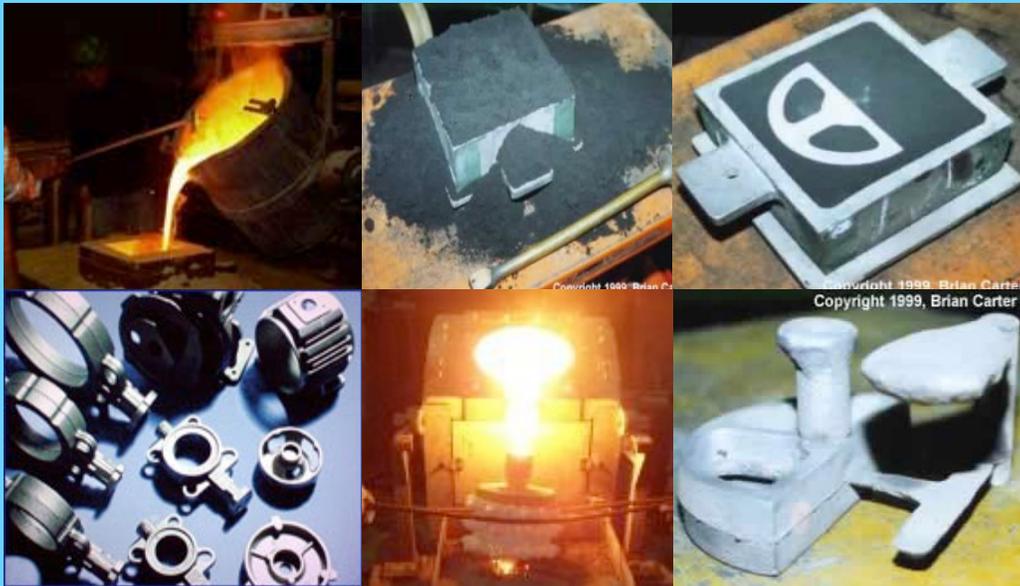


Cluster Profile

Foundry Cluster, Lahore



Turn Potential Into Profit

Small and Medium Enterprises Development Authority (SMEDA)
Ministry of Industries and Production (MoI&P)
Government of Pakistan

4th Floor Building No. 3, Aiwana-e-Iqbal Complex, Egerton Road Lahore
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1 Description of Cluster

1.1 History & Background of Cluster

Cast metal products are found in a wide range of manufactured goods and equipment. From critical components for aircraft and automobiles to home appliances and surgical equipment, cast metal products are integral to our economy and our way of life. Foundry sector is the back bone of the light engineering sector, auto parts and other industries. There are approximately over 1,600 foundries in Pakistan with an annual capacity of 520 thousand tons¹. This industry is scattered in various large cities of Pakistan; Lahore, Karachi, Faisalabad, Gujranwala, Peshawar, Multan & Sargodha. Majority of the foundries are located near the light engineering and auto-parts clusters providing services to these industries.

Lahore is the second largest business hub of Pakistan. A number of industries are present in the territory of Lahore. One of the major established cluster at Lahore is Foundry cluster. Around 200,000 people are engaged directly or indirectly with foundry sector with a contribution of approximately Rs. 20 Billion to the GDP. Foundry cluster was established in Lahore even before partition of sub-continent. Lahore have almost 620 companies (40 % of total sector) of different sizes working in foundry sector.

1.2 Defining the Products

Foundry products encompass all cast products that are formed by pouring molten metal into molds or dies and allowing the metal to solidify. The terms “castings” and “foundry products” are used interchangeably. The products manufactured by foundries are typically divided into several categories, based on the type of metal that is cast (i.e., iron, steel, aluminum, copper, and other non-ferrous metals). The main products of these foundries are as follows:

- Automotive Parts
- Machine Parts
- Tractors
- Agriculture Implements
- Sugar Industry Machinery
- Pumps / Valves
- Electric Motors
- Textile Machinery
- Processing Industry etc.
- Cement Industry Products
- Chemical Industry Parts

¹ Pakistan Foundry Association (PFA)

1.3 Core Cluster Actors

There are more than 620 firms working in foundry cluster of Lahore and are also registered with Pakistan Foundry Association (PFA). Most of these are small firms. The breakup of the firms is as follows:

Table 1: Foundry Cluster, Lahore

Description	Details
Number of Units	Large Firms: 35 Medium Firms: 185 Small Firms: 400
Employment Generated	Around 200,000 People
Contribution to GDP	Approximately Rs. 20 Billion
Capacity Utilization	50% to 60%

Source: Pakistan Foundry Association (PFA)

1.4 Other Cluster Actors

Since majority of the foundries in Lahore are ferrous foundries, the raw materials used by the industry are mostly pig iron, sand and hard coke. Currently this demand of the industry is being met by the help of importers/traders, from Lahore and Karachi. Majority of the large foundries prefer to directly procure/import the raw material whereas small and medium level firms buy from local traders. Raw material for non-ferrous foundry industries are being imported from China, Bahrein, Italy and Spain.

1.5 Geographical Location

The cluster is scattered around the city in almost every industrial area of Lahore, main concentrations are on;

- Badami Bagh
- Band Road
- Daroghanwala
- Sheikhupura Road

1.6 Current Cluster Scenario

Over the past five years this industry has witnessed a positive growth in business with a lot of new entrants as well. The main reason of this industry's growth is the growth of automotive industry in Pakistan. Besides this, the demand of spare parts for imported vehicles has also risen which ultimately boosted the business of foundry sector. A lot of companies have upgraded the old machinery with the latest imported machinery, which helped to improve energy efficiency and

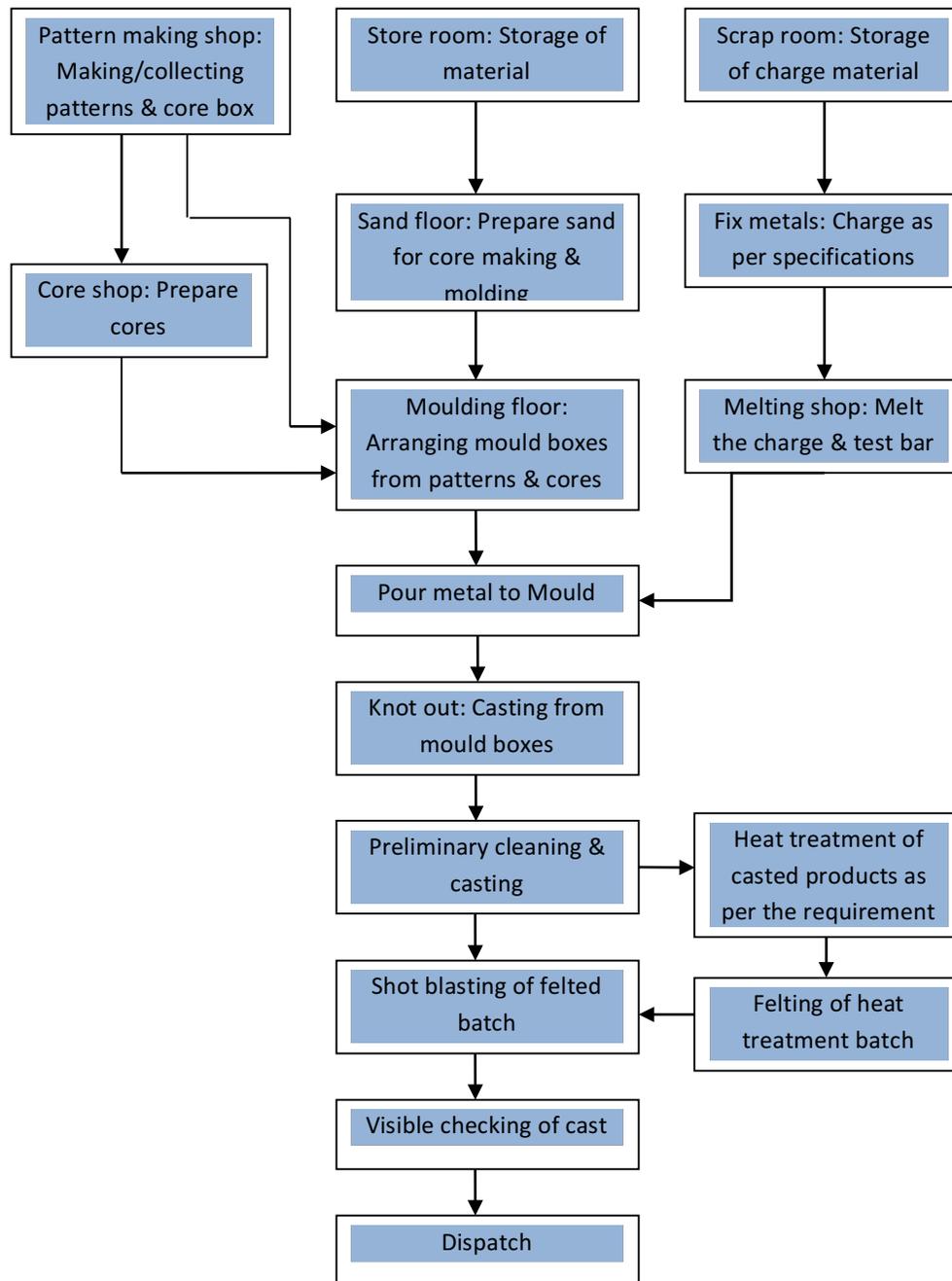
production quality. Machinery Suppliers from UK, Germany and India have opened their offices in Pakistan in order to meet the demand of this sector.

