Draft Detailed Project Report

Ambala General Engineering Cluster

Submitted to,

Department of Industries and Commerce

Government of Haryana

(For assistance under State Mini Cluster Development Scheme)

Report No. 2018-CHD-0018

April 2018

Prepared by,

Ernst & Young LLP

Under the project: MSME Ecosystem Transformation in Haryana

05th March 2018

Director
Department of Industries & Commerce,
Government of Haryana
1st Floor, 30 Bays Building,
Sector 17, Chandigarh

Dear Sir/Madam,

As part of our engagement for providing consulting services for 'MSME Ecosystem Transformation in the State of Haryana', we hereby submit the Draft Detailed Project Report (DPR) for setting up of Common Facility Centre in the General Engineering Ambala cluster 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
- DIC Ambala
- Engineering related units located in Ambala
- Industry experts
- Secondary research

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

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

Sincerely,

Amar Shankar, Partner – Advisory Services

Disclaimer

This Draft Detailed Project Report for setting up of Modern Machining Centre as a common facility centre in the name of – **"CFC Cast Tech Private Limited"** for General Engineering cluster 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 **Sh. Devender Singh**, IAS, Additional Chief 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 Smt. Vijay Laxmi Assistant Director, DIC Ambala** for their proactive support and guidance to the team during the entire process.

We would like to convey our sincere thanks to the proactive industry associations in Ambala- **Ambala Scientific Instrument Manufacturer's Associations (ASIMA)** for their assistance in facilitating stakeholder discussions. Further, we would also like to thank officials of DIC, Ambala for providing support and information related to engineering units in Ambala.

Also, we must extend our sincere thanks to engineering and engineering manufacturing MSME 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 the industry insights would not have been possible.

Abbreviations

AEMA	Engineering Exporters & Manufacturers Association
AEPC	Engineering Export Promotion Council
ATDC	Engineering Training & Design Centre
BDS	Business Development Services
CAGR	Compound Annual Growth Rate
CFC	Common Facility Centre
DIC	District Industries Centre
DSR	Diagnostic Study Report
EU	European Union
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
IAM	Institute of Engineering Management
IAMSME	Integrated Association of Micro, Small & Medium Enterprises
IDBI	Industrial Development Bank of India
MSME	Micro, Small and Medium Enterprises
MSME-DI	MSME – Development Institute
NCR	National Capital Region
NIFT	National Institute of Fashion Technology
NITRA	North India Textile Research Association
NSIC	National Small Industries Corporation
SBI	State Bank of India
SIDBI	Small Industries Development Bank of India
SWOT	Strength, Weaknesses, Opportunities and Threats
TIT&S	The Technological Institute of Textile & Science
UAM	Udyog Aadhar Memorandum
USA	United States of America

Table of contents

List of Figures

List of Tables

Executive Summary

Executive summary

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

In the above 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 Centre for – Modern Machining Centre as a Common Facility Centre through an SPV under the name and style of "**CFC Cast Tech Private Limited"** for Ambala General Engineering Cluster.

About the General Engineering Cluster

The engineering sector plays an important role in the development of other industrial sectors of the economy. It is closely linked with the manufacturing and infrastructure sectors. The sector caters to capacity creation requirements in an array of sectors like power, mining, oil & gas, refinery, steel, automotive and consumer durables. Engineering products are largely used as input in the capital goods industry. Hence, the growth and demand of this sector is largely fuelled by the growth and demand of the capital goods industry.

Indian engineering companies enjoy some degree of advantage in some of the engineering sub-sectors vis-à-vis foreign players, in terms of manufacturing costs, market knowledge, technology and creativity. The sector, therefore, attracts immense interest from foreign players. The government has de-licensed the engineering sectors and has allowed 100% Foreign Direct Investment (FDI). Between Apr. 2000 and Dec. 2015, the FDI inflows into India's miscellaneous mechanical and engineering industries stood at around USD 2,993.45 mn.

As per IBEF reports, engineering exports from India stood at USD 65.23 billion in FY17. During FY08–FY17, engineering exports from India registered growth at a CAGR of 7.61%. Engineering exports include transport equipment, capital goods, other machinery/equipment and light engineering products such as castings, forgings and fasteners. In August 2016, engineering exports by India, to its top 25 destinations, registered a growth of 5.8% over August 2015. With the revival of demand for iron and steel in China and the US, India's engineering exports reached USD 58.8 billion in FY16. During the fiscal year 2016-17, the exports have touched USD 65.23 billion, which exceeds the total shipment of USD 58.8 billion in 2015-16.

The general engineering industry in Haryana exhibits strength across the entire value chain from tiny machine parts to heavy machine tools. The cluster based approach to industrial development has produced robust engineering centres such as Gurugram, Ambala, Rohtak, Ambala, Panchkula, Hisar and Sonipat. Haryana is amongst the front runners of the industrial development in India that is showcased with its leading position in production of

number of industrial/consumer goods i.e. nearly 52% of escalators, 80% of cranes, 50% of passenger cars, 37% of two wheelers, 15% of tractors, 20% of scientific instruments are manufactured in India. One out of every four bicycles in the country is manufactured in Haryana. The state has more than 1,347 big and medium industrial units and 80,000 small scale industrial units[1].

Haryana leads in terms of manufacturing of original equipment and replacement items. Out of about 250 large and medium original equipment manufacturing units in the country, about 50 are located in Haryana.

The cluster units are engaged in the manufacturing of Auto parts, Tractor parts, two wheeler parts, Agriculture machinery parts, Medical Equipment, Scientific Instrument, Rubber Parts, Plastic products etc. Most of the units manufacture products for other brands, while some also manufacture under their own brands. Several micro and small level entrepreneurs face challenge in getting the die & mould from the faraway places. Due to lack of in-house die & mould making & modern machining facilities as common infrastructure and high cost of outsourcing the same.

Diagnostic Study and Interventions

A diagnostic study was undertaken in March 20178 to map the existing business processes in the cluster, identify the gaps, and understand the requirements of the cluster. It was observed that most units required die, mould & machining facilities, as they were currently availing these services from external service providers at high prices and with production delays.This has resulted in a negative impact on their cost competitiveness and a subsequent impact on their market competitiveness. In this context, the units have decided to establish a CFC.

A DSR validation meeting was conducted with SPV and cluster members on **22nd March 2018** and was put up to the Director (Industries) for approval. It was approved by the Director (Industries) on **4th April 2018**. The SPV was granted permission to go ahead with the preparation of Detailed Project Report (DPR) for the cluster.

Proposed Common Facility Centre

The proposed CFC will facilitate:

- **Modern Machining Centre for Job Work**

Machining centre is essential for any engineering unit to do job work. The units are using conventional machines and methods for processes which are too old and needs to be upgraded. These machineries are out-dated and cannot match the quality and standard of modern age. The machines are slow and consume time and energy. Presently, the units only have outsourced the Die & mould making from private players. These private player charge high prices for the die & mould. Also, the units are facing the challenge of measurement of dies and not as per the drawing & specification due to that the final product is frequently rejected by the customers. By establishing this facility under the banner of CFC will provide a much needed technology and infrastructure push to the cluster units and enable them to become more competitive.

Special Purpose Vehicle for Project Implementation

After the diagnostic study, the cluster units came together to form a special purpose vehicle (SPV) by the name and style of **"CFC Cast Tech Private Limited"** as aprivate limited company under section 7 of the Companies Act, 2013 and rule 18 of the Companies (Incorporation) Rules, 2014. DIC, Ambala and MSME-DI have played an important role in SPV formation by cluster stakeholders. The SPV has been incorporated in 2018, and includes 12 members who are making who are subscribing to the necessary equity base of the company. The proposed CFC will be implemented on public-private partnership basis through the SPV by availing support from Government of Haryana (under EPP 2015).

The SPV members have a track record of cooperative initiatives and are also members of prominent cluster associations. The members have been autonomously undertaking several soft interventions to enhance knowledge and exposure of the cluster units on new trends in the engineering industry and enhancing productivity of their units. This includes exposure visits to fairs and sharing of best practices, registration under UAM, awareness programs on new trends in engineerng manufacturing, entrepreneurship development, energy efficiency, GST etc. These programs were conducted in collaboration with DIC, MSME-DI Karnal, State Government, ASIMA etc.

Project Parameters, Viability and Sustainability

The cluster with support from State Government is planning to set up Common Facility Centre having state-of-the-art modern machining facilities to undertake job work of cluster units with a total project cost of about **INR 240.16 lakhs**. The SPV members have proposed to contribute 25% of the project cost. The total contribution of SPV members will amount to **INR 60.16 lakhs**. Support from State Government is envisaged for **INR 180 lakhs**.

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

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			
	a. Indigenous	200.91	200.00	Eligible
	b. Imports	0.00		
	c. Secondary Machines	17.57		
	Sub Total (B)	218.48	200.00	
3	Miscellaneous fixed assets (C)	1.45	0.00	Not eligible for grant
4	Preliminary & Preoperative Expenses (D)	3.47	0.00	

5	Contingency a. Building @ 2% b. Plant & Machinery @ 5% Sub Total (E)	 0.00 10.92 10.92	 0.00 0.00 0.00	
6	Margin money for working capital @ 75% CU (F)	7.32	0.00	
	Grand Total (A+B+C+D+E+F)	241.65	200.00	

The total project cost is estimated to be **INR 241.65 lakhs**. As indicated above, assistance to the project from the Govt. of India is envisaged to the tune of **INR 180 lakhs** of the project cost, SPV contribution is to the tune of **INR 61.65 lakhs** of the project cost.

S. No.	Source of finance	Total Amount (Rs. In Lakh)
1	Grant-in-aid under State Mini Cluster Development Scheme (Govt. of Haryana)	180.00
2	Contribution of SPV	61.65
	Total	**241.65**

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

FEASIBILITY		
S. No.	**Particulars**	**Estimates**
1	BEP (cash BEP at initial operating capacity of 75%)	55.67%
2	Av. ROCE (PAT/CE)	29.47%
3	Internal Rate of Return (IRR)	24.53%
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. 178.43 lacs) at a conservative project life of 10 years
5	Payback period	4.89 years with Grant-in-aid assistance from GOH
6	DSCR	Not Applicable (non-availment of term loan in this project)

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

Project Implementation

Project implementation is envisaged to involve a time-frame of about 7 months upon receipt of final 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, Ambala and the State government.

In addition, for implementing this CFC project, a Project Management Committee (PMC) comprising of the JD, DIC Ambala and representatives of the SPV, lead bank, and EY experts shall be constituted to directly oversee effective monitoring and implementation. The project will be implemented through the SPV, and the PMC will report progress of implementation to the State Level Steering Committee and DIC, Ambala.

The potential for Ambala General Engineering cluster to grow is enormous, owing to the growing market demand for engineering products in India and globally. The strength of the cluster lies in its location (both geographically & industrially), with engineering industry which provides the key raw material for engineering products, and its proximity to Tricity & Punjab which is a key supply hub. Cluster units are unable to effectively cater to the domestic and international markets as they are lacking price competitiveness and efficiency due to lack of modern machining facilities.

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

Introduction

1. Introduction

1.1 Overview of the Cluster

There are about 650 engineering units in Ambala district, Haryana, with 12 units have formed a Special Purpose Vehicle (SPV) under the name and style of **"CFC Cast Tech Private Limited"** to set up a Common Facility Centre (CFC) to address common problems of the cluster. The cluster comprises of mainly micro and small units. This proposed intervention under the Mini Cluster Development Scheme of Government of Haryana is expected to address the common infrastructure related problems of the cluster.

The annual turnover of the cluster (micro and small units) is about INR 200 Crore. The cluster units are engaged in the manufacturing of Auto parts, Tractor parts, two wheeler parts, Agriculture machinery parts, Medical Equipment, Scientific Instrument, Rubber Parts, Plastic products etc. Most of the units manufacture products for other brands, while some also manufacture under their own brands.

1.2 Geographic and Economic Traits

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

1.3 Economic Scenario of the State

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

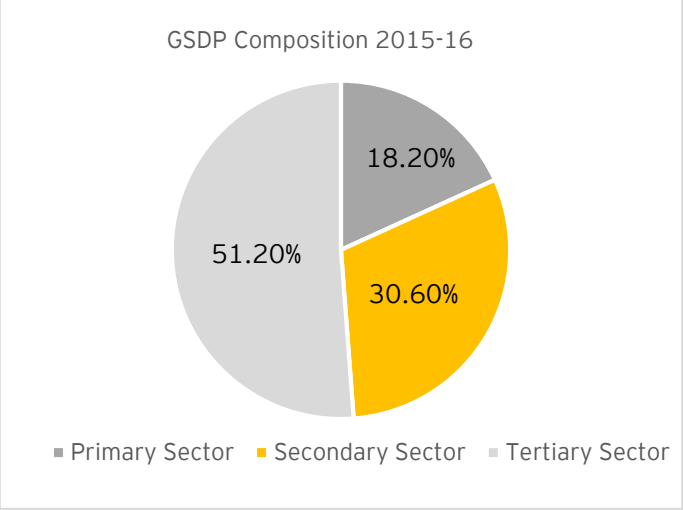


Figure 1: GSDP Composition 2015-16

The industry sector contributes about 18% of the total GSDP of the state.

Haryana is fast emerging as one of the most favoured investment destinations in India. The globalization of markets and a resilient economy have given an incredible drive to the industrial sector in Haryana, which already has a competitive advantage in terms of strategic location, basic infrastructure as well as large skilled, educated and young workforce. Besides, the State has investor-friendly policies and regulatory environment as outlined in its recent EPP 2015. It is one of the leading states in terms of industrial production, especially passenger cars, mobile cranes, two-wheelers & tractors. It is the 2nd largest contributor of food grains to India's central pool, accounts for more than 60% of the export of basmati rice in the country and is 3rd largest exporter of software.

The state is in transition from agrarian to manufacturing sector. The state is gradually transforming from an agrarian economy to an industrial economy. To boost the growth rate further and make Haryana a favourable investment destination, the State has developed the Enterprise Promotion Policy in 2015. With the Enterprise Promotion Policy-2015, the state has envisaged a sustainable industrial spectrum in the state with a special focus on MSMEs in its endeavour for effecting a balanced regional and sustainable development. In order to accelerate the industrial growth in the state, the focus of the government is on holistic development, i.e., by encompassing initiatives for resource efficiency improvement, smarter technology, and environment friendly methods which reduce resource consumption.

1.4 Demographic Trends of Ambala

Ambala is also known as the manufacturing hub for scientific instruments and also boasts of a cluster for home appliances. It's strategically located on the National Highway (NH-1) that provides accessibility to markets of Uttar Pradesh, Punjab, Delhi, and Himachal Pradesh. The district is well connected by road and railway as Ambala is a prominent junction.

It has Haryana State Industrial and Infrastructure Development Corporation (HSIIDC) industrial estate in Ambala Cantt and Industrial Growth Centre Phase (1 & 2) which houses facilities of various industrial sectors. The total population of the district as per 2011 census is 1,136,784. The district has a population density of 711 per square kilometre. Ambala district comprises approximately 4.48% of the State's total population.

Figure 2 District Map of Ambala

Sector Overview

2. Sector Overview

The engineering sector plays an important role in the development of other industrial sectors of the economy. It is closely linked with the manufacturing and infrastructure sectors. The sector caters to capacity creation requirements in an array of sectors like power, mining, oil & gas, refinery, steel, automotive and consumer durables. Engineering products are largely used as input in the capital goods industry. Hence, the growth and demand of this sector is largely fuelled by the growth and demand of the capital goods industry.

Indian engineering companies enjoy some degree of advantage in some of the engineering sub-sectors vis-à-vis foreign players, in terms of manufacturing costs, market knowledge, technology and creativity. The sector, therefore, attracts immense interest from foreign players. The government has de-licensed the engineering sectors and has allowed 100% Foreign Direct Investment (FDI). Between Apr. 2000 and Dec. 2015, the FDI inflows into India's miscellaneous mechanical and engineering industries stood at around USD 2,993.45 mn. Engineering is a diverse sector encompassing a number of segments and can be broadly classified into the heavy engineering and light engineering sectors.

2.1 Global Scenario

- **Heavy Engineering**

Heavy engineering usually involves the manufacture of high value goods, using high-end technology. It generally entails huge capital investments and has high entry barriers. The heavy engineering industry comprises of machineries such as mining equipment, cement machinery, textile machinery, machine tools, and material handling equipment, oil field equipment, rubber machinery, metallurgical machinery and dairy equipment. The heavy engineering goods find applications in industries such as power, infrastructure, steel, cement, petrochemicals, oil & gas, refineries, fertilisers, mining, railways, automobiles and textiles, among others.

- **Light Engineering**

The light engineering sector consists of a diverse set of sub-sectors including items such as medical instruments, sophisticated process control equipment, castings, forgings, fasteners, bearings, steel pipes and tubes. These sectors usually use medium to low end technology as compared to high-end technology used in the heavy engineering industry. Relatively lower requirement of capital and technology makes it a low entry barrier sector. The light engineering segment is characterised by small capacities and high level of competition. It is a highly labour intensive sector, and generates ample employment opportunities in the economy.

Some products that form part of the light engineering segment serve as inputs for the heavy engineering and capital goods sectors. Demand for engineering and capital goods;

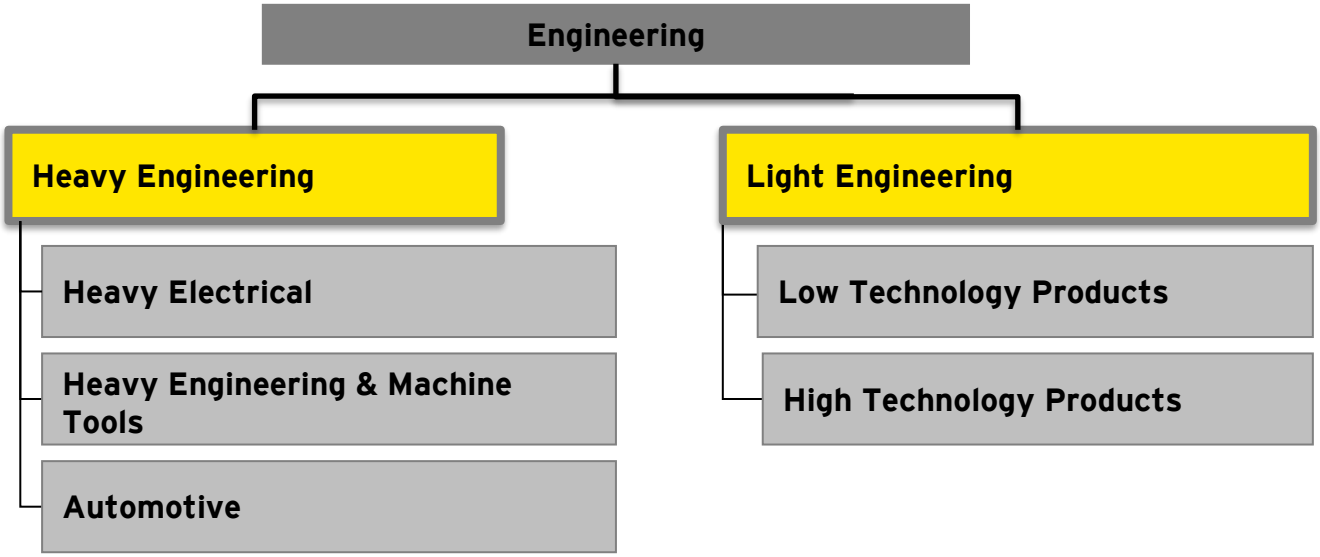


Figure 3: Engineering Sector Product Classification

therefore, influence the overall health of the light engineering sector. Figure 3 presents the engineering sector product classification.

The global engineering sector has been a slowing in recent years with production falling in US and Japan. Europe has shown considerable improvement over last year in terms of engineering production. Although India's engineering exports have risen but it has been affected negatively by trends in US & European markets.

2.2 India Scenario

The Indian Engineering sector has witnessed a remarkable growth over the last few years driven by increased investments in infrastructure and industrial production. The engineering sector, being closely associated with the manufacturing and infrastructure sectors, is of strategic importance to India's economy. India's exports of engineering goods have been growing steadily over the last decade, reflecting a double digit growth rate. Exports declined during FY10 as the global financial crisis severely impacted global trade.

While engineering exports recovered during FY11 and FY12, it again contracted during FY13 in tandem with a decline in overall exports. Engineering exports returned to growth in FY14, growing by 8.1% as India's overall exports grew by 4.7% during the year. As per data provided by the Engineering Export Promotion Council of India (EEPC) for FY15, India's export of engineering goods grew by 14.7% in spite of a decline in overall exports. In FY15, India's exports of engineering goods stood at USD 70.7 bn. as compared to USD 61.6 bn in FY14. The sector's share in overall exports stands at around 23%. Figure 4 presents a decadal analysis of India's engineering exports.

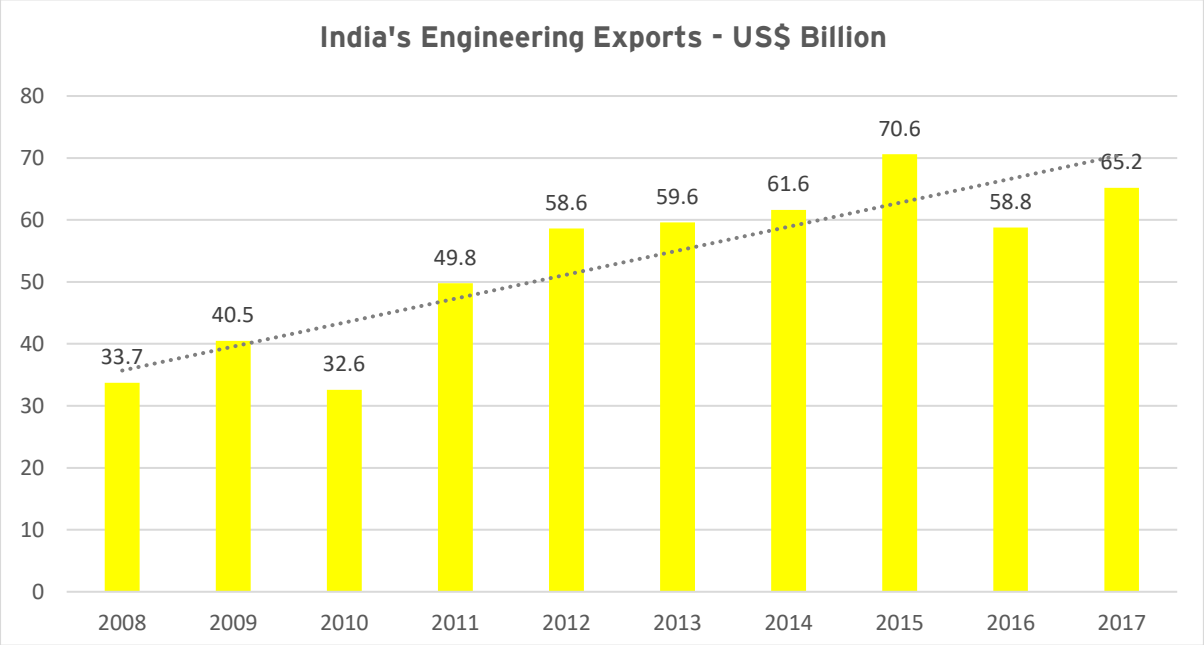


Figure 4: India's Engineering Exports

As per IBEF reports, engineering exports from India stood at USD 65.23 billion in FY17. During FY08–FY17, engineering exports from India registered growth at a CAGR of 7.61%. Engineering exports include transport equipment, capital goods, other machinery/equipment and light engineering products such as castings, forgings and fasteners. In August 2016, engineering exports by India, to its top 25 destinations, registered a growth of 5.8% over August 2015. With the revival of demand for iron and steel in China and the US, India's engineering exports reached USD 58.8 billion in FY16. During the fiscal year 2016-17, the exports have touched USD 65.23 billion, which exceeds the total shipment of USD 58.8 billion in 2015-16.

The engineering industry is an important sector for any state. At the backdrop of a high concentration of automobile makers in Haryana, the industry including auto component sector has been declared as a thrust sector under the Haryana Enterprise Promotion Policy 2015. Maruti Suzuki plants at Gurugram and Manesar, Honda two wheeler plant at Manesar and Hero Motorcorp motorcycle plant at Gurugram/Dharuhera are the anchors which have facilitated the growth in the automobile and automobile components sector and would catalyze future growth too.

The general engineering industry in Haryana exhibits strength across the entire value chain from tiny machine parts to heavy machine tools. The cluster based approach to industrial development has produced robust engineering centres such as Gurugram, Ambala, Rohtak, Ambala, Panchkula, Hisar and Sonipat. Haryana is amongst the front runners of the industrial development in India that is showcased with its leading position in production of number of industrial/consumer goods i.e. nearly 52% of escalators, 80% of cranes, 50% of passenger cars, 37% of two wheelers, 15% of tractors, 20% of scientific instruments are manufactured in India. One out of every four bicycles in the country is manufactured in

Haryana. The state has more than 1,347 big and medium industrial units and 80,000 small scale industrial units[1].

Haryana leads in terms of manufacturing of original equipment and replacement items. Out of about 250 large and medium original equipment manufacturing units in the country, about 50 are located in Haryana.

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[2]:

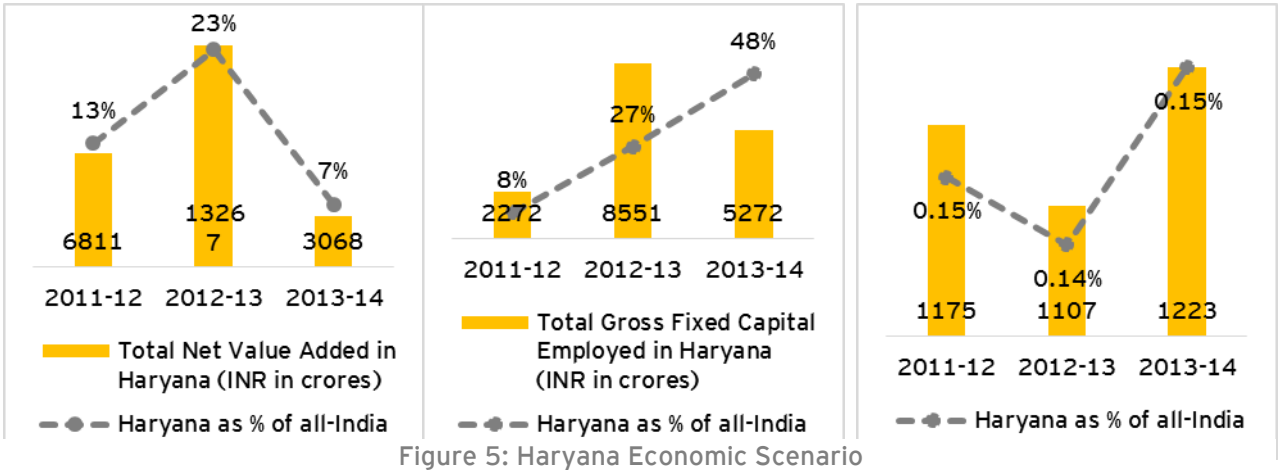


Figure 5: Haryana Economic Scenario

Source: Annual Survey of Industries

e 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 Ambala 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 & Ambala 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.

2.3 Products of the Cluster

The cluster products include Auto parts, Tractor parts, two wheeler parts, Agriculture machinery parts, Medical Equipment, Scientific Instrument, Rubber Parts, Plastic products etc. which caters to domestic market only. The units undertake a range of activities such as manufacturing complete product, innovation and value addition, testing and finishing.

[1] EPP 2015
[2] Annual Survey of Industries

A few of the products manufactured by the cluster are presented in figure 6:

Auto Part

Tractor Parts

Microscope Parts

Medical Modals

Two Wheeler Part

Agriculture Machinery Part

Plastic Part

LED Light Hosiery

Medical Equipment Part

Figure 6: Products of the General Engineering Units

Diagnostic Study Findings

3. Diagnostic Study Findings

A diagnostic study was undertaken by the cluster members in March 2018 to map the existing business processes in the cluster, identify the gaps, and understand the requirements of the cluster. It was observed that many units required modern machining facilities, as they were currently availing these services from external service providers at high prices, and often with production delays. Additionally, external service providers sometimes do not accept the low volume orders from MSMEs.

The DSR was approved by the Director of Industries & Commerce on **4th April 2018** and the SPV was granted permission to go ahead with preparation of Detailed Project Report (DPR) for the cluster. The major findings of the DSR are presented in the following sections.

3.1 Cluster Actors and their role

The primary stakeholders in the cluster are the engineering manufacturing units based in various parts of Haryana. The other stakeholders include the major industry associations, government agencies (mainly DIC, regulatory bodies, raw material suppliers, and academic/training institutes. These cluster actors provide various services to the cluster units. Some of the major cluster actors located in and outside the cluster and catering to the units of the region are mentioned below:

A. Industry Associations

- **Ambala Scientific Instruments Manufacturers' Association (ASIMA)**

  ASIMA Incorporated in 1972, ASIMA is the largest association of Scientifics Instruments and MSMEs in Ambala and has been representing problems of small industries and working towards their overall development. Most of the cluster units are the members of this association.

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

  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 district level 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. HCCI, Ambala is the major industry association of the cluster. Having over 100 engineering units as members, the association addresses the issues related to the welfare and grievance redressal of their member industries.

