2017

1.	*SIMPLICITY ELECTRICALLY HEATED VERTICAL RETORT TYPE GAS CARBURISING FURNACE*	
	OF SIZE 900 MM DIA X1500 MM DEPTH	
	AS PER OUR OFFER /TECHNICAL DATA	*RS. 18,95,000.00 EACH*
2.	*CARBON POTENTIAL CONTROL SYSTEM (OXYGEN PROBE)*	*RS. 1,75,000.00 EACH*
3.	*SIMPLICITY OIL QUENCHING TANK OF CAPACITY 8,000 Ltrs.*	*RS. 6,95,000.00 EACH*
4.	*SIMPLICITY ELECTRICALLY HEATED FORCED AIR CIRCULATION FURNACE FOR TEMPERING SIZE 900X1500 MM*	*RS. 7,85,000.00 EACH*
5.	*SUPERVISION CHARGES FOR COMMISSIONING*	*RS. 50,000.00 P.SET*
	OPTIONAL	
	PEPRLESS TEMPERATURE RECORDER	*RS. 1,25,000.00 EACH*
	(BRAIN CHILD) 6 PTS.	

For SIMPLICITY ENGINEERS PVT. LTD.

Radhakrishan.

RADHA KRISHAN

Simplicity Engineers P Ltd.
Regd. Office & Works,
B-99 Mayapuri, Phase I
New Delhi 110064,India

Tel:(011) 28116979/28113048
E-Mail: implicity@simplicityfurnaces.net
Website : www.simplicityfurnaces.net
CIN No.U74899DL1973PTC06804

WASHING MACHINE

OFFER NO. 29815

DATED: 02-11-2017

SIMPLICITY ELECTRICALLY HEATED VERTICAL CIRCULAR BATCH TYPE SPRAY WASHING MACHI

Effective Charge Space :

Dia	*900 mm*
Depth	*1500 mm*
Connected load for heating	*27 KW*
Spray Pump	*7.5 HP*
Capacity of water Tank	*1500 Ltrs.*

The Spray chamber is fabricated from steel plates duly reinforced. The spray chamber is provided with stainless steel nozzles around the periphery of charge for uniform cleaning.

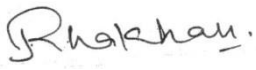
Beneath the spray chamber water tank is provided with immersion heaters & spray pump.

A skimmer is provided for removal of oil / froath from the tank at floor level.

Float valve for automatic filling of water as and when required to make up for water level.
A control panel housing the necessary switch gear item is provided with the equipment.

PRICE FOR THE WASHING MACHINE : RS. 6,95,000.00 EACH

For SIMPLICITY ENGINEERS PVT. LTD.



RADHA KRISHAN

TERMS AND CONDITIONS

PRICES: Prices quoted are Ex-our Works, Packing & Forwarding @ 4%, Insurance & Freight, etc. shall be extra at actuals.

TAXES :

IGST/CGST shall be charged extra as applicable at the time of dispatch. The present rate of IGST/CGST is 18 %.

In case the client wishes to claim any exemption on the levy of IGST/CGST, they should produce the necessary documents as applicable to concerned department prior to supplies.

DELIVERY: The equipment can be offered for delivery within 4 -5 Months from the date of acceptance of your technically (drawing approval as applicable) and commercially clear order along with advance.

PAYMENT: FOR SUPPLIES

25% of the Order Value along with Purchase Order by DD payable at Delhi.

25% of the Order Value after submission of the Layout Drawings by DD payable at Delhi.

Balance 50% of the Order Value along with 100% Taxes and Duties and other levies against Proforma Invoice prior to dispatch of materials at our works, by DD payable at Delhi.

FOR ERECTION & COMMISSIONING:

50% payable prior to commencement of Erection work by DD payable at Delhi.

30% payable on completion of Erection work by DD payable at Delhi.

20% payable on commissioning by DD payable at Delhi.