2 Analysis of Business Operation

2.1 Production Operations

Casting is a process by which a fluid melt is introduced into a mould, allowed to cool in the shape of the form and then ejected to make a casing. The major production operations in ferrous foundries are raw material handling and preparation, metal melting, sand preparation, mould and core production, casting, surface finishing and machining. Manufacturing process of the foundries can be divided into several sections: pattern making section, melting section mould-making section, casting section, paint shop and machining section as given in figure below.

Figure 1: Production Process Flow



2.3 Raw Materials

Ferrous foundries produce iron and steel castings and *Non-ferrous foundries* produce castings of copper-based alloys (brass, bronze), aluminum-based alloys (lead, zinc, nickel, magnesium) and other alloys. The raw material for these foundries includes;

- Pig Iron
- Silica Sand
- Hard Coke
- Aluminum
- Copper
- Brass Steel
- Scrap
- Zinc
- Nickel
- Magnesium
- Carbon
- Sulphur
- Wood (for patterns)
- Non-Ferrous Metals etc.

2.4 Technology Status

Most of the large and medium scale organizations have installed the latest imported machinery and adopted the best processes in order to reduce wastage and save energy. Besides this, new technology helps the manufacturers to meet international standards and client expectation in an effective way. In small scale organizations, majority of the foundries are using conventional techniques/processes of pattern making, mould making and casting, which lead to high wastage and increase in production time. Due to high investment cost involved to procure new machinery, majority of the small units are using either obsolete or second-hand machinery. Machinery used by these processors is mainly of European origin (Refurbished), Chinese or Korean. However, for pattern making, locally manufactured machinery is being used.

2.5 Marketing & Sales

Majority of the foundries operate just as vendors for Millat Tractors, Al-Ghazi Tractors, Honda, Toyota, Suzuki etc. hence do not market their products. They normally involve in direct marketing in which they meet the production and procurement staff of automobile manufacturers to pitch their product for obtaining the orders. There is a similar situation for the organizations working in other sectors like electronics, cement, chemical and textile industry.

The businesses involved in After Sale Market launch their products in the Whole Sale market. These companies also do direct marketing but the spectrum of activities increases as they need



to establish a good retail network in order to achieve sales targets. They have a large number of clients with small orders unlike the businesses operating as vendors.

2.6 Global Trade

The exports of Pakistan's foundry sector are almost negligible due to very low volume. Small and Medium Scale industry is only playing in local market and is not focusing on exports due to intense competition and higher quality demands. Beside this they need finance for participation in trade fairs and foreign exhibitions. Pakistan's Foundry exports for the year of 2017-18 were approximately US \$ 38 Million². Experts believe that foundry sector of Pakistan has a great potential for export market as well. The sector needs stable economic condition and continuous energy supplies.

2.7 Financing

All the financial institutions have their branches in the cluster and are offering loan. Mostly entrepreneurs rely on their own investment. To fulfil working capital needs, preference is given to get finance from banks. SBP is also offering discounted financing schemes through commercial banks. Informal credit is also available in the form of credit on the purchase of raw materials or services by the raw material suppliers. Like all other sectors, SMEs of foundry sector also complain about banks prioritizing large scale organizations.