B. Government Bodies

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

  DIC is the most important government stakeholder for the cluster. The office of DIC comes under the Dept. Of Industries and is headed by Joint Director who is assisted functional managers and technical field officers. DIC promotes and routes subsidy

to micro and small enterprises in the region. The Mini Custer Scheme under which the engineering units want to set up a CFC will also be implemented through the DIC office. The Ambala DIC is actively promoting cluster development in the district and also helps the local units register under Udyog Aadhar Memorandum (UAM). It would play a key role in formulation of the engineering units SPV.

- **MSME-Development Institute, Karnal**
  MSME - Development Institute, Karnal 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.

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

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

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

  HUDA is the urban planning agency of the state of Haryana in India. It was established in 1977. It plays a key role in land development and execution of development works like roads, water supply, sewage, and drainage etc.

- **National Small Industries Corporation (NSIC)**
  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. Ambala industry is served by the NSIC branch office in Ambala. It provides diverse services to MSMEs in Ambala such as:

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

C. Educational Institutes

- **National Institute of Technology (NIT), Kurukshetra**
  The institute was established in 1963 in Kurukshetra as a joint enterprise of the Government of India and the Government of Haryana as the Regional Engineering College, Kurukshetra (REC Kurukshetra).

The institute has established Institute-Industry interfaces like an MOU with Hewlett Packard (HP) India under this MOU. The institute offers consultancy services on the design and development problems referred to it by various Govt. and other Industrial Organizations. It also organises Institute-Industry interaction which has participation of leading industry and academia.

- **Central Scientific Instruments Organisation (CSIO), Chandigarh**
  This is a national laboratory dedicated to research, design and development of scientific and industrial instruments. It is one of the constituent laboratories of the Council of Scientific & Industrial Research (CSIR) India, an industrial research and development organisation of the country.

  With a view to meet the demand for instrument technologists, Indo-Swiss Training Centre (ISTC) was started in December 1963 with the co-operation of Swiss Foundation for Technical Assistance, Zurich, Switzerland. A large number of instruments have been developed by the Institute and their know-how have been passed on to the industry for commercial exploitation.

D. Banks / FIs

- **Haryana Financial Corporation (HFC)**
  Haryana Financial Corporation, based in Chandigarh was promoted jointly by the Government of Haryana and the Industrial Development Bank of India (IDBI). HFC has been approved by SEBI as a category-I merchant banker. The corporation's activities include merchant banking, trade finance, lease finance and term lending. The corporation has diversified its range of financial services to include no-fund-based assistance in the form of guarantees, letter of credit and forex services. The DPR for the project shall be appraised by HFC.
- **Small Industries Development Bank of India (SIDBI)**
  SIDBI is the apex financial institution responsible for the growth and development of the MSME sector. Almost all the government subsidy schemes and bilateral lines of credit are implemented through SIDBI. The business strategy of SIDBI is to address the financial and non-financial gaps in MSME eco-system. Financial support to MSMEs is provided by way of (a) Indirect / refinance to banks / Financial Institutions for onward lending to MSMEs and (b) direct finance in the niche areas like risk capital, sustainable finance, receivable financing, service sector financing, etc.
- **Punjab National Bank, Ambala**
  Panjab National Bank is the lead bank of the Ambala district and many local engineering units have a banking relationship with PNB Bank.

E. Leading Manufacturers

Some of the leading electronic manufacturers in Ambala include National Automobiles, Pawan Machines Tools, Gaurav Manufacturing Enterprise, Alloy Crafts

& Bhawani Enterprises etc. Key stakeholders of Ambala cluster are presented in figure 7:

Key stakeholders of Ambala cluster are presented in figure 7:

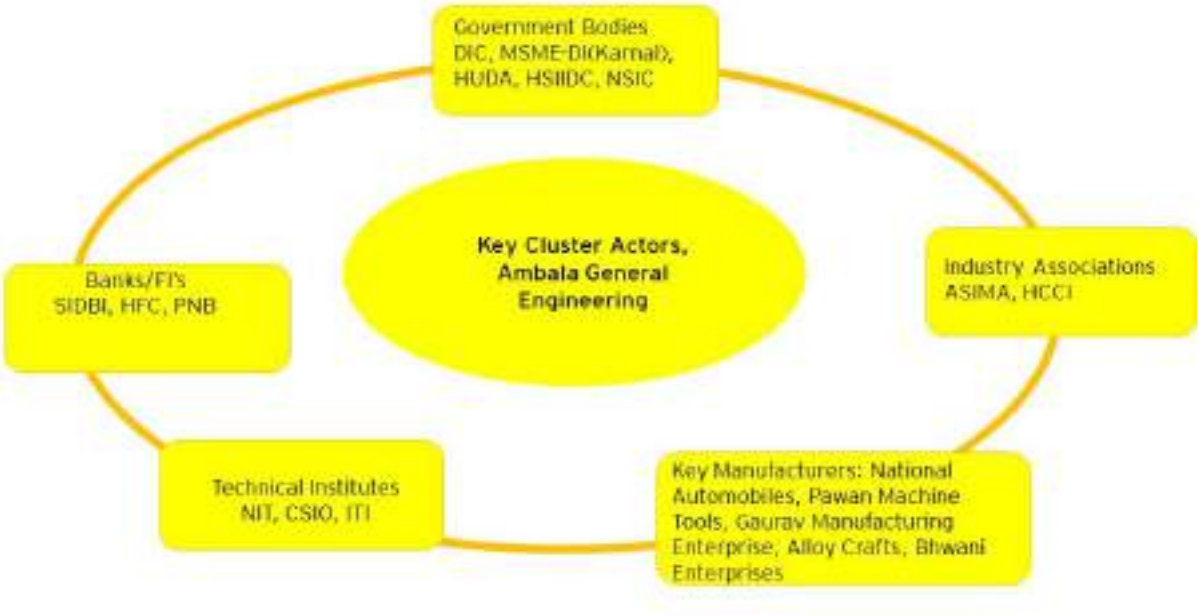


Figure 7: Key Cluster Actors

3.2 Cluster Market, Employment and Turnover

The units in the cluster cater to the domestic market only. Units operate across the spectrum – from completely domestic manufacturing oriented. Manufacturing is predominantly done to order, and is usually based on the buyer's given drawings & specifications. MSMEs cater to niche orders from mostly Tier-II, replacement market & only few small scale are catering the demand of OEMs.

This general engineering industry is capital intensive. Presently, this cluster provides employment to 3000 people directly & indirectly. On an average, micro units employ approximately 8 persons, and small units in the cluster employ approximately 15 persons.

The owners of units in the cluster are Graduate, Post Graduates in engineering or business. The mangers and the man force is also technically qualified, having B. Tech/ Diploma/ITI. The industry workforce in the electronic industry is skilled manpower and technically competent in engineering and post-training may earn more than INR 2.40 lakh per annum

The cumulative annual turnover of the engineering cluster is estimated to be around INR 200 crores. The average annual turnover of micro units is approximately INR 25 lakh, of small units is approximately INR 1 crore, and of medium units varies from INR 5 – 10 crore. 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. Currently, units are charged high prices for services such as machining, boring, die & mould making, which affects their competitiveness.

3.3 Production Process

The units in the cluster are engaged in production of various products. The units in the cluster are engaged in various activities across the value chain of general engineering process. From selection of raw materials, to the finished products, various engineering activities are involved in this process. Following are some common activities generally used for general engineering process.

General engineering Process

Designing and approval

1. Designing of Machine/Equipment: On the very first step, as per customer's requirement and need, a sample design is made which contain dimensions, location of various fittings, look of proposed machine etc. Design is very useful while calculating estimates of equipment.
2. Approval by Client: Design made in first step, shared with client for his satisfaction and approval. Client may also change design as per his desire before giving approval
3. PO received: Client give purchase order to manufacturer if he satisfied with all the projections and details.

Operations

4. Material Segregation: Raw material segregated from current stock as per requirement of proposed equipment.
5. Material Purchase: After segregation if some of the raw material found missing from current stock then required raw material purchased from open market or routed through dealer.
6. Fabrication: Fabrication is very critical process. It involves various operations like marking, cutting, bending, shearing, welding, notching, broaching etc.

Assembly and Installation

7. Installation: As per requirement, various parts need to be assembled and installed. Welding, riveting and fastening are major assembly and installation process.
8. Trial Run: Trial run executed before delivery to find if there are any defects.

Post Production

9. Packing: If equipment found in OK condition on trial run then packed accordingly.

Dispatch: Packed equipment shipped to client's premises as per agreement.

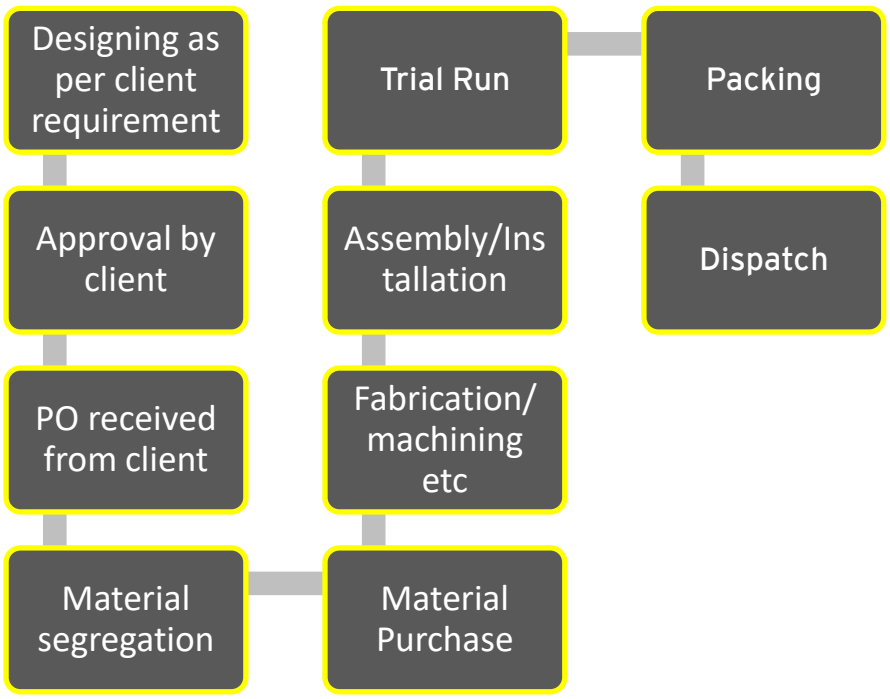


Figure 8: Flow Chart of Production Process for engineering process

3.4 Value Chain Analysis

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

Table 1: Value Chain Analysis of Fork Leg [3]

Particulars	Value Added	Total Value (INR)	% of cost of production
Die Casting (Raw material)	105	105	40.70
Fettling	3	108	1.16
Machining	90	198	34.88
Measuring & Testing	5	203	1.94
Finishing	10	213	3.88
Manpower	10	223	3.88
Electricity	20	243	7.76

[3] Source: Stakeholder Consultation inputs

Packaging & Dispatch	15	258	5.82
Total Production Cost	**258**		**100.0**
Profit Margin (7%)	**20**		
Selling Price	**278**		

The value chain analysis has been prepared based on the stakeholder consultation. It can be observed that the die casting (raw materials) amount to 40.70% of total selling price. Post the implementation of the CFC, there will be reduction in raw material consumption and thereby resulting in signification reduction of cost of production. Another major cost of production is machining of the product which is about 34.88% of cost of production is attributed to processing cost. The competitiveness of the cluster units can be increased by targeting these major cost areas and providing better facilities to the units. It may be observed that the manufacturing cost will be reduced by around 20%. Moreover, the competitiveness of the cluster units will be increased manifold in terms of cost inputs, delivery efficiency and the option to innovate.

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

A SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of the MSME general engineering 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 2:

Table 2: SWOT Analysis of the Cluster

Area	Current situation		Future	
	Strengths	Weaknesses	Opportunities	Threats
Market	▸ Steady local and international demand for cluster products ▸ Cluster units located in Ambala area, which is well connected ▸ Cluster has proximity to both supply and market ▸ Presence of a large number of buyers in the region ▸ Strong natural business ecosystem in the region with presence of a large number of buying houses.	▸ Presence of other large players to whom bulk orders are made. These units have a well-established clientele. This makes market penetration, a challenge. ▸ Units are unable to market their products directly to OEMs due to inconsistent product quality.	▸ Potential for high market growth due to wide gap in population to vehicle ratio ▸ Tapping Domestic open market (retail auto part market) market ▸ Encourage buyer-supplier contacts through fairs, meets, web portal etc, ▸ Export potential in niche markets ▸ Develop common platform for export market through development of IT portals etc. ▸ Continuous pressure on global OEM's to reduce cost and source Components from low cost countries	▸ Intense competition from global markets. ▸ Competition from other major players.

Area	Current situation		Future	
	Strengths	Weaknesses	Opportunities	Threats
Technology / Product Quality	▸ Each unit undertakes inspection of products at each stage in their manufacturing process	▸ Lack of access to technologies like prototype printing and moulding centre. ▸ Low degree of mechanization ▸ No R&D on product development and product quality improvement ▸ Lack of relevant machining facility, in-house, results in units having to obtain these from private service providers at higher costs.	▸ Setting up of CFC for advance machining centre for job work and setting up 3D prototype printing and moulding centre, resulting in units being able to obtain these services both timely and at lower costs and price their products competitively.	▸ Increase in cost of production ▸ Increase in awareness of people on quality certifications shall lead to losing out to business / requirement for more stringent testing procedures. ▸ Competition from vendors manufacturing products at lower costs. ▸ Rapid technology obsolescence.
Skill/ Manpower	▸ Skills acquired on-the-job ▸ Presence of technical institutes such as Govt Polytechnic and Industrial Training Institutes.	▸ High labour costs ▸ Lack of interaction between MSMEs and technical institutes for providing technical training	▸ Customized training programs on required skills (operations, soft skills etc.) ▸ Engage technical institutes for skill development programs	▸ Youth interested to work in other lucrative sectors
Innovation	▸ Ability to manufacture products as per the manufacturers specifications ▸ Some units create their own designs (using conventional methods at present) and sell these	▸ Lack of a standardised ERP solution for general engineering units ▸ Low investment in development of designs ▸ Lack of process automation	▸ Development of a standard IT based ERP solution ▸ Structured processes for information sharing among MSMEs in the cluster	▸ Could lose business to other more price competitive manufacturers from neighbouring states

Area	Current situation		Future	
	Strengths	Weaknesses	Opportunities	Threats
		▸ Lack of adoption of lean manufacturing clusters such as Six Sigma, Kaizen		
Business Environment	▸ Ambala is well known as a leading industrial hub of Haryana ▸ Steady growth in domestic demand ▸ Cluster well known as a engineering hub across North India ▸ Conducive policy and regulatory initiatives ▸ Active State Govt. and schemes for development of the sector ▸ Proactive industries associations in Ambala ▸ Satisfactory knowledge on govt. schemes	▸ High cost of industrial land in the cluster ▸ Lack of common infrastructure/CFC facilities ▸ No long term vision of industrialists	▸ Establish CFC with latest technologies for general engineering practices ▸ Create better awareness of government schemes and regulations	▸ Change in policies and regulatory environment ▸ Increase in rate of raw material
Energy/ Environment	▸ Increased focus on environment due to requirement from buyers	▸ Lack of knowledge of energy efficiency resulting in higher energy consumption ▸ High energy cost structure because of lack of efficient processes	▸ Regular checks on maintaining quality and safety standards ▸ Potential to reduce energy costs by energy auditing	▸ Increase in power tariff ▸ Increased focus on environment standards

3.6 Major Issues / Problem Areas of the Cluster

- **Absence of Modern Machinery for job work:** Machining centre is essential for any engineering unit to do job work. The units are using conventional machines and methods for processes which are too old and needs to be upgraded. These machineries are out-dated and cannot match the quality and standard of modern age. The machines are slow and consume time and energy. Due to the absence of Boring machines, 4 axis Milling Machine, Pressure die casting machine, CNC Turning Centre, Measurement Tools etc. units are leading delay in production of substandard auto products, Tractor parts, scientific instruments, medical equipment particularly for manufacturing for Tie-II & few for OEMs. This is the major problem of the cluster. Cluster units are depended on private player for the job work.

- **Lack of product development capacities:** Due to absence of 3D printing and rapid prototyping facilities, the cluster units are unable to diversify their products and are unable to innovate.

- **Lack of Space:** Units are very small. They cannot stock bulk quantity of raw material in their place. So, they cannot purchase raw material in bulk to save money.

- **Technology:** Ambala engineering cluster units are dominated by low technology and very rare technological innovation. However, in recent years, the demand of automatic and semi-automatic production systems are rising. This made them to look for modernisation and adaptation of latest machine and technology.

- **Lack of skilled manpower:** Lack of skilled manpower is responsible for wastage of raw material, higher production time, low accuracy and low productivity results.
- **Limited access to markets**: The cluster units are small in size with low production capacity. Individually, they have not been able to garner bulk orders. Moreover, they have been unable to diversify their production capacity to lack of technological capacities, which has led to limited access to market. In order to increase the production capacity as well as produce new products, units require modern efficient machinery. Lack of capital to purchase these machines has limited the production capacity of these units.

Due to lack of these facilities, the units face higher costs, thereby reducing their competitiveness, especially compared to other competitive areas. This results in loss of market share.

Due to lack of these facilities, the units face higher costs, thereby reducing their competitiveness, especially compared to other countries domestically as well as for export. This results in loss of market share. These facilities, if provided through a CFC in the cluster with government support will help the units become more competitive.

3.7 Key technologies missing

The key technologies that are required in the cluster along with the proposed intervention to be set up under the CFC are mentioned in table 3:

Table 3: Technology Gaps Identified and Interventions

S. No.	Facility/ Equipment	Technology Gaps Identified	Technology Interventions
1.	**Boring Machine**	▸ Absence of latest technology ▸ Units are currently dependent on private service providers, resulting in high costs and production delays ▸ This leads to reduced competitiveness of the units	▸ Acquisition of Boring Assembly Line
2	**4-axis Milling Machine**	▸ Absence of 4-axis Milling machine for programmed machining ▸ In the absence of this equipment, units have to rely on private service providers ▸ As a result, costs incurred by units rise, resulting in reduced competitiveness	▸ Acquisition of 4-axis Milling Machine
3	**CNC Turning Centre**	▸ Absence of CNC Turing Centre for operational work ▸ Units are currently dependent on private service providers, resulting in high costs and production delays ▸ This leads to reduced competitiveness of the units	▸ Acquisition of Turing Centre

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**
Advanced Machining Centre for Die & Mould Making	
At present, there is no modern machining centre available in region. The cluster units are mostly dependent on the private players on distant locations such Ludhiana, Delhi, UP & Bahadurgarh for machining work. The private player's charges high prices for the job work & frequently rejected at customer ends. These firms also requires dies & mould for	Machining centre is the backbone of engineering industry. By establishing advanced machining centre the cluster units able to develop the new products in-house & improves the quality of the finished products. By providing the these facilities under the banner of cluster will strengthen the cluster units in following area:

job work which are presently outsourced. The other major pain area of the cluster units is absence of repair & maintenance work machinery. Therefore, due the lack of equipment, quality mould, dies & other production aids are procured from far & flung places, which results delays in production & affect their productivity in significant way. In addition, the cluster units are not able to achieve the mass production & growth. Moreover the size of the die & moulds are not as per the drawing & specification. The lack of the modern machining centre also results in production delays and material wastage.	▶ Good tool design and manufacturing facilities within the cluster & eliminating the need for relying on the private players. ▶ Obtain the tools economically & easily ▶ Reduction in cycle time & deliver the finished product faster to the customers ▶ Enhanced the quality of products ▶ Increased the quality of products with minimum rejections ▶ Control the wastages of material This facility will be run on commercial basis in the cluster.

3.8 Cluster growth potential

The potential for the growth of engineering sector is enormous, owing to the growing market for engineering's in India and internationally. Haryana is a leading auto-components manufacturing state in India. Ambala is located in the proximity of Punjab, Haryana, and Chandigarh & Himachal Pradesh providing it with a strategic advantage in terms of its proximity to a key supply hub. The NCR region has one of the three largest concentration of automobile manufacturers, the other two being in Pune and Chennai. Most of the output of the cluster is for the auto components, plastic components, scientific instrument & medical equipment 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.

Currently units are facing challenges in cost competitiveness and efficiency due to the absence of advanced machining facility. They are obtaining these services from external providers, which is increasing their costs as a result of which the units often get priced out and face loss of orders.

The cluster units will be at benefit in marketing and communication to OEMs when they have the capacity to directly supply hi-quality engineering products in large quantities at reasonable prices. The engineering industry is set to grow at a tremendous pace in the coming years owing to higher disposable income and easy credit availability.

The Haryana government has also undertaken several initiatives to promote industrial development in the region. The state has ensured creation of massive infrastructure in terms of complete electrification, provision of road transport, expansion of administrative, educational and health facilities in small towns, and establishment of many new industrial townships and urban estates.

The Ambala General Engineering cluster has an amazing potential to grow and supply directly to OEMs, if provided with a state-of-the art centre of excellence having advance machining facilities under the banner of Common Facility Centre.

Diagnostic Study Recommendations

4 Diagnostic Study Recommendations

Based upon the diagnostic study and intense discussions with various cluster stakeholders regarding gap identification in the cluster, hard interventions (setting up of CFC) are being proposed to enhance the competitiveness of the engineering cluster units.

The cluster has presence of a couple of proactive industries associations which frequently keep organizing awareness and training programs for the engineering industry. The awareness level of the units is found to be satisfactory. While some units are independently conducting training programmes, the others are members of ASIMA, which actively conducts trainings and workshops related to entrepreneurship development, IPR, energy efficiency, sustainability, etc. and also sponsors members for national and international trainings. Several units currently attend domestic engineering exhibitions. Hence, the cluster does not intend to obtain government funding for soft interventions. Details of the initiatives undertaken during the course of the DPR by the cluster, are however, mentioned in the section below.

The recommendations for hard interventions have been elaborated in subsequent sections. The recommendations were finalized in a stakeholder consultation conducted with all the members of the cluster in Ambala (Saha) in March 2018. Subsequent discussions for finalizing the technology, financial aspects, and user charges/revenue with all the SPV members were held on **30th March 2018 and 26th April 2018.**

4.1 Soft Interventions for Setting up a CFC

- **Member Meetings:** Cooperation and trust building among members is foremost condition for smooth functioning of the cluster and SPV. Series of meetings and on-site visits were held between the cluster members during the month of March & April 2018 to enhance cooperation among member units and obtain inputs for the DPR. Members of the cluster were informed about the proposed machinery, company registration and identification of building for the CFC. Members of the cluster raised their concerns during the meeting which were resolved by other members of the cluster.

- **Meetings with Vendors:** The members of the cluster have held meetings with multiple vendors for procuring machinery and measurement tools. The members has been actively working with the machinery suppliers to understand the working, specifications and are also attending training sessions for machinery operations.

- **Awareness programmes:** Awareness programmes were organized by the individual units and DIC Ambala. MSME-DI Karnal actively conducts trainings and workshops related to entrepreneurship development, IPR, energy efficiency, GST, Haryana Govt. schemes, sustainability, etc. and also sponsors members for national trainings. Several units are members of ASIMA, and regularly attend these trainings and workshops. They actively share this information with other cluster members.

4.2 Hard Interventions for Setting up a CFC

The cluster would require the following common infrastructure facilities on an urgent basis to improve the competitiveness of the micro and small engineering manufacturing units, and to enable them to move up the value chain. The members of the proposed SPV with support from the state Government are willing to set up a Common Facility Centre with advanced machining facility for job work. This facility shall provide a much needed technical impetus to the cluster units and will enable them to become cost competitive.

The following common infrastructural facilities are being proposed for the CFC, with support from the state industry department. The proposed facility along with its description, usage are detailed below:

4.2.1 Advanced Machining Facility

Boring machine. It is a device for producing smooth and accurate holes in a workpiece by enlarging existing holes with a bore, which may bear a single cutting tip of steel, cemented carbide, or diamond or may be a small grinding wheel. This machine is helpful to achieve greater accuracy of the diameter of a hole, and can be used to cut a tapered hole. Boring can be viewed as the internal-diameter counterpart to turning, which cuts external diameters. At present the cluster units are depended on old machines for boring which are not capable enough to provide the higher accuracy and appropriate size. Some of the parts requires higher accuracy & appropriate size which cannot achieve without boring machine. Also due to low accuracy & inappropriate size the tier-II supplier & open market rejects their products. So, by establishing boring machine cluster units are able to achieve higher accuracy as per the drawing & controlled the wastages of the material.

4-axis Milling Machine: Generally Milling machines are beneficial in many different industries especially automotive & engineering field because they allow for extreme precision. At present the cluster units do not have the 4-axis Milling Machine. For this facility they are dependent on private players which usually charges high prices. The few cluster units have lathe machine only. This is a high technology machine with four axis is used for shaping of many parts like drill bits, mill bits & boring bits. This machine has the capacity to remove the metal at a faster rate as the cutter has got multiple cutting edges & rotates at a higher speed.

CNC Turning Centre Machine: It is a method of machining a part in which a pointed cutting tool is fed parallel onto the surface of a material being rotated. At present in the cluster, the units are using lathe machine which is now a days outdated technology & not able to provide the fast production as compared to Turning machine. Lathe machine is not slopping for efficient production. By establishing this machines units are able to make tooling components, bushings, adapters, threaded inserts, automotive, agriculture, conveyors & casters. Also this machine will be useful to bulk production & diversification in product range.

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

- Enhanced value addition for general engineering products produced by the cluster as the SPV members will be able to tap the expanding market space.
- Significant reduction in cost of production and higher capacity utilization by each unit, given that in the absence of advanced machining facilities, MSE units end up paying substantially high prices for getting the job work done.
- Increased productivity and reduced inefficiencies.
- Higher degree of competitiveness of cluster enterprises.
- All cluster firms shall be encouraged to use the facility since a number of micro unit entrepreneurs who could not afford to significantly contribute by way of necessary investment to the equity contribution of the project, have not been able to join the project as an SPV member but have a genuine need for using the CFC.
- 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, raw material procurement and so on.
- It will also complement the efforts of state government in promoting clusters in the state and serve as a model for upgrading MSME clusters.

Special Purpose Vehicle (SPV) for Project Implementation

The micro and small units in the Ambala General Engineering Cluster came together to form a Special Purpose Vehicle (SPV) as a private limited company under section 7 of the Companies Act, 2013 and rule 8 of the Companies (Incorporation) Rules, 2014 under the name and style of Alloy Tech Private Limited with **CINU29309HR2018PTC074527.** The SPV was registered on **12th June 2018.**The certificate of registration/ incorporation along with Memorandum of Association (MoA) and ***Articles of Association (AoA)*** and PAN card of the SPV are provided in ***Annexure – 2 & 3.*** The Company has an authorized paid up capital of INR 10 lakh which shall be enhanced in the near future. The members are micro and small sized firms (registered units) in Ambala involved in engineering manufacturing activities.

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

The SPV members have a track record of cooperative initiatives. SPV members are also members of prominent cluster associations. Cluster members have been autonomously undertaking several soft interventions to enhance knowledge and exposure of the cluster units on new trends in the engineering industry and enhancing productivity of their units. This includes exposure visits to fairs and sharing of best practices, registration under UAM, awareness programs on new trends in auto components & machinry parts manufacturing, entrepreneurship development, energy efficiency, GST etc.These programs were conducted in collaboration with DIC, the State Government, and ASIMA etc.Therefore, no support (in the form of grant-in aid) will be sought under this project for undertaking soft interventions.

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

5.1 Shareholder profile and Shareholding mix

List of Directors: The SPV has two directors. The details of the directors are furnished in Table 6. Other than these directors, the SPV will have provision of having one director each from the State Government. The SPV comprises members from micro and small engineering manufacturing units. It is homogeneous in nature due to similar products and activities performed by the cluster units.

All the 12 SPV members will be shareholders in the '**CFC Cast Tech Private Limited'**. Two members will be the directors in the company. Other than these directors, the SPV will have provision of having one director each from the state DIC and the State Government. The

SPV comprises members from micro and small engineering manufacturing units. It is homogeneous in nature due to similar products and activities performed by the cluster units.

Table 4: List of Directors

S. No.	Directors	Name of the unit	Unit address
1	Amritpal Singh	Alloy Craft	423, Industrial Area, Saha Ambala
2	Sharda Awasthi	Gaurav Enterprises Pvt. Ltd.	3704/B, Panna Cottage, Civil Hospital, Ambala Cantt

The lead promoters/shareholders have several years of successful experience in engineering manufacturing and are also well versed with the benefits of cluster development initiatives. These units are financially viable in nature. Post the DSR validation, the DIC Ambala also acknowledged the genuineness and enthusiasm of the SPV members to undertake project initiatives under State Mini Cluster Development Scheme and has recorded that the CFC demand is authentic. The unit verification details have been added in Annexure 4.

Members of the SPV have been engaged in manufacturing of engineering products in Ambala for several years and have considerable experience in marketing and manufacturing of engineering products. Directors and SPV members have had close interactions with technical experts, government institutions and machinery suppliers.

The SPV was formed with the objective of taking up cluster level activity in a joint and coordinated manner, wherein all units have equal say. The shareholding pattern of members of the registered SPV includes the contribution from every member of SPV and no individual shareholder holds more than 10% equity stake in the capital of the company. Details of SPV members along with their contact persons, unit details, UAM numbers and products manufactured are provided in Table 5.