Please note that since these are custom made equipments, in case there is a delay in taking delivery of the equipments beyond two weeks of our offering the equipments for inspection, our balance payment must be released immediately. Similarly, after receipt of equipment, if there is a delay in commissioning for availability of site and provision of utilities or for any other reason, our balance payment should be released within 60 days of despatch. We shall, however, extend our assistance for commissioning of the equipments.

ERECTION & COMMISSIONING: We shall depute our technician for the Erection & Commissioning work for which we shall charge you extra as mentioned in the Price Schedule.

During Erection & Commissioning of the equipments, the services of unskilled labour, Gas Cutting / Welding Sets with consumables, Standard Tools, Chain Pulley / Crane, suitable Material Handling Facilities, Compressor, Water Supply, Power Supply and / or any other utility, Oil / Gas supply have to be provided by the Client free of cost, as and when required by our Erection Team. The Client shall also arrange for free lodging arrangement for our Erection Team.

INSPECTION: When inspection prior to dispatch is required, visual inspection of various equipments can be arranged at our works / sub-vendors at client's cost. An advance notice will be given for the date of inspection and if inspection is not carried out within 7 days of specified date, the inspection requirement shall be deemed to have been waived off by the client unconditionally. We will, at our discretion proceed with the dispatch and negotiate for payment. All materials dispatched shall however, be fully tested under no load condition.

THIRD PARTY INSPECTION: The charges of inspection by any third party inspecting agency is not included in our offer. Inspection by third party has to be specifically clarified prior to placement of orders. All third party inspection charges are to be borne by the purchaser. Additionally, we shall be charging a sum of Rs.2,000/- per day for the days of inspection visit by the representative of the agency to cover our cost for co-ordinating and attending to them while such visits.

FORCE MAJEURE: We shall be under no liability under any contract arising out of our Quotation / Offer wherever fulfillment out of our and / or our sub-contractors and / or suppliers obligations are hindered or prevented by causes beyond our / their control such as War, Strikes, Lockouts, Fire, Accidents, Epidemics, Failure of supply of Electricity or other Power, shortage of materials or labour or Orders of the Government or other duly Constituted Authority.

All Delivery Schedules are subject to delays by customers for payment, drawing approval and other obligations by customer.

CANCELLATION OF ORDER: No order is subject to cancellation whether in part or in full unless accepted by us in writing. Cancellation charges will be applicable.

IMPORTED COMPONENTS: Our prices are based on Exchange Rate of 1 USD = Rs.65/- (OR = Exchange Rate of any other Foreign Currency) and Import Duty of 10%. Any upward revision in Exchange Rate or Import Duty will be to the account of the Purchaser.

GUARANTEE: We hereby guarantee to replace free of cost, ex-our works, any component found defective due to bad workmanship or faulty raw materials, provided defects are not due to damage during transit, bad storage, misuse, improper use, use of improper atmosphere or any utility, location and environmental damages, mishandling or overloading of the equipment at Customer's site or due to normal wear & tear.

Our Guarantee does not cover on equipment parts like heat resisting steel parts (like retorts, conveyors, baskets, trays, fixtures, etc.) thermocouples, heating elements, electrical and other fragile items and all such parts which are subject to normal wear and tear in usage and application. If any maintenance due to such cause, the customer will be required to attend to the same. If any service visit required in such events including the guarantee period, the visits shall be on chargeable basis.

We also do not guarantee for any product or process characteristics though every effort would be made to adjust equipment parameters within the range possible to achieve factors.

Notwithstanding any conditions stated herein, there shall be no liability on us for loss of production, loss of profit, loss of use, loss of contracts or for any other consequential or indirect loss whatsoever.

This Guarantee will be valid for a period of 12 months from the date of Commissioning or 18 Months from the date of dispatch of the equipment, whichever is earlier.

EXCLUSIONS:

Packing, Forwarding, Freight and Insurance Charges.