2.8 Human Resource

The cluster is facing a shortage of skilled labor, due to which organizations mostly hire unskilled labor and provide On-the-Job Training. This situation is leading to employee turnover and the production wastage is high. Now, some technical institutions like TEVTA, PVTC and Infinity Engineering School are offering training services to labor of foundry sector, but there is a numerous huge gap in demand and supply of skilled labor.

2.9 SWOT Analysis

Strengths

- Capability to produce low volumes competitively and capture niche markets
- Availability of low-cost human resource compared to developed countries
- Quality standards of OEMs are largely achievable
- High growth and demand in the market
- Good entrepreneurial skills

Weaknesses

- Use of traditional manufacturing practices & absence of automation
- Non-availability of quality raw materials

² Pakistan Foundry Association (PFA).

- Lack of availability of technical consultants & skilled workforce
- No quality control systems
- Unorganized business setup's
- Majority vendors to local assemblers
- Information gap
- High custom duty on raw materials
- High cost of utilities
- High cost of financing and leasing
- Less Exposure of export market and very low participation of local companies in foreign trade fairs.

Opportunities

- Entrance of 03 New Automobile Manufacturers
- Relocation of foundries from developed countries to this region.
- Export potential in niche markets
- Global spare parts market of discontinued vehicles
- Great potential all over the world for tractors and trailer parts market

Threats

- Growing market for products from regional countries
- Smuggling, under-invoicing and dumping of auto parts
- Continuous depreciation of rupee against top world currencies
- Demand of ISO Compliance from International clients

3 Institutional Setup

3.1 Entrepreneurs Associations

Pakistan Foundry Association (PFA)

Address: Foundry Service Center, University of Engineering and Technology, G T Road, Lahore

Tel: (+92) 42 3685 1559

Email: info@pfa.org.pk

Lahore Chamber of Commerce and Industry (LCCI)

Address: 11, Shahrah e Aiwan e Sanat o Tijarat, Lahore

Tel: (+92) 42 111 222 499

Email: sect@lcci.org.pk



3.2 Support Institutions

Small & Medium Enterprises Development Authority (SMEDA)

Address: 4th Floor, Building 3, Aiwan e Iqbal Complex, Egerton Road, Lahore

Tel: (+92) 42 111 111 456

Web: www.smeda.org.pk

Email: helpdesk@smeda.org.pk

Foundry Service Center (FSC), Lahore

Address: University of Engineering and Technology (UET), G T Road, Lahore

Tel: (+92) 42 3685 1559

Trade Development Authority of Pakistan (TDAP)

Address: 62, Garden Block, Garden Town, Lahore

Tel: (+92) 42 111 444 111

Web: www.tdap.org.pk

Punjab Small Industries Corporation (PSIC)

Address: Ground Floor, Alfalah Building, The Mall, Lahore

Tel: (+92) 42 99200 439

Web: www.psic.gop.pk

3.3 Banks and Financial Institutions

All the commercial banks are operational in Lahore Region including SME Bank and Khushali Micro Finance.

4 Major Issues and Problems

Financial: Provision of Soft and long-term loans is required to build cost saving high-tech new foundry units. Banks are hesitant to finance the start-ups, which is a massive hurdle for this sector.

Energy: Foundry sector is an energy intensive sector. Provision of continuous energy from Govt. sector is a must for the sector for cost effective products manufacturing. Alternate energy sources are very expensive.

Import Duties: Import duties on Raw Material are a big issue for the cluster as most of the businesses use imported Raw Material. Govt. should reduce the duties for providing cost benefits to manufacturers.

Human Resources: Unavailability of Skilled labor for foundry sector is a big issue. Govt. Technical Institutes are providing vocational and technical trainings but there is still a huge gap in Demand and Supply of skilled labor. Govt. should take measures to improve this situation.



5 Investment Opportunities in Cluster

Keeping in view the current potential and growing automobile and other allied industries, there is an ample opportunity for investment in Foundry Products Cluster, Lahore. Some of the potential projects for investment are as follows:

- Automobile Casting Units
- Computer Aided Pattern and Die Making Center
- Trading (Machinery and Iron Imports)