Table 5: Details of SPV Members

S.N.	Contact Person	Company Name	Contact No.	Address of Unit	UAM No	Products
1	Brij Mohan	BP Agro Industries	72068-78590	67 New Colony Opposite Post Office Industrial Area, Ambala Cantt.	HR01B0000793	Manufacturing of Metal Fabricated Products, Hand tools & agriculture equipment
2	Virender Verma	Paul Machine Tools	86890-37453	68 New Colony Opposite Post Office Industrial Area, Ambala Cantt.	HR01B0000977	Manufacturing of Machinery & equipment, & machine tools
3	Ashwani Kumar	Mahadev Podwer Coating	99969-03039	92, Vikas Puri, Ambala Cantt	HR01D0002497	Manufacturing of Metal Fabricated Products
4	Jaspreet Singh	National Automobiles	98969-71767	65, Industrial Area, Ambala Cantt	HR01B0002614	Automobiles parts
5	Amritpal Singh	Alloy Craft	98960-32299	423, Industrial Area, Saha Ambala	HR01A0000425	Tractor parts, metal parts
6	Anand Enterprises	Gurvinder Singh	94162-49730	63, Industrial Area, Ambala Cantt	HR01A0002498	Manufacturing of rubber & plastic products
7	Rajan Kumar	Shubham Tools & Die Works	89011-53229	110, Village Rampur, PO-Sarshari, Ambala Cantt	HR01A0002512	Manufacturing of rubber & plastic products
8	Jagjeet Singh	T H plastic Injection moulding Work	94168-62617	110, Village Rampur, PO-Sarshari, Ambala Cantt	HR01A0002511	Manufacturing of rubber & plastic products

9	Sharda Awasthi	Gaurav Manufacturing Enterprises	98960-41809	3704/B, Panna Cottage, Civil Hosptial, Ambala Cantt	HR01B0000691	Manufacturing of Metal Fabricated Products
10	Kiran Awasthi	Bhawni Enterprises	95414-34370	3704/C, Panna Cottage, Near Civil, Ambala Civil	HR01B000530	Manufacturing of Metal Fabricated Products

5.2 Initiatives undertaken by the SPV

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

- Regular member meetings for discussion on the CFC as well as technologies, marketing, discussion on incentives available to MSMEs, discussion on draft MSME Policy, etc.
- Participation in various programs for capacity building, awareness generation and technological advancement in the cluster.
- Identification of building to be taken on lease for the SPV.
- The preparation of DSR was led by EY consultant and the validation & approval process for the DSR was also led by EY consultant.

5.3 SPV Roles and Responsibilities

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

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

The Memorandum and Articles of Association of the cluster SPV indicates the democratic process in terms of decision making on the basis of votes. All members of SPV will meet once every fortnight/month to discuss/resolve operational issues. The management of the CFC will be a two tier structure for smooth and uninterrupted functioning. The executive body i.e. Board of Directors (BoD) will include office bearers elected/nominated from time to time, including one nominee of State Government (DIC).

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 main governing body, and the

day-to-day administration will be taken care of by the management that shall be appointed by the SPV board of directors. Their role is detailed below:

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

2. **Managerial, Technical and Administrative staff**: A competent and well qualified professional with background in engineering industry will be appointed as the Cluster Development Executive (CDE) also referred to as the Cluster Executive Officer, who will look after day-to-day operations of the CFC and shall be directly reporting to the board of directors. The facility will have its own expert staff (supervisors, operations and helpers) as per the requirement. The details of manpower and other requirements are already mentioned in the DPR in the project economics section. There shall be provisions for administrative staff such as accounts personnel, marketing professional, store-keepers etc. to ensure effective functioning of the CFC. The proposed organizational structure of the CFC is given in figure no. 9:

Figure 9: Organisational Structure

Project Economics

6 Project Economics

6.1 Project Cost

The total project cost is estimated at **Rs. 241.65 lakhs**. The project cost for setting up a CFC in the General Engineering cluster includes the following:

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

The detail of each project component is provided below:

6.1.1 Building

The SPV shall lease one floor of a building on a 10 year irrevocable lease. The SPV has identified the building and obtained a letter establishing the availability of the building. The building is located at Plot No 422, Saha Industrial Area, Ambala, Haryana. The available area is 6500 square feet and the monthly rent for the first year would be Rs. 0.20 lakhs, with an annual increase at the market rate (estimated at 10%).

6.1.2 Plant and Machinery

As detailed in section 4.2 (hard interventions), 3 primary machines 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 major facilities proposed at the CFC are for advanced machining center for job work. The total cost of plant and machineries has been estimated at INR 218.48 lakhs including taxes and installation fees, and contingency works out to INR 10.92 lakhs.

The details of the proposed machinery items are presented in the table below. The detailed specifications and quotations of the machines are provided in the annexure. 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 6: List of Proposed Plant & Machinery

S. No.	Machine Name	Quantity		Basic Price		Total Basic Price		Gst as Applicable *		Total Price		Grand Total	Supplier Options
		Indigenous	Imported	Indigenous	Imported	Indigenous	Imported	Indigenous	Imported	Indigenous	Imported		
A	**Primary Machinery**												
1	CNC Vertical Turning Lathe	1		55.02		55.02	-	9.90	-	64.92	-	64.92	Jyoti CNC Automation Pvt. Ltd.
2	CNC Horizontal Machining Centre	1		81.11		81.11	-	14.60	-	95.71	-	95.71	Jyoti CNC Automation Pvt. Ltd.
3	BTA Drilling Machine	1		32.50		32.50	-	5.85	-	38.35	-	38.35	Laxmi Enterprises
4	Surface plate (Cast Iron 900 X 630 MM)	1		0.62		0.62	-	0.11	-	0.73	-	0.73	Guindy Machines Tools Ltd.
5	MS Angel Iron Stand for surface plate	1		0.08		0.08	-	0.01	-	0.09	-	0.09	Guindy Machines Tools Ltd.
6	Right angle (Cast Iron 350 X 200 X 250 MM)	1		0.42		0.42	-	0.08	-	0.50	-	0.50	Guindy Machines Tools Ltd.
7	Surface Plate (Granite 1600 X 1000 X 200 MM)	1		0.51		0.51	-	0.09	-	0.60	-	0.60	Guindy Machines Tools Ltd.
	Sub Total (A)	**7**	**0**	**170.26**	**-**	**170.26**	**-**	**30.65**	**-**	**200.91**	**-**	**200.91**	
B	**Secondary Machinery**												

9	Genset 82.5 KVA	1		5.40		5.40	-	0.97	-	6.37	-	6.37	Industrial Equipment Company
10	Servo stabilizer 30 Kva	1		1.27		1.27	-	0.23	-	1.50	-	1.50	Servomax
11	Servo stabilizer 40 Kva	1		1.66		1.66	-	0.30	-	1.96	-	1.96	Servomax
12	Distribution transformer 125 Kva	1		1.83		1.83	-	0.33	-	2.16	-	2.16	Servomax
13	Air compressor	1		4.73		4.73	-	0.85	-	5.58	-	5.58	ELGI Equipment Ltd.
	Sub Total (B)	**5**		**14.89**	**-**	**14.89**	**-**	**2.68**	**-**	**17.57**	**-**	**17.57**	
	Grand Total	**12**		**185.15**	**-**	**185.15**	**-**	**33.33**	**-**	**218.48**	**-**	**218.48**	

6.1.3 Miscellaneous Fixed Assets

The CFC would also require fixed assets such as furniture, fixtures, firefighting 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. 1.45 Lakhs. Details are provided in the table below.

Table 7: Miscellaneous Fixed Assets

MISCELLANEOUS FIXED ASSETS		
S. No.	Particulars	Amount (Rs. Lakh)
1	Office computer-1 nos.	0.40
2	Furniture (tables & chairs)	0.30
3	Office items and allied items	0.25
4	Fire Fighting Equipment	0.50
	Total	1.45

6.1.4 Preliminary and Pre-operative Expenses

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

Pre-operative expenses include expenses for electricity connection charges, refurbishment of the building, administrative establishment, travelling, bank charges, stationery, telephone, and overhead expenses during machinery testing period such as salaries, machine testing cost, bank charges, travelling, etc. The total expenditure for preliminary and pre-operative expenses are estimated at Rs. 3.47 Lakhs (details provided in the table below)

Table 8: Preliminary and Pre-Operative Expenses

PRELIMINARY & PRE OPERATIVE EXPENSES		
S. No.	Particulars	Amount
1	Company Registration Charges (Auth. Cap 60 lakhs)	2.00
2	Tender forms & tendering cost	0.20
3	Project Report Preparation (DSR & DPR)	Nil
4	Project Management Charges	Nil
5	Travelling Cost	0.10
6	Lease deed registration charges	0.57
7	Bank Appraisal Charges	0.60
	Total	3.47

6.1.5 Provision for Contingencies

As per the guidelines of state-mini cluster development scheme a provision for contingencies has to be made on plant/machinery and building (not applicable in this case as the building is being taken on a lease basis). Contingencies on plant and machinery have been estimated at 5% that amounts to Rs. 10.92 lakhs.

6.1.6 Margin Money for Working Capital

The total working capital requirement during the first year of operation at 75% capacity utilization is estimated at Rs. 27.32 lakh. The working capital loan, if required, will be availed from a local bank and is calculated at Rs. 20 lakh with margin money requirement of Rs. 7.32 Lakh (minimum 25% of working capital requirement as margin). The working capital requirement has been calculated based on requirement of one month of operational expenses and 3 months' debtor collection period. The calculation has been provided in the subsequent section.

6.1.7 Summary Project Cost

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

Table 9: Total Project Cost

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	200.91	200.00	
	b. Imports	0.00		
	c. Secondary Machines	17.57		
	Sub Total (B)	**218.48**	**200.00**	
3	**Miscellaneous fixed assets (C)**	**1.45**	**0.00**	**Not eligible for grant**
4	**Preliminary & Preoperative Expenses (D)**	**3.47**	**0.00**	
5	**Contingency**			
	a. Building @ 2%	0.00	0.00	
	b. Plant & Machinery @ 5%	10.92	0.00	
	Sub Total (E)	**10.92**	**0.00**	
6	**Margin money for working capital @ 75% CU (F)**	**7.32**	**0.00**	

	Grand Total (A+B+C+D+E+F)	241.65	200.00	

6.2 Means of Finance

The project will be financed from two sources: equity from SPV, and grant-in-aid from Govt. of Haryana (under State Mini Cluster Development Scheme, EPP-2015). Working capital loan, if required, will be secured from a local bank. The assistance to the project from Govt. of Haryana under State Mini Cluster Development Scheme is envisaged to the tune of 90% of the project cost for project up to 200 lakhs. SPV will be required to contribute 10% of project cost for project cost up to Rs. 200 lakh. Hence, the SPV members have proposed to contribute the entire amount beyond Rs. 180 lakhs, taking their overall contribution to about 25% of the total project cost. The total contribution of SPV members will amount to Rs. 61.65 lakhs. Support from State Government is envisaged for Rs. 180.00 Lakhs. Details of the means of finance are provided in the table below:

Table 10: Means of Finance

Means of Finance		
S. No.	Source of finance	Total Amount (Rs. In Lakh)
1	Grant-in-aid under State Mini Cluster Development Scheme (Govt. of Haryana)	180.00
2	Contribution of SPV	61.65
	Total	241.65

Detailed Means Of Finance							
S. No.	Source of finance	Project cost up to INR 200 lakh		Project cost over INR 200 lakh			Remarks
		Percentage Contribution	Amount (INR in lakh)	Percentage Contribution	Amount (INR in lakh)	Total Amount (INR in lakh)	
1	Grant-in-aid under State Mini Cluster Development Scheme (Govt. of Haryana)	90%	180.00	0%	0.00	180.00	As per EPP, 2015 GoH contribution is max 90% (Including soft intervention expenses)
2	Contribution of SPV	10%	20.00	100%	41.65	61.65	
	Total	100%	200.00	100%	41.65	241.65	

6.2.1 Share Capital

The contribution of the SPV members will be by way of subscription to shares in the SPV registered as a Private Limited Company. The extent of paid-up share capital would be Rs. 61.65 lakh contributed by the cluster SPV.

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

6.2.2 Grant-in-Aid

Grant-in-aid of Rs. 180.00 lakh is expected from Government of Haryana. The amount received by the way of grant under State Mini Cluster Development Scheme will only be utilized to procure plant and machinery for the project.

6.3 Expenditure Estimates

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

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

6.3.1 Consumables

Machines installed at the CFC shall require consumables during operations and completion of the job work. Consumables are critical components of project facilities and may be understood in terms of coolant, grease & cutting tools, etc.

Table 11: Consumables

S. No.	Machine Name	No. Of Machines	Particulars	Rate per hour (Rs.)	No. Of working hours per day	No. Of working days per month	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 Vertical Turning Lathe	1	Coolant, cutting tools, Cutting oil	40	8	25	8000	0.96	0.72	0.77	0.82	0.86	0.91	0.96
2	CNC Horizontal Machining Centre	1	Coolant, cutting tools, Cutting oil	40	8	25	8000	0.96	0.72	0.77	0.82	0.86	0.91	0.96
3	BTA Drilling Machine	1	Coolant, cutting tools, Cutting oil	40	8	25	8000	0.96	0.72	0.77	0.82	0.86	0.91	0.96
B.	**Secondary Machines**													
1	DG Set 82.5 kVA		Diesel				5000	0.60	0.45	0.48	0.51	0.54	0.57	0.60
	Total							**3.48**	**2.61**	**2.78**	**2.96**	**3.13**	**3.31**	**3.48**
	Consumables per month							**0.29**	**0.22**	**0.23**	**0.25**	**0.26**	**0.28**	**0.29**

6.3.2 Manpower Requirement

Another major expenditure head is the manpower. Facilities installed at CFC will require manpower to function effectively. The total manpower requirement for the project would be about 8 persons. The manpower required under project has been divided under two categories: Direct & Indirect. Direct manpower is required for operation of machines while indirect manpower is required for administrative purposes. The annual expenditure on salary component for direct manpower is estimated at Rs. 7.52 lakh and for indirect at 4.92 lakhs. The total expense on manpower is projected at Rs. 0.92 lakh per month or Rs. 12.14lakh per annum.

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

Table 12: Expenditure related to Salary (direct manpower - machine operators and helpers)

DIRECT MANPOWER				
Category	No. of Manpower Required	Salary per month per person (INR)	Total Salary Per Month (INR)	Total salary & wages per Year (INR lakh)
CNC Vertical Turning Lathe (Operator)	1	14,000.00	14,000.00	1.68
CNC Horizontal Machining Centre (Operator)	1	14,000.00	14,000.00	1.68
BTA Drilling Machine (Operator)	1	12,000.00	12,000.00	1.44
Helper	1	8,500.00	8,500.00	1.02
Office boy	1	8,500.00	8,500.00	1.02
	5	**57,000.00**	**57,000.00**	**6.84**
Add: Perquisites/Fringe Benefits @ 10%				**0.68**
Sub Total (A)				**7.52**

Table 13: Expenditure Related to Salary (indirect manpower – administrative and support staff)

INDIRECT MANPOWER				
Category	No. of Manpower Required	Salary per month per person (INR)	Total Salary Per Month (INR)	Total salary & wages per Year (INR lakh)
Cluster Development Executive (CDE)	1	18,000.00	18,000.00	2.16
Security Guard	2	8,500.00	17,000.00	2.04
	3	**26,500.00**	**35,000.00**	**4.20**
Add: Perquisites/Fringe Benefits @ 10%				**0.42**
Sub-Total (B)				**4.62**

6.3.3 Utilities

The most important utilities required in the project is power supply. Proposed CFC requires power for operation of machinery as well as other supporting equipment for smooth operations. The total connected load requirement has been estimated at 85.58 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.

Table 14: Machine & Equipment (facility) wise power requirement

UTILITIES			
S. No.	Machine & Equipment	Power Requirement (kW)/ Connected Load	Total power requirement (60% of drawn power) kWh
1	CNC Vertical Turning Lathe	25.00	15.00
2	CNC Horizontal Machining Centre	25.00	15.00
3	BTA Drilling Machine	20.00	12.00
4	Air Compressor	10.00	6.00
5	Administrative Facilities	1.50	0.90
	Total Connected load for CFC	**81.50**	**48.90**
	Buffer Connected Load (5% of Total Connected Load)	**4.08**	
	Total Load	**85.58**	

The power requirement for operation of core machinery and equipment and administrative facilities is 81.50 kW. The facility is heavily based on electricity for operations and will also require additional 10% connected load as a buffer to get the electricity connection. The total connected load for the CFC is estimated to be 81.50 kW.

Fixed charges for connection of 81.58 kW @ Rs. 129 per kW equals Rs. 11039/- per month and monthly consumption charge @ Rs. 6.70 per unit for 9780 units amounts to Rs. 65,526/- per month. This has been calculated based on the prevalent rates of the power provider.

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

Table 15: Annual Expenditure Statement vis-à-vis Power Charges

Power charges at various C.U.										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	75%	80%	85%	90%	95%	100%	100%	100%	100%	100%
Fixed	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32
Variable	5.90	6.29	6.68	7.08	7.47	7.86	7.86	7.86	7.86	7.86
Total	7.22	7.62	8.01	8.40	8.79	9.19	9.19	9.19	9.19	9.19
Per month	0.60	0.63	0.67	0.70	0.73	0.77	0.77	0.77	0.77	0.77

6.3.4 Annual Repairs and Maintenance Expenses

The annual repairs and maintenance expenses have been estimated to be Rs. 6.70 lakh. The details are presented in the table below:

Table 16: Annual Repairs and Maintenance Expenditure

REPAIR & MAINTENANCE	
ANNUAL REPAIR AND MAINTENANCE EXPENSES	
Repair & Maintenance of Building	0.15
Repair & Maintenance of Plant and Machineries @ 3%	6.55
Total	6.70

Insurance and miscellaneous Administrative Expenses

Insurance is a critical component of asset protection at the CFC. Insurance is computed on the basis of 0.5 percent on the fixed assets. Cost of insurance shall remain as a fixed cost. Miscellaneous administrative expenses are estimated at a lump-sum of Rs. 2.40 lakh per year. The details are presented in the table below:

Table 17: Insurance and Miscellaneous Administrative Expenses

OTHER EXPENSES	
Insurance Charges (Estimate @ 0.5% on fixed assets (such as buildings, civil works, and Plant & machinery, including related contingency expenses of approx. Rs. 10.92 Lakh)	1.15
Miscellaneous Expenses (Stationery, communication, travelling, and other misc. overheads)	2.40
Total	3.55

6.4 Working Capital Requirements

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

The working capital requirement of the project for the one month of operation has been considered for consumables and expenses. The SPV will contribute the margin money for working capital and rest of working capital will be borrowed from local bank. While calculating the project cost, a minimum of 25% of working capital is shown as margin for working capital and the remaining will be borne by SPV as borrowings. The total working capital is estimated to be Rs. 27.32 lakh during the first year of operation (75% C.U.). Further, total working capital required at an operating capacity of 80% during the second year comes out to Rs. 29.11 lakh. The corresponding margin money for working capital requirement at 75% & 80% capacity utilization in the first 2 years amounts to Rs. 7.32 lakh and Rs. 9.11 lakh respectively, and the corresponding loan amounts to Rs. 20 lakh.

The details are presented in the table below:

Table 18 Working Capital Requirements

WORKING CAPITAL								
S. No.	Particulars	Period	As per Capacity Utilisation					
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			75%	80%	85%	90%	95%	100%
1	Consumables	1 month	0.22	0.23	0.25	0.26	0.28	0.29
2	Utilities (Power)	1 month	0.60	0.63	0.67	0.70	0.73	0.77
3	Working Expenses (Manpower)	1 month	0.86	0.89	0.92	0.95	0.98	1.01
4	Sundry Debtors (Sales Value)	3 months	25.65	27.36	29.07	30.78	32.49	34.20
5	Working capital (Total expenses)		27.32	29.11	30.90	32.69	34.48	36.27
6	Working Capital Margin		7.32	9.11	10.90	12.69	14.48	16.27
7	Working Capital Loan		20.00	20.00	20.00	20.00	20.00	20.00
8	Interest on Working capital loan @11% p.a.		2.20	2.20	2.20	2.20	2.20	2.20
9	Working Cap Margin %age		26.81%	31.30%	35.28%	38.82%	41.99%	44.85%

6.5 Depreciation Estimates

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

Table 19: Depreciation based on WDV

DEPRECIATION (WRITTEN DOWN VALUE METHOD)										
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	229.40	194.99	165.74	140.88	119.75	101.79	86.52	73.54	62.51	53.13
Less: Depreciation @ 15%	34.41	29.25	24.86	21.13	17.96	15.27	12.98	11.03	9.38	7.97
Closing Balance	194.99	165.74	140.88	119.75	101.79	86.52	73.54	62.51	53.13	45.16
Computers										
Opening Balance	0.40	0.16	0.06	0.03	0.01	0.00	0.00	0.00	0.00	0.00
Less: Depreciation @ 60%	0.24	0.10	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00

Closing Balance	0.16	0.06	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Furniture										
Opening Balance	0.30	0.27	0.24	0.22	0.20	0.18	0.16	0.14	0.13	0.12
Less: Depreciation @ 10%	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Closing Balance	0.27	0.24	0.22	0.20	0.18	0.16	0.14	0.13	0.12	0.10
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	34.79	29.44	24.98	21.22	18.03	15.33	13.03	11.08	9.42	8.01
Depreciated value	196.06	166.62	141.64	120.42	102.39	87.06	74.02	62.94	53.52	45.51

6.6 Income/Revenue estimates

The CFC is expected to generate revenue by way of user charges that shall be levied based upon the number of meters of cloth printed as well as number of tests conducted. The user charges shall vary based upon the user i.e- the SPV members and non SPV members. The user charges will be less for the SPV members as compared to non SPV members. Firms based outside Ambala shall be charged a premium for availing the CFC services. The major income sources for the CFC are envisaged by the way of providing advance machining & moulding facilities.

The user charges have been estimated based upon the operational expenses of the CFC and the prevalent market rates in Ambala. User charges for secondary machines 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. An average user charge has been used, taking into account the demand for basic and specialized machining facilities.

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

The estimated user charges are presented in table below:

Table 20: User Charges for Machinery

REVENUE GENERATION AT CFC													
S. No.	Machine Name	No. Of Machines	User Charge per hour (Rs.)	No. Of Working hours per day	No. Of Working days per month	Revenue per month (in Rs. Lakh)	Annual Revenue generation (in Rs. lakh)	Amount in Rs. Lakh)	Amount in Rs. Lakh)	Amount in Rs. Lakh)	Amount in Rs. Lakh)	Amount in Rs. Lakh)	Amount in Rs. Lakh)
								Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
								75%	80%	85%	90%	95%	100%
1	CNC Vertical Turning Lathe	1	1750	8	25	3.50	42.00	31.50	33.60	35.70	37.80	39.90	42.00
2	CNC Horizontal Machining Centre	1	1750	8	25	3.50	42.00	31.50	33.60	35.70	37.80	39.90	42.00
3	BTA Drilling Machine	1	2200	8	25	4.40	52.80	39.60	42.24	44.88	47.52	50.16	52.80
	Total						**136.80**	**102.60**	**109.44**	**116.28**	**123.12**	**129.96**	**136.80**

6.7 Estimation of profitability: Income and Expenditure statement

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

The total gross revenue is estimated to be Rs. 25.04 lakhs for the first year of operation at an operating capacity of 75%. For projection purposes, operating capacity of 75% is considered during first year, 80% during second year and 100% capacity from 6th year onwards.

The income tax rates have been considered depending upon the announcement made in the Budget 2017 and the tax applicable to a Pvt. Limited Company. Income tax has been considered at 26 per cent on taxable profit inclusive of all the tax components. The incidence of tax ranges from INR 8.80 lakhs in the first year to INR 22.55 lakhs in Year 10.

Table 21: Income and Expenditure Statement

PROFIT & LOSS ACCOUNT										
Particulars	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Number of working days	300	300	300	300	300	300	300	300	300	300
Number of shift	1	1	1	1	1	1	1	1	1	1
Capacity Utilisation in %	**75%**	**80%**	**85%**	**90%**	**95%**	**100%**	**100%**	**100%**	**100%**	**100%**
A. Income										
(User/ Service Charge)	**102.60**	**109.44**	**116.28**	**123.12**	**129.96**	**136.80**	**136.80**	**136.80**	**136.80**	**136.80**
B. Cost of Production :										
1. Utilities Power (Fixed + Variable)	7.22	7.62	8.01	8.40	8.79	9.19	9.19	9.19	9.19	9.19
2. Direct labour and wages	5.64	6.02	6.40	6.77	7.15	7.52	7.52	7.52	7.52	7.52
3. Consumable	2.61	2.78	2.96	3.13	3.31	3.48	3.48	3.48	3.48	3.48
4. Repair and Maintenance	5.03	5.36	5.70	6.03	6.37	6.70	6.70	6.70	6.70	6.70
5. Depreciation	34.79	29.44	24.98	21.22	18.03	15.33	13.03	11.08	9.42	8.01
Total Cost of production	**55.30**	**51.22**	**48.04**	**45.56**	**43.65**	**42.23**	**39.93**	**37.98**	**36.32**	**34.91**
C. Administrative expenses :										
6. Manpower (Indirect)	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62	4.62

7. Rent	2.40	2.64	2.90	3.19	3.51	3.87	4.25	4.68	5.14	5.66
8. Insurance	1.15	0.98	0.83	0.71	0.60	0.51	0.44	0.37	0.31	0.27
9. Misc. Expense	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Total Administrative Expenses	**10.57**	**10.64**	**10.76**	**10.92**	**11.14**	**11.40**	**11.71**	**12.07**	**12.48**	**12.95**
D. Financial expenses :										
10. Interest on Working capital loan @ 11% per annum	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
Total Financial Expenses	**2.20**	**2.20**	**2.20**	**2.20**	**2.20**	**2.20**	**2.20**	**2.20**	**2.20**	**2.20**
E. Total Expenses B+C+D	**68.06**	**64.06**	**61.00**	**58.68**	**56.99**	**55.82**	**53.84**	**52.24**	**51.00**	**50.05**
F. Profit A - E	**34.54**	**45.38**	**55.28**	**64.44**	**72.97**	**80.98**	**82.96**	**84.56**	**85.80**	**86.75**
G. P&P Expenses written off	0.69	0.69	0.69	0.69	0.69	0.00	0.00	0.00	0.00	0.00
H. Income before Tax (F-G)	**33.84**	**44.69**	**54.59**	**63.74**	**72.28**	**80.98**	**82.96**	**84.56**	**85.80**	**86.75**
I. Adjustment of Loss	-	-	-	-	-	-	-	-	-	-
J. Income Tax (@26% for company)	8.80	11.62	14.19	16.57	18.79	21.05	21.57	21.98	22.31	22.55
K. Net Profit /Loss for the year	**25.04**	**33.07**	**40.39**	**47.17**	**53.49**	**59.92**	**61.39**	**62.57**	**63.50**	**64.19**
L. Cumulative Surplus	**25.04**	**58.11**	**98.51**	**145.68**	**199.16**	**259.08**	**320.48**	**383.05**	**446.54**	**510.74**

As evident from the table above, the project is financially viable. A cumulative surplus of about Rs. 510.74 Lakh shall be earned by the SPV even after accounting for taxation and depreciation at the end of ten years. This surplus generated shall be used for further addition in the machinery or improvement and up-gradation of facilities. Additionally, the SPV intends to conduct a lot of other development activities in the cluster that shall be funded through the surplus earned at the CFC.