Civil engineering work. The foundation lay-out drawings shall be provided by us.
Supply and laying of electrical cables from the mains to panel and panel to the furnace and auxiliaries.
Supply and laying of all utility connections like oil / gas / cooling water, etc. from the source to the furnace and auxiliaries.
The equipments offered are suitable for heat treatment process mentioned, however, the actual process parameters are to be defined by the customer.
Storage, Service Tank, Pipe Lines to furnace and auxiliaries.
Rails, Tracks, Flue Ducts, Chimney, Exhaust Arrangement as required.
Trays, Baskets, Fixtures, Coiler, De-coiler, Crane, Compressor and any other support equipments.
Unloading at site and shifting of materials from stores to the erection site.
While installation Crane facility, Erection Tools and Tackles, Gas Cutting Set, Welding Set, Compressed Air, Casual Labour, etc.

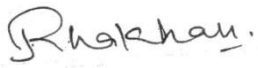
The equipments positioned and utilities connected by customer.

Any other item not specifically mentioned in our offer.

VALIDITY: Our offers are valid for a period of 45 days from the date for your acceptance, and thereafter it is subject to our re-confirmation in writing.

In case the Customers Purchase Order does not specifically clarify against any technical or commercial points, the same would be considered as applicable as mentioned in our offer unless agreed to otherwise, in writing prior to finalisation of the order.

SUBJECT TO NEW DELHI JURISDICTION AND BASED ON TERMS AND CONDITIONS OF THIS OFFER.



For SIMPLICITY ENGINEERS PVT. LTD.,

GSTIN : 06AGXPV6996K1ZK

: 9999734474
: 09450153171

R.M. VISHWAKARMA FABRICATORS

Specialist in :
All Kinds of Fabrication Jobs & Heat Treatment Harding Tempering
ISO Forgine Furnace & Repair

FCA-550, NEAR WATER TANK, EAST CHAWLA COLONY, BALLABGARH-121004, FARIDABAD

To
Sarna Group of Companies,
16/2, Mathura Road, Karkhana Bagh,
Faridabad-121002.

REF. NO.

DATED 25/11/2017

SUBJECT: QUOTATION
FOR NEW HARDING FURNACE &
ISO TEMPERING FURNACE SEMI AUTO CAPACITY 500 KG/HR.

1. Harding Furnace 9 tray tempering furnace 12 Tray
2. Standard tray size SS-310(28.5'x18'x4')
3. Harding Tempering Furnace Shell Fabrication
4. Conveyor No. 1, 2, 3 Fabrication Mechanical Assembly
5. Door Fabrication No. 5
6. Making of structure Machine Mechanical Auto
7. Furnace blower pipe line, Oil line, Air line
8. Tempering ISO Blower 7.5 HP pipe line
9. Furnace Bricks Lining & ceramic fibre work
10. Furnace operation Air Pneumatic Cylinder
11. Oil Quenching Tank & water quenching tank mechanical
12. Oil & water heat exchanger, Oil pump, Water pump, Cooling tower, Pipe line fitting
13. Pusher Machine No.1 return trolley mechanical electric panel wiring works

With Material Charges : ***36,00,000/-***

1. Terms & Condition
2. Advance 20%
3. 25% payment on shell fabrication
4. 25% payment on bricks lining fibre work
5. 25% payment on completion of all mechanical work
6. Balance payment against running bills for requirement of labour
7. Duration 5 months

For

R.M. Vishwakarma Fabrication

QUOTATION

EFFLUENT TREATMENT

PLANT 20 KLD PER DAY

FOR

M/S AUTO COMPONENTS CLUSTER

FARIDABAD (HRY)

M/S HEMKUND ENTERPRISES

SCO NO. 110 (IST FLLOR)

SECTOR – 47C, CHANDIGARH

(O) 0172- 5067512, 5005734,

(M) 094171-5063S, 092165-5063S

EMAIL- hemkundenterprises@yahoo.co.in

Website – www.hemkundent.com

WORK - PLOT NO 27 & 2S, MAKHAN MAJRA CHANDIGARH,

To

M/s AUTO COMPONENTS CLUSTER
FARIDABAD (HRY)

Kind Attention: - **Mr. VINOD KUMAR**

Subject : **Effluent Treatment Plant. CAP – 20 KLD/DAY**

Dear Sir,

With reference to the Telephonic discussion held with you. Regarding your requirement of Effluent Treatment Plant

Enclosed herewith is our quotation, design parameters and other technical details of the equipment, which will suit your requirements adequately.