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 22: Cash Flow Statement

CASH FLOW STATEMENT											
Particulars	Construction Period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
A. Source Funds :											
1. Cash Accruals (Net Profit + Interest Paid)		36.74	47.58	57.48	66.64	75.17	83.18	85.16	86.76	88.00	88.95
2. Increase in capital	61.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Depreciation		34.79	29.44	24.98	21.22	18.03	15.33	13.03	11.08	9.42	8.01
4. Increase in WC Loan		20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. Change in Expenses Payable		1.67	0.08	0.08	0.08	0.08	0.08	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	**241.65**	**93.20**	**77.10**	**82.54**	**87.94**	**93.29**	**98.59**	**98.20**	**97.84**	**97.42**	**96.96**
B. Use of Funds :											
1. P&P Expenses	3.47	-	-	-	-	-	-	-	-	-	-
2. Increase in fixed assets	230.85	-	-	-	-	-	-	-	-	-	-
3. Increase in other Assets		35.00	7.00	8.40	10.08	12.10	14.52	17.42	20.90	25.08	30.10
4. Increase in Sundry Debtors		25.65	1.71	1.71	1.71	1.71	1.71	0.00	0.00	0.00	0.00
5. Interest		2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
6. Taxes paid		8.36	11.48	14.06	16.45	18.68	20.94	21.54	21.96	22.29	22.54
Total Use of Funds	**234.32**	**71.21**	**22.39**	**26.37**	**30.44**	**34.69**	**39.37**	**41.16**	**45.07**	**49.58**	**54.84**
C. Net Surplus (A -B)	**7.32**	**22.00**	**54.71**	**56.17**	**57.49**	**58.60**	**59.22**	**57.03**	**52.77**	**47.85**	**42.12**
D. Cumulative Surplus	**7.32**	**29.32**	**84.03**	**140.20**	**197.69**	**256.29**	**315.51**	**372.54**	**425.31**	**473.16**	**515.28**

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

6.9 Projected Balance Sheets

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

Table 23: Balance Sheet

PROJECTED BALANCE SHEET											
Particulars	At the end of impl. Period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1. Fixed Assets :											
Gross Block	230.85	230.85	196.06	166.62	141.64	120.42	102.39	87.06	74.02	62.94	53.52
Less : Depreciation (WDV)		34.79	29.44	24.98	21.22	18.03	15.33	13.03	11.08	9.42	8.01
Net Block	230.85	196.06	166.62	141.64	120.42	102.39	87.06	74.02	62.94	53.52	45.51
Total Fixed Assets (A)	**230.85**	**196.06**	**166.62**	**141.64**	**120.42**	**102.39**	**87.06**	**74.02**	**62.94**	**53.52**	**45.51**
2. Current Assets :											
Cash & bank Surplus (B.F)	7.32	29.32	84.03	140.20	197.69	256.29	315.51	372.54	425.31	473.16	515.28
Sundry Debtors		25.65	27.36	29.07	30.78	32.49	34.20	34.20	34.20	34.20	34.20
Other Current Assets		35.00	42.00	50.40	60.48	72.58	87.09	104.51	125.41	150.49	180.59
Advance Tax		8.36	11.04	13.48	15.74	17.85	20.00	20.49	20.89	21.19	21.43
P&P Exp	3.47	2.78	2.08	1.39	0.69	0.00	0.00	0.00	0.00	0.00	0.00

Total current Assets (B)		101.11	166.51	234.54	305.39	379.21	456.80	531.74	605.81	679.05	751.50
Total Assets (A+B)	241.65	297.17	333.13	376.18	425.81	481.59	543.85	605.76	668.75	732.57	797.01
3. Current Liabilities :											
Working Capital Loan		20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Expenses Payable		1.67	1.75	1.83	1.91	1.99	2.07	2.07	2.07	2.07	2.07
Provision for taxation		8.80	11.62	14.19	16.57	18.79	21.05	21.57	21.98	22.31	22.55
Total Current Liabilities (C)		30.47	33.37	36.02	38.48	40.78	43.12	43.64	44.05	44.38	44.62
4. Fixed Liabilities											
Shareholders' Contribution	61.65	61.65	61.65	61.65	61.65	61.65	61.65	61.65	61.65	61.65	61.65
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		25.04	58.11	98.51	145.68	199.16	259.08	320.48	383.05	446.54	510.74
Total Fixed Liabilities (D)	241.65	266.69	299.76	340.16	387.32	440.81	500.73	562.13	624.70	688.19	752.39
Total Liabilities (C+D)	241.65	297.17	333.13	376.18	425.81	481.59	543.85	605.76	668.75	732.57	797.01

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. It also portrays whether the revenue contribution is sufficient to meet the fixed costs. From this point, the 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 below:

Table 24: Break Even Estimates

PROJECTED BALANCE SHEET											
Particulars	At the end of impl. Period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1. Fixed Assets :											
Gross Block	230.85	230.85	196.06	166.62	141.64	120.42	102.39	87.06	74.02	62.94	53.52
Less : Depreciation (WDV)		34.79	29.44	24.98	21.22	18.03	15.33	13.03	11.08	9.42	8.01
Net Block	230.85	196.06	166.62	141.64	120.42	102.39	87.06	74.02	62.94	53.52	45.51
Total Fixed Assets (A)	**230.85**	**196.06**	**166.62**	**141.64**	**120.42**	**102.39**	**87.06**	**74.02**	**62.94**	**53.52**	**45.51**
2. Current Assets :											
Cash & bank Surplus (B.F)	7.32	29.32	84.03	140.20	197.69	256.29	315.51	372.54	425.31	473.16	515.28
Sundry Debtors		25.65	27.36	29.07	30.78	32.49	34.20	34.20	34.20	34.20	34.20
Other Current Assets		35.00	42.00	50.40	60.48	72.58	87.09	104.51	125.41	150.49	180.59
Advance Tax		8.36	11.04	13.48	15.74	17.85	20.00	20.49	20.89	21.19	21.43
P&P Exp	3.47	2.78	2.08	1.39	0.69	0.00	0.00	0.00	0.00	0.00	0.00
Total current Assets (B)		**101.11**	**166.51**	**234.54**	**305.39**	**379.21**	**456.80**	**531.74**	**605.81**	**679.05**	**751.50**
Total Assets (A+B)	**241.65**	**297.17**	**333.13**	**376.18**	**425.81**	**481.59**	**543.85**	**605.76**	**668.75**	**732.57**	**797.01**

3. Current Liabilities :											
Working Capital Loan		20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Expenses Payable		1.67	1.75	1.83	1.91	1.99	2.07	2.07	2.07	2.07	2.07
Provision for taxation		8.80	11.62	14.19	16.57	18.79	21.05	21.57	21.98	22.31	22.55
Total Current Liabilities (C)		**30.47**	**33.37**	**36.02**	**38.48**	**40.78**	**43.12**	**43.64**	**44.05**	**44.38**	**44.62**
4. Fixed Liabilities											
Shareholders' Contribution	61.65	61.65	61.65	61.65	61.65	61.65	61.65	61.65	61.65	61.65	61.65
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		25.04	58.11	98.51	145.68	199.16	259.08	320.48	383.05	446.54	510.74
Total Fixed Liabilities (D)	**241.65**	**266.69**	**299.76**	**340.16**	**387.32**	**440.81**	**500.73**	**562.13**	**624.70**	**688.19**	**752.39**
Total Liabilities (C+D)	**241.65**	**297.17**	**333.13**	**376.18**	**425.81**	**481.59**	**543.85**	**605.76**	**668.75**	**732.57**	**797.01**

Book break-even is achieved at 55.67% (of operational capacity at 75 per cent) and at 49.57% (of operational capacity at 80 percent). The operation of the CFC is expected to break-even and realizes profit from 1st year of operations. Therefore, very low risk is involved in the project.

6.11 Feasibility analysis summary and sustainability indicators

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

Table 25: Financial Analysis

FEASIBILITY		
S. No.	**Particulars**	**Estimates**
1	BEP (cash BEP at initial operating capacity of 75%)	55.67%
2	Av. ROCE (PAT/CE)	29.47%
3	Internal Rate of Return (IRR)	24.53%
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. 178.43 lacs) at a conservative project life of 10 years
5	Payback period	4.89 years with Grant-in-aid assistance from GOH
6	DSCR	Not Applicable (non-availment of term loan in this project)

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

Table 26: Calculation of Return on Capital Employed

RETURN ON CAPITAL EMPLOYED (ROCE)											
Particulars	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**	**AVR**
Earnings Before Interest and Tax (EBIT)	36.04	46.89	56.79	65.94	74.48	83.18	85.16	86.76	88.00	88.95	71.22
Capital Employed (with grant)	241.65	241.65	241.65	241.65	241.65	241.65	241.65	241.65	241.65	241.65	241.65
ROCE = EBIT/Capital Employed											
ROCE	14.92%	19.40%	23%	27.29%	30.82%	34.42%	35.24%	35.90%	36.42%	36.81%	**29.47%**

The average value of ROCE (with grant-in-aid) is 29.47%. This indicates high techno-economic viability of the project should the government contribute a significant portion of the project cost as grant. Capital employed considered includes the SPV contribution as well as the grant component to the project.

The Net Present Value, estimated at a discount rate of 10%, is Rs. 178.43. As reflected from the high values of NPV, it is positive at even 10%, the rate at which bank offers debt capital facility and even at higher discount rates. Project IRR is high at over 24.53% (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 engineering 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; in terms of pursuing several joint efforts, registering the SPV and proceeding towards procurement of land, and securing commitment from members, vis-à-vis progressively mobilizing necessary paid up capital, all reflect the strength of the SPV.

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

Table 27: Sensitivity Analysis

SENSTIVITY ANALYSIS					
S. No.	Particulars	Base case	With 5% decline in user charge	With 10% decline in user charge	With 15% decline in user charge
1	BEP (cash BEP at operating capacity of 75%)	55.67%	59.43%	63.72%	68.69%
2	Internal Rate of Return (IRR)	24.53%	22.61%	20.62%	18.55%

3	Av. ROCE (PAT/CE) (with Grant)	29.47%	27.00%	24.50%	21.97%
4	Net Present Value (at a discount rate of 10 per cent) - incorporating viability gap funding (grant) GoH	178.43	151.67	124.91	98.16

Even assuming reduction in user charges, ROCE is favourable. From the above, it is evident that the project is 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. 241.65 Lakh on the basis of estimates and quotations.

2. To finance the project, a total of Rs. 241.65 Lakhs is required. The financing will consist of grant from Government of Haryana and contribution by SPV.

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

4. The registered SPV will manage the 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, 85% for third year and 100% from 6th year onwards.

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

8. Repairs and maintenance is provided @ 3% of plant and machinery cost at varying capacity utilization.

9. Insurance is provided @ 0.5% on fixed assets including building & civil works, machinery, contingency as fixed cost at all capacity utilization.

10. Electricity connection will not be required as it is already present in the building.

11. Fixed charges per kW of electric connection shall be charged @ Rs. 129 and variable charges @ Rs. 6.70 per unit consumed.

12. Income estimates have been projected most conservatively. The prescribed user charges are competitive vis-à-vis charges for similar services in other regions.

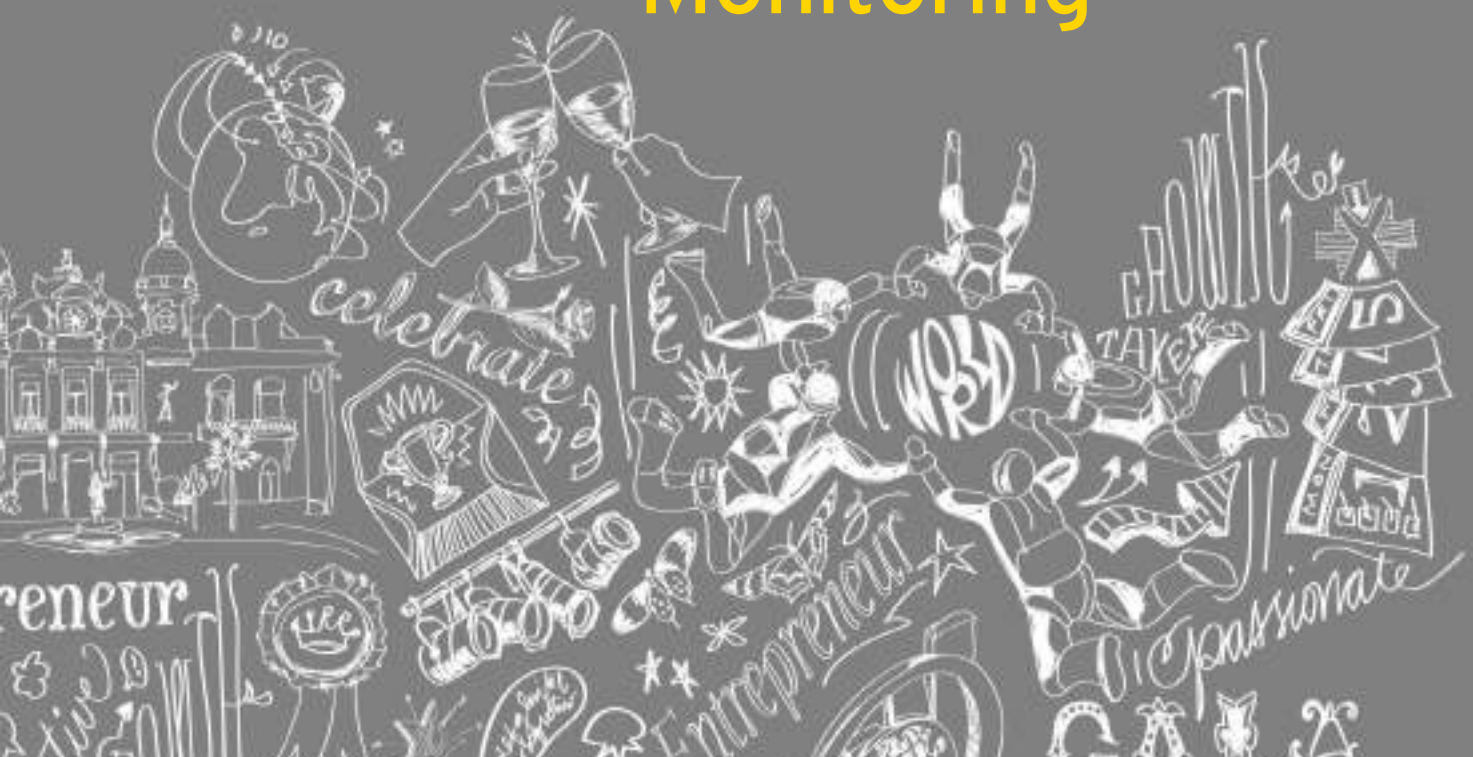
13. Depreciation on fixed assets is calculated on Written Down Value (WDV) method for all purposes.

14. Debtors' collection period is taken at 3 months of calculation of Working Capital Limits.

15. Provision for income tax has been made @ 26% (excluding cess).

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

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

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

Table 28: Project Implementation Schedule

Activity/Month	1	2	3	4	5	6	7
Contribution from SPV members							
Receipt of final sanction from GoH							
Lease deed agreement of building in the name of SPV							
Refurbishment of building							
Formation of purchase committee							
Inviting E-tenders for purchase of machines							
Obtaining statutory clearances and approvals							
Purchase of machinery and equipment							
Installation and trial run of machinery and equipment							
Arrangement of working capital							
Monitoring of the project by Board of Directors							
Monitoring of the project by PMC							

Activity/Month	1	2	3	4	5	6	7
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 10 units are participating in the SPV and all these units have agreed to contribute towards the capital contribution of the SPV. The utilization of the common facility will be in line with the proposed shareholding pattern. The consent letter wherein the member units agree for payments of 10% share of cost of CFC will be submitted in due course of and as per final approval from Government of Haryana.

5. **Registration of the Private Limited Company:** Company registration 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 will be leased by the SPV for the proposed CFC in the Ambala district. A floor of a building of 6500 square feet has already been identified by the SPV and a letter establishing the proof of availability of the building has been acquired and attached in ***Annexure 4.***

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

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

7.2 Monitoring Mechanism

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

- 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 building 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, status reports and providing directions accordingly.

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 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. HSIIDC state officer
iv. HFC/ scheduled bank general Manager
v. President of related industry association
vi. Directors of related SPV
vii. EY Cluster Development Expert under MSME project

In addition, for implementing the CFC creation for Ambala General Engineering Cluster, a Project Management Committee (PMC) comprising the Joint Director, DIC, Ambala and representatives of SPV, Punjab National Bank, Kurukshetra University and EY experts shall be constituted to directly oversee effective monitoring and implementation.

The project will be implemented through SPV and PMC will report progress of implementation to the State Level Steering Committee and DIC Ambala.

Conclusion

8 Conclusion

The cluster faces an absence of CNC Turning Centre, Vertical Machining Centre, & high end drilling machining facilities. In the absence of these facilities, products from the cluster face high rate of rejection at the buyers end. The conventional method of machining work results in low quality & wastage of material. Micro and Small scale units in Ambala exist at the lower end of value chain and need immediate support to enhance their competitiveness. The units are heavily dependent on tier-II suppliers for orders and have less capacities to supply directly to tier-I & OEMs. The micro and small scale units lack the technical or capital resources to establish in house latest machining 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 Machining facilities
- Advanced Drilling facilities

The total project cost is estimated to be **INR 241 lakhs.** The project shall be implemented by the **CFC Cast Tech Pvt. Ltd.** which has been constituted by the cluster firms. The SPV has proactively undertaken a number of initiatives for capacity building and knowledge enhancement of the cluster. A number of capacity building programs and exposure visits have been organised by the ASIMA for the benefit for its members. The CFC will be set up with support from DIC and the state government (Department of Industries) under a PPP mode. The building for the project has already been identified by the SPV and shall be acquired on a lease basis upon in final approval by State Government. The state industry department is envisaged to provide grant for setting up of the CFC under the State Mini-Cluster Development Scheme, EPP 2015. The support from State Mini Cluster Development Scheme of the State Government of Haryana is envisaged for **INR 180.00 lakh,** and the SPV members will contribute **INR 61.65 lakhs** towards the project cost. The working capital requirement for the project, if required, will be provided by the preferred bank. The project is financially viable and is expected to generate enough revenue to ensure its sustainability.

Annexures

9 Annexures

1. DSR Approval Letter from Department of Industries & Commerce, Government of Haryana

From

The Director of Industries & Commerce, Haryana,
Chandigarh.

To

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

Memo No. Mini Cluster/General Engineering/Ambala/4390-A
Dated:- 04.04.2018

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

Kindly refer to the subject cited above.

It is informed that the Diagnostic Study Report (DSR) of Ambala General Engineering Cluster has been approved by Director of Industries and Commerce under the State Mini Cluster Development Programme scheme.

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

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

Endst. No. Mini Cluster/ General Engineering/Ambala/4391-A Dated:- 04.04.2018

A copy of the above is forwarded to:

1. SPV, Ambala General Engineering Cluster for information. They are directed to provide the requisite information desired by EY LLP so as to enable them to prepare the DPR at the earliest. SPV is also advised to broad base their constitution and raise the number of SPV members.
   Email:- alloycraft@gmail.com
2. Assistant Director, DIC, Ambala.

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

2. Certificate of Incorporation

GOVERNMENT OF INDIA
MINISTRY OF CORPORATE AFFAIRS

Central Registration Centre

Certificate of Incorporation

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

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

The Corporate Identity Number of the company is U29309HR2018PTC074527.

The Permanent Account Number (PAN) of the company is **AAHCC6227F**

The Tax Deduction and Collection Account Number (TAN) of the company is **RTKC04994D**

Given under my hand at Manesar this Twelfth day of June Two thousand eighteen .

Digital Signature Certificate
Mr MUKESH KUMAR SONI
Deputy Registrar Of Companies
For and on behalf of the Jurisdictional Registrar of Companies
Registrar of Companies
Central Registration Centre

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

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

CFC CASTECH PRIVATE LIMITED
CFC CASTECH PRIVATE LIMITED, 422, HSIIDC , SAHA, SAHA
AMBALA, Ambala, Haryana, India, 133104

* as issued by the Income Tax Department

2.a Memorandum of Association (MoA)

THE COMPANIES ACT 2013

(A COMPANY LIMITED BY SHARES)

MEMORANDUM OF ASSOCIATION
OF
CFC CASTECH PRIVATE LIMITED

1. The Name of the company is **CFC CASTECH PRIVATE LIMITED**

2. The registered office of the company will be situated in the state of Haryana.

3. The objects for which the Company is established are:

(A) THE MAIN OBJECTS OF THE COMPANY TO BE PURSUED BY THE COMPANY ON ITS INCORPORATION ARE:

1.To manufacture, buy, sell, import and export or otherwise deal in all types of machinery and its parts and to deal in all substances, apparatus and things capable of being used in any such business.
2.To manufacture, produce, process, make, assemble, design, convert, repair, import, export, trade, buy, sell, whether as retailers or wholesalers, suppliers, packers, stockists, merchants, distributors, consignors, brokers or otherwise deal in all types of iron and steel products, Ferrous and NonFerrous Metal products, and Components, Machinery, Machinery parts, tools, appliances, accessories and implements.

B) MATTER WHICH ARE NECESSARY FOR FURTHERANCE OF THE OBJECTS SPECIFIED IN CLAUSE 3(A) ARE:

1.To purchase, exchange or otherwise any movable or immovable property and any rights or privileges which the Company may deem necessary or convenient for the purpose of its main business.
2. To enter into partnership or into any arrangement for sharing profits, union of interest, joint venture, reciprocal concession or co-operation with persons or companies carrying on or engaged in the main business or transaction of this Company.
3. To import, buy, exchange, alter, improve and manipulate in all kinds of plants, machinery, apparatus, tools and things necessary or convenient for carrying on the main business of the Company.
4. To vest any movable or immovable property, rights or interests required by or received or belonging to the Company in any person or company on behalf of or for the benefit of the Company and with or without any declared trust in favour of the Company.
5. To purchase, build, carry out, equip, maintain, alter, improve, develop, manage, work, control and superintend any plants, warehouse, sheds, offices, shops, stores, buildings, machinery, apparatus, labour lines, and houses, warehouses, and such other works and conveniences necessary for carrying on the main business of the Company.

1

6. To undertake or promote scientific research relating to the main business or class of business of the Company.
7. To takeover the whole or any part of the business, goodwill, trade-marks properties and liabilities of any person or persons, firm, companies or undertakings either existing or new, engaged in or carrying on or proposing to carry on business this Company is authorised to carry on, possession of any property or rights suitable for the purpose of the Company and to pay for the same either in cash or in shares or partly in cash and partly in shares or otherwise.
8. To negotiate and enter into agreements and contracts with Indian and foreign individuals, companies, corporations and such other organizations for technical, or any other such assistance for carrying out all or any the main objects of the Company or for the purpose of activity research and development of manufacturing projects on the basis of know-how, or technical collaboration and necessary formulas and patent rights for furthering the main objects of the Company.
9. Subject to the Provisions of the Companies Act 2013, to amalgamate with any other company of which all or any of their objects companies having similar to the objects of the Company in any manner whether with or without the liquidation.
10. Subject to any law for the time being in force, to undertake or take part in the formation, supervision or control of the business or operations of any person, firm, body corporate, association undertaking carrying on the main business of the Company.

11. To apply for, obtain, purchase or otherwise and prolong and renew any patents, patent-rights, brevets, inventions, processes, scientific technical or other assistance, manufacturing processes know-how and other information, patterns, copyrights, trade-marks, licenses concessions and the like rights or benefits, conferring an exclusive or non-exclusive or limited or unlimited right of use thereof, which may seem capable of being used for or in connection with the main objects of the Company or the acquisition or use of which may seem calculated directly or indirectly to benefit the Company on payment of any fee royalty or other consideration and to use, exercise or develop the same under or grant licenses in respect thereof or otherwise deal with same and to spend money in experimenting upon testing or improving any such patents, inventions, right or concessions.
12. To apply for and obtain any order under any Act or Legislature, charter, privilege concession, license or authorisation of any Government, State or other Authority for enabling the Company to carry on any of its main objects into effect or for extending any of the powers of the Company or for effecting and modification of the constitution of the Company or for any other such purpose which may seem expedient and to oppose any proceedings or applications which may seem expedient or calculated directly or indirectly to prejudice the interest of the Company.
13. To enter into any arrangements with any Government or Authorities or any persons or companies that may seem conducive to the main objects of the Company or any of them and to obtain from any such Government, authority, person or company any rights, charters, contracts, licenses and concessions which the Company may think desirable to obtain and to carry out, exercise and comply therewith.
14. To procure the Company to be registered or recognised in or under the laws of any place outside India and to do all act necessary for carrying on in any foreign country for the business or profession of the Company.

15. To draw, make, accept, discount, execute and issue bills of exchange, promissory notes bills of lading, warrants, debentures and such other negotiable or transferable

instruments, of all types or securities and to open Bank Accounts of any type and to operate the same in the ordinary course of the Company.

16. To advance money either with or without security, and to such persons and upon such terms and conditions as the Company may deem fit and also to deal with the money of the Company not immediately required.

17. To undertake and execute any trusts, the undertaking of which may seem to the Company desirable, either gratuitously or otherwise.

18. To establish, or promote or concur in establishing or promote any company for the purpose of dealing all or any of the properties, rights and liabilities of the Company.

19. To sell, mortgage, exchange, grant licenses and other rights improve, manage, develop and dispose of undertakings, properties, assets and effects of the company or any part thereof for such consideration as may be expedient and in particular for any shares, stocks, debentures or other securities of any other such company having main objects altogether or in part similar to those of the Company.

20. Subject to the Provisions of Companies Act 2013, to distribute among the members in specie or otherwise any property of the Company or any proceeds of sale or disposal of any property of the Company in the event of winding up.

21. To distribute as dividend or bonus among the member or to place to reserve or otherwise to apply, as the Company may, from time to time, determine any money received by way of premium on debentures issued at a premium by the Company and any money received in respect of forfeited shares, money arising from the sale by the Company of forfeited shares subject to the provisions of Sec. 52 of the Companies Act, 2013.

22. To employ agents or experts to investigate and examine into the conditions, prospects value, character and circumstances of any business concerns and undertakings and generally of any assets properties or rights which the Company purpose to acquire.

23. To create any reserve fund, sinking fund, or any other such special funds whether for depreciation, repairing, improving, research, extending or maintaining any of the properties of the Company or for any other such purpose conducive to the interest of the Company.

24. the provisions of Section 179 to 183 of Companies Act, 2013, to subscribe contribute, gift or money, rights or assets for any national educational, religious, charitable, scientific, public, general or usual objects or to make gifts or such other assets to any institutions, clubs, societies, associations, trusts, scientific research associations, funds, universities, college or any individual, body of individuals or bodies corporate.

25. To establish and maintain or procure the establishment and maintenance of any contributory or non-contributory pension or superannuation, provident or gratuity funds for the benefit of and give of procure the giving of the gratuities pensions, allowances, bonuses or emoluments of any persons who are or were at any time in the employment or service of the company or any company which is a subsidiary of the Company or is allied to or associated with the Company or with any such subsidiary company or who are or were at any time Directors or officers of the Company or any other company as aforesaid and the wives, widows, families and dependents of any such persons and also

to establish and subsidise and subscribe to any institutions, associations, club or funds calculated to be for the benefit of or advance aforesaid and make payments to any such persons as aforesaid and to do any of the matters aforesaid, either alone or in conjunction with any such other company as aforesaid.

26. To establish, for any of the main objects of the Company, branches or to establish any firm or firms at places in or outside India as the Company may deem expedient.

27. To pay for any property or rights acquired by or for any services rendered to the Company and in particular to remunerate any person, firm or company introducing business to the company either in cash or fully or partly-paid up shares with or without preferred or deferred rights in respect of dividend or repayment of capital or otherwise or by any securities which the company has power to issue or by the grant of any rights or options or partly in one mode and partly in another and generally on such terms as the company may determine.

28. To pay out of the funds of the company all costs, charges and expenses of and incidental to the formation and registration of the company and any company promoted by the company and also all costs, charges, duties, impositions and expenses of and incidental to the acquisition by the company of any property or assets.

29. To send out to foreign countries, its director, employees or any other person or persons for investigation possibilities of main business or trade procuring and buying any machinery or establishing trade and business connections or for promoting the interests of the company and to pay all expenses incurred in the connection.

30. To compensate for loss of office of any Managing Director or Directors or other officers of the Company within the limitations prescribed under the Companies Act or such other statute or rule having the force of law and to make payments to any person whose office of employment or duties may be determined by virtue of any transaction in which the Company is engaged.

31. To agree to refer to arbitration any dispute, present or future between the Company and any other company, firm, individual or any other body and to submit the same to arbitration in India or abroad either in accordance with Indian or any foreign system of law.

32. To appoint agents, sub-agents, dealers, managers canvassers, sales, representatives or salesmen for transacting all or any kind of the main business of which this Company is authorised to carry on and to constitute agencies of the Company in India or in any other country and establish depots and agencies in different parts of the world.

33.To set up subsidiaries company.

4. The Liability of the Members is limited and the liability is limited to the amount unpaid, if any, on the shares held by them.

5.The Authorized Share Capital of the Company is Rs. 10,00,000/- (Rupees Ten Lac) divided into 1,00,000 (One Lakh) Equity Shares of Rs. 10/- (Rupees ten) each.