We want to impress upon here the technology utilized in the system is latest in the field and is proven technology all around the world.

In case you need any other clarification kindly feel free to contact us.
Looking forward for a personal meeting and assuring you of our best services.

THANKING YOU
FOR- HEMKUND ENTERPRISES

(B. S. BISHT)
(M)094171-50638,092165-50638

PROPOSED E.T.P PLANT

Customer **M/s. AUTO COMPONENTS**

Raw Water Characteristics: **20 KLD/ per day**
Other Characteristics as per table- I

Source of raw water:

BORWELL

Proposed Effluent Treatment Scheme

The overall scheme would comprise of Effluent Treatment Plant Biodek Media Tubedek Media, Activated Carbon filter, Sand filter, .

Main units design parameters:

Basic design and design assumptions are standard as per our experience.

Scope of supplies:

Scope of supply is mentioned in Table III.

CHARACTERISTICS OF EFFLUENT

S.No.	PARAMETERS	VALUES
1.	Quantity	20 KLD / day
2.	PH	7 – S.5
3.	Total Suspended Solids	300 – 400 mg / l
4.	BOD	650 – 700 mg/ l
5.	COD	1200 – 1300 mg / l
6.	Total Dissolved Solid	3000mg/ l
7.	Oil & Grease	10-15mg / l

CHARACTERISTICS OF LAND DISCHARGE

S.No.	PARAMETERS	VALUES
1.	Quantity	20 KL./ day
2.	PH	7 – S.5
3.	Total Suspended Solids	Less than 100 mg / l
4.	BOD	Less than 100 mg/ l
5.	COD	Less than 250 mg / l
6.	Oil & Grease	S-10 mg / l

CHARACTERISTICS OF FINAL TREATED WATER

S.No.	PARAMETERS	VALUES
1.	Quantity	20KLD/ day
2.	PH	7 – S.5
3.	Total Suspended Solids	Less than 100 mg / l
4.	BOD	Less than 30 mg/ l
5.	COD	Less than 100 mg / l
6.	Oil & Grease	S-10 mg / l

1. OIL & GREASE TRAPE

Sizes		
Length	-	2400mm
Width	-	900mm
Depth	-	1200mm
Nos. of Tank	-	3Nos
MOW	-	RCC/ Brick Masonry

2. EQUALIZATIONS CUM COLLECTION TANK

Capacity	-	20KLD per day
Length	-	1800mm
Width	-	1800mm
Depth	-	2400mm
Nos. of Tank	-	1 No
MOW	-	RCC / Brick Masonry

3. TYPE OF .E.T.P

Type	-	Compect
Capacity	-	1 m^3 / hour
MOW	-	MS Sheet with Epoxy Coated
Nos. of Tank	-	1 No.
MOW	-	M.S with EPOXY

5. SAND FILTER

Size		
Dia	-	500 mm
Height	-	1500 mm
Type of filter	-	Up-flow with Back-wash
MOW	-	MS Sheet with Epoxy Coated
Nos. of filter	-	1 No

6. ACTIVATED CARBON FILTER

Size		
Dia	-	500 mm
Height	-	1500 mm
Type of filter	-	Up-flow with Back-wash
MOW	-	MS Sheet with Epoxy Coated
Nos. of filter	-	1 No

TECHNICAL DETAIL OF EQUIPMENT
TUBEdek Clarifier

Model	**ETE – 0020**
Detention time	**45 min.**
Rated flow capacity	**1.25 Cum per hrs.**
Settling Area	**60° slope**
Hydraulic Radius	**1.5cm**
Cross section area	**120 x 44 mm**
Shape	**Hexagonal**
Separator heights	**500 mm x 1000 mm**
Material	**P.V.C.**

TUBEdek is designed to expand the settling capacity of existing and new clarifiers and sedimentation basins, of either circular or rectangular shape. This is achieved by providing multiple tubular channels, sloped at an angle 60° and adjacent to each other, with a wave – like geometry of flow cavity which allows a rapid sloughing – off of any accumulated solids.