4

We, the several persons, whose names and addresses are subscribed, are desirous of being formed into a company in pursuance of this memorandum of association, and we respectively agree to take the number of shares in the capital of the company set against our respective names:

S. NO	Subscriber Details					
	Name, Address, Description and Occupation	DIN/PAN/Passport Number		No. of Shares taken	Signatures	Dated
1.	Mr. Amrit Pal Singh S/o Sardar Avtar Singh R/o 21 Ram Nagar, Ambala Cantt, Haryana, Businessman	ARFPS2908H	10000	Equity		29.05.2018
2.	Mrs. Sharda Awasthi D/o. Late Jagdish Chander Sharma R/o H.no. 3704/B, Ward-4, Panna Cottage, Near Civil Hospital, Ambala Cantt. Businesswomen	APHPA9555Q	10000	Equity	Sharda	29.05.2018
3.	Mrs. Karan Awasthi D/o Parsaulum Lal Gautam R/o. #3704/C, Panna Cottage Near Civil Hospital,Ambala Cantt. Businesswomen	AKFPA2737F	10000	Equity		29.05.2018
4.	Mr. Rajan Kumar S/o Prem Singh R/o # 63, Village Ram Pur PO Sarsehri, Ambala 133006, Businessman	AQUPK0420E	10000	Equity		29.05.2018
5.	Mr. Gurvinder Singh S/o Surjeet Singh R/o. #29, New Ram Nagar, Ambala Cantt, 133001, Businessman	AKZPS0029C	10000	Equity		29.05.2018
6.	Mr. Brij Mohan S/o Rati Ram R/o. Village Tepla PO ReplaTH.Barara Distt. Ambala 133104, Businessman	ABPPM4172P	10000	Equity		29.05.2018
7.	Mr. Jagjit Singh S/o Prem Singh R/o Village Rampur, P.O.IND Area, Ambala Cantt 133001, Businessman	CENPS9891Q	10000	Equity		29.05.2018
8.	Mr. Ashwani Kumar S/o Mamraj R/o Near Fir	BCAPK1988R	10000	Equity		29.05.2018

	Samalehri(94) Ambala Saha 133104 . Businessman					
9.	Mr. Avtar Bhemni Singh S/o Harnam Bharmi Singh R/o # 21, Ram Nagar, Ambala Cantt 133001, Businessman	AAXPB1641H	10000	Equity		29.05.2018
10.	Mr. Virender Verma S/o Brij Mohan R/o VPO Tepla, The. Barara Distt. Ambala 133104	AUSPV3358N	10000	Equity		29.05.2018

Total Shares Taken **100000** **Equity Shares**

Signed before Me

Name		Address, Description and Occupation	DIN/PAN/Passport Number/ Membership Number	Signature	Dated
FCA	Neha Aggarwal	2ND Floor,SCO 88-89, Sector 17C, Chandigarh. 160017. CHARTERED ACCOUNTANT	513926		29.05.2018

2.b Article of Association (AoA)

THE COMPANIES ACT 2013

(A COMPANY LIMITED BY SHARES)

ARTICLES OF ASSOCIATION
OF
CFC CASTECH PRIVATE LIMITED

INTERPRETATION

(1) In these regulations --
(a) "the Act" means the Companies Act, 2013,
(b) "the seal" means the common seal of the company.
(c) "Company" means CFC CASTECH PRIVATE LIMITED.
(d) "Directors" means the Directors of the Company and includes persons occupying the position of the
Directors by whatever names called.
(e) "Office" means the Registered Office of the Company.
(2) Unless the context otherwise requires, words or expressions contained in these regulations shall bear the
same meaning as in the Act or any statutory modification thereof in force at the date at which these regulations
become binding on the company.
(3) The Company is a Private Company within the meaning of Section 2(68) of the Companies Act, 2013 and
accordingly:-
(i) restricts the right to transfer its shares;
(ii) limits the number of its members to two hundred:
Provide that where two or more persons hold one or more shares in a company jointly, they shall, for the
purposes of this clause, be treated as a single member:
Provided further that-
(a) persons who are in the employment of the company; and
(b) persons who, having been formerly in the employment of the company, were members of the company
while in the employment and have continued to be members after the employment ceased,
shall not be included in the number of members; and
(iii) Prohibits any invitation to the public to subscribe for any securities of the company;

Share capital and variation of rights

1. Subject to the provisions of the Act and these Articles, the shares in the capital of the company shall be under the control of the Directors who may issue, allot or otherwise dispose of the same or any of them to such persons, in such proportion and on such terms and conditions and either at a premium or at par and at such time as they may from time to time think fit.

2. (i) Every person whose name is entered as a member in the register of members shall be entitled to receive within two months after incorporation, in case of subscribers to the memorandum or after allotment or within one month after the application for the registration of transfer or transmission or within such other period as the conditions of issue shall be provided, --
(a) one certificate for all his shares without payment of any charges; or
(b) several certificates, each for one or more of his shares, upon payment of twenty rupees for each certificate after the first.

(ii) Every certificate shall be under the seal and shall specify the shares to which it relates and the amount paid-up thereon.
(iii) In respect of any share or shares held jointly by several persons, the company shall not be bound to issue more than one certificate, and delivery of a certificate for a share to one of several joint holders shall be sufficient delivery to all such holders.

3 (i) If any share certificate be worn out, defaced, mutilated or torn or if there be no further space on the back for endorsement of transfer, then upon production and surrender thereof to the company, a new certificate may be issued in lieu thereof, and if any certificate is lost or destroyed then upon proof thereof to the satisfaction of the company and on execution of such indemnity as the company deem adequate, a new certificate in lieu thereof shall be given. Every certificate under this Article shall be issued on payment of twenty rupees for each certificate.
(ii) The provisions of Articles (2) and (3) shall mutatis mutandis apply to debentures of the company.

4 Except as required by law, no person shall be recognised by the company as holding any share upon any trust, and the company shall not be bound by, or be compelled in any way to recognise (even when having notice thereof) any equitable, contingent, future or partial interest in any share, or any interest in any fractional part of a share, or (except only as by these regulations or by law otherwise provided) any other rights in respect of any share except an absolute right to the entirety thereof in the registered holder.

5(i) The company may exercise the powers of paying commissions conferred by sub-section (6) of section 40,provided that the rate per cent or the amount of the commission paid or agreed to be paid shall be disclosed in the manner required by that section and rules made thereunder.

5 (ii) The rate or amount of the commission shall not exceed the rate or amount prescribed in rules made under sub-section (6) of section 40.
(iii) The commission may be satisfied by the payment of cash or the allotment of fully or partly paid shares or partly in the one way and partly in the other.

6(i) If at any time the share capital is divided into different classes of shares, the rights attached to any class (unless otherwise provided by the terms of issue of the shares of that class) may, subject to the provisions of section 48, and whether or not the company is being wound up, be varied with the consent in writing of the holders of three-fourths of the issued shares of that class, or with the sanction of a special resolution passed at a separate meeting of the holders of the shares of that class.
(ii) To every such separate meeting, the provisions of these regulations relating to general meetings shall mutatis mutandis apply, but so that the necessary quorum shall be at least two persons holding at least one third of the issued shares of the class in question.

7 The rights conferred upon the holders of the shares of any class issued with preferred or other rights shall not, unless otherwise expressly provided by the terms of issue of the shares of that class, be deemed to be varied by the creation or issue of further shares ranking pari passu therewith.

8 Subject to the provisions of section 55, any preference shares may, with the sanction of an ordinary resolution, be issued on the terms that they are to be redeemed on such terms and in such manner as the company before the issue of the shares may, by special resolution, determine.

Lien

9(i) The company shall have a first and paramount lien --
(a) on every share (not being a fully paid share), for all monies (whether presently payable or not) called, or payable at a fixed time, in respect of that share; and
(b) on all shares (not being fully paid shares) standing registered in the name of a single person, for all monies presently payable by him or his estate to the company: Provided that the Board of directors may at any time declare any share to be wholly or in part exempt from the provisions of this clause.
(ii) The company's lien, if any, on a share shall extend to all dividends payable and bonuses declared from time to time in respect of such shares.

10 The company may sell, in such manner as the Board thinks fit, any shares on which the company has a lien:
Provided that no sale shall be made --
(a) unless a sum in respect of which the lien exists is presently payable; or
(b) until the expiration of fourteen days after a notice in writing stating and demanding payment of such part of the amount in respect of which the lien exists as is presently payable, has been given to the registered holder for the time being of the share or the person entitled thereto by reason of his death or insolvency.

11(i) To give effect to any such sale, the Board may authorise some person to transfer the shares sold to the purchaser thereof
(ii) The purchaser shall be registered as the holder of the shares comprised in any such transfer.
(iii) The purchaser shall not be bound to see to the application of the purchase money, nor shall his title to the shares be affected by any irregularity or invalidity in the proceedings in reference to the sale.

12(i) The proceeds of the sale shall be received by the company and applied in payment of such part of the amount in respect of which the lien exists as is presently payable.
ii) The residue, if any, shall, subject to a like lien for sums not presently payable as existed upon the shares before the sale, be paid to the person entitled to the shares at the date of the sale.

Calls on shares

13(i) The Board may, from time to time, make calls upon the members in respect of any monies unpaid on their shares (whether on account of the nominal value of the shares or by way of premium) and not by the conditions of allotment thereof made payable at fixed times:
Provided that no call shall exceed one-fourth of the nominal value of the share or be payable at less than one month from the date fixed for the payment of the last preceding call.
(ii) Each member shall, subject to receiving at least fourteen days' notice specifying the time or times and place of payment, pay to the company, at the time or times and place so specified, the amount called on his shares.
(iii) A call may be revoked or postponed at the discretion of the Board.

14 A call shall be deemed to have been made at the time when the resolution of the Board authorizing the call was passed and may be required to be paid by instalments.

15The joint holders of a share shall be jointly and severally liable to pay all calls in respect thereof.

16 (i) If a sum called in respect of a share is not paid before or on the day appointed for payment thereof, the person from whom the sum is due shall pay interest thereon from

the day appointed for payment thereof to the time of actual payment at ten per cent per annum or at such lower rate, if any, as the Board may determine.
(ii) The Board shall be at liberty to waive payment of any such interest wholly or in part.

17 (i) Any sum which by the terms of issue of a share becomes payable on allotment or at any fixed date, whether on account of the nominal value of the share or by way of premium, shall, for the purposes of these regulations, be deemed to be a call duly made and payable on the date on which by the terms of issue such sum becomes payable.
(ii) In case of non-payment of such sum, all the relevant provisions of these regulations as to payment of interest and expenses, forfeiture or otherwise shall apply as if such sum had become payable by virtue of a call duly made and notified.

18The Board --
(a) may, if it thinks fit, receive from any member willing to advance the same, all or any part of the monies uncalled and unpaid upon any shares held by him; and
(b) upon all or any of the monies so advanced, may (until the same would, but for such advance, become presently payable) pay interest at such rate not exceeding, unless the company in general meeting shall otherwise direct, twelve per cent per annum, as may be agreed upon between the Board and the member paying the sum in advance.

Transfer of shares

19 (i) The instrument of transfer of any share in the company shall be executed by or on behalf of both the transferor and transferee.
(ii) The transferor shall be deemed to remain a holder of the share until the name of the transferee is entered in the register of members in respect thereof.

20 The Board may, subject to the right of appeal conferred by section 58 decline to register --
(a) the transfer of a share, not being a fully paid share, to a person of whom they do not approve; or
(b) any transfer of shares on which the company has a lien.

21The Board may decline to recognise any instrument of transfer unless --
(a) the instrument of transfer is in the form as prescribed in rules made under sub-section (1) of section 56;
(b) the instrument of transfer is accompanied by the certificate of the shares to which it relates, and such other evidence as the Board may reasonably require to show the right of the transferor to make the transfer; and
(c) the instrument of transfer is in respect of only one class of shares.

22 On giving not less than seven days' previous notice in accordance with section 91 and rules made there under, the registration of transfers may be suspended at such times and for such periods as the Board may from time to time determine:
Provided that such registration shall not be suspended for more than thirty days at any one time or for more than forty-five days in the aggregate in any year.

Transmission of shares

23(i) On the death of a member, the survivor or survivors where the member was a joint holder, and his nominee or nominees or legal representatives where he was a sole holder, shall be the only persons recognised by the company as having any title to his interest in the shares
(ii) Nothing in clause (i) shall release the estate of a deceased joint holder from any liability in respect of any share which had been jointly held by him with other persons.

24(i) Any person becoming entitled to a share in consequence of the death or insolvency of a member may, upon such evidence being produced as may from time to time properly be required by the Board and subject as hereinafter provided, elect, either --
(a) to be registered himself as holder of the share; or
(b) to make such transfer of the share as the deceased or insolvent member could have made.
(ii) The Board shall, in either case, have the same right to decline or suspend registration as it would have had,if the deceased or insolvent member had transferred the share before his death or insolvency.

25(i) If the person so becoming entitled shall elect to be registered as holder of the share himself, he shall deliver or send to the company a notice in writing signed by him stating that he so elects.
(ii) If the person aforesaid shall elect to transfer the share, he shall testify his election by executing a transfer of the share.
(iii) All the limitations, restrictions and provisions of these regulations relating to the right to transfer and the registration of transfers of shares shall be applicable to any such notice or transfer as aforesaid as if the death or insolvency of the member had not occurred and the notice or transfer were a transfer signed by that member.

26 A person becoming entitled to a share by reason of the death or insolvency of the holder shall be entitled to the same dividends and other advantages to which he would be entitled if he were the registered holder of the share, except that he shall not, before being registered as a member in respect of the share, be entitled in respect of it to exercise any right conferred by membership in relation to meetings of the company:
Provided that the Board may, at any time, give notice requiring any such person to elect either to be registered himself or to transfer the share, and if the notice is not complied with within ninety days, the Board may thereafter withhold payment of all dividends, bonuses or other monies payable in respect of the share, until the requirements of the notice have been complied with.

Forfeiture of shares

27 If a member fails to pay any call, or instalment of a call, on the day appointed for payment thereof, the Board may, at any time thereafter during such time as any part of the call or instalment remains unpaid, serve a notice on him requiring payment of so much of the call or instalment as is unpaid, together with any interest which may have accrued.
28 The notice aforesaid shall --
(a) name a further day (not being earlier than the expiry of fourteen days from the date of service of the notice) on or before which the payment required by the notice is to be made; and
(b) state that, in the event of non-payment on or before the day so named, the shares in respect of which the call was made shall be liable to be forfeited.

29 If the requirements of any such notice as aforesaid are not complied with, any share in respect of which the notice has been given may, at any time thereafter, before the payment required by the notice has been made, be forfeited by a resolution of the Board to that effect.

30 (i) A forfeited share may be sold or otherwise disposed of on such terms and in such manner as the Board
thinks fit.
(ii) At any time before a sale or disposal as aforesaid, the Board may cancel the forfeiture on such terms as it
thinks fit.

31 (i) A person whose shares have been forfeited shall cease to be a member in respect of the forfeited shares, but shall, notwithstanding the forfeiture, remain liable to pay to the company all monies which, at the date of forfeiture, were presently payable by him to the company in respect of the shares.
(ii) The liability of such person shall cease if and when the company shall have received payment in full of all such monies in respect of the shares.

32(i) A duly verified declaration in writing that the declarant is a director, the manager or the secretary, of the company, and that a share in the company has been duly forfeited on a date stated in the declaration, shall be conclusive evidence of the facts therein stated as against all persons claiming to be entitled to the share;
(ii) The company may receive the consideration, if any, given for the share on any sale or disposal thereof and may execute a transfer of the share in favour of the person to whom the share is sold or disposed of;
(iii) The transferee shall thereupon be registered as the holder of the share; and
(iv) The transferee shall not be bound to see to the application of the purchase money, if any, nor shall his title to the share be affected by any irregularity or invalidity in the proceedings in reference to the forfeiture, sale or disposal of the share.

33 The provisions of these regulations as to forfeiture shall apply in the case of non payment of any sum which, by the terms of issue of a share, becomes payable at a fixed time, whether on account of the nominal value of the share or by way of premium, as if the same had been payable by virtue of a call duly made and notified.

Alteration of capital

34The company may, from time to time, by ordinary resolution increase the share capital by such sum, to be divided into shares of such amount, as may be specified in the resolution.Subject to the provisions of section 61, the company may, by ordinary resolution, --
(a) consolidate and divide all or any of its share capital into shares of larger amount than its existing shares;

35(b) convert all or any of its fully paid-up shares into stock, and reconvert that stock into fully paid-up shares of any denomination;
(c) sub-divide its existing shares or any of them into shares of smaller amount than is fixed by the memorandum;
(d) cancel any shares which, at the date of the passing of the resolution, have not been taken or agreed to be taken by any person.

36 Where shares are converted into stock, --
(a) the holders of stock may transfer the same or any part thereof in the same manner as, and subject to the same regulations under which, the shares from which the stock arose might before the conversion have been transferred, or as near thereto as circumstances admit:
Provided that the Board may, from time to time, fix the minimum amount of stock transferable, so, however, that such minimum shall not exceed the nominal amount of the shares from which the stock arose.
(b) the holders of stock shall, according to the amount of stock held by them, have the same rights, privileges and advantages as regards dividends, voting at meetings of the company, and other matters, as if they held the shares from which the stock arose; but no such privilege or advantage (except participation in the dividends and profits of the company and in the assets on winding up) shall be conferred by an amount of stock which would not, if existing in shares, have conferred that privilege or advantage.
(c) such of the regulations of the company as are applicable to paid-up shares shall apply to stock and the words "share" and "shareholder" in those regulations shall include "stock" and "stock-holder" respectively.

37 The company may, by special resolution, reduce in any manner and with, and subject to, any incident authorised and consent required by law, --
(a) its share capital;
(b) any capital redemption reserve account; or
(c) any share premium account.

Capitalisation of profits

38 (i) The company in general meeting may, upon the recommendation of the Board, resolve --
(a) that it is desirable to capitalise any part of the amount for the time being standing to the credit of any of the company's reserve accounts, or to the credit of the, profit and loss account, or otherwise available for distribution; and
(b) that such sum be accordingly set free for distribution in the manner specified in clause (ii) amongst the members who would have been entitled thereto, if distributed by way of dividend and in the same proportions.
(ii) The sum aforesaid shall not be paid in cash but shall be applied, subject to the provision contained inclause (iii), either in or towards --
(A) paying up any amounts for the time being unpaid on any shares held by such members respectively;
(B) paying up in full, unissued shares of the company to be allotted and distributed, credited as fully paid-up, to and amongst such members in the proportions aforesaid;
(C) partly in the way specified in sub-clause (A) and partly in that specified in sub-clause (B);
(D) A securities premium account and a capital redemption reserve account may, for the purposes of this regulation, be applied in the paying up of unissued shares to be issued to members of the company as fully paid bonus shares;
(E) The Board shall give effect to the resolution passed by the company in pursuance of this regulation.

39 (i) Whenever such a resolution as aforesaid shall have been passed, the Board shall --
(a) make all appropriations and applications of the undivided profits resolved to be capitalised thereby, and all allotments and issues of fully paid shares if any; and
(b) generally do all acts and things required to give effect thereto.
(ii) The Board shall have power --
(a) to make such provisions, by the issue of fractional certificates or by payment in cash or otherwise as it thinks fit, for the case of shares becoming distributable in fractions; and
(b) to authorise any person to enter, on behalf of all the members entitled thereto, into an agreement with the company providing for the allotment to them respectively, credited as fully paid-up, of any further shares to which they may be entitled upon such capitalisation, or as the case may require, for the payment by the company on their behalf, by the application thereto of their respective proportions of profits resolved to be capitalised, of the amount or any part of the amounts remaining unpaid on their existing shares;
(iii) Any agreement made under such authority shall be effective and binding on such members.

Buy-back of shares

40Notwithstanding anything contained in these articles but subject to the provisions of sections 68 to 70 and any other applicable provision of the Act or any other law for the time being in force, the company may purchase its own shares or other specified securities.

General meetings

41 All general meetings other than annual general meeting shall be called extraordinary general meeting.

42 (i) The Board may, whenever it thinks fit, call an extraordinary general meeting.
(ii) If at any time directors capable of acting who are sufficient in number to form a quorum are not within India, any director or any two members of the company may call an extraordinary general meeting in the same manner, as nearly as possible, as that in which such a meeting may be called by the Board.

Proceedings at general meetings

43 (i) No business shall be transacted at any general meeting unless a quorum of members is present at the time when the meeting proceeds to business.
(ii) Save as otherwise provided herein, the quorum for the general meetings shall be as provided in section 103.

44 The chairperson, if any, of the Board shall preside as Chairperson at every general meeting of the company.

45 If there is no such Chairperson, or if he is not present within fifteen minutes after the time appointed for holding the meeting, or is unwilling to act as chairperson of the meeting, the directors present shall elect one of their members to be Chairperson of the meeting.

46 If at any meeting no director is willing to act as Chairperson or if no director is present within fifteen minutes after the time appointed for holding the meeting, the members present shall choose one of their members to be Chairperson of the meeting.

Adjournment of meeting

47(i) The Chairperson may, with the consent of any meeting at which a quorum is present, and shall, if so directed by the meeting, adjourn the meeting from time to time and from place to place.
(ii) No business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place.
(iii) When a meeting is adjourned for thirty days or more, notice of the adjourned meeting shall be given as in the case of an original meeting.
(iv) Save as aforesaid, and as provided in section 103 of the Act, it shall not be necessary to give any notice of an adjournment or of the business to be transacted at an adjourned meeting.

Voting rights

48 Subject to any rights or restrictions for the time being attached to any class or classes of shares, --
(a) on a show of hands, every member present in person shall have one vote; and
(b) on a poll, the voting rights of members shall be in proportion to his share in the paid-up equity share capital of the company.

49 A member may exercise his vote at a meeting by electronic means in accordance with section 108 and shall vote only once.

50 (i) In the case of joint holders, the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of the other joint holders.
(ii) For this purpose, seniority shall be determined by the order in which the names stand in the register of members.

51 A member of unsound mind, or in respect of whom an order has been made by any court having jurisdiction in lunacy, may vote, whether on a show of hands or on a poll, by his committee or other legal guardian, and any such committee or guardian may, on a poll, vote by proxy.

52 Any business other than that upon which a poll has been demanded may be proceeded with, pending the taking of the poll.

53 No member shall be entitled to vote at any general meeting unless all calls or other sums presently payable by him in respect of shares in the company have been paid.\

54 (i) No objection shall be raised to the qualification of any voter except at the meeting or adjourned meeting at which the vote objected to is given or tendered, and every vote not disallowed at such meeting shall be valid for all purposes.
(ii) Any such objection made in due time shall be referred to the Chairperson of the meeting, whose decision shall be final and conclusive.

Proxy

55 The instrument appointing a proxy and the power-of-attorney or other authority, if any, under which it is signed or a notarised copy of that power or authority, shall be deposited at the registered office of the company not less than 48 hours before the time for holding the meeting or adjourned meeting at which the person named in the instrument proposes to vote, or, in the case of a poll, not less than 24 hours before the time appointed for the taking of the poll; and in default the instrument of proxy shall not be treated as valid.

56 An instrument appointing a proxy shall be in the form as prescribed in the rules made under section 105

57 A vote given in accordance with the terms of an instrument of proxy shall be valid, notwithstanding the previous death or insanity of the principal or the revocation of the proxy or of the authority under which the proxy was executed, or the transfer of the shares in respect of which the proxy is given:
Provided that no intimation in writing of such death, insanity, revocation or transfer shall have been received by the company at its office before the commencement of the meeting or adjourned meeting at which the proxy is used.

Board of Directors

58 The number of the directors and the names of the first directors shall be determined in writing by the subscribers of the memorandum or a majority of them.

1) Mr. Amrit Pal Singh
2) Mrs. Sharda Awasthi

59 (i) The remuneration of the directors shall, in so far as it consists of a monthly payment, be deemed to accrue from day-to-day.
(ii) In addition to the remuneration payable to them in pursuance of the Act, the directors may be paid all travelling, hotel and other expenses properly incurred by them --
(a) in attending and returning from meetings of the Board of Directors or any committee thereof or general meetings of the company; or
(b) in connection with the business of the company.

60The Board may pay all expenses incurred in getting up and registering the company.

61 The company may exercise the powers conferred on it by section 88 with regard to the keeping of a foreign register; and the Board may (subject to the provisions of that section) make and vary such regulations as it may thinks fit respecting the keeping of any such register.

62 All cheques, promissory notes, drafts, hundis, bills of exchange and other negotiable instruments, and all receipts for monies paid to the company, shall be signed, drawn, accepted, endorsed, or otherwise executed, as the case may be, by such person and in such manner as the Board shall from time to time by resolution determine

63Every director present at any meeting of the Board or of a committee thereof shall sign his name in a book to be kept for that purpose.

64 (i) Subject to the provisions of section 149, the Board shall have power at any time, and from time to time, to appoint a person as an additional director, provided the number of the directors and additional directors together shall not at any time exceed the maximum strength fixed for the Board by the articles.
(ii) Such person shall hold office only up to the date of the next annual general meeting of the company but shall be eligible for appointment by the company as a director at that meeting subject to the provisions of the Act.

Proceedings of the Board

65 (i) The Board of Directors may meet for the conduct of business, adjourn and otherwise regulate its meetings,as it thinks fit.

65 (ii) A director may, and the manager or secretary on the requisition of a director shall, at any time, summon a meeting of the Board.

66 (i) Save as otherwise expressly provided in the Act, questions arising at any meeting of the Board shall be decided by a majority of votes.
(ii) In case of an equality of votes, the Chairperson of the Board, if any, shall have a second or casting vote.

67. The continuing directors may act notwithstanding any vacancy in the Board; but, if and so long as their number is reduced below the quorum fixed by the Act for a meeting of the Board, the continuing directors or director may act for the purpose of increasing the number of directors to that fixed for the quorum, or of summoning a general meeting of the company, but for no other purpose.

68 (i) The Board may elect a Chairperson of its meetings and determine the period for which he is to hold office.
(ii) If no such Chairperson is elected, or if at any meeting the Chairperson is not present within five minutes after the time appointed for holding the meeting, the directors present may choose one of their number to be Chairperson of the meeting.

69 (i) The Board may, subject to the provisions of the Act, delegate any of its powers to committees consisting of such member or members of its body as it thinks fit.
(ii) Any committee so formed shall, in the exercise of the powers so delegated, conform to any regulations that may be imposed on it by the Board.

70(i) A committee may elect a Chairperson of its meetings.
(ii) If no such Chairperson is elected, or if at any meeting the Chairperson is not present within five minutes after the time appointed for holding the meeting, the members present may choose one of their members to be Chairperson of the meeting.

71 (i) A committee may meet and adjourn as it thinks fit.
(ii) Questions arising at any meeting of a committee shall be determined by a majority of votes of the members present, and in case of an equality of votes, the Chairperson shall have a second or casting vote.

72 All acts done in any meeting of the Board or of a committee thereof or by any person acting as a director, shall, notwithstanding that it may be afterwards discovered that there was some defect in the appointment of any one or more of such directors or of any person acting as aforesaid, or that they or any of them were disqualified, be as valid as if every such director or such person had been duly appointed and was qualified to be a director.

73 Save as otherwise expressly provided in the Act, a resolution in writing, signed by all the members of the Board or of a committee thereof, for the time being entitled to receive notice of a meeting of the Board or committee, shall be valid and effective as if it had been passed at a meeting of the Board or committee, duly convened and held.

Chief Executive Officer, Manager, Company Secretary or Chief Financial Officer

74 Subject to the provisions of the Act, --
(i) A chief executive officer, manager, company secretary or chief financial officer may be appointed by the Board for such term, at such remuneration and upon such conditions as it may thinks fit; and any chief executive officer, manager, company secretary or chief financial officer so appointed may be removed by means of a resolution of the Board;
(ii) A director may be appointed as chief executive officer, manager, company secretary or chief financial officer

75 A provision of the Act or these regulations requiring or authorising a thing to be done by or to a director and chief executive officer, manager, company secretary or chief financial officer shall not be satisfied by its being done by or to the same person acting both as director and as, or in place of, chief executive officer, manager, company secretary or chief financial officer.

The Seal

76(i) The Board shall provide for the safe custody of the seal.
(ii) The seal of the company shall not be affixed to any instrument except by the authority of a resolution of the Board or of a committee of the Board authorised by it in that behalf, and except in the presence of at least two directors and of the secretary or such other person as the Board may appoint for the purpose; and those two directors and the secretary or other person aforesaid shall sign every instrument to which the seal of the company is so affixed in their presence.

Dividends and Reserve

77 The company in general meeting may declare dividends, but no dividend shall exceed the amount recommended by the Board.

78 Subject to the provisions of section 123, the Board may from time to time pay to the members such interim dividends as appear to it to be justified by the profits of the company.

79 (i) The Board may, before recommending any dividend, set aside out of the profits of the company such sums as it thinks fit as a reserve or reserves which shall, at the discretion of the Board, be applicable for any purpose to which the profits of the company may be properly applied, including provision for meeting contingencies or for equalizing dividends; and pending such application, may, at the like discretion, either be

employed in the business of the company or be invested in such investments (other than shares of the company) as the Board may, from time to time, thinks fit.
(ii) The Board may also carry forward any profits which it may consider necessary not to divide, without setting them aside as a reserve

80 (i) Subject to the rights of persons, if any, entitled to shares with special rights as to dividends, all dividends shall be declared and paid according to the amounts paid or credited as paid on the shares in respect whereof the dividend is paid, but if and so long as nothing is paid upon any of the shares in the company, dividends may be declared and paid according to the amounts of the shares.
(ii) No amount paid or credited as paid on a share in advance of calls shall be treated for the purposes of this regulation as paid on the share.
(iii) All dividends shall be apportioned and paid proportionately to the amounts paid or credited as paid on the shares during any portion or portions of the period in respect of which the dividend is paid; but if any share is issued on terms providing that it shall rank for dividend as from a particular date such share shall rank for dividend accordingly.

81 The Board may deduct from any dividend payable to any member all sums of money, if any, presently payable by him to the company on account of calls or otherwise in relation to the shares of the company.

82 (i) Any dividend, interest or other monies payable in cash in respect of shares may be paid by cheque or warrant sent through the post directed to the registered address of the holder or, in the case of joint holders, to the registered address of that one of the joint holders who is first named on the register of members, or to such person and to such address as the holder or joint holders may in writing direct.
(ii) Every such cheque or warrant shall be made payable to the order of the person to whom it is sent.
83 Any one of two or more joint holders of a share may give effective receipts for any dividends, bonuses or other monies payable in respect of such share.

84 Notice of any dividend that may have been declared shall be given to the persons entitled to share therein in the manner mentioned in the Act.

85 No dividend shall bear interest against the company.

Accounts

86(i) The Board shall from time to time determine whether and to what extent and at what times and places and under what conditions or regulations, the accounts and books of the company, or any of them, shall be open to the inspection of members not being directors.
(ii) No member (not being a director) shall have any right of inspecting any account or book or document of the company except as conferred by law or authorised by the Board or by the company in general meeting.

Winding up

87 Subject to the provisions of Chapter XX of the Act and rules made thereunder --
(i) If the company shall be wound up, the liquidator may, with the sanction of a special resolution of the company and any other sanction required by the Act, divide amongst the members, in specie or kind, the whole or any part of the assets of the company, whether they shall consist of property of the same kind or not.
(ii) For the purpose aforesaid, the liquidator may set such value as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the members or different classes of members.

(iii) The liquidator may, with the like sanction, vest the whole or any part of such assets in trustees upon such trusts for the benefit of the contributories if he considers necessary, but so that no member shall be compelled to accept any shares or other securities whereon there is any liability.

Indemnity

88 Every officer of the company shall be indemnified out of the assets of the company against any liability incurred by him in defending any proceedings, whether civil or criminal, in which judgment is given in his favour or in which he is acquitted or in which relief is granted to him by the court or the Tribunal.

Others

89 BORROWING POWERS

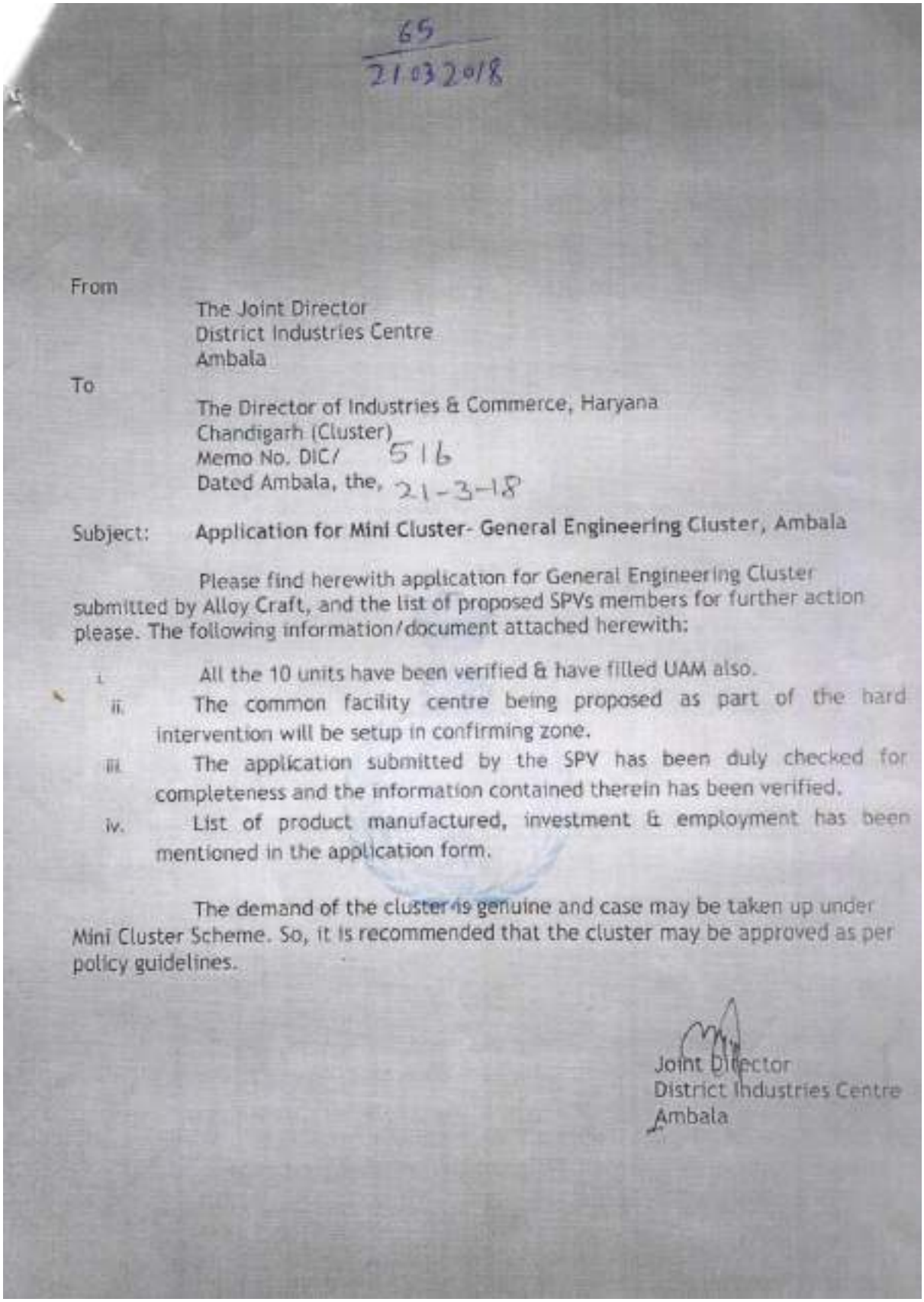
a) Subject to section 73 and 179 of the Companies Act. 2013, and Regulations made there under and Directions issued by the RBI the directors may, from time to time, raise or borrow any sums of money for and on behalf of the Company from the member or other persons, companies or banks or they may themselves advance money to the company on such interest as may be approved by the Directors.
b) The Directors may, from time to time, secure the payment of such money in such manner and upon such terms and conditions in all respects as they deem fit and in particular by the issue of bonds or debentures or by pledge, mortgage, charge or any other security on all or any properties of the Company (both present and future) including its uncalled capital for the time being.

S. NO	Subscriber Details				
	Name, Address, Description and Occupation	DIN/PAN/Passport Number	Place	Signatures	Dated
1.	Mr. Amrit Pal Singh S/o Sardar Avtar Singh R/o 21 Ram Nagar, Ambala Cantt, Haryana, Businessman	ARFPS2908H	Ambala		
2.	Mrs. Sharda Awasthi D/o. Late Jagdish Chander Sharma R/o H.no. 3704/B, Ward-4, Panna Cottage, Near Civil Hospital, Ambala Cantt. Businesswomen	APHPA9555Q	Ambala		
3.	Mrs. Kiran Awasthi D/o Parsautum Lal Gautam R/o. #3704/C, Panna Cottage Near Civil Hospital,Ambala Cantt. Businesswomen	AKFPA2737F	Ambala		
4.	Mr. Rajan Kumar S/o Prem Singh R/o # 63, Village Ram Pur PO Sarsehri, Ambala 133006, Businessman	AQUPK0420E	Ambala		
5.	Mr. Gurvinder Singh S/o Surjeet Singh R/o. #29, New Ram Nagar, Ambala Cantt, 133001, Businessman	AKZPS0029C	Ambala		
6.	Mr. Brij Mohan S/o Roti Ram R/o. Village Tepla PO ReplaTH.Barara Distt. Ambala 133104, Businessman	ABPPM4177P	Ambala		
7.	Mr. Jagjit Singh S/o Prem Singh R/o Village Rampur, P.O.IND Area, Ambala Cantt 133001, Businessman	CENPS9691Q	Ambala		
8.	Mr. Ashwani Kumar S/o Mamraj R/o Near Pir Samaichri(94) Ambala Saha 133104 . Businessman	ECAPK1988R	Ambala		
9.	Mr. Avtar Bharmi Singh S/o	AAXPB4641H	Ambala		

	Harnam Bharmv Singh R/o # 21, Ram Nager, Ambala Cantt 133001, Businessman				
10.	Mr. Virender Verma S/o Brij Mohan R/o VPO Tepla, The. Barara Distt. Ambala 133104	AUSPV3350N	Ambala		

	Signed before Me					
	Name	Address, Description and Occupation	DIN/PAN/ Passport Number/ Membership Number	Place	Signature	Dated
FCA	Neha Aggarwal	2nd Floor,SCO 88-89, Sector 17C, Chandigarh, 160017. CHARTERED ACCOUNTANT	513926	Ambala		

3. Unit Verification by DIC Ambala



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From

The Joint Director
District Industries Centre
Ambala

To

The Director of Industries & Commerce, Haryana
Chandigarh (Cluster)
Memo No. DIC/ 516
Dated Ambala, the, 21-3-18

Subject: **Application for Mini Cluster- General Engineering Cluster, Ambala**

Please find herewith application for General Engineering Cluster submitted by Alloy Craft, and the list of proposed SPVs members for further action please. The following information/document attached herewith:

i. All the 10 units have been verified & have filled UAM also.
ii. The common facility centre being proposed as part of the hard intervention will be setup in confirming zone.
iii. The application submitted by the SPV has been duly checked for completeness and the information contained therein has been verified.
iv. List of product 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 policy guidelines.

Joint Director
District Industries Centre
Ambala

S.No.	Contact Person	Company Name	Contact No.	Address of Unit	UAM No.	Products	Employment	Investment	Email ID	Signature
1	Brij Mohan	BP Agro-Industries	72068-78590	67, New Colony Opposite Post Office, Industrial Area, Ambala Cantt.	HR01B000879 3	Manufacturing of Metal Fabricated products, Hand tools & Agriculture equipment	6	14	Bpagro000@gmail.com	
2	Virender Verma	Paul Machine tools	85690-37453	68, New Colony, Opposite Post Office, Industrial Area, Ambala Cantt.	HR01B000697	Manufacturing of Machinery & Equipment & Machine Tools	8	20	paulmachinetools@gmail.com	
3	Ashwani Kumar	Mahadev Polesher Coating	99969-03039	92, Vikas Puri, Ambala cantt.	HR01D000249 7	Manufacturing of Metal Fabricated products	5	8	mahadevpolisher@rediffmail.com	
4	Avtar Singh	National Automobiles	98959-71757	65, Industrial Area, Ambala Cantt	HR01B000261 4	Automobiles parts	9	48	nams.vat@gmail.com	
5	Amritpal Singh	Alloy Craft	98960-32299	423, Industrial Area, Ambala Cantt	HR01A000942 5	Tractor Pgts. metal parts	8	15	alloycraft@gmail.com	
5	Gurvinder Singh	Anand Enterprises	94162-49730	63, Industrial Area, Ambala Cantt	HR01A000249 8	Manufacturing of rubber & plastic products	4	12	Gurvinderssahana n81101@gmail.com	
7	Rajan Kumar	Shubhami Tools & Die Works	86011-53229	110, vill- Ramgpur, PO-Sarshari, Ambala Cantt.	HR01A000251 2	Manufacturing of rubber & plastic products	6	8	Shubhamitools@gmail.com	
8	Jagjeet Singh	T H Plastic Injection Moulding Work	94168-62617	110, vill- Ramgpur, PO-Sarshari, Ambala Cantt.	HR01A000251 1	Manufacturing of rubber & plastic products	8	7	Thplastic73@gmail.com	
9	Gaurav Kumar	Gaurav Manufacturing Enterprises	98960-41809	3704/B, Panna Cottage, Civil Hospital, Ambala cantt	HR01B000969 1	Manufacturing of Metal Fabricated products	10	25	Gaurav900@gmail.com	
10	Kiran Awasthi	Bhawani Enterprises	95414-34370	3704/C, , Panna Cottage, Civil Hospital, Ambala cantt	HR01B000053 0	Manufacturing of Metal Fabricated products	8	18	bhwanient@rediffmail.com	

4. Building Availability Proof

5. Machinery Quotations

JYOTI

Proposal No. : JCAL/QUOT17-18/1,017 **Date : 28/03/2018**

M/s CFC PVT. LTD.
PLOT NO. 422,INDUSTRIAL AREA SAHA
AMBALA
9896032299
NAMO.WE@GMAIL.COM

Kind Attn. : **MR. AMRIT BHARMI**

Dear Sir,

Sub : **OFFER FOR VTL750**

We thank you for the opportunity given to us to address your requirements.
Attached is our detailed techno commercial offer for your consideration.

We shall be glad to discuss personally, any clarifications required to ensure that the right solutions are provided for your application.

Hope our offer is in line with your requirement and in case of any further queries do not hesitate to contact us.

In anticipation of your valued order

Regards,

Sales Person Name :
Cell No. :

Encl-
1. Commerical Offer.
2. Techical Speicfications.
3. Terms of Offer. Annexture .

JYOTI

JYOTI CNC AUTOMATION LTD.
C/o MTA Technologies
SCF: 21, Urban Estate, Phase-II, Focal Point, Luhdiana-141010.
Tel - +91-161-4635748, 4634748
E-mail : info@mtaindia.in
Website :www.mtaindia.in

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Commercial Offer

Sr.	Descripction	Qty	Total Price (₹)
1	VTL750A(FANUC) BASIC MACHINE WITH: " AC MAIN SPINDLE MOTOR 18.5/22KW " COMPUTER NUMERIC CONTROL UNIT: FANUC " AC SERVO AXIS DRIVES " HIGH PRECISION LINEAR MOTION GUIDE WAYS (X & Z AXIS) " HIGH PRECISION PRELOADED BALL SCREWS FOR X & Z AXIS " A2-11 SPINDLE " Ø 400 MM HYDRAULIC CLOSED CENTER CHUCK " HIGH SPEED 8 STATION SERVO TOOL TURRET " AUTO & MANUAL COOLANT SYSTEM " CENTRALIZED & PROGRAMMABLE LUBRICATION " CONTROLLED TEMP., HUMIDITY & DUST FREE ELECTRONICS. " ELECTRICAL CABINET 415V / 50 HZ WITH AIR CONDITIONING UNIT. " GRAPHIC SIMULATION & ELECTRONIC HAND WHEEL (MPG) " LASER CALIBRATED AXES FOR HIGH PRECISION POSITIONING ACCURACY & REPEATABILITY " WORK LIGHT	1	5,502,500.00
	(Amt in Words) :**Fifty Five Lac Two Thousand Five Hundred Only**	₹	5,502,500.00
		₹	5,502,500.00
	(Amt in Words) : **Fifty Five Lac Two Thousand Five Hundred Only**		

Optional Accessories Offered :	Amount (₹)
1. BASE PACKING	12,500.00
Total Price for Optional Accessries	**12,500.00**
(Amt in Words) : **Twelve Thousand Five Hundred Only**	

Total Package Amount : 5,515,000.00

FREIGHT AT ACTUAL

(1). **PRICE**

UNLESS OTHERWISE STATED, ALL PRICES QUOTED ARE "EX WORKS METODA, RAJKOT" AND ARE SUBJECT TO CORRECTION, ALTERATION, MODIFICATION ON ACCOUNT OF OMISSIONS, ERRORS AND VARIATIONS IN FOREIGN EXCHANGE RATE. IN CASE OF ANY VARIATION IN FOREIGN EXCHANGE RATE AFFECTING THE COST OF IMPORTED MATERIALS USED/TO BE USED IN MACHINE, THEN THE COMPANY SHALL NOTIFY SUCH VARIATION TO THE CUSTOMER 1 MONTH PRIOR TO DELIVERY OF MACHINE AND THE CUSTOMER MUST HAVE TO PAY AND BEAR ANY UPWARD REVISION IN PRICE OF MACHINE QUOTED HEREBY. THE PRICE SHALL REMAIN FIRM UNLESS THE BUYER IS UNABLE TO FULFILL ITS OBLIGATIONS UNDER THE TERMS OF THE OFFER OR IN CASE OF ANY VARIATIONS IN THE TERMS OF OFFER MUTUALLY AGREED BY THE PARTIES.

(2). **TAXES AND DUTIES.**

ALL TAXES, DUTIES, CESS, ENTRY FEES, ETC. AS MAY BE LEVIED BY CENTRAL, GOVERNMENT, STATE GOVERNMENT AND LOCAL GOVERNMENT BODIES, SHALL BE EXTRA AND TO BE BORNE BY THE CUSTOMER. IN CASE OF SALE AGAINST "C" FORM, "H" FORM, ETC. THE CUSTOMER HAS TO ISSUE THE SAME WITHIN THE PERIOD OF 90 DAYS FROM THE DATE OF INVOICE AND IN CASE, THE COMPANY HAS NOT RECEIVED THE SAID FROM WITHIN THE STIPULATED PERIOD, THEN THE CUSTOMER WILL BE LIABLE FOR TAX DIFFERENCE AMOUNT AND INTEREST @ 24% THEREON. IN CASE THE CUSTOMER IS ENTITLED TO PURCHASE AT NIL OR CONCESSIONAL OR REDUCED RATE OF TAX UNDER ANY APPLICABLE TAX LAWS OF EITHER CENTRAL GOVERNMENT OR STATE GOVERNMENT OF GUJARAT, THEN THE CUSTOMER MUST HAVE TO DELIVER VALID DECLARATION (IN DUPLICATE) ALONG WITH NECESSARY EXEMPTION CERTIFICATE, DOCUMENTS, IF ANY, TO THE COMPANY WITHIN FIFTEEN DAYS OF PLACING PURCHASE ORDER AND ANY FAILURE BY THE CUSTOMER IN THIS REGARD, WOULD NOT ENTITLE HIM TO CLAIM SUCH EXEMPTION/CONCESSIONAL RATE OF TAX FROM THE COMPANY AND THE COMPANY IS NOT LIABLE FOR THE SAME IN ANY MANNER. FURTHER, THE COMPANY RESERVES THE RIGHT TO RECOVER FROM THE PURCHASER ALL STATUTORY LEVIES, DUTIES, CESS, ETC. THAT MAY LEGALLY BECOME CHARGEABLE AND RECOVERABLE ON THE TRANSACTIONS.

(3). **DESIGN AND MANUFCTURE.**

AT THE TIME OF PLACING PURCHASE ORDER, THE CUSTOMER HAS TO SPECIFY IN WIRING IN HIS/HER/IT PURCHASE ORDER OF ALL HIS/HER/IT REQUIREMENTS ABOUT THE MACHINE AND IN CASE OF ANY OMISSION, THE COMPANY WILL NOT BE LIABLE FOR THE SAME.

UNLESS OTHERWISE EXPRESSLY AGREED IN WRITING AND SPECIFY TO THE COMPANY, THE MANUFACTURING OF MACHINE SHALL BE UNDERTAKEN AS PER DESIGN AND SPECIFICATIONS OF THE COMPANY AND THE COMPANY SHALL NOT BE LIABLE TO ACCEPT AND ENTERTAIN ANY SUCH REQUEST AFTER RECEIPT OF PURCHASE ORDER OF CUSTOMER BY THE COMPANY. THE COMPANY MAY AT ITS OWN DISCRETION MANUFACTURE MACHINES AND ITS COMPONENTS EITHER AT ITS OWN PREMISES OR AT PREMISES OF ITS VENDOR.

(4). **INSPECTION.**

THE PRE ACCEPTANCE TEST AT THE WILL OF CUSTOMER SHALL BE GIVEN BY THE COMPANY AND THE TEST SHALL CONSIST OF MACHINE GEOMETRICAL ACCEPTANCE AND FUNCTIONAL ACCEPTANCE.

(5). **TESTS/TRIAL**

WHERE THE PURCHASE ORDER STIPULATES THAT ACCEPTANCE OF GOODS IS SUBJECT TO TESTS/TRIALS BY THE CUSTOMER, THE TRIALS SHALL BE THE COMPANY"S NORMAL TESTS/TRIALS FOR GOODS OF THAT TYPE AND ALL COSTS FOR OTHER THAN STANDARD TESTS/TRIALS REQUIRED BY THE BUYER SHALL BE BORNE SOLELY BY THE BUYER. ANY MATERIAL REQUIRED FOR SUCH PRODUCTION TESTS/TRIALS OR FOR COMMISSIONING SHALL BE SUPPLIED BY THE BUYER AT THE BUYERS COST. ALSO, SUCH TESTS/TRIALS SHOULD BE WITHIN THE SCOPE OF STIPULATIONS AND SPECIFICATION OF MACHINE AS PROVIDED IN THE PURCHASE ORDER AND THE CUSTOMER HAS TO ENSURE THE SAME

(6). **TERMS OF PAYMENT**

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AL THE PAYMENTS TO BE MADE NET OF ANY DEDUCTIONS.
ADVANCE PAYMENT - 35 % WITH PURCHASE ORDER, BALANCE 65 % AGAINST PROFORMA INVOICE PRIOR TO DISPATCH OF GOODS.

ALL TOOLED UP/SPECIAL MACHINES AND HIGH END MACHINES SHALL ATTRACT SPECIFIC STAGGERED PAYMENT SCHEDULE AS PER THE FINAL OFFER SUBMITTED. ANY QUERIES WITH RESPECT TO THE INVOICE TO BE INTIMATED TO THE COMPANY IN WRITING WITHIN ONE WEEK FROM THE DATE OF INVOICE. THE BUYER SHALL MAKE GOOD THE PAYMENT WITHIN 15 DAYS FROM THE DATE OF SUBMISSION OF DOCUMENTS FOR COLLECTION TO THE BANK AS SPECIFIED AND AGREED BY THE BUYER IF FOR ANY REASONS WHATSOEVER AND/OR FAILURE OF THE BANK TO CREDIT THE SAID AMOUNT TO THE COMPANY"S ACCOUNT.

(7). WARRANTY

THE WARRANTY PERIOD FOR MECHANICAL PARTS AND CNC SYSTEMS SHALL BE FOR 12 AND 24 MONTHS RESPECTIVELY FROM THE DATE OF INSTALLATION AND COMMISSIONING AT CUSTOMER"S SITE, OR FOR PERIOD OF 15 MONTHS ON MECHANICAL PARTS/CNC SYSTEM AFTER DELIVERY, IF THE COMMISSIONING IS DELAYED DUE TO REASONS BEYOND THE COMPANY"S CONTROL. THE WARRANTY DOES NOT COVER DAMAGES CAUSED BY CORROSION, INAPPROPRIATE HANDLING OR DAMAGE CAUSED BY ANY THIRD PARTY. IF, AFTER INSTALLATION OF MACHINE AT CUSTOMER"S PREMISES, ANY ALTERATIONS, MODIFICATIONS, CHANGES DONE BY CUSTOMER HIMSELF OR WITHOUT THE CONSENT OF THE COMPANY, THE WARRANTY ON MACHINE SHALL COME TO END IMMEDIATELY AND THE COMPANY SHALL NOT BE LIABLE AND RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE MACHINE.

(8). DELIVERY PERIOD

THE TIME FOR DELIVERY IS BASED ON ESTIMATION ONLY; STARTING FROM THE DATE OF RECEIPT OF TECHNICAL AND COMMERCIAL CLEAR PURCHASE ORDER WITH THE REQUISITE ADVANCE PAYMENT AND ORDER ACCEPTANCE COPY DULY SIGNED BY THE COMPANY. THE TIME OF DELIVERY SHALL BE DEEMED TO BE RECKONED FROM THE LATEST OF THE FOLLOWING DATES, NAMELY EITHER RECEIPT OF ALL NECESSARY INFORMATION REQUIRED TO BE GIVEN BY THE BUYER FOR THE EXECUTION OF THE WORK, RECEIPT OF ORDER ACCEPTANCE COPY DULY SIGNED OR WHEN BUYER MAKES THE COMPLETE PAYMENT AS PER THE STIPULATED TERMS OF OFFER.

APPROXIMATE DELIVERY TIME: _____

(9). SPECIAL ORDER SUPPLY

THE COMPANY CANNOT ACCEPT CANCELLATION OF ALL OR ANY SINGLE MACHINE / ITEMS OR REDUCTION IN QUANTITIES ORDERED WHICH ARE OTHER THAN STATED IN STANDARD PRODUCT RANGE WITH SPECIAL OPTIONS AFTER THE ORDER HAS ONCE BEEN CONFIRMED AND PLACED IN PRODUCTION.

(10). MATERIALS

THE COMPANY SHALL USE ITS STANDARD MATERIAL IN RESPECT TO THE MANUFACTURE OF THE GOODS, BUT IF
WHENEVER ANY OF THE SAME ARE NOT AVAILABLE, THE COMPANY SHALL BE ENTITLED TO SUBSTITUTE THE MOST
SUITABLE ALTERNATIVES THAT CAN BE OBTAINED AT THE TIME OF MANUFACTURE.

(11). CONDITIONS OF DELIVERY

FOR DELIVERY, TRANSPORTATION OF GOODS, THE CUSTOMER HAS TO MAKE ARRANGEMENT FOR THE SAME OR THE COMPANY SHALL MAKE ARRANGEMENT FOR THE SAME AS PER INSTRUCTION OF THE CUSTOMER. HOWEVER, IN ALL CASES, THE CUSTOMER SHALL HAVE TO BEAR ALL RISKS AFTER THE GOODS ARE LOADED ON THE VEHICLE AND LEAVES THE COMPANY"S PREMISES. NO CLAIM FOR SHORTAGE OR ANY OTHER QUERIES WITH RESPECT TO DELIVERY BE ENTERTAINED BY THE COMPANY UNLESS NOTIFIED WITHIN 7 DAYS FROM RECEIPT OF THE GOODS AND MOREOVER THE GOODS IN REGARD TO WHICH SUCH CLAIM SHALL BE MADE BE PRESERVED INTACT AS DELIVERED TILL SUCH TIME THE REPRESENTATIVES OF THE COMPANY INSPECT THE GOODS IN QUESTION. ANY BREACH OF THIS CONDITION SHALL DISENTITLE THE CUSTOMER TO ANY ALLOWANCE FOR SUCH ALLEGED SHORTAGES. THE COMPANY SHALL NOT BE LIABLE IN ANY MANNER FOR DAMAGE, DELAY IN TRANSIT AND TRANSPORTATION OF GOODS

(12). INSURANCE

THE CUSTOMER SHALL HAVE TO ARRANGE TRANSIT INSURANCE FOR GOODS AND ALSO BEAR THE COST FOR THE SAME. THE COMPANY SHALL NOT BE LIABLE IN ANY MANNER FOR DAMAGE CAUSED TO THE GOODS DURING TRANSIT FROM COMPANY"S PREMISES TO CUSTOMER"S PREMISES.

(13). VALIDITY OF QUOTATION

THIS OFFER IS VALID FOR A PERIOD OF 1 MONTH FROM THE DATE OF THIS QUOTATION.

(14). RETENTION OF TITLE OF GOODS

THE GOODS (INCLUDING MATERIALS, COMPONENTS AND ACCESSORIES) DELIVERED BY THE COMPANY WILL ONLY BE TRANSFERRED TO THE BUYER WHEN THE BUYER HAS PAID ALL THE SUMS OWED TO THE COMPANY ON ANY ACCOUNT WHATSOEVER. PRIOR TO REALIZATION OF ALL SUCH PAYMENTS THE COMPANY RETAINS OWNERSHIP OF THE GOODS.

(15). CANCELLATION AND RESCHEDULING DELIVERY.

ORDERS SHALL NOT BE TREATED AS CANCELLED WITHOUT WRITTEN INTIMATION AND CONFIRMATION OF THE SAME BY THE COMPANY IN WRITING. CANCELLATION OF ORDER BY THE BUYER DOES NOT WARRANT REFUND OF ADVANCE AMOUNT PAID TO THE COMPANY UNLESS OTHERWISE AGREED BY BOTH THE PARTIES. IF FOR ANY REASON THE BUYER ANTICIPATES HIS INABILITY TO ACCEPT DELIVERY ON THE DATE INTIMATED BY THE COMPANY HE SHALL NOTIFY THE COMPANY IN WRITING STATING THE REASONS FOR THE SAME. THE COMPANY SHALL NOTIFY THE BUYER IN WRITING TO ACCEPT DELIVERY OF THE SAID GOODS WITHIN FURTHER ONE WEEK OF GRACE PERIOD. IF THE BUYER FAILS TO ACCEPT THE DELIVERY WITHIN THIS GRACE PERIOD, THE COMPANY IS ENTITLED TO DIVERT THE MACHINE TO OTHER BUYERS AND A NEW PURCHASE ORDER HAS TO BE RAISED BY THE BUYER AS PER THE PREVAILING PRICES AT THAT TIME OR OTHERWISE AGREED BETWEEN THE PARTIES.

(16). ERECTION AND COMMISSIONING.

THE ERECTION AND INSTALLATION OF THE MACHINE SHALL BE DONE BY THE CUSTOMER AT HIS/ITS PREMISES AND UPON DUE CONFIRMATION BY CUSTOMER, THE COMMISSIONING SHALL BE DONE BY THE COMPANY"S ENGINEER FOR FIRST TIME ONLY. SUBSEQUENT COMMISSIONING OF THE SAME MACHINE DUE TO CHANGE IN LOCATION SHALL BE ON CHARGEABLE BASIS AS PER THE COMPANY"S POLICY.

(17). LEGAL JURISDICTION

IN CASE OF ANY DISPUTE RELATING TO GOODS SOLD, ARISES BETWEEN THE COMPANY AND THE CUSTOMER, THEN THE COURT AT RAJKOT SHALL HAVE JURISDICTIONS AND ALL SUCH DISPUTE SHALL BE REFERRED TO THE IT ONLY.

(18). FORCE MAJEURE

THE COMPANY SHALL BE RELIEVED OF ITS OBLIGATIONS UNDER THE CONTRACT TO THE EXTENT OF WHICH ARISES FROM OR IS ATTRIBUTABLE TO ACTS, EVENTS, OMISSIONS OR ACCIDENTS BEYOND OUR REASONABLE CONTROL INCLUDING, WITHOUT LIMITATION, STRIKES, LOCKOUTS OR OTHER INDUSTRIAL DISPUTES (WHETHER INVOLVING OUR WORKFORCE OR ANY OTHER PARTY), ACTS OF GOD, WAR, RIOT, CIVIL COMMOTION, MALICIOUS DAMAGE, COMPLIANCE WITH ANY LAW OR GOVERNMENTAL ORDER, RULE, REGULATION OR DIRECTION, ACCIDENT, BREAKDOWN OF PLANT OR MACHINERY, FIRE, FLOOD OR STORM OR DEFAULT OF SUPPLIERS OR SUB-CONTRACTORS.

(19). ORDER

ORDER AND PAYMENT SHOULD BE IN NAME OF JYOTI CNC AUTOMATION LTD. RAJKOT

JYOTI CNC AUTOMATION LTD.
G 506, G.I.D.C. Lodhika,
Village: Metoda,
Dist: Rajkot-360021
Phone: +91 (02827) 287081-82.