Individual tubes are continuous and smooth to minimize any mixing currents within the tubes. The configuration and shape of each tube is designed to give a low "Reynolds Number" and laminar flow conditions. This enables rapid accumulation and settlement of solids through the tubes.

Moreover, the individual tubes are continuous and imperforate and prevent any transfer of liquid between each tube. This eliminates any mixing currents within the tubes. Mixing currents adversely affect the settlement of solids and re – suspend the settled solids and re – suspend the settled solids within each tube. The high surface area of tubes, combined with these features, enables substantial expansion of settling capacity at high "rise rates".

The tube settling modules are assembled to give multiple tubes of approximately hexagonal – chevron shape. Tube settlers can be placed adjacent to each other, to snugly fit and cover as much area as is required in the clarifiers or sedimentation basins. The availability of TUBEdek in multiple lengths offers flexibility in the design and spacing of tube settler "supports". For circular clarifiers, the tube settler module ends are "angle cut" to offer a close fit in pile segments.

BIOdek Media

Model	**FB 10.27**
Specific surface area	**102 (31.1)**
Void Ratio	**>97**
Standard Dimension	**Length 1200 mm Width 600 mm Height 600 mm**
Maximum width of support	**100 mm**
Dry weight	**30 kg / m³**
Material	**P.V.C.**

BIOdek fixed film biological treatment media is a self-supporting cross flow synthetic media. It is fabricated from completely corrugated, rigid PVC sheets and forms a cross – corrugated pattern with each adjacent sheet. Unlike conventional modular sheet media, no flat sheets are used in the fabrication of the module. Each sheet is corrugated at a 60° angle and assembled in a cross – corrugated pattern with adjacent sheets.

Air Blower

Capacity-55 cum/hour
Pressure-3500 mmwc
Motor-3.0 HP,1440 RPM
Drive –V belt and Pulley
Fitted with pressure guage, safety valve, silencer etc.
Make-Everest/Grunank (Blower)
Make-ABB(Motor)

Pump(For effluent transfer pump)

1. **Head _1.5"**
2. **Flow _10cm/hour**
3. **Model GMC**
4. **Make _Kirloskar**

Pipeline work

Supply, Laying, jointing , testing & commissioning of G.I/
M.S. PipeLine of suitable size with all special fitting and isolation valves etc.
Complete interconnected pipeline i.e.
From oil & grease trap to final outlet from carbon vessel

SAND FILTER

1.	Flow Rate	:	1.25 m^3 / hours
2.	Working Pressure	:	1-2 Kgs. / Cm^2
3.	Type of filter	:	Up-Flow with Back Wash Arrangement
4.	Material of Construction	:	5 mm MS Sheet
5.	Size of filter	:	500 mm x 1500 mm
7.	Dish End	:	6 mm Thick 250 mm depth
8.	Media	:	Gravas

ACTIVATED CARBON FILTER

1.	Flow Rate	:	1.25 m^3 / hours
2.	Working Pressure	:	1-2 Kgs. / Cm^2
3.	Type of filter	:	Up-Flow with Back Wash Arrangement
4.	Material of Construction	:	5 mm MS Sheet
5.	Size of filter	:	500 mm x 1500 mm
7.	Dish End	:	6 mm Thick 250 mm depth
8.	Media	:	Carbon
9.	Carbon Size	:	+4 to + 6 Grade

HEMKUND ENTERPRISES SCOPE OF SUPPLY :-

1.	Effluent Treatment Plant	=	1No
2.	TUBEdek Media	=	1 Lot
4.	Blower 3hp	=	1 No
5.	Gravas Media	=	1Lot
6..	Sand Filter	=	1No.
7.	Activated Carbon filter	=	1 No. .
8.	Effluent Feed pump 1H.P	=	2 No
9.	Multiport Valve	=	2Nos
10.	Electrical panel	=	1 No
11.	Pipeline & accessories with wall	=	1 Lot
12.	Erection of Mechanical equipment at site	=	1 Lot
13.	Testing and commissioning of treatment Plant	=	1 Lot

Commissioning of treatment Plant
Training to your personnel for a period of three days in
Pertaining the plant.

PRICE PAYMENT TERMS AND CONDITONS

TOTAL PRICE:

The total price mentioned in our proposal for package type Effluent treatment plant Rs. 6,65,500/-

PAYMENT TERMS AND CONDITIONS SYSTEM:-

The following will our payment terms for mechanical system:-

1. **50% of total mechanical equipment as an advance along with order confirmation.**
2. **50% Against Proforma Invoice.**
3. **GST : @ 18%. EXTRA**
4. **Freight extra at 'Actual'.**
5. **Octroi extra at 'Actual'.**

OFFER VALIDITY:

Our offer price is valid for 30 days only from date signed on Purchase Order.

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Jakson & Company
Office : 114, Prabhat Kiran Building
17, Rajendra Place, New Delhi-110008 , Tel: 011-32942054,
65433053/54, Fax: 011-66405602, Email: jakson.rp@jakpower.com
Website: www.jakpower.com

Ref. -No. J&CO-SSA/QTN/SDG (140-250)GSP-3645
Dated: 18.11.2017

M/S FARIDABAD AUTO COMPONENTS PVT LTD
16/2, MATHURA ROAD
FARIDABAD
HARYANA

Kind Attention: MR VINOD KUMAR
Cell Number: 9814482400
E-mail:- Sampalvinod@gmail.com

SUBJECT: -YOUR REQUIREMENT KOEL GREEN SILENT DIESEL GENERATOR SET

Dear Sir,
This has reference to your subject requirement and in line with same we wish to submit our **"JAKSON–KOEL GREEN Silent DG Set"** manufactured by us as per CPCB Norms "Under License from Kirloskar Oil Engine Limited Pune". Proposal as per following annexure, for your kind perusal and acceptance.

Price Schedule	(Page no. 2)	-Annexure "I"
Commercial Terms & Conditions	(Page no. 3)	-Annexure "II"
Technical Specification of DG Set	(Page no. 4 - 7)	-Annexure "III"
Salient Features of KOEL Green DG Set	(Page no. 8-9)	-Annexure "IV"

We trust, you will find our offer in line with your requirement and we look forward to receive your most valued order.

Thanking and assuring you our prompt attention at all times.

Yours faithfully,
FOR JAKSON & COMPANY

GS Pathania
9810637436
jakson.pathania@jakpower.com

Continuation Sheet

AN ISO 9001:2008 CERTIFIED

ANNEXURE – "I"

PRICE SCHEDULE

Dear Sir,

We thank you very much for your enquiry for **"KOEL' GREEN SILENT DIESEL GENERATOR SET".** We are pleased to quote as under:

ENGINE (KVA)	ENGINE (MODEL)	ENGINE (BHP)	ALTERNATOR (THREE PHASE)	BASIC PRICE, GST EXTRA (EACH)
250 (WC)*	6SL1500TAG3	310	250 KVA / 200 KW	1377600.00

*** Terms & Conditions given in Annexure-II**

SCOPE OF SUPPLY:

Factory assembled Unpacked "KOEL GREEN SILENT DG SET" comprising of KOELGreen Make above model Diesel Engine directly coupled To "KOEL GREEN" make Alternator mounted on Common Base Frame fitted with AVM Pads complete with Fuel Tank, Standard Manual Control Panel, Battery with leads and Acoustic Enclosure (C A N O P Y) as per latest CPCB Norms along with K-Oil Premium & K-Cool (Coolant).