Date: 22/03/2018

To,
M/S CFC PVT. LTD.
Plot No. 422, Industrial Area,
Saha, AMBALA
INDIA

Kind attn: Mr.
Email:

Dear Sir,

Sub: Our offer for HX-500 Horizontal Machining Centre.
Proposal No.: QUOT/JCAL/18/03-1341

We thank you for the opportunity provided to us to address your requirements.
Attached herewith is our detailed techno commercial offer for your consideration.

We shall be glad to discuss personally, any technical clarifications required by you to ensure that the right solutions are provided for your application.

Hope our offer is in line with your requirement and in case of any further queries do not hesitate to contact us.

In anticipation of your valued order

JYOTI CNC AUTOMATION LTD.
|G-506, Lodhika G.I.D.C.| Village: Metoda |Dist: Rajkot: 360 021 Gujarat (India)|
|Ph: +91 (2827) 306159-100-101|Fax: +91 (02827) -287811|
www.|yoti.co.in , www.huron.fr

JYOTI

Techno-Commercial Quotation

Proposal No.: QUOT/JCAL/18/03-1341

JYOTI MAKE HORIZONTAL MACHINING CENTRE HX–500 WITH SIEMENS 828D

JYOTI

CONTENTS

JYOTI

CHARACTERISTICS AND MACHINE DESCRIPTION:

Architecture and Basis Equipment Composition

- 4 axes Machining center with horizontal spindle
- Structural elements in cast iron
- 3 Point leveling for easily installed & leveled.
- Easy to operate operator panel
- Structure made of a mobile column in X, along which a saddle supporting the spindle is moving, as well as a bed supporting the indexing table (B axis) moving along Z axis.
- Belt spindle
- 1-deg Index table
- Automatic pallet changer
- Automatic tool changer
- Integral machine guarding
- Pressure coolant system through nozzles
- Chips conveyor
- Portable electronic hand wheel

Linear Axes

- Every axis is equipped with **guiding systems**, which enable a high rigidity at higher dynamics.
- The linear axes are moved through ball screws, with direct drive through digital servomotors, placed at the end of ball screws.
- Laser calibrated axis for highly precise positioning accuracy and repeatability
- Programmable and centralized lubrication of every axis.

Capacities

X Axis	**700mm**
Y Axis	**600mm**
Z Axis	**600mm**
Distance max spindle nose /table center	**700mm**
Distance min spindle nose / table center.	**100mm**
Distance max spindle axis/tables surface.	**750mm**
Distance min spindle axis/ table surface	**150mm**

Travels

Rapid	**30m/min**
Max working speed	**10m/min**

Accuracies – According to VDI / DGQ 3441 norm

The reception conditions and tolerances (geometry tests and practical tests) are conforming to current norm.

Feeds	
Linear Axes X – Y - Z	
Positioning uncertainty	**0.010mm**
Repeatability	**0.005mm**

Index Table

The table is mobile on the fixed bed. Its conception enables it to receive large and heavy parts. An automatic pallet changer is integrated in the machine bed. The loading station conception enables the pallet rotation and hence gives excellent access to the parts on any side.

Characteristics

Pallet dimensions	**500*500 mm**
Indexing Position	**360 X 1°**
Number of pallets	**2**
Maxi weight on the pallet	**500 kg**
Maximum part dimension	**Ø650*750 mm**
Pallet changing time	**8 sec**

Automatic Tool Changer

The horizontal milling center HX- 500 is fitted with an automatic tool changer in its basis equipment. It is made of a 40 housings tool magazine, as well as a transfer arm enabling the tool transfer to the spindle.

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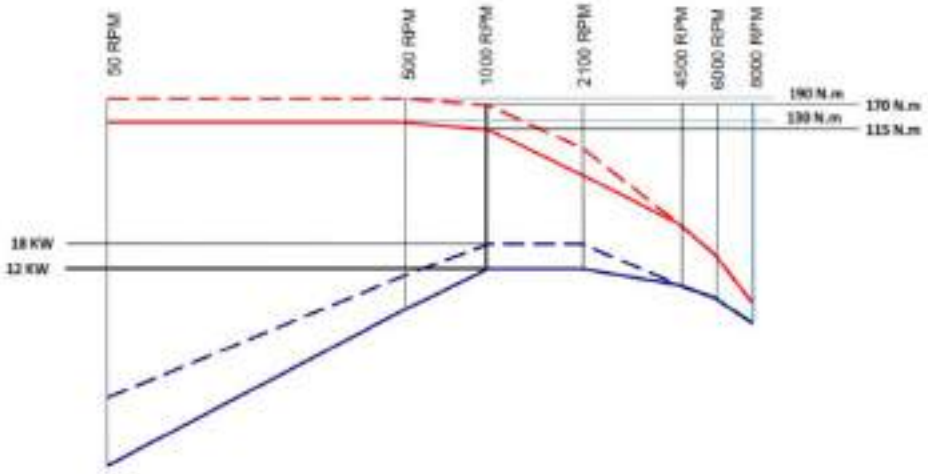
Characteristics	
Number of tools	40
Max tool diameter	Ø125mm
Max tool diameter (empty contiguous housings)	Ø250mm
Tool maximum length	350mm
Tool changing time (tool to tool)	3.5 sec
Max. Tool weight	15kg

Spindle 6,000rpm
The high speed electro spindle is equipped a special liquid system which enables to keep spindle thermal stability

Spindle Specification	BT-50
Spindle taper	
Maximum speed	6,000rpm
Spindle power (S1/S6 40%)	18/12 kW



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Electrical Equipment

Operating Voltage 415 V. AC +/- 10V
3 Phase
Frequency 50 Hz +/- 1%
Ambient Temperature 5 – 35 degree
Humidity Max. 85 %

The machine electrical package includes the central electrical switch cabinet including all equipment and components necessary for the machine functions and controls installed as well as all wiring of the machine. The control SIEMENS 828D is equipped with all CNC options needed to operate the machine as described.

Basis configuration
– 3 or 4 axes and spindle – Alphanumerical keyboard – Windows operating system on integrated PC – Integrated hard disc – RAM memory 2,5 Mb – Panel with 10,4" graphic color screen – Resolution : 1 µm – USB port
Integrated functions
Integrated functions – Programmable acceleration – Coordinated conversion : translation, rotation, scale factor, mirror image – Correction of radius mill and repositioning type selection of contour disengagement and intersecting point calculation – Machining sequences : boring, tapping, slotting, rectangular and circular shape pocket cycles, any contour cycles – Zero offset parameter – Look Ahead function and dynamic pre-control of the acceleration, anticipated decoding of the trajectory with detection of the direction change – High precision contouring – Universal interpolator NURBS – Circular interpolation – Helical interpolation – Linear interpolation – Universal serial link RS232C, parameter – FIFO memory and dynamic pre-decoding – Reference points input by work-piece program – Inch/Metric programming – Work-piece programming input simultaneously with machining – Structured programming – Backlash compensation, axis calibration, temperature compensation – Rigid tapping – 3 axes coordinates transformation

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Operator / programming training – 3 days

The aim of this training is to ensure the mastering of the operator panel and of the ISO programming techniques. This trainings is in two parts:

Panel training - 1 day

- The reference points and the different functioning modes
- Machine adjustments
- stop and going on of the machining
- tools and associated management
- programs management and execution
- communication management
- alarm and messages diagnosis

Programming training - 2 days

- general information
- linear, circular, helical displacements
- tool offset : length and radius
- fixed machining sequences : boring, drilling, tapping, shape
- special functions : mirror image, scale factor, linear and angular offsets
- auxiliary functions
- structured programming
- analyze of fails

Technical documentation

In conformity with European Norms, we supply with the machine :

- operating manual
- programming manual
- maintenance manual
- lay-out drawings

Paint

Machine, equipments and accessories are painted in manufacturer standards.
The paint is a polyurethane lacquer.

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Optional Equipments

Coolant Through Tool Center 20/40bar

The coolant unit is equipped with a motor pump and a cartridge filter.
The coolant is made through tool center.
The coolant is directly driven by numerical controller through M auxiliary functions.

Pressure	**20bar**
Flow	**30l/min**
Filtration	**25µm**

Coolant by Micro-Spraying

Lubrication technique through the projection of micro-drops through coolant nozzles at the contact point of the tool and material.
This technique enables the improvement of machining conditions, a longer tool life, a better surface quality and lubricant savings.

Chip Conveyor

In the machine bed 2 evacuation channels are placed on each side of the turning table, in which flows away the used cutting liquid, and ensures the chips flow to a « metallic carpet type » chips conveyor placed transversally in front of the machine.
This is a swan-neck conveyor type and is fitted with a safety in case of clogging with chips accumulation. It tips the chips on the left side of the machine

Tool Changer – Chain Type

The tool changer is made of a chain / Pick Up including 60, 90, 120 housings and up to 500mm tool length are also available as an option. This is a chain type magazine with twin arm type auto tool changer

Sight Glass

Sight glass enables a better visibility during machining with lubricant projection.
This device includes:

- A safety rotating glass which, with its force of inertia, propels out of sight the lubricant droplets and allows transparency
- A fixed glass on the operator side

Oil Separator (Oil Skimmer)
Device for the separation of oils in suspension in the aqueous solutions, which includes : - Float - System for oil recovery (aspirated oil on the surface) - Diaphragm pump - Pre-filter - Can for oil recovery - This equipment, in propylene, easy to clean, eliminates 98% of the foreign oils with a efficiency of 100 litres/hour The start up is made by hand and the functioning is made through the coolant tank in neutral position.

Palletization – Full Equipment
Pallet changing system placed at the front of the machine including: • A pallet receiver • 1 transfer station • Two pallets • Securized chamber 

JYOTI

Price List

The prices (Ex-works Metoda, Rajkot) include the following items:

	Description	Qty	Total Price
			Rs.
1	**HMC Series Horizontal Milling Machine** **Model HX 500** **BASIC Machine with:** • Control System: **SIEMENS 828D** • AC Main **Spindle 12/18 kW, 6000 rpm, BT-50** • AC SERVO Axis Drives • High Precision Linear Motion Guide ways • High precision preloaded ball screws for X, Y and Z axes • 40 Tools Automatic tool changer (Chain type) • High precision Indexing Table (1° deg movement) • Rotary Type Automatic Pallet Changer • Auto & Manual Coolant System • Centralized & Programmable Lubrication • Electrical Cabinet 415V/ 50 Hz with Air Conditioning Unit • Directly Coupled Axes Motors • Graphic Simulation & Electronic Hand wheel (MPG) • Laser Calibrated Axes for High Precision Positioning Accuracy & Repeatability • Work Light	1No.	**₹81,11,250.00**

OPTIONAL ACCESSORIES

S.No.	Description	Basic Price (Rs.)
1	Base Platform Packing	₹ 25,000
2	Air Gun	₹ 6,250
3	Clamping Kit (54 Pcs.)	₹15,625
4	Machine Tower Light (3 Tier Status Lamp)	₹6,250
5	Pull Stud for Tool Holders (40 nos.)	₹25,000
6	Coolant Through Spindle (20 bar/30lpm) with Paper Filteration System	₹5,75,000
7	Geared Head (BT 50, 12/18kW, 377/565Nm -Siemens)	₹6,90,000
8	Chip Conveyor (Scrapper Type -Cast Iron Chips) in lieu of std.	₹38,625

JYOTI

TERMS OF OFFER - ANNEXTURE A

(1) PRICE

Unless otherwise stated, all prices quoted are "Ex works Metoda, Rajkot" and are subject to correction, alteration, modification on account of omissions, errors and variations in foreign exchange rate. In case of any variation in foreign exchange rate affecting the cost of imported materials used/to be used in machine, then the company shall notify such variation to the customer 1 month prior to delivery of machine and the customer must have to pay and bear any upward revision in price of machine quoted hereby. The price shall remain firm unless the buyer is unable to fulfill its obligations under the terms of the offer or in case of any variations in the terms of offer mutually agreed by the parties.

(2) TAXES AND DUTIES.

All taxes, duties, cess, entry fees, etc. as may be levied by central, government, state government and local government bodies, shall be extra and to be borne by the customer. In case the customer is entitled to purchase at nil or concessional or reduced rate of tax under any applicable tax laws of either Central Government or State Government of Gujarat, then the customer must have to deliver valid declaration (in duplicate) along with necessary exemption certificate, documents, if any, to the company within fifteen days of placing purchase order and any failure by the customer in this regard, would not entitle him to claim such exemption/concessional rate of tax from the company and the company is not liable for the same in any manner. Further, the company reserves the right to recover from the purchaser all statutory levies, duties, cess, etc. that may legally become chargeable and recoverable on the transactions.

(3) DESIGN AND MANUFCTURE

At the time of placing purchase order, the customer has to specify in wiring in his/her/it purchase order of all his/her/it requirements about the machine and in case of any omission, the company will not be liable for the same.

Unless otherwise expressly agreed in writing and specify to the company, the manufacturing of machine shall be undertaken as per design and specifications of the company and the company shall not be liable to accept and entertain any such request after receipt of purchase order of customer by the company. The company may at its own discretion manufacture machines and its components either at its own premises or at premises of its vendor.

(4) INSPECTION

The Pre Acceptance test at the will of customer shall be given by the company and the test shall consist of machine Geometrical Acceptance and Functional Acceptance.

(5) TESTS/TRIAL

Where the purchase order stipulates that acceptance of goods is subject to tests/trials by the customer, the trials shall be the Company's normal tests/trials for goods of that type and all costs for other than standard tests/trials required by the buyer shall be borne solely by the buyer. Any material required for such production tests/trials or for commissioning shall be supplied by the buyer at the buyers cost. Also, such tests/trials should be within the scope of stipulations and specification of machine as provided in the purchase order and the customer has to ensure the same.

JYOTI

(6) TERMS OF PAYMENT

All the payments to be made net of any deductions.

Advance Payment - 35 % with Purchase order, balance 65 % against Proforma Invoice prior to dispatch of goods.

All tooled up/special machines and High end machines shall attract specific staggered payment schedule as per the Final Offer submitted. Any queries with respect to the invoice to be intimated to the company in writing within one week from the date of Invoice. The buyer shall make good the payment within 15 days from the date of submission of documents for collection to the bank as specified and agreed by the buyer, if for any reasons whatsoever and/or failure of the bank to credit the said amount to the company's account.

(7) WARRANTY

The warranty period for mechanical parts and CNC systems shall be for 12 and 24 months respectively from the date of installation and commissioning at customer's site, or for period of 15 months on mechanical parts/CNC system after delivery, if the commissioning is delayed due to reasons beyond the company's control. The warranty does not cover damages caused by corrosion, inappropriate handling or damage caused by any third party. If, after installation of machine at customer's premises, any alterations, modifications, changes done by customer himself or without the consent of the company, the warranty on machine shall come to end immediately and the company shall not be liable and responsible for any damage caused to the machine.

(8) DELIVERY PERIOD

The time for delivery is based on estimation only; starting from the date of receipt of Technical and commercial clear Purchase Order with the requisite Advance payment and Order Acceptance copy duly signed by the company. The time of delivery shall be deemed to be reckoned from the latest of the following dates, namely either receipt of all necessary information required to be given by the buyer for the execution of the work, receipt of Order Acceptance copy duly signed or when buyer makes the complete payment as per the stipulated terms of offer.

Approximate Delivery Time: _20-22 weeks.

(09) SPECIAL ORDER SUPPLY

The company cannot accept cancellation of all or any single machine / items or reduction in quantities ordered which are other than stated in standard product range with special options after the order has once been confirmed and placed in production.

(10) MATERIALS

The company shall use its standard material in respect to the manufacture of the goods, but if whenever any of the same are not available, the company shall be entitled to substitute the most suitable alternatives that can be obtained at the time of manufacture.

(11)CONDITIONS OF DELIVERY

For delivery, transportation of goods, the customer has to make arrangement for the same or the company shall make arrangement for the same as per instruction of the customer. However, in all cases, the customer shall have to bear all risks after the goods are loaded on the vehicle and leaves the company's premises. No claim for shortage or any other queries with respect to delivery be entertained by the company unless notified within 7 days from receipt of the goods and moreover the goods in regard to which such claim shall be made be Preserved intact as delivered till such time the representatives of the company inspect the goods in question. Any breach of this condition shall disentitle the customer to any allowance for such alleged shortages. The company shall not be liable in any manner for damage, delay in transit and transportation of goods.

(12) INSURANCE

The Customer shall have to arrange transit insurance for goods and also bear the cost for the same. The company shall not be liable in any manner for damage caused to the goods during transit from company's premises to customer's premises.

(13) VALIDITY OF QUOTATION

This offer is valid for a period of 1 month from the date of this quotation.

(14) RETENTION OF TITLE OF GOODS

The goods (including materials, components and accessories) delivered by the Company will only be transferred to the buyer when the buyer has paid all the sums owed to the company on any account whatsoever. Prior to realization of all such payments the company retains ownership of the goods.

(15) CANCELLATION AND RESCHEDULING DELIVERY.

Orders shall not be treated as cancelled without written intimation and confirmation of the same by the company in writing. Cancellation of order by the buyer does not warrant refund of advance amount paid to the company unless otherwise agreed by both the parties. If for any reason the buyer anticipates his inability to accept delivery on the date intimated by the company he shall notify the company in writing stating the reasons for the same. The company shall notify the buyer in writing to accept delivery of the said goods within further ONE week of grace period. If the buyer fails to accept the delivery within this grace period, the company is entitled to divert the machine to other buyers and a new purchase order has to be raised by the buyer as per the prevailing prices at that time or otherwise agreed between the parties.

(16) ERECTION AND COMMISSIONING.

The erection and installation of the machine shall be done by the customer at his/its premises and upon due confirmation by customer, the Commissioning shall be done by the company's engineer for first time only. Subsequent commissioning of the same machine due to change in location shall be on Chargeable basis as per the company's policy.

(17) LEGAL JURISDICTION

In case of any dispute relating to goods sold, arises between the company and the customer, then the Court at Rajkot shall have jurisdictions and all such dispute shall be referred to the it only.

(18) FORCE MAJEURE

The company shall be relieved of its obligations under the contract to the extent of which arises from or is attributable to acts, events, omissions or accidents beyond our reasonable control including, without limitation, strikes, lockouts or other industrial disputes (whether involving our workforce or any other party), acts of God, war, riot, civil commotion, malicious damage, compliance with any law or governmental order, rule, regulation or direction, accident, breakdown of plant or machinery, fire, flood or storm or default of suppliers or sub-contractors.

Thanking you and assuring you of our best of attention and services at all times.

Awaiting your valued Order at the earliest.

Yours sincerely,
For JYOTI CNC AUTOMATION LTD.

Laxmi ENTERPRISES

Deep Hole Drilling Technology
Regd. Office: A/603, Vihang Park, Nr. Laxmi Park, Lokmanaya Nagar, Thane -400606
Works: Unit 5, 27 Acre, Kothari Compound, Chithalsar, Manpada, Thane – 400 607. Maharashtra
Website: www.deepholedrilling.co.in
Email : panaik26@gmail.com Tel.: 022-65873557 Cell : 09820481039

Quote No.: LE/MFG/17-18/052 Date : 29.03.2018

To,
M/s. ALLOY CRAFT
Plot No. 422-23, Sec 2, Ph 1, IGC Saha,
Ambala - 133104, Haryana.

Kind Attn.: Mr. Amritpal Singh

Subject: Quotation for SPM Single Spindle PLC Base BTA Deep Hole Drilling Machine

Dear Sir,

This is with reference to your email dtd. 26.03.2018 regarding BTA Deep Hole Drilling Machine. We have studied your requirement and would like to submit our offer for Special Purpose Single Spindle PLC base BTA Deep Hole Drilling Machine having following main features:

MACHINE FEATURES:

- Machine Base
- Power Slide
- Power Slide Table
- High Pressure Coolant System with Filtration
- Hydraulic Power Pack
- Ball Screw & nut for feed & rapid motion
- Servo Motor
- Precision Spindle (Tool Head Assembly)
- Pressure Head with Guide Bush arrangement
- Electrical Panel
- Lubrication unit
- Painting

We are enclosing herewith the followings:

1. Machine Features Details
2. Machine Technical Specification
3. Commercial Terms

Thanking you,
For LAXMI ENTERPRISES
P.A. NAIK
(PROPRIETOR)

MACHINE FEATURES DETAILS

1.	**Machine Base: Manufacturer : Self** Fabricated Machine base, Stress relieved, sandblasting, machined and hand scraped. Provision for foundation bolts and leveling screws provided.
2.	**Power Slide** Precision L.M.Guide ways of ample section 32 mm & precision L.M. Block are provided for power slide. **Make - PMI**
3.	**Power Slide Table** C.I. Grade IS 25 stress relieved, machined, hand scraped with linear motion blocks for free motion. **Motion Block - Make - PMI**
4.	**Hydraulic Power Pack : Manufacturer - Self** - **Hydraulic Vane Pump - Yuken make** - **2 HP B5 Induction Motor - Bharat Bijlee Make - 1440 RPM** - **Solenoid Valve - Yuken make** - **Relief Valve, Pressure Gauge, Gauge Isolator, Return Line Filter, Suction Stainer - Yuken make**
5.	**High Pressure Coolant System with Filtration** - Consisting of coolant tank pure and impure total about **1300 lit.** capacity - Paper Band Filter - **Universal Make** - High Pressure Pump **150 liter - Yuken make** to cater to your drilling of dia **27 mm – 43 mm.** - Induction Motor - **Bharat Bijlee make - 1440 rpm B5, 7.5 HP**
6.	**Ball Screw & Servo Motor** Precision ground Ball screw with pre-loaded double nut **[PMI make]** for feed & rapid motion connected with servo motor for **Z axis [Delta controller]**
7.	**Precision Spindle (Tool Head Assembly)** - Spindle body of CI grade 25 stress relieved, machined, hand scraped and bearing bores are jig bored - Spindle shaft of NI-Cr-MO forging case carb. Hardened and ground to the accuracy as required for mounting super precision bearings - Bearings : Super Precision bearings **(RHP)** angular contact, grease packed for smooth and clean rotation - Spindle Rotation Drive : **5.5 kw induction motor [Bharat Bijlee make - 1500 RPM]** is mounted on the mounting bracket and drive to the spindle assembly through HTD belts and pulleys with variable frequency drive (VFD : **DELTA make**).

8.	**Pressure Head - Self make** Pressure head is provided for guiding the BTA cutter at start of drilling in the component and for directing the designated coolant qty. and pressure into the cutting area. End stop assembly is provided to contain the Drilling Thrust and to contain the coolant at the Break out of drilling
9	**Precision Connector (collet Assembly) - Self make** Specially designed of SAE 8620 material, machined hardened and ground to provide different type of collets for tube.
10	**Electrical** Electrical hardware & switch gear **[Siemens make]** is housed in a dust, moisture and vermin free cabinet. Hand/Auto operation with requisite safety interlocks as required for STS Drilling machine. Operator panel is provided on the machine base with all controls & functions. Secondary console fixed on right/left hand side of the operator. It has a cycle start and Emergency stop button.
11	**Lubrication - CENLUB/Hydro Technique make** Centralized Lubrication is provided for slide with metering cartridges to inject a definite amount of oil at a predetermined time interval.
12	**Machine Paint** **Colour of your choice as per ISO specification**

MACHINE TECHNICAL SPECIFICATION

Specification	Model No. 01	Single Spindle PLC base BTA Deep Hole Drilling Machine
Drill Capacity	Drilling Range	**Ø 27 mm – 43 mm**
	Drilling depth (Z)	200-350 mm max.
	Component Holding Length	500 mm
	No. of spindle	Single
Power	Spindle motor	5.5 kw (with variable Drive)
	Drill spindle feed (Z)	Ball screw with servo motor
	High pressure Coolant motor	7.5 HP
Speed	Max. spindle speed	1000 - 4000 rpm
	Drill Speed	200– 600 mm / min (Variable)
	Rapid	5000 mm / min (Variable)
High pressure pump	Pump output	150 LPM
	Max. pressure	5-10 kgs / cm² (Variable)
	Coolant tank	1300 Liters
Floor space		3000 x 3000 mm (approx.)
Accessories		1. Oil Chilling Unit - **Advance Cooling make** - 15000 cal./hr 2. Conveyor -Scraper type - **Udly/Universal make** 3. Paper Band Filter (Filtration 20 micron) - **Udly/Universal make**

COMMERCIAL DETAILS

Machine Price **1) Twin Spindle PLC base STS Deep Hole Drilling Machine**	:	**Rs. 32,50,000/– ex works** **(Rupees Thirty Two Lacs Fifty Thousand only)**
Taxes & Duties	:	GST @18% [CGST @9% & SGST @9%]
Freight, Octroi & Insurance	:	To your account
Delivery	:	3 months
Payment	:	30% along with the Purchase Order 30% during procurement of the long-lead items 20% during assembly stage 20% with Taxes & duties after machine trials & before dispatch
Guarantee	:	12 months from the date of commissioning / date of Invoice

*Tools & coolant oil are **not included** in our scope of supply*

Note:

You have to supply the followings at the time of machine trial:

1. Components 2. Tools 3. Coolant Oil

GST No.: 27ABJPN8234F1ZH

Thanking you,
For LAXMI ENTERPRISES
P.A. NAIK
(PROPRIETOR)

GUINDY MACHINE TOOLS LIMITED – METROLOGY DIVISION,
PLOT NO.104/2, SIPCOT INDUSTRIAL COMPLEX, HOSUR 635 126.
Mob. No. 9843276450 / 8056888458, E-Mail: gmtmetrology@gmt.co.in

SQR/METRO/10145 Mob No. 9896032299. 24.03.2018.

M/s. ALLOY CRAFT,
Plot No.422-23, Sector-2, Phase-I,
IGC Saha, AMBALA 133 104.
HARYANA.

Kind Attention:

Mr. AMRITPAL SINGH.
E-Mail: alloycraft@gmail.com;

Dear Sirs,

Sub: Your requirement of Cast Iron & Granite Surface Plate.

Ref: Your E-Mail Message dated 24.03.2018.

We thank you for your E-Mail Message dated 24.03.2018, in regard to your above requirement.

We give below our offer for the following:

1.	GMT Make Cast Iron Surface Plate of size: **900 x 630 mm,** Grade-0, With Flatness accuracy 6 Micrometer.	1 No.	**@ Rs.62,600/- each.** (Rupees Sixty Two Thousand Six Hundred only)
	Packing Charges:	1 No.	**@ Rs.3,300/- each.** (Rupees Three Thousand Three Hundred only)
1.1	Fabricated MS Angle Iron Stand suitable for the above Plate.	1 No.	**@ Rs.8,200/- each.** (Rupees Eight Thousand Two Hundred only)

..Contd..2.

GUINDY MACHINE TOOLS LIMITED – METROLOGY DIVISION,
PLOT NO.104/2, SIPCOT INDUSTRIAL COMPLEX, HOSUR 635 126.
Mob. No. 9843276450 / 8056888458, E-Mail: gmtmetrology@gmt.co.in

-3-

Taxes:	GST @ 18% will be charged extra. However in case of any variation in the Taxes the same will be applicable at the time of supply. These levies will be leviable on Packing Charges also.
Delivery:	Dispatch will be made within 2 to 3 weeks for Granite Surface Plate and Within 6 to 8 weeks for Cast Iron Surface Plate & Angle Plate from the date of your technically and commercially Clear order.
Penalty / LD Clause:	We do not accept penalty, liquidated damages and risk purchase clauses under any circumstances.
Validity:	Our offer is valid for acceptance till 30.04.2018. Thereafter, both price and delivery are subject to our confirmation.
Freight:	Freight will be on your Account.
Transit Insurance:	This will be arranged by us at extra cost.
Guarantee:	12 Calendar months from the date of dispatch.
Payment:	1/3rd value against order and balance 2/3rd payment against Proforma Invoice prior ready for dispatch.

We now look forward to receipt of your order.

Thanking You,

Yours faithfully,
For GUINDY MACHINE TOOLS LIMITED – METROLOGY DIVISION,

(MANIKANDAN.B)
OFFICER – SALES.
Mob: 98432 76450.

Encl.: Leaflet and General Conditions of Sale of Goods.

GUINDY MACHINE TOOLS LIMITED – METROLOGY DIVISION,
PLOT NO.104/2, SIPCOT INDUSTRIAL COMPLEX, HOSUR 635 126.
Mob. No. 9843276450 / 8056888458, E-Mail: gmtmetrology@gmt.co.in

2.	GMT Make Cast Iron Angle Plate of size: **350 x 200 x 250 mm.** Grade-1. All other details as per our Standard Leaflet enclosed.	1 No.	**@ Rs.42,400/- each.** (Rupees Forty Two Thousand Four Hundred only)
	PACKING CHARGES:	1 No.	**@ Rs.1,300/- each.** (Rupees One Thousand Three Hundred only)
3.	GMT Make Granite Surface Plate of size: **1600 x 1000 x 200** mm Grade-0, With Flatness Accuracy 8 Micrometer.	1 No.	**@ Rs.50,900/- each.** (Rupees Fifty Thousand Nine Hundred only)
	PACKING CHARGES:	1 No.	**@ Rs.6,100/- each.** (Rupees Six Thousand One Hundred only)
3.1	Fabricated MS Angle Iron Stand suitable for the above Plate.	1 No.	**@ Rs.14,050/- each.** (Rupees Fourteen Thousand and Fifty only)

TERMS AND CONDITIONS

Specification: Generally in line with our Standard Leaflet enclosed.

This offer is subject to our General Conditions of Sale of Goods enclosed.

Prices: The above prices are delivery ex our works at Hosur in Unpacked condition.