Note: These prices are governed by Commercial Terms & Conditions given in Annexure-"II".

(WC)*= Water Cooled

- **After First Oil Change Next LUBE Oil Change Period is 500 hrs/1 Year whichever is earlier**
- **Free 4 Service Check (CSP Check) as per KOEL Policy**

Jakson & Company
JC/QUOTE-02 /140-250

3

Continuation Sheet

AN ISO 9001:2008 CERTIFIED

ANNEXURE – "II"

COMMERCIAL TERMS & CONDITIONS

PRICE	Ex-Works
GST	Extra @ 18% .
DESPATCH	With in 7 Days from the date of receipt of Techno Commercial clear order along with balance payment.
VALIDITY	Our offer is open for acceptance for 10 Days from the date of offer.
PAYMENTS	30% advance (Non Refundable) along with order, Entry Permit (if applicable) and balance payment against Proforma invoice.
WARRANTEE	The Warranty of the offered DG Set is applicable as per KOEL Policy.However The DG Set comprising of Engine, Alternator & battery carries a warranty against defective material/ Manufacturing defects for a period of 24 months from the date of commissioning or 5000Hrs whichever occurs earlier. The terms of KOEL warranty policy will have precedence under all circumstances & the Warrantee Will Be applicable if customer sources K-Oil Premium, Cool Super and avail the services from authorized service dealers.
INSTALLATION /CUSTOMER SCOPE	Unloading of "D G" and installation work like Foundation Exhaust Piping, Earthing, Cabling, Change Over Switch, Fuel (Diesel) has to be arranged by Customer.
INSURANCE	Extra at cost, if required.
Note	If the order is cancelled after one month, for whatever reason ,may be the advance amount will not be refunded

COMMISSIONING

Commissioning of DG Set shall be done by our service engineer (will visit for commissioning after getting confirmation of completion of Installation). Extra visit will be on chargeable basis.

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Continuation Sheet

ANNEXURE - "III"

TECHNICAL SPECIFICATION OF WATER / AIR COOLED KOEL GREEN DG SETS

DIESEL ENGINE:

"KOEL GREEN" make diesel engine rated at 1500 rpm, Water Cooled, Four Stroke Electric Start Diesel Engine conforming to ISO 3046 with capacity of 10% over loading for one hour in every twelve hours duration having following accessories as scope of supply:

AIR INTAKE SYSTEM

*Air intake manifold
*Dry type air cleaner.
*Vacuum indicator.

EXHAUST SYSTEM

*Turbo-charged After cooled
*Expansion bellow.
*Exhaust manifold
*Exhaust silencer.

COOLING SYSTEM

FOR WATER COOLED

*Engine water pump.
*Coolant
*Radiator with pusher type fan (Fan mounted on engine Shaft)

LUBRICATING SYSTEM

*Lube oil cooler
*Lube oil filter "Spin-on" type
* Centrifugal filter

FUEL SYSTEM

*"Spin-on" type fuel filter
* 12/ 24 V DC solenoid coil
*Inline/ V type fuel injection pump and Fuel Feed Pump.
*Governor – Electronic

STARTING SYSTEM

* 140-160 KVA 12 Volt Starter *12 Volt DC solenoid coil & 12 Volt DC Battery charging Alternator
* 180 KVA & Above 24-Volt Starter *24 Volt DC solenoid coil & 24 Volt DC Battery charging Alternator

INSTRUMENT PANEL

*Start / stop Push Button.
*Lube oil pressure indication.
*Water temperature indication.
*RPM indication.
*Engine running hour indication.
*Low lube oil trip indication.
*High Engine temperature trip indication
* Low/ High Battery Voltage Indication.
* Over /Under Speed trip Indication
*Low Fuel level Indication

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