..Contd..3.

Compressed air solutions

ELGi
Always Better.

GLOBAL SERIES ELECTRIC POWERED SCREW AIR COMPRESSOR

TECHNICAL OFFER

Ref: TP:CDG:17-18:C:21 Dated: 29/03/2018

M/s Saha CFC Pvt Ltd
Ambala
Punjab

Kind Attn: Mr Amritpal Singh

Sub: Reg- Requirement of Compressed Air System

Dear Sir,

With reference to the above mentioned enquiry, we are pleased to submit our offer for the ELGi Electric Global (EG) Series rotary screw air compressor with its technical specification.

EG Series compressors are precision designed and carry the promise of reliable performance and ease of maintenance for each component in the unit. These compressors meet international standards such as CE, ASME and UL, and fulfil the performance and quality criteria of global companies.

The added values of this new generation compressor are its lower operating and lifecycle costs, energy efficiency, high operator safety, and easy to use features for performance control, report generation and remote monitoring.

The compressor comes in a compact, aesthetically appealing packaging and is easy to install.

ELGi EG Series compressors belong to a highly successful range of screw compressors from ELGi with a large customer base across the world for a wide variety of applications.

Why ELGi?

- A market leader and Asia's largest manufacturer of air compressors, based out of Coimbatore, India with 50+ years of expertise in design, manufacture, sales and service of a wide range of compressors and related accessories .

  Over 2 million ELGi products are powering businesses in industries such as mining, defence, transport, pharmaceuticals, power, oil, railways, chemical, textile, printing, ship-building, paper manufacturing, electronics, telecommunications, medical, food and beverage, and plastics.

- Global footprint with off-shore manufacturing bases in Rotair SPA, Italy and Pattons Inc, USA, and sales presence in over 70 countries.

- Quality assurance and reliability that come from being an ISO 9001:2015 company.

  Each component in each ELGi product goes through stringent quality tests through 3D measuring machines, high-precision profile projectors, roundness and hardness testers, ultrasonic flaw testers and many more.

ELGI EQUIPMENTS LIMITED
(Branch Address)

Regd. Office: Trichy Road, Singanallur, Coimbatore-641005, India T:+91-422-2589555, F:+91-422-2573697, W:www.elgi.com
ELGI EQUIPMENTS LIMITED Toll-Free No.:18004253544, CIN No.L29120TZ1960PLC000351
Trichy Road, Singanallur, Coimbatore - 641005, Tamilnadu, India
T +91 422 2589 555, www.elgi.com, Toll - free No: 1800-425-3544, CIN No: L29120TZ1960PLC000351

Compressed air solutions

ELGi
Always Better.

Each product comes with ELGi's UPTIME Assurance.

- Single source for all your compressor needs.

  We design and install a complete system that meets the requirement of different applications across industries.

  We offer the complete compressed air system of air compressors, air dryers, variable speed drives, down-stream filters and air receivers.

- Aftersales service through our service organization that consists of 13 branches, over 70 dealers across India, over 200 distributors in 70+ countries across the globe.

  Our customers have access to a toll-free Customer Care System.

We are confident that our offer will meet the needs of your organisation. Should you need any other information, please feel free to contact the undersigned.

Please find enclosed with this offer:-

- Scope of supply and technical specifications
- Commercial terms & conditions
- UpTime warranty
- Product catalogue

We look forward to receiving your order.

Thanking and assuring you of our utmost attention always.

Yours Sincerely,
Elgi Equipments Limited

Tushar Prasad | Sr Engineer
|Cell: +91 7397795710 |Email:tusharprasad@elgi.com | Web: www.elgi.com

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Compressed air solutions

ELGi
Always Better.

STANDARD SCOPE OF SUPPLY EG Series

PERFROMANCE

Description	Specifications
Compressor model	EG 11 – 10.0
Capacity (free air delivery)*	58 cfm
Maximum working pressure	10.0 bar
Normal working pressure	9.5 bar
No. of stages	Single
Cooling system	Air-cooled
Main motor (nominal rating)	11kW (SF 1.15 continuous), Sq. cage induction motor, TEFC type, suitable for operation on 400V, 3ph., 50 Hz, AC supply, F class insulation with IP55 deg. of protection
Starter	Automatic Star Delta
Dimensions in mm	1425x720x1470(Length X Breadth X Height)
Weight of the package	590 Kg

* At Load Pressure

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Compressed air solutions

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Always Better.

* Conditions apply

SCOPE OF SUPPLY

- **Base & Enclosure:**
  - Rigid frame
  - Powder-coated panels with two service doors at the front and two at the sides
  - Latches on each door
  - Ducts for drive motor
- **Drive System**
  - Main motor – high Efficiency IE3 TEFC motor with "class-F" insulation
  - Flexible coupling with elastic element
  - Rigid connection of motor and the airend flange
  - CE certified control panel with
    - Wye-delta reduced voltage starter for the main motor
    - DOL starter with contactor for cooling motors
    - High amp protection electric motors
- **Air Inlet System**
  - Pre-filter: To ensure clean air is supplied to the inlet system
  - Air duct: To get clean and cool air to the air filter
  - Air filter housing
    - Twin paper element, each of 3 micron with an efficiency of 99%
    - For pre-cleaning on the air cleaner to separate heavy particles and avoid clogging of paper element
    - Service indicator – indicating filter service need
    - Rubber coupling connecting air filter to the intake valve
  - Normally closed type intake valve with integrated blow down and solenoid control valve
    - Load/unload type capacity control for EG 11 to EG 45
    - Intake valve modulation with 100 to 60% capacity control and load/unload below 60% for EG 55 & EG 75
- **Compression System:**
  - Highly efficient axis airend with -v profile rotors

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Compressed air solutions

ELGi
Always Better.

- **Air/Oil Separation System:**
  - Receiver tank incorporating OSBIC principle mounted on the base frame
  - Oil filling port
  - Oil drain with valve
  - Pressure relief valve
  - Oil sight glass
  - Spin-on air-oil separator element (EG11-EG22) / Cartridge type air-oil-separator element (EG30 – EG75)
  - Minimum pressure valve
- **Discharge System:**
  - Moisture separator with zero loss drain valve
- **Cooling System:**
  - Thermal zones for hot and cool air for maximized cooling
  - High ambient oil cooler for low operating temperature
  - High efficiency after-cooler for low approach temperature
  - Cooler mounted insulated compartment for easy cleaning
  - Cooling fan with integrated motor
- **Lubrication System:**
  - High capacity spin-on oil-filter element with 10 micron rating
  - Return oil line from separator tank to airend.
  - Rigid pipe connections for long life and leak-free operation
- **Controls System:**
  - Neuron III controller
  - Pressure transducer
  - Temperature sensor
- **Safety Features:**
  - CE certified package
- **Optional Features:**
  - Integrated dryer and VFD

ELGI EQUIPMENTS LIMITED
(Branch Address)

Regd. Office:Trichy Road, Singanallur, Coimbatore-641005, India T:+91-422-2589555, F:+91-422-2573697, W:www.elgi.com
ELGI EQUIPMENTS LIMITED Toll-Free No.:18004253544, CIN No.L29120TZ1960PLC000351
Trichy Road, Singanallur, Coimbatore - 641005, Tamilnadu, India
T +91 422 2589 555, W www.elgi.com, Toll - Free No: 1800-425-3544, CIN No: L29120TZ1960PLC000351

Compressed air solutions

ELGi
Always Better.

*** Due to continuous engineering improvements, features are subject to change without prior notice. Product image shown are representative and may not match exactly with the actual product.*

PRICE SCHEDULE

Ref: TP:CDG:17-18:C:21 Dated: 29/03/2018

S.No	Description	Unit Basic Price (INR)	Qty	Total Price (INR)
1	ELGi make screw compressor model EG11 – 10.0 having capacity 58 cfm and working pressure 9.5 kg/cm^2	473000	1	**4,73,000**
			TOTAL PRICE	**4,73,000**

TERMS & CONDITIONS

The above prices are for supplies on Ex-Works Coimbatore.

- Packing and Forwarding shall be extra @ 3% on the basic value of the order
- This sale will attract GST at the rates prevailing on the date of dispatch. The present prevailing rate are :
  - CGST / IGST / SGST (as applicable) @ 18% on Compressor and @ 18% on Receiver, Dryer & Filters.
- Freight shall be extra at actual & to be paid directly to the transporter along with LR for taking receipt of material. The transporter shall be arranged either by the purchaser or by ELGi. Any preference of transporter needs to be informed to the factory at least 5 days in advance of the shipment date.
- Transit Insurance shall be arranged by the Purchaser. ELGi shall notify the concerned regarding the dispatch details that will enable arrange Insurance. If purchaser already has insurance, it shall be indicated at least 5 days before scheduled shipment date.
  - Statutory information: Please advise the following information in your purchase order:
    a) GSTIN no.

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- Terms of Payment: 30% Advance along with the purchase order and the Balance 70% or 100% of the Taxes and other duties against Performa Invoice prior to dispatch.
- Delivery: 6 - 8 weeks Ex Works Coimbatore. This delivery shall reckon from the date of receipt of your clear and firm order with advance or date of approval of GA Drawing, whichever is applicable.
- Consignee: The consignment will be dispatched on "Selves" basis with special instruction to the transporter to door deliver the consignment against original copy of L/R.
- Supervision of erection and commissioning: ELGi shall depute trained personnel for supervision of erection and commissioning. Beyond 2 visits shall be on chargeable basis as per standard norms and conditions, for which we will submit a formal quote at later stage. Service Tax shall be extra as applicable.
- Validity: The offer is valid for a period of 45 days from the date of offer.
- Warranty:
  - Airend: 72 months from the date of start-up (not exceeding 30000 hours) or 78 months from the date of shipment from ELGi factory/warehouse, whichever occurs first.
  - Main motor /Cooler/Separator tank: 36 months from the date of start-up or 42 months from the date of shipment from ELGi factory/warehouse, whichever occurs first.
  - Other compressor parts and equipment: All other parts and equipment, unless explicitly mentioned other than the above, are warranted for a period of 12 months from the date of start-up or 18 months from the date of shipment from ELGi factory/warehouse, whichever occurs first.

Warranty is limited to repair / replace defective part against manufacturing defects only and does not extend to any consequential liability there-off.

Exclusions : Electricals (except motors and controller), rubber parts, seals, belts and consumables like Air Filter, Oil Filter, Separator Element, Lubricant and similar wear & tear parts. We are doubtless keen on associating ourselves with your organization for your requirement of compressed air systems and request, we be provided the opportunity for the Techno – Commercial discussion as per your convenience

Yours Sincerely,
Elgi Equipments Limited

Tushar Prasad | Sr Engineer
|Cell: +91 7397795710 |Email:tusharprasad@elgi.com | Web: www.elgi.com

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Compressed air solutions

ELGi
Always Better.

ELGi's UPTIME Assurance is all about giving customers peace of mind by offering industry's leading warranty

ELGi warrants that its product and the components for its products will perform the purpose and function for which they are designed and intended for the periods of time indicated below when used, serviced and maintained in accordance with ELGi's instructions and specification.

To avail this warranty please register with the ELGi Customer Care System (CCS) within 15 days after receipt of the compressor package or within 5 days of commissioning whichever occurs earlier.

AIREND

72 months from the date of start-up (not exceeding 30000 Hours) or 78 months from the date of shipment from ELGi factory/warehouse, whichever occurs first.

MAIN MOTOR/COOLER/ SEPARATOR TANK

36 months from the date of start-up or 42 months from the date of shipment from ELGi factory/warehouse, whichever occurs first.

OTHER COMPRESSOR PARTS

All other parts, unless explicitly mentioned other than the above, are warranted for a period of 12 months from the date of start-up or 18 months from the date of shipment from ELGi factory/warehouse, whichever occurs first.

WARRANTY COVERAGE

1st year : Parts, labour and transportation of parts
2nd year onwards : Parts (ex works basis) and labour

If an ELGi product or component of an ELGi product fails to perform as warranted, ELGi will, at its option, repair or replace the product or component of the product as indicated, and upon the terms and provisions set forth below.

WARRANTY CONDITIONS

1. Compressors shall be installed, operated and maintained as per the ELGi Operation & Maintenance Manual.
2. Commissioning shall be done by ELGi authorised personnel/distributor.
3. Genuine consumables, lubricants and spares shall be used.
4. Compressor shall be preserved if kept idle as per preservation procedure detailed in the ELGi Operation & Maintenance Manual.
5. ELGi's free oil sampling program participation is required as below:
   a. If ELGi Airlube HT Syn Fluid is used – Every 4400hrs/6 months whichever occurs first or as per the oil sampling report.
   b. If ELGi Airlube XD is used – As recommended by ELGi authorised service personnel.
6. All warranty complaints must be registered with ELGi CCS within 24hrs.
7. The customer shall maintain the below documents and produce if requested prior to any warranty claim.
   a. Copy of signed warranty document.
   b. Proof of purchase of consumables, lubricant and spares.
   c. Maintenance log.
8. In case the customer wants to take services of ELGi or its dealer's personnel for carrying out regular maintenance work, the applicable service charges are to be paid by the customer.
9. Warranty on factory repaired/replaced parts shall expire along with this warranty.
10. The benefits of this warranty shall be to the first owner or commercial user only and cannot be transferred.

EXCLUSIONS

1. Electricals (except motors and controller), rubber parts, seals, and consumables like air filter, oil filter, separator element, lubricant and similar wear and tear parts.
2. Air travel, boarding and lodging expense of service personnel to attend any kind of service or maintenance.

CONDITIONS THAT WILL VOID & INVALIDATE WARRANTY

1. Failure to abide by the warranty conditions, unless otherwise given in writing by ELGi, will make the warranty void.
2. Repairs carried out on the package without the prior authorisation by ELGi.
3. Usage of non-genuine spare parts.
4. Non-conformity to ELGi's operating instructions, specifications, guidelines, maintenance and service instructions.
5. Equipment conditions as a result of normal wear and tear, abnormal and unusually harsh operating conditions, wilful misuse and negligent use of equipment, accidents and shipping damage.
6. Customization of ELGi supplied compressor package without written consent from ELGi.
7. Re-installation of compressors from one location to another unless otherwise recertified by ELGi authorised personnel.
8. If compressor is not commissioned within 6 months of receipt unless otherwise recertified by ELGi authorised personnel.
9. If there are any dues in payment towards purchase of equipment, service and spares beyond the agreed payment schedule.

LIMITATION OF LIABILITY:

1. ELGi shall not be liable for any loss of profit, loss of production, loss of income or contract, loss of goodwill, or for indirect or consequential or incidental loss or damage of any kind whatsoever.
2. In no event shall ELGi be liable for any claims or loss having a value higher than the original purchase price of the product.
3. ELGi reserves the right to alter or terminate the warranty programme for any part or units not already covered under this policy.

FORCE MAJEURE:

ELGI EQUIPMENTS LIMITED
(Branch Address)

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T +91 422 2589 555, W www.elgi.com, Toll - Free No: 1800-425-3544, CIN No: L29120TZ1960PLC000351

SERVOMAX
An ISO 9001 : 2015 Certified

Quote Ref: SER-QU0-00836	Date : 26-03-2018
To, **M/s. ALLOY CRAFT** NEW DELHI , ,	Your enquiry Ref: Web Site Dated : 25-03-2018

TECHNO-COMMERCIAL PROPOSAL

Kind Attn: AMRIT PAUL

Respected Sir,

Sub: OFFER FOR SUPPLY OF 30 & 40KVA SERVO STABILIZERS WITH INBUILT ISOLATION TRANSFORMERS

Greetings from Servomax,

We are grateful to have Servomax product enquiry from you. We are thankful for the opportunity provided by your esteemed organization to serve you and it is an opportunity for joining hands in saving power to create a green globe with our Servomax products.

Servomax is one of the leading global brands in providing energy efficient power conditioning products. We have multiple state of the art technologies to suit your requirements.

With our three decades of expertise in the field of power conditioning and power saving you will be certainly happy with our products and services.

Servomax is proven brand in providing energy efficient power conditioning products which is witnessed with multiple lakhs of installations in India and abroad.

Servomax is proven to be the best in power conditioning domain, serving multiple hundreds of segments including Critical Applications like Space, Medical, Defence, CNC, Textile, Printing, Telecom, Govt and many...

We are privileged to submit Servomax product offer for your prestigious organization, we are thankful to you and looking forward to have a delighted experience with our association.

Yours truly,
for TEAM SERVOMAX.

Anil Kumar Govindan
Phone : +918886666023
Email : anilkumarg@servomax.in
URL : www.servomax.in

SERVOMAX
An ISO 9001 : 2015 Certified

A. PRICE SCHEDULE

Sl.No.	PRODUCT DESCRIPTION	QTY	UNIT BASIC PRICES (INR)
1	CUSTOM SERVO STABILIZER WITH INBUILT ISOLATION TRANSFORMER(POWER CONDITINER) CAPACITY 30KVA INPUT VOLTAGE RANGE -340-480V AC OUTPUT VPLTAGE- 415/415 RATIO 1:1 TYPE OF COOLING: NATURAL AIR	1	1,24,960
2	BYPASS SWITCH CHANGE OVER BY SWITCH	1	2,500
3	CUSTOM SERVO STABILIZER WITH INBUILT ISOLATION TRANSFORMER(POWER CONDITINER) CAPACITY 40KVA INPUT VOLTAGE RANGE -340-480V AC OUTPUT VPLTAGE- 415/415 RATIO 1:1 TYPE OF COOLING: NATURAL AIR	1	1,58,730
4	BYPASS SWITCH CHANGE OVER BY SWITCH	1	7,500
		Items Total in ₹	2,93,690

B. COMMERCIAL TERMS & CONDITIONS

SCOPE	Our scope of work is Design, Manufacture and Supply of the equipment on factory Ex-works basis. Also, we do undertake the activities such as supply of operating manual, support in installation & commissioning, providing quality support & services within warranty and after warranty etc. Whereas customer scope shall be providing place with proper ventilation, providing electrical cable and quality earthing system.
PRICE BASIS	Prices quoted are Firm inclusive of design, manufacturing, supply, loading & exclusive of Taxes, Transportation etc
PKG & FORWARDING	Packing & Forwarding charges shall be 2% on basic price

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GST	18% (9% CGST + 9% SGST) for local State supplies or 18% IGST for out State supplies shall be extra at actual to customer account
OTHER TAXES	If any other taxes like Entry tax, Octroi etc shall be charged extra at actual to customer account
STATUTORY VARIATION	Any statutory variations by Government in levies will be applicable to customer account at the time of dispatch
TRANSPORTATION	Freight & Insurance charges shall be to customer account or To-pay basis
TESTING	All Routine tests as per the relevant IS will be conducted at our manufacturing facility before dispatch. Inspection by Third Party / Inspection at any laboratory will be charged extra at actual to customer account
DELIVERY PERIOD	4-6 Weeks from the date of purchase order along with advance payment receipt.
PAYMENT TERMS	50% Advance alongwith PO and 50% against Proforma Invoice
WARRANTY	All equipment offered in this specification shall be guaranteed for from the date of supply against any manufacturing defects only. This guarantee covers defective design, materials and workmanship only and shall not be applicable to damages sustained through misuse of the equipment. The defects during warranty period shall be made good either by repair (or) replacement of defective components, as applicable. SERVOMAX will not be responsible / liable for any contingency charges or loss of profit arising on account of failure of the equipment during warranty period.
VALIDITY	Our offer is valid till , subsequent to which we would request you to take our confirmation of the same in writing.
FORCE MAJEURE CLAUSE	Our offer is subject to Force Majeure conditions which include war, famine, flood, strike, lockout, civil disturbances, acts of god and any other circumstances beyond our control resulting in delay. Disruption in production or closure of the unit
JURISDICTION	Any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration under the India Arbitration Rules in Hyderabad Jurisdiction only.
ARBITRATION	Any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration under the India Arbitration Rules, which Rules are deemed to be incorporated by reference into this clause.
BANK DETAILS	**Beneficiary Name : SERVOMAX LIMITED** **Bank Name : HDFC Bank** **A/c no. : 50200027398702** **Branch : Jubilee Hills Branch** **IFSC Code : HDFC0000317**
ORDER	Order shall be placed in the name of below mentioned address: 118A, 1st Floor, Road No. 70, Journalist Colony, Jubilee Hills, Hyderabad, Telangana-500033.

SERVOMAX
An ISO 9001 : 2015 Certified

We hope our offer is in line with your requirement and looking forward to receive your valuable order on which we will give our prompt attention for smooth execution.

Yours sincerely,

SERVOMAX LIMITED.

Mail: admin@servomax.in
URL : www.servomax.in
Toll Free Number: 1800-12-1111
Customer Care : +91-9111234567
1184, 1st Floor, Road No. 70, Journalist Colony,
Jubilee Hills, Hyderabad, Telangana-500033.

Quote Ref: SER-QU0-00841	Date : 26-03-2018
To, **M/s. ALLOY CRAFT** NEW DELHI , ,	Your enquiry Ref: Web Site Dated : 25-03-2018

TECHNO-COMMERCIAL PROPOSAL

Kind Attn: AMRIT PAUL

Respected Sir,

Sub: OFFER FOR SUPPLY OF 125KVA DISTRIBUTION TANSFORMER

Greetings from Servomax,

We are grateful to have Servomax product enquiry from you. We are thankful for the opportunity provided by your esteemed organization to serve you and it is an opportunity for joining hands in saving power to create a green globe with our Servomax products.

Servomax is one of the leading global brands in providing energy efficient power conditioning products. We have multiple state of the art technologies to suit your requirements.

With our three decades of expertise in the field of power conditioning and power saving you will be certainly happy with our products and services.

Servomax is proven brand in providing energy efficient power conditioning products which is witnessed with multiple lakhs of installations in India and abroad.

Servomax is proven to be the best in power conditioning domain, serving multiple hundreds of segments including Critical Applications like Space, Medical, Defence, CNC, Textile, Printing, Telecom, Govt and many...

We are privileged to submit Servomax product offer for your prestigious organization, we are thankful to you and looking forward to have a delighted experience with our association.

Yours truly,
for TEAM SERVOMAX.

Anil Kumar Govindan
Phone : +918886666023
Email : anilkumarg@servomax.in
URL : www.servomax.in

SERVOMAX
An ISO 9001 : 2015 Certified

A. PRICE SCHEDULE

Sl.No.	PRODUCT DESCRIPTION	QTY	UNIT BASIC PRICES (INR)
1	CUSTOM SERVOMAX OIL COOLED DISTRIBUTION TRANSFORMER CAPACITY:125kVA VOLTAGE CLASS:11KV/433V TYPE OF WOUND:CU TERMINAL ARRANGEMENT:HV-BAREBUSHING LV-CABLE BOX TAP CHANGER TYPE: OCTC Tapings No.of positions :5 Positions (4 steps) LOSSES STANDARD :As per IS : 2026	1	1,83,700
		Items Total in ₹	1,83,700

B. COMMERCIAL TERMS & CONDITIONS

SCOPE	Our scope of work is Design, Manufacture and Supply of the equipment on factory Ex-works basis. Also, we do undertake the activities such as supply of operating manual, support in installation & commissioning, providing quality support & services within warranty and after warranty etc. Whereas customer scope shall be providing place with proper ventilation, providing electrical cable and quality earthing system.
PRICE BASIS	Prices quoted are Firm inclusive of design, manufacturing, supply, loading & exclusive of Taxes, Transportation etc
PKG & FORWARDING	Packing & Forwarding charges shall be 2% on basic price
GST	18% (9% CGST + 9% SGST) for local State supplies or 18% IGST for out State supplies shall be extra at actual to customer account
OTHER TAXES	If any other taxes like Entry tax, Octroi etc shall be charged extra at actual to customer account

SERVOMAX
An ISO 9001 : 2015 Certified

STATUTORY VARIATION	Any statutory variations by Government in levies will be applicable to customer account at the time of dispatch
TRANSPORTATION	Freight & Insurance charges shall be to customer account or To-pay basis
TESTING	All Routine tests as per the relevant IS will be conducted at our manufacturing facility before dispatch. Inspection by Third Party / Inspection at any laboratory will be charged extra at actual to customer account
DELIVERY PERIOD	3-4 Weeks from the date of purchase order along with advance payment receipt.
PAYMENT TERMS	50% Advance alongwith PO and 50% against Proforma Invoice
WARRANTY	All equipment offered in this specification shall be guaranteed for from the date of supply against any manufacturing defects only. This guarantee covers defective design, materials and workmanship only and shall not be applicable to damages sustained through misuse of the equipment. The defects during warranty period shall be made good either by repair (or) replacement of defective components, as applicable. SERVOMAX will not be responsible / liable for any contingency charges or loss of profit arising on account of failure of the equipment during warranty period.
VALIDITY	Our offer is valid till , subsequent to which we would request you to take our confirmation of the same in writing.
FORCE MAJEURE CLAUSE	Our offer is subject to Force Majeure conditions which include war, famine, flood, strike, lockout, civil disturbances, acts of god and any other circumstances beyond our control resulting in delay. Disruption in production or closure of the unit
JURISDICTION	Any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration under the India Arbitration Rules in Hyderabad Jurisdiction only.
ARBITRATION	Any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration under the India Arbitration Rules, which Rules are deemed to be incorporated by reference into this clause.
BANK DETAILS	**Beneficiary Name : SERVOMAX LIMITED** **Bank Name : Punjab National Bank** **A/c no. : 8936002100000485** **Branch : Jubilee Hills Branch** **IFSC Code : PUNB0875500**
ORDER	Order shall be placed in the name of below mentioned address: 118A, 1st Floor, Road No. 70, Journalist Colony, Jubilee Hills, Hyderabad, Telangana-500033.

We hope our offer is in line with your requirement and looking forward to receive your valuable order on which we will give our prompt attention for smooth execution.

Yours sincerely,

INDUSTRIAL EQUIPMENTS COMPANY
AN ISO 9001, 14001, 50001 & OHSAS 18001 Certified Company
Corporate Office: S.C.O 36, Sector 26, Madhya Marg, Chandigarh – 160019
Tel: +91 172 4174444, 4174455 . Fax: +91 172 4174466
E – mail: iec.chandigarh@iecgensets.com . www.iecgensets.com
Power Delivered

REF.No. IEC/CHD/2017-18/DG/ 1680
DATE: 20TH MARCH, 2018

M/s. ALLOY CRAFT
AMBALA (HARYANA)

SUBJECT : QUOTATION FOR 82.5 KVA KOEL GREEN SILENT D.G. SET

Dear Sir,

We acknowledge with thanks the receipt of your valued enquiry referred to above. We are accordingly submitting our most competitive offer as discussed for your favourable consideration.

Sr. No.	DESCRIPTION	UNIT PRICE
1.	Supply of **82.5 KVA KOEL GREEN WATER COOLED SILENT DG SET** comprising of KOEL make Water cooled Diesel **Engine Model 4R1040TA-G1** (CPCB NORMS COMPLIANCE) developing **102 BHP** @ 1500 RPM & **82.5 KVA KOEL Green make Alternator** rated at **3 Phase, 415 Volts**, 50 Hz; 0.8 p.f. @ 1500 RPM both mounted, and aligned on a common MS base frame complete with MS Fuel Tank, **Standard Manual Control Panel**, Residential Exhaust Silencer, AVM Pads fitted on base frame, **1 Nos. 12 Volts Battery** (KOEL GREEN) Battery Leads, 1st fill of Lube Oil **all housed in Sound Proof Acoustic Enclosure.**	**RS. 5,40,000/-**

The above offer is made subject to following:-

TERMS & CONDITIONS:-

PRICE : Ex-Works-Barwala (HR), Freight & Transit Insurance to Customer's Account.

GST : GST extra @18% **OR** as applicable at the time of dispatch (Imposition of new taxes /duties shall be to purchaser's account).

PAYMENT : 25% advance along with confirmed order and balance against proforma Invoice before dispatch by way of RTGS or DD/ Cheque payable at par.

DELIVERY : 2-3 Weeks from the date of receipt of Techno-commercially clear order.

ERECTION : As the offer is for supply of material, the Erection of the same including material like Foundation, Earthing, Cable, Civil Work, unloading of the DG Set, exhaust piping etc is not in our Scope. However, we will undertake **Commissioning of the set free of cost after you complete Installation work.**

WARRANTY : 2 years from the date of installation or 5000 operating hours or 30 calendar months from dispatch date whichever is earlier, subject to sourcing of spares, consumables & services from Kirloskar Authorized Service Dealer (KOEL CARE) and DG set installed with proper Installation Guidelines.

IEC
Power Delivered

CANCELATION: In Case of Cancellation of order, 50% of advance or 10% value of Order (whichever is higher) shall be deducted as cancellation charges .

VALIDITY : 15 Days.

NOTE : Please note that the Order should be placed on our manufacturing unit **M/s INDUSTRIAL EQUIPMENTS COMPANY,BARWALA.** However all Correspondence should be addressed to our Head office. S.C.O 36, SEC-26,CHANDIGARH.

We look forward for an opportunity to serve you.

Thanking You,

Yours faithfully,

FOR INDUSTRIAL EQUIPMENTS COMPANY.

Hemant Kumar
Cell: 93163-99999

Email-ID: hemant.kumar@iecgensets.com
Visit us on www.iecgensets.com

Our offices

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Fax: + 91 44 2431 1450

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Fax: + 91 484 2705393

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

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

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

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

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

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

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

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

Ernst & Young LLP

Assurance | Tax | Transactions | Advisory

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ED 0515

Artwork by: JG